

Joachim von Braun
Franz W. Gatzweiler *Editors*

Marginality

Addressing the Nexus of Poverty,
Exclusion and Ecology

 Springer Open

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ISBN 978-94-007-7060-7 ISBN 978-94-007-7061-4 (eBook)

DOI 10.1007/978-94-007-7061-4

Springer Dordrecht Heidelberg New York London

Library of Congress Control Number: 2013946367

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Foreword on “Marginality and Development”

Development is a process through which an individual, a community or a nation can progress economically, socially, culturally, psychologically and spiritually. The centre of any development is the human being, and human wellbeing is the ultimate goal of development.

Major development concerns worldwide are eradication of poverty; improvement of health, nutrition and educational status of the people; removal of discrimination along gender, racial, and ethnic lines; and protection of environment for ensuring inter-generational equity. These are concerns that have figured prominently in setting the millennium development goals. Significant progress has been achieved in the reduction of income poverty in the developing world through economic progress, targeted safety nets and social protection programs. But economic growth and targeted transfers may not be sufficient to achieve development. We must address structural factors such as ecological vulnerability, discrimination and deprivation of rights caused by poor governance and other socio-political and cultural drivers, and forces of ecological diversity and climatic change that cause vulnerability and erode the resource base for livelihoods of the people, particularly for those who are at the margin of subsistence. All this calls for a broader perspective on development policies and programs through which the nexus of poverty, discrimination and environmental degradation can be addressed. It points to the need of understanding the increasingly complex drivers of persistent poverty at societal and ecological margins. This is where the marginality concept and framework as introduced by this book become extremely relevant to understand the complexities of under-development and poverty.

Amartya Sen has influenced recent development thinking by introducing the concept of social exclusion, a subset of the concept of marginality, the theme of this book. Social exclusion widens the concept of poverty and points to the need of formulating development policies and programs beyond the narrow goals of eradicating income poverty that many nation states have been pursuing. The UNDP has taken the concept forward by articulating Human Development Index, a measure of multi-dimensional poverty that incorporates deprivations in the dimensions of health, education and living standards.

The governments and the civil society organizations have already started designing and implementing programs to address the issues of marginality. Realizing that the pockets of extreme poverty remain in the ecologically marginal areas throughout the world, the international agricultural research centers under the Consultative Group of International Agricultural Research (CGIAR) system have recently diverted their attention to developing improved agricultural technologies for these areas. Notable progress has been made in developing innovations for marginal ecologies under climate stress, such as submergence-tolerant and salt-tolerant rice and heat-tolerant wheat varieties, and efforts are underway to incorporate drought-tolerance and cold-tolerance in many crops. Many NGOs, both international and national, have been addressing the issues of gender inequality and injustices, insecurity and poor governance, and education, health and water and sanitation in hardest to reach geographies and communities (such as indigenous and tribal people) that the governments have found difficult to reach or to address through mainstream development interventions. Some of them have extended their operations by establishing social enterprises or businesses to provide services to people at the bottom of the pyramid that the corporate sector has not been able to reach adequately, and to overcome problems of missing markets or market failure.

This book uses the marginality lens to understand and explore the links between poverty, exclusion and ecology. It provides a conceptual framework of marginality and explains how it links with the concepts of poverty and underdevelopment. It looks at marginality from the ecological perspectives and revisits basic economics to understand social exclusion. It maps the physical locations and societal positions of marginalized people and communities, and traces formal and informal rules, regulations and institutions that govern access to land, water and biological resources fundamental to operations of the livelihoods of their choice. A section of the book addresses the environmental drivers of marginality, understanding the interface between land degradation and poverty, taking into account the role of nature in providing livelihoods opportunity to the extreme poor. The authors emphasize that resource endowments and land degradation are critical determinants of poverty, and identify agricultural development strategies in a framework of different opportunity costs of land and labor. They point to the need for accelerating investment in targeted R&D focusing on crops and traits that are important for the marginal ecologies to address the environmental limitations that the poor face in these regions. With recent advancement in biological sciences and invention of tools and techniques in the field of biotechnology, the probability of research success in these difficult domains of technological advancement has improved greatly in recent years.

The book then reviews recent attempts to address marginality through development interventions in selected countries in Asia and Africa through a number of case studies. This part of the book throws light on the complexities of marginality and social exclusion, and difficulties to address them. The degree of pro-poor income growth is compared between various agricultural and non-agricultural livelihoods, rural and urban areas, and among ethnic caste and religious groups. The development actors of other countries can substantially gain from the experiences and lessons learnt from these cases of development interventions already undertaken to address marginality.

Marginality is not a matter exclusive to public policy and rights, but also an issue that can be addressed by business and civil society organizations. The role of the corporate sector in combating marginality and addressing the demand for service of the bottom of the pyramid are reviewed and discussed in the last part of the book. This part also reviews the experience and effectiveness of social protection measures taken by the government and civil society organizations, particularly conditional cash transfer programs that are increasingly becoming part of the national poverty reduction and development strategies to address market failure for the poorest.

This book provides new evidence and constructive insights in support of a vision of a world free from exploitation and discrimination where everyone has the opportunity to realize their potential, as we pursue it at BRAC, and to empower people and communities in situations of poverty, illiteracy, disease and social injustice. Our interventions at BRAC aim to achieve large scale, positive changes through economic and social programs that enable men and women to realize their potential.

In short, the book breaks new grounds in holistic thinking and understanding of underdevelopment and persistent poverty. It extends the concept of social protection to include the impact of adverse ecological environments and climate on the wellbeing of poor people. Thereby it broadens the concept of poverty and shows the complexity of the issues in need to be addressed for designing development programs beyond the narrow objective of eradication of income poverty, and the complementary roles of government, corporate sector and civil society organizations for tackling the intractable problems in the last miles of our path to poverty reduction. The book definitely extends the horizon on existing knowledge of underdevelopment. It will be very useful to students, policy makers and development actors.

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Mahabub Hossain

Acknowledgements

This volume was made possible through the cooperation among researchers and scientists from a variety of disciplinary backgrounds, who kindly agreed to come together to contemplate the problem of “Marginality.” Ecologists, economists, and other social scientists have rather different ideas and concepts of what marginality is and of how the processes of marginalization take place. We express our sincere gratitude to all of the contributors to this volume, not just because they shared their insights from work on poverty and development—based on decades of work—but also because all of the contributors were kind enough to join in this effort in order to reflect in new ways on the nexus of poverty, exclusion, and ecology that is at the foundation of marginality.

Several sets of discussions lead us towards this volume, including: discussions at ZEF along with our colleague Paul Vlek who kept emphasizing the societal risks of land degradation, exchanges with a large network of researchers who work to address extreme poverty, and intensive exchanges on this topic with Prabhu Pingali and Monika Zurek at the Bill and Melinda Gates Foundation. All of these were helpful in shedding light on and clarifying the multifaceted marginality issues, and for identifying windows of opportunity for actions to address marginalization.

An exciting international conference on marginality held at the Center for Development Research (ZEF) at the University of Bonn in 2011 was made possible due to generous financial support provided by the Bill and Melinda Gates Foundation and the Volkswagen Foundation. Workshop participants—being researchers and practitioners—critically reviewed the presented papers at that stage and identified gaps, which we subsequently tried to fill in the preparation of this volume. Moreover, helpful critiques from three external anonymous reviewers on an earlier draft of this volume are gratefully acknowledged.

We are grateful for the superb editing assistance of Erick H. Baur and acknowledge his important contributions to this volume.

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Franz W. Gatzweiler

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Chapter 1

Marginality—An Overview and Implications for Policy

Joachim von Braun and Franz W. Gatzweiler

Abstract The marginality concept calls for the integration of poverty concepts with those of social exclusion, geography, and ecology. The difficulties in reaching people at the margins of systems are explained by a set of distances, (i.e., physical distances such as being located in remote or harsh environments), social distances (being excluded, discriminated against, or not having rights or access to services or opportunities), but may also be related to technological and institutional infrastructure deficiencies. This chapter provides an overview of the concept of marginality and offers a synthesis of the findings of all the chapters in this volume. A review of policies intended to reduce marginality suggests that none of the marginality determinants need to be accepted as long term. Coherent policies and actions, however, need to match the systemic causality of marginality in order to be effective.

Keywords Marginality • Poverty • Economic policy • Exclusion • Ecology • Environment

1.1 Why Focus on Marginality?

There has been significant progress in the reduction of poverty in the developing world over the past few decades. The prevalence of income poverty defined at US\$1.25/day per capita declined from 43 to 22 % from 1990 to 2008 according to information presented in Ahmed et al. (Chap. 6 this volume). This progress is the result of various factors, including economic growth reaching the poor and in many countries there has also been increased attention to social protection

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policies. Most of this progress was homegrown, but both factors—growth and social protection—were somewhat assisted by development aid (Sachs 2006). A simplistic extrapolation of the declining trend in overall poverty prevalence by about one percentage point per annum over the past 20 years would automatically misguide us with the expectation that absolute poverty could end within two decades. However, it would be more realistic to assume that any further reduction of the remaining poverty will be more protracted. The diversity of people far below that income poverty line (i.e., the extremely poor) is high. Economic growth alone may contribute less to poverty reduction at societal margins, both at the bottom end of the income distribution and in geographically remote areas. Examples of the latter are revealed already by the persistence of poverty in marginal areas of China and Indonesia (see Zhu Chap. 15 and Pangaribowo Chap. 14 this volume). More than half of the world's poor now live in large, emerging economies that happen to be members of the economically leading G20 nations. The bottom billion has shifted and no longer only lives in the poorest and often fragile states (Collier 2007).

On the other hand, the capacities to design and implement social protection policies have become more widespread over the past two decades and will assist with effective poverty reduction, even among the extremely poor (von Braun et al. 2009). Understanding the constraints and behavior of the marginalized poor is essential for effective program designs, and there has been research progress in that domain too, partly through randomized control trials of large and small development investments (Adato and Hoddinott 2010; Banerjee and Duflo 2011). Addressing extreme poverty effectively is, however, not just a matter of growth and targeted transfer policies, but also a matter of addressing structural forces such as exclusion, discrimination, and the deprivation of rights; constrained access to services and technology; governance deficiencies and corruption; and the forces of ecological change that are increasing the vulnerability and eroding the resilience of the poor, many of whom depend on natural resources at the margins in rural areas or live in high risk margins of urban areas. Some of these issues can be further illuminated by experimental research, but many are not open to that possibility due to the rigidities and scale of some of these structural forces.

A broader perspective regarding poverty reduction and development policies and programs is called for, where the nexus of poverty, environmental change, and development is addressed. This entails understanding the increasingly context-specific determinants of the serious poverty problems at societal and environmental margins. This is where the marginality concept and framework come into play. The set of actors with the potential for engaging in overcoming marginality has become more diverse and promising in strength. Besides government (central and increasingly local) and civil society actors (which in addition to charities, are often more focused on developing capacity, skills, and rights), the private sector is much more deeply involved along all elements of value chains and in service delivery (not just with corporate social responsibility approaches, but also with inclusive business and shared value approaches).

1.2 The Concept of Marginality

“Marginality” is the position of people on the edges, preventing their access to resources and opportunities, freedom of choices, and the development of personal capabilities. Being excluded, not only from growth but also from other dimensions of developmental and societal progress, is an indication of the extremely poor being at the margins of society and in many cases marginality is a root cause of poverty (von Braun et al. 2009). Depending on which aspects of marginality are being considered to explain extreme poverty, millions of people, especially in Sub-Saharan Africa (SSA) and South Asia, belong to those who are marginalized and living in or coming from marginal areas.

1.2.1 Definition of Marginality

We define marginality as “an involuntary position and condition of an individual or group at the margins of social, political, economic, ecological, and biophysical systems, that prevent them from access to resources, assets, services, restraining freedom of choice, preventing the development of capabilities, and eventually causing extreme poverty” (Gatzweiler et al. 2011, 3; also see Gatzweiler and Baumüller Chap. 2 this volume). The marginality perspective encompasses those poor who are below certain thresholds and outside mainstream socio-economic and human geographical systems, where improved access to rights, resources, and services would help enable decent standards of living. With reference to biological systems, marginality describes the state of organisms outside optimal homeostatic ranges which are necessary for living systems (Damasio 2011; also see Callo-Concha et al., Chap. 4 this volume).

As the meaning of the word indicates, marginality is a relative concept that refers to where people are and to what they have. “Where people are” not only refers to physical locations, but also to societal positions. “What they have” refers to capital assets—using a broad definition of capital—and the rules and regulations (both formal and informal) that enable access to these assets and their use. For example, ethnic minorities in rural Africa or Asia may live in geographically remote areas and be perceived as socially marginal by their respective national governments. Nevertheless, according to traditional institutions they may have user rights and access to land, water, and biological resources (e.g., forests) that enable them to function in the livelihoods of their choice. By disabling them of traditional access and rights to use these resources (e.g., by imposing rules of the nation state, prohibiting access to resources, and measuring their well-being in terms of material ownership or monetary savings), they become poor and marginalized. The marginalized poor are those who are affected by both marginalization and poverty. Causalities of the two concepts are complex (Dasgupta 2009) and the linkages between them need to be further explored, and that is a task of this book.

1.2.2 Marginality and Poverty

The concept of marginality should not be construed as an alternative to the concept of poverty; rather these two concepts overlap and are complementary. Marginality encompasses broad approaches like relative deprivation, social exclusion, or the capabilities approach. It entails an interdisciplinary and systemic perspective on the lives of the poor with the aim of revealing the underlying contributors to poverty, which have their roots in the functioning (or malfunctioning) of economic, socio-cultural, or ecological systems. This includes taking spatial dimensions such as geography and location into account. In the words of Dasgupta (2003, 2) “policies matter, as do institutions, but the local ecology matters too.” Influenced by Sen’s “capability approach” (1987a, 1993, 1999), which focuses on functions or living conditions defined as “what we can do or cannot do, can or cannot be” (1987b, 16), and the ability to achieve them (capabilities), the marginality concept goes beyond a measurement of well-being in terms of goods or commodities. This concept seeks to reveal real opportunities or barriers that exist as a result of what people have (goods, rights, knowledge, and opportunities) and where they are (understood as their geographical location or their positions within socio-political and economic systems). Both define their access to resources, services, or decision making. As in Sen’s capabilities approach, what matters for achieving desired well-being is not only the amount of what people have and can do, but also how these assets are transformed (by real opportunities) into fully functioning lives that people choose to live (Nussbaum and Sen 1993; Nussbaum 2004; Schlosberg 2007).

Where these opportunities do not exist or where they are actively constrained, barriers hinder the empowerment of people and they are constrained from developing the full potential of their lives. These barriers are constraints or capability deprivations that can originate from multiple causes rooted in economic, social, political, or ecological systems, which can also be considered enabling conditions or freedoms (see Sen 1999).

Within the concept of marginality, the nexus of poverty, environmental change, and development may be addressed. Marginality is a multidimensional and interdisciplinary concept integrating poverty, discrimination, and social exclusion; the degradation of ecosystem function; and access to services, markets, and technology. Marginality incorporates the understanding that subjective perceptions of poverty, values, and aspirations matter, and that all of these are part of calibrating the tools of poverty measurement. Apart from being inclusive and interdisciplinary, the concept of marginality offers an integrated and systemic basis for understanding the interactions between social and ecological systems. In a world with fewer natural resources for all, the linkages and changing patterns between both kinds of systems become more apparent, and the role of access to services and technologies ever more critical.

“De-marginalizing” the marginalized requires the creation of the physical infrastructure and institutional arrangements that can help to overcome the

barriers to access, exchange, and communication, and facilitate a shift away from the margins of development through building accessible assets beyond natural capital (i.e., access to services that foster human capital and technology), while including the marginalized in the process. The ability to live a life to its full potential, or to achieve the living conditions of one's choice, can be constrained by factors stemming from social or ecological systems. If access is denied to land, forest, water or the benefits they provide (e.g., habitat, nutrient and hydrological cycling, soil fertility, carbon sequestration), then we speak of constraints or barriers to the delivery of ecosystem goods and services.

The concept of marginality facilitates an understanding of the underlying systemic contributors of poverty and exclusion that can overlap with the lack of resources and opportunities needed to achieve the desired conditions in life. Although the income poverty approach is easy to conceptualize and measure (in its simplest form the headcount ratio counts the proportion of people living under a particular poverty line), it has been criticized because it does not relate to multitudinous concepts of individual need “or to any agreed definition of what it is to be poor” (Gordon et al. 2000, 8). Relative deprivation (RD) measures build on the idea that the value of objective circumstances depends on subjective comparisons (Townsend 1979; Stark and Bloom 1985; Walker and Smith 2002; Wilkinson and Pickett 2007; Stark et al. 2011). The RD concept adds a whole new dimension to absolute poverty concepts, because it refers to the circumstances under which comparisons are made and does not define a general threshold. The RD approach is helpful, as it differs from traditional poverty concepts in that it defines the relative level of deprivation of material or social assets and conditions, whereas poverty is understood as “lacking or being denied the resources to obtain these conditions of life” (Townsend et al. 1987, 85; as cited in Sauters 1994, 235–236).

The conceptual foundations of marginality are elaborated further in Chap. 2 (this volume) by Gatzweiler and Baumüller. The authors review the distinctions between frameworks, theories, and models, and highlight that marginality is best perceived as a framework within which different sets of theories and models can be usefully applied and tested. Reducing the diversity of poverty to a few indicators entails the risk of overlooking critical features and causalities underlying poverty as analyzed from a systems perspective. Gatzweiler and Baumüller review the evolution of the marginality concept, as well as classes of poverty theories. In practical ways, they illustrate situations of the marginality of an actor (a person or group) by a specific position within the multiple dimensions (e.g., social, economic, political, nutritional, educational, geographical) of peoples' lives in which they are more or less marginalized. They further refine the conceptual framework for investigating marginality by distinguishing “biophysical causality clusters” from “societal causality clusters” as enabling or constraining factors that lead to outcomes of well-being or poverty, and changes in positions and conditions being shaped by feedback to the factors and causality clusters.

The social exclusion approach overlaps with the concept of marginality when it is seen as a condition and process of “becoming detached from the organizations and communities of which the society is composed and from the rights and obligations that they embody” (Room 1995, 243). In Chap. 3 (this volume) Zohir emphasizes that in relation to exclusion:

In all development endeavors over the last two decades or more, either in the guise of Poverty Reduction Strategy (PRS) and Millennium Development Goals (MDGs), or to achieve greater equity and foster inclusive growth, the general concern was reaching out to those who are “left out”...[where]...“left out’s” could be children not being sent to schools by their parents, poor rural women unable to avail themselves of health services or market opportunities, people from minority or socially outcast groups having little or no access to jobs and public amenities, and the physically or mentally disabled. We refer to these people or social groups as “excluded” and to the broader subject of study as “exclusion.”

Both belonging to a group or community and being embedded within an institutional environment that secures rights and duties are necessary for escaping marginality, improving function, and achieving freedoms. Basic but crisp economic theory is invoked by Zohir to guide development practice toward understanding exclusion and initiatives to “include” the marginalized. The relationships between contracts, goods and services, and exclusion are highlighted, and types of exclusion are identified with the help of a supply and demand analysis of services: voluntary exclusion, exclusion caused by a lack of awareness, exclusion for survival, exclusion due to a lack of demand, and exclusion caused by “distance” (social exclusion, poor connectivity). Useful practical insights are gained when this theoretical analytical framework is applied by Zohir to identify the scope of different interventions for addressing the different types of exclusion, such as innovations in production, price subsidies, or transfers.

A socio-ecological perspective of marginality is pursued by Callo-Concha et al. in Chap. 4 (this volume). The authors highlight that marginality is the norm rather than an exception in ecological systems. They underline that many complex phenomena are shaped by both social and ecological systems simultaneously and inseparably, and therefore the complex issue of marginality can usefully be addressed by integrated socio-ecological systems approaches. The three conceptual and theoretical chapters mentioned above provide guidance to many of the more applied chapters of this book. They underline the complementary roles of alternative disciplinary approaches for addressing marginality and the opportunities for further conceptual and theoretical research.

Changing perceptions of development and global change call for such a new approach for addressing poverty through a marginality lens. Throughout the last two decades the global development landscape has changed dramatically. In many developing countries high economic growth rates have enabled millions to move out of income poverty. However; in South Asia and SSA we find countries with high economic growth rates, but also with a high prevalence of poverty. This is the case where in many rural settings land is becoming less available; ecosystems often turn out to be more degraded, while access to drinking water, sanitation, and energy resources remains constrained for many poor communities.

1.3 Dimensions and Prevalence of Marginality

1.3.1 *Disaggregated Global Views*

A book on marginality obviously can be expected to include descriptions of the magnitude and dimensions of the global marginality problem. In Part II of the book, two global views on marginality in the context of the developing world are presented first, one based on geographical information systems (GIS) and another taking a poverty statistics approach. In Chap. 5 (this volume) Graw and Husmann offer a comprehensive, multidimensional geographical mapping of marginality and identify marginality “hotspots” based on carefully selected sets of indicators at sub-national levels. Thereby the authors provide an original mapping effort of the global marginality landscape. The developing world is certainly not one uniform marginality domain. The diverse patterns, especially in Africa and Asia, are illuminating. Also interesting are the different degrees of overlap between income poverty and marginality patterns revealed in the marginality hotspot maps by the authors. The fast moving GIS based research at national and local levels offers tremendous opportunities for identifying the geographic distribution of marginality and thereby guide actions towards priority “hotspots.”

In Chap. 6 (this volume) Ahmed et al. also take a disaggregated global view and identify where the world’s poor and particularly the poorest live, and describe the extent of recent progress made in poverty reduction and the characteristics of the poor in selected countries. They found that poverty reduction was quite similar between the “subjacent” poor relatively closer to the poverty line of US\$1.25/day per capita and the ultra-poor farther below—in fact the ultra-poor were slightly favored and the authors highlight that it is encouraging to see that the theory of “poverty traps” may not be holding generally true for those in ultra-poverty in recent years. Moving from global to specific country levels, marginality dimensions and patterns were analyzed for Bangladesh and Ethiopia, two countries that are further explored in the book.

The first MDG called for halving the proportion of the world’s population that suffers from extreme poverty and hunger by 2015. The hunger objective of this goal addresses extreme deprivation. Global progress towards this poverty goal has been significant, but progress on the hunger goal has been much less impressive. As Ahmed et al. point out in Chap. 6, around 1.3 billion people in the developing world subsist on less than US\$1.25/day and 234 million live on less than US\$0.63/day. Compared to the poor with incomes closer to the former poverty line, the very poorest are typically also marginalized: they belong to socially excluded groups, live in remote rural areas, or have less education, fewer assets, and less access to markets. Ahmed et al. also found that the proportion of the developing world’s population living on less than US\$1.25/day fell from 43.1 % in 1990 (the base year for the MDGs) to 22.4 % in 2008 (see Chap. 6). This suggests that the poverty component of the first MDG has virtually been met at the global level before the prescribed timeline.

Regional progress, however, has been uneven. Whereas the numbers and proportions of the extremely poor fell in East Asia/the Pacific and in South Asia, progress in SSA has been very limited. Worldwide the absolute number of undernourished people has been growing since the mid-1990s. In 2009 an estimated 870 million people were undernourished (FAO 2012). The majority of the world's undernourished people live in developing countries. Most of them are found in Asia, the Pacific, and SSA, and live in rural areas and often on degraded lands (Nkonya et al. 2011). Whereas in Africa most of the poor live in low-income countries, in Asia they are often found in middle-income countries. The bottom billion no longer lives in the poorest countries. Statistically speaking, the majority of the poor has shifted within the last 20 years from low to middle income countries such as India, Indonesia, Pakistan, and China, and often live in marginal regions of these countries. This has far-reaching implications for cooperative development policies, as a singular focus on poor countries will miss out on the majority of the world's poor people.

Although there has been progress in reducing the number of poor, especially those just below the US\$1.25/day per capita poverty line, the poorest and hungry have often been left behind. They do not have an effective political or societal voice, they are often decoupled from market economies (Grant and Shepherd 2008), and conventional poverty reduction and development programs are poorly designed to reach them or respond to their needs. Such a situation is extremely inefficient in macroeconomic terms and unjust from a human rights perspective. Economy-wide growth often does not reach this group, as they are not linked to (or are excluded from) the economic processes that otherwise generate and share the benefits of growth. Policies and practices that redistribute wealth from economic growth are often not in place. According to Grant and Shepherd the proximate causes for this pattern can be that the extremely poor:

- live in unfavorable areas (with poor agricultural asset bases, poor or a lack of transportation infrastructure)
- can (for various reasons) make only minimal use of their labor and lack opportunities to acquire skills
- direct most of their efforts towards achieving caloric and nutritional minimums
- are socially excluded or are of low status in society (e.g., because of the loss of the income earning household members, disease, childlessness, or being born into a disenfranchised social class)
- are excluded from public services or poverty reduction efforts.

To date research findings have shown that there is a correlation between extreme poverty and both geographical remoteness and social exclusion, and that the incidences of extreme poverty and food insecurity are concentrated in remote rural areas farthest from transportation, public service (health, education), and market infrastructure. In addition, the poorest often belong to ethnic minorities and other groups that are socially (Ahmed et al. 2009; Ahmed et al. Chap. 6 this volume). Marginality research can complement the large body of literature on poverty that is

based on indisputable facts about those who belong to the poorest and hungry today (von Braun et al. 2009):

- The poorest are becoming increasingly concentrated in SSA and South Asia. More than three-quarters of those living on less than US\$0.50/day live in SSA and the proportion of the global poor in this region is increasing.
- Poverty and widespread hunger remain in regions that have experienced rapid economic growth and substantial reductions in poverty.
- Whereas the number of urban poor is increasing rapidly, the poor are still predominantly rural. Poverty reduction remains strongly connected to agricultural development in many countries.
- Poverty and hunger reduction has been slower among the poorest and excluded groups—ethnic minorities, disadvantaged people, and the disabled—causing poverty and hunger to be increasingly concentrated in these groups. In addition, poor women and children are particularly vulnerable to the long-term effects of poverty and hunger on individual health and education status.

Tracking progress (or the lack thereof) on poverty reduction, including movements below the poverty line at global, national, and sub-national levels with up-to-date and detailed measurements, remains of great importance. Although the total number of people in poverty may change little, this stability masks substantial movements in and out of poverty and population growth. Some that are living above a poverty line are vulnerable to becoming poorer, and some living below that line may rise above it. Those living far below a poverty line (i.e., the extremely poor), will likely be there for longer, perhaps for generations (see Ahmed et al. Chap. 6 this volume). Tracking poverty as such, however, needs to be integrated with the identification and tracking of many other aspects of societal, structural, ecological, and technological changes in order to identify causal mechanisms of poverty and promising options for remedial action. Such broader attempts are a promise of the marginality approach pursued in this volume.

1.3.2 Detailed Looks at Marginality: Locations and Socio-cultural Contexts

In Chap. 7 (this volume) Choudhury and Räder present a comprehensive mapping effort of the poorest and vulnerable residents of Bangladesh that was prepared for targeting interventions of the World Food Programme. The programs for social safety, disaster risk reduction, nutritional improvement, and education were prioritized and guided by this mapping effort, bringing mapping and action together in innovative ways. This offers an approach that could be adapted in other low-income countries that are under persistent budget constraints.

In Chap. 8 (this volume) Abebaw and Admassie used a host of household demographic and socioeconomic variables from rural surveys to examine the determinants of extreme poverty in rural Ethiopia, employing econometric estimation to

characterize extreme poverty. The estimation results reveal strong associations between location and ultra-poverty. The authors confirmed that ultra-poverty in Ethiopia is positively associated with distance from educational and health facilities, roads, and other socioeconomic infrastructure.

Kumar (Chap. 9 this volume) adds a dimension of insight into marginalization by offering an interesting psychological perspective of the circle of attachment trauma leading to shame and self-perpetuated marginalization. The experiences of social marginality in the lives of young girls from the Indian state of Gujarat highlights how secure interpersonal attachments help form the primary “capabilities” that have direct bearing on an individual’s sense of identity and freedom. Insecure interpersonal and emotional attachments, particularly dismissing kinds, lead to severe inhibitions in personality development and the accumulation of layers of shame and self-doubt. Kumar examines how the psyche is tormented by repeated experiences of social marginalization in the form of dismissal at the hands of family, and how shame becomes an abiding emotion—creating further doubts, disenfranchisement, and alienation that permeate the lives of the girls interviewed by the author. Breaking this cycle of marginality apparently needs a broader and deeper approach, and calls for further expansion of interdisciplinary efforts in research beyond economics and ecology.

1.4 Environmental Drivers of Marginality

Ecological and agricultural dimensions and determinants of marginality are the focus of the chapters in Part III of the book. Pingali et al. (Chap. 10 this volume) explore the linkages between poverty, agriculture, and the environment in the case of SSA. They found that natural resource endowments and land degradation are critical determinants of poverty and marginality, and identify agricultural development strategies (distinguishing farming systems, productivity, and environmental strategy components) in a framework of different opportunity costs of land and labor. Efforts to reduce the significant agricultural yield gaps with technological and policy measures in support of sustainable intensification are identified by the authors as opportunities, even in many marginal areas. They conclude that investing in targeted Research and Development (R&D), especially focused on the crops and traits that are important to the poor and the environmental limitations they face, have the potential to dramatically increase agricultural productivity and lessen marginality in SSA.

Kumar and Yashiro (Chap. 11 this volume) underline the dependence of the marginal poor upon ecosystem services. In their analyses of conditions in Asia and Africa they found that the poor are often more vulnerable than others to the loss of ecosystem functions that restrict the availability of natural goods and the performance of services. They also found that those who benefit most from environmental conservation efforts are not poor, while the poor typically suffer most from environmental degradation. Pointing at further research needs, the authors emphasize that in all of the reviewed cases of poverty-ecosystem services linkages, indicators of the intensity and directionality of linkages were either diffuse or incoherent. Information

is particularly limited on how changes in regulatory ecosystem services, many of which are critical for supporting the lives of the poor, affect human well-being.

Gerber et al. (Chap. 12 this volume) investigated the relationships between poverty and land degradation (LD) at the global level, and also in a set of developing country cases. They suggest a broader context for the assessment of LD, its causes, consequences, and costs, where the proximate causes of LD include: biophysical factors (climatic conditions, topography, etc.) and anthropogenic factors (unsustainable land management practices such as forest clearing, over grazing, etc.). Underlying causes of LD include the policies and institutional or other socioeconomic factors that determine land management practices. For example, poverty contributes to the failure to invest in sustainable land management practices. Similarly, policies that enhance investment in land management, such as payments for ecosystem services that result in reforestation efforts on steep slopes, can mitigate the proximate causes of LD in the form of soil erosion. There are feedback effects between poverty and LD that make it harder to determine the direction of the causality, and the institutional frameworks within which land users operate and make their land management decisions can supersede the impacts of poverty on LD. This was exemplified in some of the case studies examined by the authors, who propose a systematic and science-based assessment of the extent, severity, and costs of LD worldwide (Nkonya et al. 2011) as a first step towards the inclusion of LD into general measures of human well-being and of LD remediation efforts into strategies for the reduction of marginality.

1.5 Experiencing Marginality in Africa and Asia

In Part IV of this book the causes and experiences of marginality are explored in countries of Asia and Africa. Entire country, sector, and spatial dimensions, and also household behaviors are explored, and experiences with policies and intervention programs are evaluated.

Thorat (Chap. 13 this volume) addresses marginality in the context of social exclusion and poverty in **India**. Values, the lack of rights, and discrimination are discussed as important determinants of marginality. The experiences of change in poverty in rural India were found to have distinct patterns according to ethnic, caste, or religious group. The relative degree of “pro-poor” income growth was compared between various agricultural and nonagricultural livelihoods, rural and urban areas, and among ethnic, caste and religious groups. Rural self-employed households experienced greater income increases than wage-laborers across all ethnic, caste, and religious groups. The analyses also showed that poverty was generally reduced at a lower rate for minorities such as the “scheduled tribes,” “scheduled castes,” and Muslims. Members of these groups typically own less agricultural land, have less access to private non-farming economic activities, are more dependent on wage employment, and have historically higher levels of poverty. Thorat also identifies policy opportunities: self-employed households may benefit from opportunities for engaging

in micro-scale production and business, whereas wage laborers may benefit from increases in employment or wages. The author proposes poverty reducing agricultural growth strategies specifically tailored for rural agricultural and non-agricultural livelihoods. Off-farm income opportunities, incentives for increasing the profitability of small producers and businesses, and investments in the education and skill development of minority groups are among the policy portfolio options suggested by the author.

Consumption behavior of the poorest households in **Indonesia** was analyzed by Pangaribowo in Chap. 14 (this volume). The author's approach is based on the premise that designing effective food policies and intervention programs for the poor requires accurate knowledge of their consumption patterns and behavior. For example, an important consumption behavior pattern observed was an overall decreasing share of household expenditures on food items over the last decade except for increasing expenditures on goods from the "dried and snack foods" and "meat and fish" categories. The author also found that the poor consistently spent from their meager incomes on so called "adult goods" (i.e., tobacco and alcoholic products). These consumption patterns may reflect gender biases, with male household heads deciding to spend more at the margin on these goods. Estimates of expenditure-price and cross-price elasticity point to the potential effectiveness of policy interventions for improving food security of the poor. Pangaribowo found that for the poorest households over the last decade, "dairy products" remained expenditure elastic, "staple foods" became less expenditure elastic, and that expenditure elasticity for "alcohol and tobacco products" increased. Similar to expenditure elasticity, price elasticity for categories such as "dairy products," "meat and fish," as well as "alcohol and tobacco products" predicted the most substantial decreases in consumption in response to price increases. Complementary and substitutive relationships among consumed goods categories imply that "staple foods" consumption among the poor will increase when prices for "meat and fish" and other nutrient rich products increase. The author concludes that in order to more effectively address extreme poverty and food security, policies should integrate information and nutrition education campaigns, and also be targeted toward women.

China's recent experiences in addressing extreme poverty and marginality are presented and analyzed by Zhu in Chap. 15 (this volume). The evolution of effective and efficient policies, especially in rural areas, was found to be closely connected to China's economic growth in the past three decades as well as to regional inequality. In order to alleviate and eradicate extreme poverty, the Chinese government extended the *Di Bao* (minimum livelihood guarantee system) program to the entire rural sector, enhanced agricultural policies, and stepped up rural socioeconomic development efforts. In developed regions of the country the *Di Bao* program, social insurance, and public services have effectively mitigated extreme poverty. Zhu reviewed policies that have been introduced and changes that might still be needed, especially in the rural parts of western China. The author describes the transition of *Di Bao* from an emergency relief and basic needs program to a mature social

protection system, aligning the poverty program for the poor and extremely poor with efforts in urban areas.

Zhu found that the successes of past anti-poverty programs have mainly benefitted the poor closest to the national poverty line, whereas the extremely poor generally remain poor because of their marginalized geographic locations and positions in society. For them the *Di Bao* provides a social safety-net. The author identifies requirements for improving benefits from poverty reduction programs and for linking other such programs with the *Di Bao* system. The requirements include improved targeting mechanisms, data availability, and management capacities, and also increased funding for intervention programs. One lesson from experiences in more developed regions in China is to target the specific difficulties of extremely poor households and individuals, for instance through increased coordination of the *Di Bao* social assistance program with other social insurance programs and public services.

Experiences in targeting the poorest in **Bangladesh** were analyzed by Ahmed (Chap. 16 this volume), who in particular looked into the impressive case of the program “Challenging the Frontiers of Poverty Reduction” (CFPR), designed and administered by the Bangladeshi nongovernmental organization BRAC (Bangladesh Rural Advancement Committee). CFPR was designed to enable the ultra-poor to enter into mainstream economic activities that would generate sustainable income sources. BRAC recognized that existing microfinance efforts had failed to address the needs of the ultra-poor, either because they lacked access to microfinance opportunities, or because they lacked the needed human capital and/or other preconditions for productive engagement. To achieve the program goal of lifting participants out of extreme poverty within 2 years and facilitate their entry into mainstream development programs, this program combines interventions specifically tailored for the ultra-poor with interventions to create an enabling environment for them. Ahmed describes the ideas behind the approach, the specific steps taken for implementing the program, and the key success criteria, which include the active participation of local villagers in identifying the poorest households, tailored training of motivated community workers, and the verification of collected data.

Policy measures and program interventions to alleviate rural poverty and marginality, along with trends in general economic indicators in **Ethiopia**, were reviewed by Admassie and Adebaw in Chap. 17 (this volume). The authors provide a comprehensive overview of Ethiopian policy measures and program interventions that covers food security, social safety nets, resettlement, environmental, health, and education sector policies. Despite overall increasing economic and particularly agricultural sector growth rates over the last decade, their review revealed that growth divergence and inequalities in income, health, and education remain high, and that poverty remains persistent, especially among the most vulnerable and socially excluded groups of rural Ethiopia. Thus, significant efforts to increase the equitable distribution of economic opportunities and services are still needed.

1.6 Responses to Marginality at Different Levels: State, Business, and Community

1.6.1 Key Roles of Government and Civil Society

Addressing marginality is not only a matter for central and local governments, but also a task for civil society organizations (see the review of the BRAC experience in Chap. 16 this volume), business, and local communities themselves. In Part V of this book, policies and programs, as well as actors addressing marginality are discussed.

Public policy assessments begin with Ahmad's work (Chap. 18 this volume) on macroeconomic, fiscal, and decentralization options to address marginality. How does one reach the extremely poor and marginal groups in countries where local politicians and officials may have little incentive to provide for them? The instruments that might be involved include a range of options: transfers or assistance from higher levels of government (donors), cash support, the provision of public services (particularly health care and education), forms of employment support, and assistance for small-scale enterprises. The author outlines some of the difficulties attached to making government sourced cash transfers more effective in reaching the marginalized poor, such as the lack of political will, leakage of funds and capture at the local level by vested interests, weak public financial management systems, the lack of information about target groups, and incomplete knowledge about beneficiary needs. Ahmad offers a typology of options that is useful for improving the reach of efforts to provide for the poorest of society and concludes that simple categorical targeting mechanisms, such as through clinics or schools, can improve the effectiveness of reaching the marginalized. Good governance efforts to track and account for funds and their outcomes are among the essential ingredients for policies to successfully provide for the poorest. In the absence of genuine local interest in providing support for the marginalized and extremely poor, direct funding to beneficiaries by central governments and aid agencies appears to be the only feasible option.

Social protection programs, especially cash transfer programs, have spread across low-income and middle-income countries over the past two decades and are increasingly part of national poverty reduction and development strategies. Hulme et al. (Chap. 19 this volume) pose the question, "Just Give Money to the Poor?" and discuss insights from long-term research on social protection policies, including both conditional and unconditional cash transfer programs, which have become quite popular around the developing world over the past 20 years. The authors provide a brief history of the development of social protection and cash transfer programs, which can fill gaps where markets fail, especially with regards to the labor market and the environment—two crucial sources of livelihood for the marginalized poor. The authors give examples of the specific goals, targets, and conditions of various social protection and particularly cash transfer programs from a broad cross-section of countries, and how they have been perceived by both their

detractors and supporters. Hulme et al. argue why and how cash transfers can succeed by trusting the poorest and enabling them to escape poverty, as the poor are quite capable of identifying what is best for their own well-being. The authors identify the following five overriding features for social protection programs and cash transfers to be successful, they should be: fair, assured, practical, large enough to impact household income, and popular. They stress that these principles need interpretation at the national level, because no “model” can be automatically transferred from one country to another. The growing body of research on the limitations of these programs is noteworthy, especially when they constrain the mobility of labor, as highlighted by Levy (2008) in the case of Mexico.

1.6.2 Potential for Business

Marginality is not a matter exclusive to public policy and rights, but also an issue that can be addressed by business. The “bottom of the pyramid” approach (i.e., the latent power of demand by the poor as a business case) has been very much recognized by now (Prahalad 2004). Innovative business approaches offer new opportunities to reduce extreme poverty and marginality, and there are promising new initiatives for overcoming marginality through inclusive business models. The actual and potential roles of the corporate sector in combatting marginality are reviewed and discussed by Baumüller et al. (Chap. 20 this volume) and Christiansen (Chap. 21 this volume).

In Chap. 20 Baumüller et al. outline the rapid evolution of related thinking in the business world and explore in detail some of the relatively new business approaches that have emerged for addressing societal problems. The potential for innovative business approaches to target the poor appears to be receiving increasing attention. The authors also examine whether and how these approaches can support not only those living close to a poverty line, but also help engage the marginalized at the lowest end of the income scale.

A promising new initiative for overcoming marginality through inclusive business approaches is the “Creating Shared Value” (CSV) approach, which is described by Christiansen in Chap. 21. CSV means that when making business decisions on future products and allocations of investments, companies simultaneously consider what long-term values can be created both for society and for shareholders. The author defines criteria for successful shared value approaches and gives a detailed example of how CSV worked in Nestle’s dairy farmer development approach at the Moga milk factory in the Punjab region of India and Pakistan. Apart from developing local dairy businesses and providing incomes, a larger section of local society has benefited from improved infrastructure, schools, sanitary and medical facilities, and nutrition education programs.

Despite the successful impacts of inclusive business approaches, rural poverty cannot be sustainably reduced by private business initiatives alone. These initiatives can achieve greater results when accompanied by public investments in agriculture

and rural development, and other forms of improved cooperation between the public and private sectors. While the potential for government support to facilitate business solutions that address extreme poverty and marginality is clear, the forms that this support should take and the actual benefits of various support measures remain poorly understood. At times governments provide support measures that reduce social welfare overall. The example of fiscal incentives is a case in point: while tax breaks are a popular tool used by governments to try to attract direct foreign investments into certain areas or sectors, studies from several countries have shown that these incentives often have had little influence on investors' decisions, while governments lost revenues (Baumüller et al. 2011). Thus research should explore options for government measures in support of business activities for social development and assess their potential impacts in the different contexts in which they are applied. Indirect approaches for inclusive business and shared value generation that reach the extremely poor may be of particular significance, such as infrastructure investments in marginal areas, or access to improved seeds or livestock, health services, and nutritionally enhanced foods that have elements of comprehensive coverage and do not exclude the poor. Tracing the results and impacts of such investments on the extremely poor should, however, be integral to such initiatives.

It seems that the boundaries of innovative business operations can be pushed much further to include a far greater number of the marginalized and extremely poor. The corporate sector could examine these opportunities as low risk/high return ventures and continue experimenting. Development partner communities may best serve these initiatives by providing local insight and co-funding. The research community may best serve these efforts by considering innovative ideas that foster institutional arrangements that bring together unusual alliances, by accompanying efforts with solid impact studies, and through insights from comparative assessments of cases of successful efforts that were scaled up.

1.6.3 Attention to Diverse Local Contexts

As many of the above mentioned chapters of this book underline, involvement of the marginalized communities themselves is often a critical component of effectively mitigating marginalization. Gole et al. (Chap. 22 this volume) take a holistic perspective from the bottom up at the community level. Their insights are based on a series of interviews in carefully selected communities in marginal areas of Ethiopia.

In the Jida district in the Central Highlands of Ethiopia, extreme land degradation on slopes, erratic rainfall, and unsustainable logging practices on the valley plains have contributed to the marginal conditions in the area. Marginalization here is predominantly caused by anthropogenic environmental factors and human behavior. The Yayu region in contrast, is endowed with plentiful natural resources. The lack of formal credit opportunities and the resulting reliance on high-interest personal loans, shortages of family labor, and the limited size of coffee plantations all

contributed to the poverty of some community members. Marginalization here is mainly rooted in institutional factors and resource constraints, especially of land availability. In the Adami Tullu Jiddo Kombolcha district the potential for income generation depends on the possession of land with potential for irrigated agriculture or livestock production. The proximity of the district to major domestic markets has attracted investment in commercial agriculture, displacing local residents and leaving them with only marginal production areas. Here economic and socially influential forces related to investments and access to irrigation water are the main drivers of marginality. In the pastoralist community of Borana, degraded rangeland and water resources, cultural values attached to livestock, poor range management and livestock production practices, and marginal environmental conditions were identified as factors contributing to marginality. Marginality is caused by factors that vary across regions and livelihoods, but is always a complex interplay of various aspects that exclude some people from economic growth opportunities, and similar drivers of marginality are found to be root cause of poverty in all sites. The need for differentiated participatory approaches, including much attention to local leadership and governance, strengthening human capital, and access to productivity enhancing technology in agriculture, services, and infrastructure are highlighted.

1.7 Conclusions

1.7.1 *Focus on Marginalized People*

Of course the marginality framework developed and explored here should ultimately help reduce marginality and enhance the opportunities of marginalized people, be they women, ethnic minorities, the disabled, or some otherwise excluded group. At intermediate stages it should help frame action and assist pertinent actors (i.e., marginalized communities to gain more recognition and voice, or policy advisors, program designers and researchers to facilitate focused initiatives). This book not only provides evidence and insights of promising and innovative concepts and approaches, but also provides examples for revitalizing the poverty discourse and triggering action for change. Focusing merely on the income dimensions of poverty will not address its root causes shaped by marginality.

Marginalization appears to be very difficult to reverse once complex systems have produced such a state, but the “poverty trap” concept offers limited insights for action, compared to human-environmental interrelationships as conceptualized in socio-ecological systems (SESs). One way to overcome marginalization is to increase the resilience and adaptability of SESs, however, multiple needs must be considered simultaneously, mainly: food security, income generation, and ecosystem services. Creating incentives for economic growth works well mostly for those who already have access to assets or have been reached by employment creation and service expansion efforts, but not for those excluded from them, whether for reasons

of geography or active discrimination. For many of the extremely poor to benefit from economic growth it may be necessary to establish certain preconditions first (i.e., addressing factors that contribute to marginality), in order to make economic growth an effective means for poverty reduction.

1.7.2 Changing Marginal and Marginality Creating Environments

The difficulties in reaching the poor at the margins are frequently explained by physical (being located in remote or harsh environments) and social (being excluded, discriminated against, or not having access to resources and opportunities) distances, but may also be related to technological and institutional infrastructure deficiencies. In the long run, none of these deficiencies need to be taken for granted. Marginal areas, for instance, can be transformed by investments in technology and infrastructure, if this pays off in the long run. Demographic shifts in SSA for instance, are making productivity enhancing investments more attractive in some areas where demand is rising and the opportunity costs of land and labor are increasing. As Pingali et al. (Chap. 10 this volume) point out, a strategy pursuing intensification makes sense where it pays off, and releasing marginal lands from agriculture to provide other ecosystem services where returns on productivity growth investments will continue to remain low will make sense in some cases. Investing in targeted R & D to address SSA's particular constraints—especially focusing on the crops and traits that are important to the poor and the particular environmental limitations they face—can lessen marginality and contribute to widespread reduction of poverty.

More clarity on indicators is still needed, as well-being is partially attributable to the state of the environment, which can be captured to some extent by global indicators such as genuine savings (Aglietta 2011), which adjusts the savings rate for the depletion of natural resources. However, as noted in Nkonya et al. (2011), land degradation is a form of squandering that is not addressed by any current frameworks and indicators of human well-being, nor is it addressed in measures of genuine savings. This needs to change, as productive land is not only a private good, but also contributes to the global public well-being, delivering ecosystem benefits to support a growing world population that creates increasing competition over land ownership (Deininger and Byerlee 2011).

Institutional infrastructure deficiencies are a major barrier to overcoming marginality. Institutions consist of property rights that define the flow of cost and benefit streams from resource use, they grant access to the use of resources and guarantee long-term user rights, and thereby incentives for investing in land and other forms of capital become more attractive. Institutions of marginality, in contrast, are characterized by mixed systems of informal and formal rules, which create conditions of limited access to rights and resources. So-called “limited access orders” (North et al. 2009) maintain themselves by means of extracting others

(Acemoglu and Robinson 2012) and the environment. Thereby human and natural capital are wasted and benefits from creativity, competition, innovation, and entrepreneurial spirit remain untapped.

Creating institutional environments that are more inclusive will also create new ways for markets, governments, and collective action to reduce poverty. In this volume, Zhu (Chap. 15) shows that collective action happens among advanced and marginalized villages in rural China. Although not explicitly referred to, Ahmed (Chap. 16) points to the potential of collective action among governmental, nongovernmental organizations, and the extremely poor in rural Bangladesh. Ahmad (Chap. 18) hints to the potential of decentralization and the benefits of a system in which the marginalized, the government, and actors of the fiscal apparatus work closely together to overcome marginality, and Christiansen (Chap. 21) mentions collective action opportunities between business and government. Mwangi et al. (2011) provide further examples of opportunities of collective action for overcoming marginality.

1.7.3 Need for Multi-dimensional Policies and Programs

Because of the interlinked nature of multiple variables that constitute marginality in socio-ecological systems, coherent policies (Bromley 2012) and comprehensive strategies are needed to address them. Point source “optimal” solutions in a narrow economic accounting framework and panaceas often create problems rather than solutions for disentangling marginality patterns (Higgs 1996; Scott 1998; Wilson 2002; Ostrom 2007).

While implementing comprehensive interventions to mitigate economic risks that the extremely poor have encountered, actions to eliminate social exclusion should be given greater consideration. This may not bring any significant poverty incidence changes in the short-term, but is an essential step towards eradicating poverty and promoting inclusive development, as pointed out by Thorat (Chap. 13 this volume), who calls for a shift from attention on changes in the incidence of poverty to an increasing consideration of how much the poor are benefited from multi-dimensional intervention policies.

In the absence of genuine local interest in providing for the marginalized, direct provision of funding by central governments appears to be the only feasible option, which may be reflected by the increasing popularity of central-source conditional cash transfers, such as the *Oportunidades* program in Mexico or the *Bolsa* project in Brazil. In such cases, using simple categorical mechanisms as vehicles for targeting may be more effective (Ahmad Chap. 18 this volume). Public works with limited financial incentives can be an alternative, especially if the respective community and marginalized groups are able to identify the areas where public works may be most useful (von Braun 1995). Above all, the basic building blocks for good governance, the ability to track the funds, and the outcomes of public spending remain as important as individual interventions.

One of the challenges is to strategize the appropriate division of tasks regarding appropriate measures and actions from the side of policy, civil society, and business. New ways of doing business to include the marginalized poor have been on the development agenda of governmental and nongovernmental organizations for some time now. Especially in rural areas and small farming communities, ecosystem goods and services provide an important proportion of overall income and foundation of livelihoods. Recognizing the strong dependence of the marginalized poor on natural capital underlines the importance of policies intended to preserve the environment and natural resource bases for agriculture.

1.7.4 What to Expect from the Marginality Framework

In conclusion we ask, what can be expected for whom, from the insights gained under the marginality framework developed here and the analyses done in that context? The answers to this question with the following four assertions are a call for accompanying policy actions with applied and interdisciplinary research for marginality reduction:

First, **recognizing marginality and marginalized people** as complex phenomena leads to equally multi-faceted solutions. At first glance, this appears not to be helpful for focused development policy. However, narrowly focused policies often simply aim to treat the most prominent problem areas independent of social, ecological, and economic contexts, and may not deal with systemic problems. When marginality patterns and causes are identified and assessed in a multi-level (local, national, and global) context, appropriate actions become visible. Once the domains in which marginality may be rooted are identified they can be better addressed, such as: the lack of rights (e.g., ethnic, gender, disabilities), or the entrenched human behavior of people who have been discriminated against for a long time in a certain setting, the lack of access to services or technology, or ill designed macroeconomic policies that adversely impact certain segments of the labor market. This is an added value to income-poverty assessment, which are also most valuable as part of marginality assessment, but are further removed from cause and effect concepts.

Second, the **marginality framework clarifies the actors' and agents' potential roles**, including the marginalized themselves. Beginning with asking questions like: "who are the marginalized?"; "where do they live?" and "how and why are they marginalized?" leads to a people and community focus and the institutional setting under which they act. The marginality framework sees social and ecological systems as coupled, and facilitates the identification of the relationships between actors and public infrastructure (physical and social), and how the institutional environment creates structures which lead to processes of marginalization. By implication the framework draws attention to the marginality problem and thereby can facilitate targeting action, not in the sense of targeting a set of poor people, but targeting a set of root causes of marginality, say social exclusion, ecological risks, or deficient institutions.

Third, under the marginality framework, available **tool boxes and analytical approaches can be put to task more appropriately**, in order to assess success or failure of programs or policies. The framework does not guide toward narrowly focused and reductionist applications of tools that may be internally consistent, cost effective, and “elegant,” but that lack external and contextual relevance. Participatory data monitoring, innovative micro-modeling, collective action assessments, experimental designs, or macro–micro simulations may all play a role. The litmus test here is “did marginality get reduced?”

Fourth, the marginality framework also may be conducive to **realism in terms of temporal dimensions**, which is often lacking in development policy. Such realism may result from assessment of the persistence of marginality in a particular setting. The framework, however, besides primarily drawing attention to structural issues of gross inequality—such as exclusion—also calls attention to the temporal subscripts of causes that shape marginality, say for instance vulnerability to acute shocks or long-term exclusion. This attention to time can facilitate better identification of priority actions, as the marginalized poor have no time to lose.

One message of this book is that marginality needs to move more into the center of public policy in order to achieve inclusion and poverty reduction. Another message is that economic and ecological approaches need to come together to comprehensively identify and address marginality patterns. A third message is that on the road towards overcoming marginality, institutional and technological innovations often need to be more integrated.

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References

- Acemoglu D, Robinson J (2012) *Why nations fail: the origins of power, prosperity, and poverty*. Crown Business, New York
- Adato M, Hoddinott J (2010) *Conditional cash transfers in Latin America*. Johns Hopkins and the International Food Policy Research Institute, Baltimore
- Aglietta M (2011) Sustainable growth: do we really measure the challenge? In: *Measure for measure-how well do we measure development? Proceedings of the 8th AFD-EUDN conference*, Paris, AFD (Agence Française de Développement), Paris, 1 Dec 2010, pp 177–230
- Ahmed AU, Hill RV, Smith LC, Frankenberger T (2009) *The poorest and hungry: characteristics and causes*. In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 107–128
- Banerjee A, Duflo E (2011) *Poor economics: a radical rethinking of the way to fight global poverty*. Public Affairs, New York
- Baumüller H, Ladenburger C, von Braun J (2011) *Innovative business approaches for the reduction of extreme poverty and marginality? ZEF working paper 80*, Center for Development Research, University of Bonn, Bonn
- Bromley DW, Anderson GD (2012) *Vulnerable people, vulnerable states*. Routledge, New York

- Collier P (2007) *The bottom billion: why the poorest countries are failing and what can be done about it*. Oxford University Press, Oxford
- Damasio A (2011) Neural basis of emotions. *Scholarpedia* 6(3):1804
- Dasgupta P (2003) World poverty: causes and pathways. Plenary lecture presented at the World Bank's Annual Bank Conference on Development Economics (ABCDE), Bangalore, 21–22 May 2003. <http://www.econ.cam.ac.uk/emeritus/dasgupta/worldpov.pdf>. Accessed 23 Feb 2013
- Dasgupta P (2009) Poverty traps: exploring the complexity of causation. In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 129–146
- Deininger K, Byerlee D (2011) *Rising global interest in farmland: can it yield sustainable and equitable benefits?* World Bank, Washington, DC
- FAO (2012) *The state of food insecurity in the world*. Food and Agriculture Organization of the United Nations, Rome
- Gatzweiler F, Baumüller H, von Braun J, Ladeburger C (2011) *Marginality: addressing the root causes of extreme poverty*. ZEF working paper 77, Center for Development Research, University of Bonn, Bonn
- Gordon D, Levitas R, Pantazis C, Patsios D, Payne S, Townsend P (2000) *Poverty and social exclusion in Britain*. Joseph Rowntree Foundation, York
- Grant U, Shepherd A (2008) *Should and can development policy focus on the poorest too?* Working paper 125, Chronic Poverty Research Center, Overseas Development Institute, London
- Higgs R (1996) Legally induced technical regress in the Washington Salmon Fishery. In: Alston LJ, Eggertsson T, North DC (eds) *Empirical studies in institutional change*. Cambridge University Press, New York, pp 247–279
- Levy S (2008) *Good intentions, bad outcomes: social policy, informality, and economic growth in Mexico*. Brookings Institute, Washington, DC
- Mwangi E, Markelova H, Meinzen-Dick R (2011) *Collective action and property rights for poverty reduction. Insights from Africa and Asia*. University of Pennsylvania Press, Philadelphia
- Nkonya I, Gerber N, Baumgärtner P, von Braun J, De Pinto A, Graw V, Kato E, Kloos J, Walter T (2011) *The economics of land degradation: toward an integrated global assessment*. Peter Lang, Essen
- North DC, Wallis JJ, Weingast BR (2009) *Violence and social orders: a conceptual framework for interpreting recorded human history*. Cambridge University Press, New York
- Nussbaum MC (2004) Beyond “Compassion and Humanity”: justice for nonhuman animals. In: Sunstein CR, Nussbaum MC (eds) *Animal rights: current debates and new directions*. Oxford University Press, Oxford, pp 299–320
- Nussbaum MC, Sen A (1993) *The quality of life*. Oxford University Press, Oxford
- Ostrom E (2007) *Sustainable Social-ecological systems: an impossibility?* Paper presented at the annual meetings of the American association for the advancement of science, San Francisco, 15–19 Feb 2007
- Prahalad CK (2004) *The fortune at the bottom of the pyramid*. Wharton School Publishing, Philadelphia
- Room G (1995) *Beyond the threshold: the measurement and analysis of social exclusion*. Policy Press, Bristol
- Sachs J (2006) *The end of poverty: economic possibilities for our time*. Penguin Press, London
- Sauers P (1994) *Welfare and inequality: national and international perspectives on the Australian welfare state*. Cambridge University Press, Cambridge
- Schlosberg D (2007) *Defining environmental justice: theories, movements, and nature*. Oxford University Press, Oxford
- Scott JC (1998) *Seeing like a state: how certain schemes to improve the human condition have failed*. Yale University Press, New Haven
- Sen A (1987a) *Commodities and capabilities*. Oxford University Press, New Delhi
- Sen A (1987b) *The standard of living*. Cambridge University Press, Cambridge
- Sen A (1999) *Development as freedom*. Oxford University Press, Oxford

- Stark O, Bloom DE (1985) The new economics of labor migration. *Am Econ Rev* 75(2):173–178
- Stark O, Kobus M, Jakubek M (2011) A concern about low relative income, and the alignment of utilitarianism with egalitarianism. ZEF discussion papers on development policy 156, Center for Development Research, University of Bonn, Bonn
- Townsend P (1979) *Poverty in the United Kingdom: a survey of household resources and standards of living*. Penguin Books, Harmondsworth
- Townsend P, Corrigan P, Kovarzik U (1987) *Poverty & labour in London: interim report of a centenary survey*. Low Pay Unit, London
- von Braun J (ed) (1995) *Employment for poverty reduction and food security*. International Food Policy Research Institute, Washington, DC
- von Braun J, Hill RV, Pandya-Lorch R (eds) (2009) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC
- Walker I, Smith HJ (2002) *Relative deprivation: specification, development and integration*. Cambridge University Press, Cambridge
- Wilkinson RG, Pickett KE (2007) The problems of relative deprivation: why some societies do better than others. *Soc Sci Med* 65(9):1965–1978
- Wilson JA (2002) Scientific uncertainty, complex systems, and the design of Common-pool institutions. In: Committee on the Human Dimensions of Global Change, National Research Council (ed) *The drama of the commons*. National Academies Press, Washington, DC, pp 327–359

Part I
Concepts and Theory

Chapter 2

Marginality—A Framework for Analyzing Causal Complexities of Poverty

Franz W. Gatzweiler and Heike Baumüller

Abstract This chapter presents an interdisciplinary framework for the investigation of marginality which is inclusive of the diversity of existing poverty research approaches. Marginality is presented as a systemic and evolutionary concept with particular reference to the role of institutions that constrain or motivate actions as measured against a performance indicator such as productivity growth. Based on a brief review of marginality research in social, economic, and development fields, this chapter presents a definition of marginality and explains the differences between this conceptual framework and those of poverty. Finally, the components of the framework and its interrelationships are described and awareness for the need for further research on marginality is raised.

Keywords Causal complexities • Conceptual framework • Capability approach • Systems • Institutions

2.1 Towards the Development of a Concept

The persistence of poverty has motivated research to shift from looking at single dimension explanations towards recognizing that the causes of poverty are “complex, multifaceted, and difficult to isolate” (Haveman and Smeeding 2007, 2). As a result, poverty research has contributed to a more comprehensive understanding of the causes of poverty, and it has been recognized that the traditional methods of disciplinary science fall short of seeing and explaining the “big picture” of causal

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factors underlying poverty (Meinzen-Dick et al. 2004; von Braun et al. 2009, 44). These shortcomings led us to the development of a more inclusive and interdisciplinary research framework, that of marginality.

Kant (1819) noted that a concept is a general representation that is common to several specific objects. Accordingly, the concept of marginality is an abstraction of the idea that the causal complexities underlying people's living conditions interact in ways that are at systemic margins. These conditions are far from what would be considered optimal, in balance, just, equal, sufficient, good, or fair—attributes that describe conditions and positions in human life that are enabling and supportive, and that are used to define poverty.

Despite the critiques of marginality in social science (Cullen and Pretes 2000; Del Pilar and Udasco 2004), the persistence of marginality as a concept (Dickie-Clark 1966) should be regarded as an indication of the demand to express observations of a similar kind across different epistemic cultures (Knorr Cetina 1999), and to find solutions, here, to the phenomena of poverty. The problem of measuring the degree of marginalization is that the reference is not fixed or unknown, and therefore when used as a theory marginality has been criticized for the lack of construct validity (Del Pilar and Udasco 2004, 11). In their critique, however, those authors reviewed the use of marginality as a theory and came to the conclusion that “marginality cannot work [as a theory] if it has multiple levels of meaning.” This critique of the marginality concept as a theory also rests on the belief that a concept must be a “uniform kind of mental representation” (Weiskopf 2009, 145). Weiskopf rejects this assumption in psychology and outlines a pluralist theory of concepts in which they are constituted by multiple representational kinds. In the following we present a framework for the investigation of marginality—not a theory of marginality.

Although poverty can be observed in many different forms and is caused by many different factors, all forms of poverty can be described through the concept of marginality. Someone who is poor will always be marginalized in one or more dimensions, whereas the socio-cultural context and individual perception will define in which and in how many dimensions someone needs to be marginalized in order to be considered poor. The aim of establishing a concept of marginality is therefore to better understand the various causal complexities of poverty by deepening and broadening the scope of scientific investigation through:

1. identifying common causalities of poverty across scientific disciplines, and
2. including phenomena that are not typically considered as poverty or contributing to poverty alone (e.g., living in harsh or resource scarce environments).

Deepening and broadening the scope of investigation thereby also includes incorporating theories and models from other (non-social science) epistemic cultures and scientific disciplines. In that sense marginality is not only a concept, but also a conceptual framework. It is a framework for different theories of poverty within which various models can be tested.

Frameworks. Theories and models are understood as “nested set[s] of theoretical concepts, which range from the most general to the most detailed types of

Table 2.1 Classes of poverty theories and selected references

Classes of poverty theory	Selected references
Individual deficiencies Poverty is caused largely as a result of the attributes of individuals and the choices they make	Rainwater (1970), Ryan (1976), Gwartney and McCaleb (1985), Herrnstein and Murray (1994), Weber (2001)
Socio-cultural and belief systems Poverty is culturally manifested and transmitted by values, beliefs, and norms (e.g., ghetto or slum subcultures)	Kapp (1963), Moynahan (1965), Valentine (1968), Murray (1984), Putnam (1993), Putnam and Helliwell (1995), Bhalla and Lapeyre (1997), Lewis (1998), Mbakogu (2004), Roland (2004), Small et al. (2010)
Political-economic (structural) barriers The political, social, and economic systems provide insufficient incentives and opportunities: shift in focus from the actors of the game to the game itself	Smith (1776), Marx (1867), Polanyi (1944), Hamilton (1967), Sen (1982), Nussbaum and Sen (1993), Tobin (1994), Jencks (1996), Dasgupta (2003), Desai (2007), North et al. (2009), von Braun et al. (2009), Acemoglu and Robinson (2012)
Geographical and environmental disparities Causes of poverty are spatial factors (e.g., distance to growth centers, marginal land and climatic conditions)	Von Thünen (1826), Goldsmith and Blakely (1992), Dasgupta and Mäler (1994), Shaw (1996), UNDP (1998), Pingali (2003), Bradshaw and Muller (2004), Duraiappah (2004), Weber and Jensen (2004), Pingali et al. (2005), Dellink and Ruijs (2008), Diamond (2011)

Modified from Bradshaw and Muller (2004)

assumptions made by the analyst” (Ostrom 2005, 27). Frameworks organize, form boundaries around the inquiry, set up general relationships among categories or dimensions, as well as define the scope and levels of the inquiry. They do not explain or predict, rather they organize the diagnostic inquiry. (Ostrom et al. 1994; Schlager 1999).

Theories. Theories explain particular parts of a framework, and therefore need to make assumptions about the patterns of relationships within frameworks. Several theories may be accommodated within a single framework. Table 2.1 presents a brief overview of classes of poverty theories and selected references. As Bradshaw (2005) argues, the choice of a theory and the definition of the problem are thereby not only scientifically motivated, but also politically influenced. O’Connor (2001, 12) mentions that poverty research is also a political act, which is influenced by biases and values of an educated elite who aims to “categorize, stigmatize, but above all to neutralize the poor and disadvantaged through analysis that obscures the political nature of social and economic inequality.”

Defining and choosing a theory means defining what is to be explained and therefore the choice of theories is also political. For example the application of neoclassical economic theory makes use of methodological individualism, which can be seen as reinforcing individualistic sources of poverty. Theories in this tradition attempt to redress the problem that “[p]overty researchers have in effect focused on who loses out at the economic game, rather than addressing the fact that the game produces losers in the first place” (Rank et al. 2003, 3). *Models* are then applied to further specify analyses by defining concrete assumptions and

specific variables. “Logic, mathematics, game theory models, experimentation and simulation, and other means are used to explore the consequences of these assumptions systematically” (Ostrom 2005, 28).

Eventually the challenge of drawing the bigger picture of marginality includes taking a critical look at the science applied to understand the complexities of marginality itself. Here science at the margins needs to investigate which knowledge about marginality is adequate, how it influences the outcomes of the investigation, and how this knowledge should be obtained. Despite the fact that the marginality framework is open to different disciplinary approaches, different epistemic cultures (Knorr Cetina 1999), with their specific rules and norms for acquiring knowledge, do not always easily lend themselves to a synergy of findings.

2.2 Definition and Delineation of Marginality

Here we adopt the definition of marginality provided by Gatzweiler et al. (2011, 3):

an involuntary position and condition of an individual or group at the margins of social, political, economic, ecological or biophysical systems, preventing them from access to resources, assets, services, restraining freedom of choice, preventing the development of capabilities, and eventually causing (extreme) poverty.

This definition is anthropocentric and describes the position and condition of an individual, actor, or group within social, economic, and ecological systems. The position of an actor describes their place and function within social and geographical spaces. For example, actors can be the head of a cooperative or peasant association and in that position are authorized or required to make particular decisions. Their geographical position refers to where they are actually located in physical space. The condition of an actor refers to their decision-making and information processing capabilities, and the assets and resources they can make effective use of. Being marginalized means being positioned at the margin of one or more societal or spatial systems, and having few assets and/or capabilities that would allow the actor to move away from or change that marginal situation. It then depends on the theory and model applied in the investigation of marginality, and which evaluative criteria are used to measure the degree of marginality.

While it is generally agreed upon that marginality is always relative to a particular point, perspectives differ on how and by whom this point (or center) should be defined. In some cases marginality may be regarded as fixed, such as different regions, groups, or individuals that are part of a hierarchy centered on an (immobile) reference point (Cullen and Pretes 2000). This perspective is reflected in the common discourse on ‘development,’ when countries are described as either ‘developing’ or ‘developed’ along a predefined linear trajectory. Others dispute the idea of a single center, but rather define marginality depending on which one of multiple reference points is used. Thus as Dunne (2005, 15) notes, marginality can be seen as “a multidimensional phenomenon in that a given person may be simultaneously integrated with one or more centers while being marginal from one or more other centers.”

Fig. 2.1 Changing position and condition to reduce marginality within a multidimensional system: the large circles represent systemic dimensions (social, economic, political, etc.), the two *smaller shaded circles* represent marginalized individuals or groups, the *arrow* represents the directionality of change toward the center of more than one system (reduction of marginality) (Modified from Gatzweiler et al. 2011, 15)

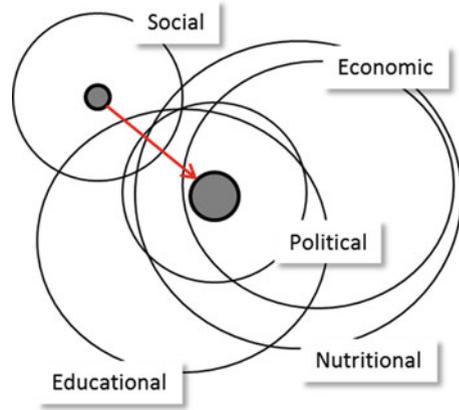


Figure 2.1 illustrates marginality in the context of a person or group by a specific position within multiple dimensions. Their position can be closer to, or further away from, the desired center. Distance needs to be understood in terms of transaction and interdependence costs (i.e., the efforts required to change and maintain a position). The condition refers to the well-being of the individual or group and is depicted by the size of the small, solid grey circles, whereby the larger of both depicts improved well-being. The circles represent different systemic (social, economic, political, nutritional, educational) dimensions of people’s lives in which they are more or less marginalized. The size of the circles indicates the importance of these dimensions to the respective actor or group.

Our definition of marginality draws on different disciplines, including: economics, development theory, sociology, ecology, and anthropology. Marginality is frequently defined by two conceptual frameworks—spatial and social marginality (Gurung and Kollmair 2005)—that determine the manifestations and drivers of marginality (a distinction that is not always clear, however). We add ecological marginality which, in addition to the other two, draws attention to extreme values outside homeostatic ranges of living systems (see Callo-Concha et al., Chap. 4 this volume). Spatial marginality tends to focus on the distance or connectivity of geographical areas in relation to centers of economic activity at different geographical scales (e.g., globally or regions within a country). In this context economic determinants tend to be seen as the main drivers of marginality based on center-periphery or core-periphery models, where one region is the center and the others are marginal (Cullen and Pretes 2000).

Social marginality is concerned with “human dimensions such as demography, religion, culture, social structure (e.g., caste, hierarchy, class, ethnicity, gender), economics, and politics in connection with access to resources by individuals and groups” (Gurung and Kollmair 2005, 10). Research into social marginality examines the underlying reasons for exclusion, inequality, social injustice, and the spatial segregation of people. Marginalization is seen here as a social construction, with socio-political power as the central determinant (Cullen and Pretes 2000).

Social marginality can also lead to spatial marginality, for instance in cases where ethnic groups are displaced to disadvantaged geophysical regions.

In the study of spatial marginality, the investigation of factors driving the emergence of spatially divergent growth paths within countries has emerged as an important research area in economics, including the fields of location theory, urban economics, and economic geography (Fujita and Thisse 2009). This line of research originated from the work of von Thünen (1826) and his attempts to model the location of agricultural production in relation to markets. Since the early 1990s, drivers and dynamics of economic concentration have attracted renewed interest among economists, in particular through the work of Krugman in the field of ‘new economic geography’ (e.g., Krugman 1991, 1999; Krugman and Venables 1995).

Two sets of geographical factors—first- and second-nature geography—are commonly identified as determinants shaping the spatial distribution of economic activity (World Bank 2008). First-nature geography refers to the geographical endowments of certain regions such as proximity to coasts, rivers, borders, or ports, which may underlie economic success (e.g., of Chinese coastal zones or Mexican border regions close to the USA). Gallup et al. (1999) highlight such geographic factors as some of the key determinants of industrial location, such as the extent of a country’s land area located in the tropics, concentration of populations in relationship to the interior versus coasts, access to maritime transport routes, and distance to core markets.

Second-nature geography relates to the interactions between economic agents, and in particular economies of scale that can be achieved through agglomeration and economic concentration (World Bank 2008). These factors have been the focus of work by Krugman (1999), who argues that the emergence of an industrial core is largely (though not exclusively) driven by centripetal forces in the form of backward and forward linkages in the growth centers (e.g., a large pool of suppliers and/or consumers), thick labor markets, and information spillovers. Forces counteracting these drivers—what Krugman refers to as centrifugal forces—include the availability of immobile factors in certain regions, increased demand and prices for land in areas characterized by economic concentration, and external diseconomies (such as congestion).

In this context the center tends to be defined through certain indicators and performance may be judged in relation to a particular average or the performance of leading regions. Some categorizations of regional development focus on economic indicators, such as income, consumption, or GDP per capita (e.g., World Bank 2008; Ghani 2010). Others compare regions on the basis of more diverse socio-economic indicators. For instance, in Mexico the federal government has developed a marginality index that ranks regions according to their performance in terms of education, housing, monetary income, and distribution of the population (CONAPO 2005). What these approaches have in common is that they tend to evaluate regions in relation to a particular reference point and performance indicator for economic or human development.

Spatial marginality is also reflected in the field of development theory, notably through Latin American structuralisms, dependency theory, and world systems theory, which generally focus on nation states (and the world) as the unit of analysis.

Starting with Prebisch in the 1940s and developed by leading economists and sociologists such as Furtado, Gunder Frank, and Wallerstein, this line of thinking contends that the global market is divided into powerful and technologically advanced economies (the center), and relatively weak peripheral economies (the periphery) that supply raw material and low-tech manufacturing (Preston 2002). The underdevelopment of periphery economies is thus a result of their position in the global (capitalist) system. To understand and address problems of underdevelopment Wallerstein argued that it is necessary to look at the global system as a whole rather than at individual nation states.

In the social sciences the concept of marginality can be traced back to Park's essay "Human Migration and The Marginal Man" published in 1928 and Stonequist's (1937) elaboration of the concept a decade later. Park saw the 'marginal man' as a personality type that emerges as a consequence of migration. Thus a 'marginal man' is "a cultural hybrid, a man living and sharing intimately in the cultural life and traditions of two distinct peoples" (Park 1928, 892). This form of marginalization can lead to social disorganization, but also social reconstruction where the marginalized become intermediaries between cultures.

Park's and Stonequist's thinking influenced North American sociologists in particular, who developed the idea over time. Marginality is generally seen from the perspective of the individual or group. While debates initially focused on issues of race and ethnic relations, the concept was later extended to the study of occupations, gender, and scientific innovation (Goldberg 2012). Others have also sought to broaden the concept to include anyone who in one way or another is marginalized from one or more social groups (e.g., Hughes 1949; Deegan 2002). For instance, Deegan defines a "marginal person" as anyone whose "perception of self, experience of the world, and access to material resources" do not fit the prevailing society or culture (Deegan 2002 cited in Goldberg 2012, 208).

Yet others have turned their focus to groups of individuals in similar situations that may share a common marginal culture or identity. Goldberg (1941, 53) was the first to argue that marginal individuals may give rise to a marginal culture over time, that is "every bit as real and complete to him as is the nonmarginal culture to the nonmarginal man." Thus a subculture may be marginalized vis-à-vis the prevailing culture, but the individual may not feel marginal within this new subculture. In some cases a group may in fact choose to remain outside of the dominant culture in order to preserve their own identities and independence (Scott 2009). Using the case of the Haitian diaspora in Guadeloupe, Brodwin (2003, 403) illustrates how a group's self-definition (or subjectivity) is indeed shaped by the "experience of marginalization in a specific time and place." Wright and Wright (1972) distinguish between three types of marginality that characterize groups: cultural marginality (shared behavior patterns), psychological marginality (shared attitudes), and social marginality (patterned interrelationships).

Our units of analysis are the marginalized poor (i.e., individuals or groups that are affected both by marginality and poverty). To define the 'center,' we draw on Sen's capability approach (e.g., Sen 1979, 1992, 1999). A person's pursuit of well-being is shaped by what someone has chosen or been able to achieve their "functionings" (Crocker 1992, 585). The extent of potential "functionings" is in

turn determined by the person's capabilities (i.e., what they can feasibly achieve). What people choose to do may differ even if they have the same capabilities as one another. Resources or commodities then simply become the means for achieving well-being. Thus we define the center as the place where individuals or groups are able to realize the desired "functionings" within their capabilities that lift them out of poverty. The ability to do so will be determined by individual characteristics, social institutions, and the geophysical context (Dissart et al. 2008).

Marginality can influence this process at different stages. It may restrict people's access to resources, for instance where people live in geo-physically disadvantaged areas characterized by poor soils or limited water resources. Marginality may also influence what a person may be able to achieve, for instance, where people or groups are excluded from certain opportunities due to their gender (e.g., reduced school attendance among girls in some patriarchal cultures) or ethnicity (e.g., preference given to certain ethnic groups over others with respect to assuming positions of authority). Finally, marginality can influence a person's ability to take advantage of the opportunities that are open to them. Here it is important to note that the potential "functionings" that someone may regard as achievable can also be shaped by marginality, given that the experience of marginality influences how individuals and groups define themselves, their opportunities, and their abilities (Brodwin 2003).

We regard this as a dynamic and circular process where marginality can function both as a cause and a consequence of poverty. Also the different determinants, types, and outcomes of marginality are often interrelated. For instance, marginality in education is influenced by factors such as poverty, language, stigmatization of certain groups (e.g., on ethnic, cultural, or gender grounds), and legal rights (UNESCO 2010). As already noted, social marginality (e.g., due to ethnicity or income), can also lead to spatial marginality, as witnessed in urban ghettos or the relocation of certain groups to remote or less productive land, which in turn leads to marginalization from jobs, services, education, or infrastructure.

2.3 Components of the Conceptual Framework

The marginality framework takes into account the diversity of causes of people living in poverty. As this diversity of factors causing poverty is frequently clustered, it has been referred to as "causal complexes" or "marginality patterns" by Gatzweiler et al. (2011, 9). Examples of such patterns are low agricultural productivity caused by an inability to irrigate as a result of water shortages due to low water tables and the lack of collective action resulting from central planning that in turn cause critical human health conditions under which the elderly, woman, and children suffer most and therefore cannot contribute their labor or receive education, which limits their ability to change or escape the systems they are part of. Causal complexes that are self-referential systemic feedback loops are also referred to as 'poverty traps' (Dasgupta 2009).

Marginality is caused by complexes of interrelating factors that are seldom directly observable. Conceptualizing marginality in terms of causal complexes or networks requires shifting the focus from isolated causal entities to the relationships

Table 2.2 Components of the framework for the analysis of marginality

Actors	Decide and act on, and in particular positions and conditions Follow strategies, interact and coordinate in particular ways at different levels of organization Engage in rule-making themselves
Biophysical and societal variables	Composed of the enabling or constraining social and biophysical environments (biophysical, climatic, material, environmental conditions)
Societal conditions	Attributes and assets of the community and the individual Institutions (rules in use and in form at various levels of decision making) Governance (coordination mechanisms and strategies)
Outcomes	Well-being, poverty, degree of marginalization Evaluative criteria (re/evaluate position and condition of an actor by criteria selected according to the theory and model applied, the criteria measure particular, not all aspects of marginality) Feedback and corrective action (actions based on outcomes and aimed at changing the enabling or constraining variables as well as the way actors have made decisions and behave)

among them. Understanding these causal complexes of marginality better—instead of merely understanding correlations between a few variables and poverty—contributes to a better understanding of the behavior of socio-ecological systems, and to our ability to design policies and programs that are more responsive to the needs of the marginalized poor.

The general question behind the conceptual framework concerns the causal complexities and how they can be changed in order to improve livelihoods and reduce poverty. This framework is inspired by the Institutional Analysis and Development framework of Ostrom et al. (1994) and the Institutions of Sustainability (IoS) framework of Hagedorn (2008), and consists of the components shown in Table 2.2.

The marginality framework groups the causal complexes into societal and biophysical clusters. Societal causes refer to ‘software’ variables and include the capabilities of actors and communities, their social and human capital, the rules and regulations they have set up for their societies to function, and the ways in which rules are made and executed. Biophysical causes include ‘hardware’ variables such as geographic location, soil quality, vegetation, and climate, but also man-made capital (infrastructure) such as roads and buildings. Both groups have enabling or constraining impacts on how actors make decisions and act.

Actors behave according to certain types of rationality in order to improve their societal position or geographical location and their condition. Depending on the theories and models applied, the actors’ rationality is a function of the institutional setting in which they act, and their condition includes the assets and opportunities they have for establishing and improving their level of well-being and degree of marginalization. Vatn (2005, 113) explains that what is considered rational depends on the institutional context, and as this context can vary, so can the meaning of rationality and the assumed objective of rational behavior. Maximizing individual utility by means of rational choice is assumed in neoclassical economics and with

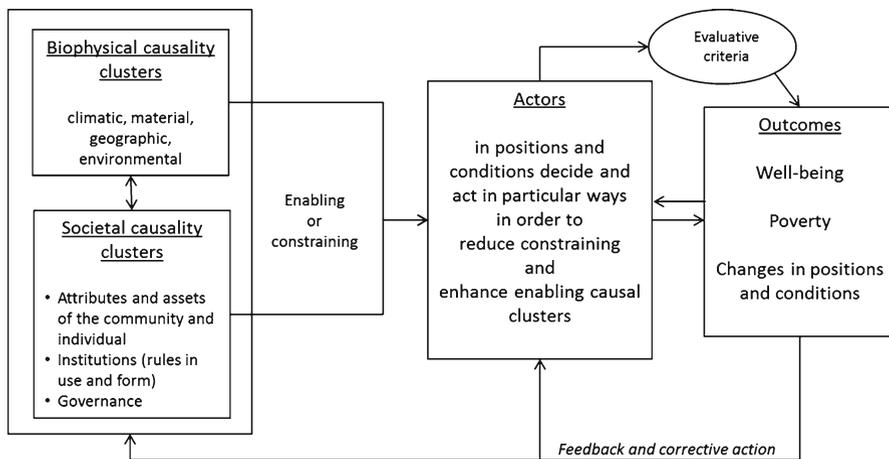


Fig. 2.2 Conceptual framework for the investigation of marginality: actors are in particular positions and conditions, and make decisions that are enabled or constrained by biophysical or societal factors, as part of the causality clusters (actors' decisions result in outcomes that change their well-being, measured by evaluative criteria, and also change the enabling and constraining factors for decision making in the next round)

this type of rationality come the assumptions of a particular institutional setting in which the actors make decisions. Recognizing that information for making choices comes at a cost leads to bounded rationality and satisficing rationality (Simon 1957, 1959), and recognizing the fact that people behave socially, and that mutually responsive implies different types of social rationality (Etzioni 1988; Gintis 2000; Ostrom 2000). Which rationality is applied depends on the theories and models applied in the investigation of marginality (Fig. 2.2).

Ideally the outcomes of actors' decisions and actions improve their well-being and reduce poverty. Alternatively the outcomes can be measured as the relative change in the positions and conditions of the actors. Frequently, however, the poor are caught in a constraining environment that prevents them from improving their positions and conditions. Ideally feedback mechanisms would send signals to actors at higher decision-making levels and allow them to change critical variables in the causality clusters, changing the environment from constraining to enabling. For example, improving land tenure security in the Ethiopia would be expected to motivate owners to make long-term investments into land and productivity gains (Deininger et al. 2003).

2.4 Conclusions

In this chapter we have explained the opportunities and the need for research on marginality that include the views from multiple disciplines on multiple dimensions of poverty. Reducing the diversity of poverty to a few indicators in order to facilitate its measurement entails the risk of overlooking critical features and causalities

underlying poverty that may be detected when poverty is evaluated from a systems perspective. In recognition of the diversity of poverty dimensions and their irreducible and partly incommensurable nature, we have proposed a conceptual framework and described its components and relationships. Institutions play a particular role in explaining causal relationships among different types of marginality.

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References

- Acemoglu D, Robinson J (2012) *Why nations fail: the origins of power, prosperity, and poverty*. Crown Business, New York
- Bhalla A, Lapeyre F (1997) Social exclusion: towards an analytical and operational framework. *Dev Chang* 28(3):413–433
- Bradshaw TK (2005) Theories of poverty and anti-poverty programs in community development. Rural Poverty Research Center, University of Missouri and Oregon State University, Columbia
- Bradshaw T, Muller B (2004) Shaping policy decisions with spatial analysis. In: Goodchild MF, Janelle DG (eds) *Spatially integrated social science: examples in best practice*. Oxford University Press, New York, pp 300–322
- Brodwin P (2003) Marginality and subjectivity in the Haitian Diaspora. *Anthropol Q* 76(3):383–410
- CONAPO (2005) Índice De Marginación a Nivel Localidad 2005. Consejo Nacional de Población, Mexico DF. http://www.conapo.gob.mx/index.php?option=com_content&view=article&id=46&Itemid=194. Accessed 18 Feb 2012
- Crocker DA (1992) Functioning and capability: the foundations of Sen's and Nussbaum's development ethic. *Polit Theory* 20(4):584–612
- Cullen BT, Pretes M (2000) The meaning of marginality: interpretations and perceptions in social science. *Soc Sci J* 37(2):215–229
- Dasgupta P (2003) World poverty: causes and pathways. Plenary lecture delivered at the world bank's Annual Bank Conference on Development Economics (ABCDE), Faculty of Economics, University of Cambridge, Bangalore, 21–22 May 2003
- Dasgupta P (2009) Poverty traps: exploring the complexity of causation. In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 129–154
- Dasgupta P, Mäler K-G (1994) Poverty, institutions and the environment-resource base. World Bank Environment paper no 9, World Bank, Washington, DC
- Deegan MJ (2002) *Race, hull-house, and the University of Chicago: a New conscience against ancient evils*. Praeger, Westport
- Deininger K, Jin S, Adenew B, Gebre-Selassie S, Nega B (2003) Tenure security and land-related investment: evidence from Ethiopia. Research working paper 2991, World Bank, Washington, DC
- Del Pilar JA, Udasco JO (2004) Marginality theory: the lack of construct validity. *Hisp J Behav Sci* 26(1):3–15
- Dellink RB, Ruijs A (2008) *Economics of poverty, environment and natural resource use*. Springer, Dordrecht
- Desai RM (2007) *The political economy of poverty reduction*. Wolfensohn Center for Development working papers no. 2, Brookings Institution, Washington, DC
- Diamond J (2011) *Collapse: how societies choose to fail or succeed*. Penguin Press, New York

- Dickie-Clark HF (1966) *The marginal situation: a sociological study of a coloured group*. Routledge and Kegan Paul, London
- Dissart J, Bresson F, Lallau B (2008) Assessing rural marginality: contribution of the capability approach. Paper presented at the annual conference of the Human Development and Capability Association (HDCA), New Delhi, 10–13 September 2012. <http://www.capabilityapproach.com/pubs/Dissart%5B1%5D.Bresson.Lallau-HDCA.pdf>. Accessed 19 Feb 2012
- Dunne RJ (2005) Marginality: a conceptual extension. In: Dennis RM (ed) *Marginality, power, and social structure*, vol 12, Issues in race, class, and gender analysis. Elsevier, Oxford, pp 11–28
- Duraiappah AK (2004) *Exploring the links: human well-being, poverty and ecosystem services*. International Institute for Sustainable Development and United Nations Development Program, Winnipeg
- Etzioni A (1988) *The moral dimension: toward a new economics*. Free Press, New York
- Fujita M, Thisse J-F (2009) New economic geography: an appraisal on the occasion of Paul Krugman's 2008 Nobel prize in economic sciences. *Reg Sci Urban Econ* 39(2):109–119
- Gallup JL, Sachs JD, Mellinger AD (1999) Geography and economic development. *Int Reg Sci Rev* 22(2):179–232
- Gatzweiler F, Baumüller H, von Braun J, Ladenburger C (2011) *Marginality: addressing the root causes of extreme poverty*. ZEF working paper no 77, Center for Development Research, University of Bonn, Bonn
- Ghani E (2010) Development disparities and peculiarities. In: Ghani E (ed) *The poor half billion in south Asia: what is holding back lagging regions?* Oxford University Press, Oxford, pp 29–63
- Gintis H (2000) Beyond homo oeconomicus: evidence from experimental economics. *Ecol Econ* 35:311–322
- Goldberg M (1941) A qualification of the marginal man theory. *Am Sociol Rev* 6(1):52–58
- Goldberg CA (2012) Robert Park's marginal man: the career of a concept in American sociology. *Laboratorium* 4(2):199–217
- Goldsmith WW, Blakely EJ (1992) *Separate societies: poverty and inequality in American cities*. Temple University Press, Philadelphia
- Gurung GS, Kollmair M (2005) *Marginality: concepts and their limitations*. IP6 working paper, Swiss National Centre of Competence in Research North South, Bern
- Gwartney J, McCaleb TS (1985) Have antipoverty programs increased poverty. *Cato J* 5(5):1–16
- Hagedorn K (2008) Segregating and integrating institutions—a dichotomy for nature related institutional analysis. In: Schäfer C, Rupschus C, Nagel UJ (eds) *Enhancing the capacities of agricultural systems and producers, proceedings of the second green week scientific conference*, 16–17 January 2008. Weikersheim, Margraf
- Hamilton D (1967) The political economy of poverty: institutional and technological dimensions. *J Econ Issues* 1(4):309–320
- Haveman R, Smeeding T (2007) Poverty policy and poverty research over four decades. *Focus* 25(1):1
- Herrstein RJ, Murray C (1994) *The bell curve*. Free Press, New York
- Hughes EC (1949) Social change and status protest: an essay on the marginal man. *Phylon* 10(1):58–65
- Jencks C (1996) Can we replace welfare with work? In: Darby MR (ed) *Reducing poverty in America*. Sage, Thousand Oaks, pp 69–81
- Kant E (1819) *Logic. First part general doctrine of elements, first section: conceptions*, translated from German by Richardson J, printed for W Simpkin and R Marshall, Stationers' Court, London
- Kapp KW (1963) *The social costs of business enterprise*. Spokesman, Nottingham
- Knorr Cetina K (1999) *How the sciences make knowledge*. Harvard University Press, Cambridge/London
- Krugman P (1991) Increasing returns and economic geography. *J Polit Econ* 99(3):483–499
- Krugman P (1999) The role of geography in development. *Int Reg Sci Rev* 22(2):142–161
- Krugman P, Venables AJ (1995) Globalization and the inequality of nations. *Q J Econ* 110(4):857–880

- Lewis O (1998) The culture of poverty. *Society* 35(2):7
- Marx K (1867) *Das Kapital*. Kritik der Politischen Ökonomie. Verlag von Otto Meissner, Hamburg
- Mbakogu IA (2004) Is there really a relationship between culture and development? *Anthropologist* 6(1):37–43
- Meinzen-Dick R, Adato M, Haddad L, Hazell P (2004) Science and poverty. An interdisciplinary assessment of the impact of agricultural research. Food policy report, International Food Policy Research Institute, Washington, DC
- Moynahan D (1965) *The Negro family*. US Department of Labor, Office of Policy Planning and Research, Washington, DC
- Murray C (1984) *Losing ground*. Basic, New York
- North DC, Wallis JJ, Weingast BR (2009) *Violence and social orders: a conceptual framework for interpreting recorded human history*. Cambridge University Press, New York
- Nussbaum M, Sen A (1993) *The quality of life*. Clarendon Press, Oxford
- O'Connor A (2001) *Poverty knowledge*. Princeton University Press, Princeton
- Ostrom E (2000) Collective action and the evolution of social norms. *J Econ Perspect* 14(3):137–158
- Ostrom E (2005) Understanding institutional diversity. Princeton University Press, Princeton/Oxford
- Ostrom E, Gardner R, Walker J (1994) *Rules, games, and common pool resources*. University of Michigan Press, Ann Arbor
- Park RE (1928) Human migration and the marginal man. *Am J Sociol* 33(6):881–893
- Pingali P (2003) Sustaining food security in the developing world: the top five policy challenges. *Q J Int Agric* 42(3):261–272
- Pingali PL, Alinovi L, Sutton J (2005) Food security in complex emergencies: enhancing food system resilience. *J Disaster Stud Policy Manag* 29(1):5–24
- Polanyi K (1944) *The great transformation*. The political and economic origins of our time. Beacon Press, Boston
- Preston PW (2002) *Development theory: an introduction*. Blackwell Publishers, Oxford
- Putnam R (1993) *Making democracy work: civic tradition in modern Italy*. Princeton University Press, Princeton
- Putnam R, Helliwell JF (1995) Social capital and economic growth in Italy. *Eastern Econ J* 21:295–307
- Rainwater L (1970) Neutralizing the disinherited: some psychological aspects of understanding the poor. In: Allen VL (ed) *Psychological factors in poverty*. Markham, Chicago, pp 9–28
- Rank MR, Yoon HS, Hirschl TA (2003) American poverty as a structural failing: evidence and arguments. *J Sociol Soc Welfare* 30(4):3–29
- Roland G (2004) Fast-moving and slow-moving institutions. CESifo DICE Report 2. <http://www.cesifo-group.de/portal/pls/portal/docs/1/1193608.pdf>. Accessed 12 Feb 2012
- Ryan W (1976) *Blaming the victim*. Vintage, New York
- Schlager E (1999) A comparison of frameworks, theories and models of policy processes. In: Sabatier PA (ed) *Theories of the policy process*. Westview, Boulder, pp 233–260
- Scott JC (2009) *The Art of Not being governed: an anarchist history of upland Southeast Asia*. Yale University Press, New Haven
- Sen A (1979) Equality of what? In: McMurrin SM (ed) *The tanner lectures on human value*. University of Utah Press, Salt Lake City, pp 195–220
- Sen A (1982) *Poverty and famines: an essay on entitlements and deprivation*. Oxford University Press, Oxford
- Sen A (1992) *Inequality reexamined*. Harvard University Press, Cambridge
- Sen A (1999) *Development as freedom*. Harvard University Press, Cambridge
- Shaw W (1996) *The geography of United States Poverty*. Garland Publishing, New York
- Simon HA (1957) *Models of man*. Wiley, New York
- Simon HA (1959) Theories of decision making in economics and behavioral science. *Am Econ Rev* 49:253–258
- Small ML, Harding DJ, Lamont M (2010) Reconsidering culture and poverty. *Ann Am Acad PolSoc Sci* 629(1):6–27
- Smith A (1776) *The wealth of nations*, reprinted 1997. Penguin Books, London

- Stonequist EV (1937) *The marginal man: a study in personality and culture conflict*. Charles Scribner's Sons, New York
- Tobin J (1994) Poverty in relation to macroeconomic trends, cycles, policies. In: Danzinger SH, Sandefur GD, Weinberg DH (eds) *Confronting poverty: prescriptions for change*. Harvard University Press, Cambridge, pp 147–167
- UNDP (1998) *Human development report 1998*. United Nations Development Programme, Oxford University Press, Oxford/New York
- UNESCO (2010) *Education for All global monitoring report—reaching the marginalized*. United Nations Educational, Scientific and Cultural Organization, Paris
- Valentine CA (1968) *Culture and poverty*. University of Chicago Press, Chicago
- Vatn A (2005) *Institutions and the environment*. Edward Elgar, Cheltenham
- von Braun J, Hill RV, Pandya-Lorch R (eds) (2009) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC
- von Thünen JH (1826) *Der Isolierte Staat in Beziehung Auf Landwirtschaft Und Nationalökonomie*. Perthes, Hamburg
- Weber M (2001) *Protestant ethic and the spirit of capitalism*. Routledge, New York
- Weber B, Jensen L (2004) *Poverty and place: a critical review of rural poverty literature*. Working paper 04–03, Rural Poverty Research Center, University of Missouri and Oregon State University, Columbia
- Weiskopf DA (2009) The plurality of concepts. *Synthese* 169(1):145–173
- World Bank (2008) *World development report 2009*. World Bank, Washington, DC
- Wright RD, Wright SN (1972) A plea for a further refinement of the marginal man theory. *Phylon* 33(4):361–368

Chapter 3

Exclusion and Initiatives to ‘Include’: Revisiting Basic Economics to Guide Development Practice

Sajjad Zohir

Abstract This chapter focuses on exclusion. It reconstructs the definition of exclusion and its various facets by applying a set of principles that underlie economic analyses. The analysis reveals that many initiatives to reduce exclusion under the umbrella of safety nets often lead to the introduction of differentiated products in segmented markets that may actually contribute to the perpetuation of differentiations within a population. The relations between contracts, goods and services, and exclusions are highlighted. A typology of exclusion is described by the author with the help of a supply and demand analysis of services, including: voluntary exclusion, exclusion due to a lack of awareness, exclusion for survival, exclusion due to a lack of demand, and exclusion caused by “distance” such as social exclusion or poor connectivity.

Keywords Exclusion • Segmentation • Poverty • Safety nets • Development • Bangladesh

3.1 Introduction¹

Literature on the ‘economics of exclusion’ typically addresses competition and the anti-trust laws of developed economies, not the ‘exclusion’ that development practitioners are concerned about. When economists do engage in the discourse on exclusion in development, they typically deal with poverty and deprivation without

¹This paper draws upon ideas put forward in an earlier work by the author and several colleagues at the Economic Research Group and the BRAC—RED (Bangladesh Rural Advancement Committee—Research and Evaluation Division) (Zohir et al. 2008) and a presentation by the author at UN-ESCAP, Bangkok (Zohir 2010).

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always applying the basic analytical tools available in economics (Sen 2000; Osmani 2003). In this chapter I make an effort to reconstruct the definition of exclusion and its various facets by applying a set of principles that underlie economic analyses. Though poverty is not directly dealt with in this paper, it is hoped that a concept of exclusion defined within the allegedly 'narrow' construct of economics can be 'broad' enough to encompass real deprivation, and provide additional insight into our understanding of the marginality that underlies the poverty observed in society.

Concern with exclusion surfaces in several domains of knowledge and related discourse appears fragmented, with little meaningful exchange across disciplines. A more comprehensive understanding of exclusion can be achieved by applying the basic principles of investigation common to various disciplines within economics and the social sciences. In the first part of this paper I take a cue from a critique of approaches in economics by orienting the discussion on 'goods and services' within the broader canvass of 'contracts.'² In such a setting, I define exclusion as the 'exclusion of an agent from the set of all viable contracts in a given sphere.'

There has been an accumulation of rich experiences from development endeavors that have dealt with targeted programs, where the target populations were often 'excluded' groups. Some experiences suggest that there is a plethora of programs that suffer from inadequate planning; and there are programs that work for one segment of a target group but fail to reach others. Attempts to identify target groups and transfer resources or services to them via 'out-of-system' approaches have often fostered local divisiveness instead of leading to the desired reconfiguration of the social groups and reduced exclusion. In order to take the discourse ahead for formulating meaningful applicable measures there is a need to find common language, to reconstruct our ideas around 'exclusion' and to reconstruct the observed phenomena and draw inferences from a 'model-dependent reality' (in a comparative static setting) to guide possible actions.

In the first part of the paper I focus on the reconstruction of basic concepts, and in the second part I extend the analysis to classify exclusion, illustrated in the context of a service market and conceptualized with supply and demand tools. The exercise provides an opportunity to identify various options for reducing exclusion that have obvious linkages to familiar development programs and policies. The latter reveals that many initiatives to reduce exclusion under the umbrella of safety nets often lead to the introduction of differentiated products in segmented markets that may actually contribute towards perpetuating differentiations within a population. It is hoped that the proposed approach will improve the ability to design programs that effectively reduce exclusion (and poverty) as well as to evaluate program performance.³

²An earlier attempt to conceptualize exclusion (Zohir et al. 2008) used demand and supply tools without invoking an underlying 'system' with agents, their preferences, and potential exchanges amongst agents.

³The literature recognizes that there are instances of exclusion that exist in the absence of poverty and instances of poverty that are not rooted in social exclusion. This discussion on exclusion is general and considers exclusion associated with some form of poverty.

3.2 Conceptual Issues

3.2.1 *Exclusion is Not Insurmountable: Rationale for the Undertaking*

In all development endeavors over the last two decades or more, either in the guise of Poverty Reduction Strategy (PRS) and Millennium Development Goals (MDGs) or in initiatives to achieve greater equity and foster inclusive growth, the general concern was one of reaching out to those who are 'left out.' Earlier concern with those who are 'left-out' receiving benefits from economic growth or those adversely affected by growth processes, gradually shaped pre-defined social and economic groups.⁴ Thus 'left outs' could be children not being sent to schools by their parents, poor rural women unable to avail themselves of health services or market opportunities, people from minority or socially outcast groups who have little or no access to jobs and public amenities, and the physically or mentally disabled. I refer to these people or social groups as 'excluded,' and to the broader subject of study as 'exclusion.'

There are numerous programs under governments, the private sector, or NGOs, to reduce exclusion, some of which are associated with poverty reduction. The fact that these programs are often designed based on the assumption that the target groups were 'excluded' from regular service delivery networks and may become 'included' through specially designed programs, implies that 'exclusion' may be overcome. There are ample claims of program success, implying the achievement of 'inclusion' of individuals and groups that were formerly 'excluded.' Acceptance of such rationale renders exclusion less rigid than the perception that exclusion is rooted in the static (or slowly changing) framework of culture. This inference from development practices provides the key entry point to the reformulation of the analytics within a 'model-dependent realism.'⁵ Given an initial equilibrium setting, exclusion is defined and programs to reduce exclusion are identified by applying comparative static economic analyses.

3.2.2 *Fragmented Perspective: Reflections on Trends in Knowledge Domain*

Some question the relevance of abstract economic theory and consider this realm as too narrow to apply to broader issues. Some advocate a pluralist pedagogy to expose students "to the competing currents of economic thought, e.g., classical, neoclassical,

⁴Social exclusion long preceded current concerns about economic exclusion. However, social exclusion may be historically rooted in some economic rationale and concerns about social exclusion were boosted because such exclusion is believed to have led to economic exclusion when the pace of economic growth broke away from its historical trend.

⁵The term 'model-dependent reality' is borrowed from Hawking and Mlodinow (2010), although modelling has long been in practice among economists. Long imbued in 'laws,' scientists are increasingly recognizing the need to rely upon 'model-dependent realism.'

Keynesian, Marxian and institutionalist” (Stilwell 2006). Development practices have also found inroads into pluralist curricula, with gender, the environment, and poverty analysis being some of the important ones. All of these are considered means of making students aware of the different ways of looking at economic processes, problems, and policies. While diversity opens doors to fresh ideas, our failure to enrich the core elements of unity often leads to fragmented views, and this may often lead to divisiveness.⁶ In a small way the current exercise on exclusion returns to the basics of economics rooted in early political philosophy and reconstructs the analytics of an overriding concern of development practitioners with the hope that some guidelines for action may be derived. The search for common unity is justified because ‘exclusion’ is being articulated among diverse disciplines that lack adequate means of communication for broader discussion.

3.2.3 Taking a Step Back—A Note on Core Economic Principles

Engaging in a detailed assessment of the various perspectives on economics involves the challenging tasks of addressing multiple fields of epistemology and the history of economic thought, and their roots in early (post European Renaissance) political philosophy and economic theory of various ideologies. I use a set of principles below that constitute the core of economics.⁷ These principles are similar to those embedded in methods that are deemed necessary for knowledge building in other fields of social science.

1. A basic analytical category or entity called an ‘agent’ is used to represent entities such as a social class, households, individuals, communities, governments, or political parties, etc. Each agent is assumed to have a pre-defined objective. The choice of agents and their objective ‘functions’ (mappings) are related.⁸

⁶Interestingly the earlier broad pluralist ‘political economy’ approach became sub-divided into the ‘narrower’ subjects of political science, sociology, economics and many more, and did not re-emerge. Instead various perspectives articulated in independent model-based abstractions are portrayed as split views and are often alleged to be ideologically biased. Such a state may unduly perpetuate divisiveness and obstruct the search for unity.

⁷Often corollaries, conditional upon a set of ‘if conditions’ and drawn from a core set of principles, are perceived as synonymous with the core itself. Such a perception arises due to our failure to distinguish between the method of analysis that a discipline applies and the inferences that are drawn from the results of applying the method.

⁸An agent acts in multiple spaces with multiple objectives and outcomes that are not measurable in the same units. Thus ‘mapping’ involves relating outcomes with several objectives and choices across those objectives involve trade-offs, which are often reduced into a single ‘objective function.’ The choice of agents depends on the purpose of an analysis, however, as in cluster analysis and ANOVA (analysis of variance), one would expect the least variation in objectives amongst the elements chosen in a given (set of) agents and greater variation (in objectives) across different (sets of) agents.

2. Agents are considered 'rational' only to the extent that their actions are guided by the pursuit of (optimizing) some transformed value of their objectives under a set of constraints. Actions or decisions made by agents may only be defined over the space in which the objective functions are defined.
3. Exchanges between agents can take place under various structures of power relations, but are sustainable only if all parties in the exchange 'gain' (strictly speaking) from such exchanges.

These economic principles underlie most, if not all, other disciplines in the social sciences. Thus in the context of present-day discourse, 'political economy' (instead of political philosophy) may more appropriately capture the discipline under consideration. These principles are also relevant to the field of chemistry, where there are agents in the form of molecules, atoms or sub-atomic particles and chemical bondage may be construed as some form of contract between these agents. Scientists recognize the need to move beyond 'scientific determinism' and the 'system of laws' to a model-dependent realism that may generate 'multiple histories' depending on the assumptions made.⁹

3.2.4 Exchanges, Markets, Contracts, and Goods and Services

Exchanges involve transactions in two or more directions that involve two or more agents. The time and space contingent flows of goods and services that define exchanges, and the terms and conditions of such exchanges, together constitute 'contracts,' and such contracts are negotiated between various agents at different spheres of life. Within the proposed perspective it is obvious that goods and services are one aspect of a contract and they are real when they are elements of viable contracts. Our constructs of time and space (and often quality) contingent commodities accommodate additional dimensions of contracts, and yet all feasible elements of a contract are not exhausted.

Contemporary analysis of markets also recognizes the specifics of non-market exchanges, blurring the distinctions between market and non-market exchanges. Rhee (2010) distinguishes relational exchanges from market exchanges. Yet the "trust, friendship, fraternity or solidarity" that defines relational exchanges is also found in modern-day market exchanges, making it difficult to distinguish non-market from market based exchanges. What may constitute an exchange and what kinds of exchanges define markets, are less formally (and less explicitly) articulated in economics textbooks. It is no wonder that 'classical' economists vying to break away to a simpler ground of analytics pondered extensively on such terms as 'exchange'

⁹What I am reverting to in this paper is the set of core principles underlying such model-building. It is not akin to physicists' search for a single theory, rather it outlines the basic elements in building a theory or method that may generate numerous theories depending on the choice of agents, their objective functions, and the power relations within which they negotiate contracts.

and ‘value’ before settling with ‘goods and services,’ an *ex post* manifestation of a contract, and with a concept of price (financial) that is one of many dimensions of that contract. While discussing markets, which is often the starting point for an intermediate textbook, the necessity of identifying *a priori*, the goods and services that are being exchanged is realized. However, it is also recognized that all exchanges are not market-based and thus the definition that the ‘market is a place where exchanges take place’ appears too hollow.

For our purpose ‘market’ is relevant in an *ex post* analysis only when there are predefined goods and services for which there are predefined agents on both sides (providers and consumers). While such a category is resorted to in the latter part of the paper, the primary focus is on contracts that embody exchanges, be those via ‘markets’ or not. A more pertinent question relates to the motive behind engaging in contracts. What drives agents to negotiate contracts with other agents is embedded in their ‘objectives’ and the ‘constraints’ within which those objectives are realized. For the purpose of this analysis, I presume that ‘contracts’ and exchanges among various agents are driven by self-interest.¹⁰ Thus there is no transaction other than as exchanges—that is, there is no unidirectional transfer from one agent to another without a matching counter-flow.

Historically, discourses on social contracts moved to market-based analyses in economics, often at the cost of a broader understanding of the subject. Subsequently the shift in focus from market to contracts in the economic discourse provided new insights, but largely ran parallel to the market-based analyses with no observable attempt to reconcile the two.¹¹ A contract defines the characteristics of the goods or services being exchanged between two or more agents. Thus the search for a viable contract between two or more agents requires identifying the goods and services that may be offered. This approach to address a problem is *ex ante* in nature and much more akin to traditional ‘business models.’¹² In contrast, what emerged due to the switch to market-based analyses was the dominance of an *ex post* perspective: goods and services are considered predefined and exchanges between providers or producers and consumers take place at terms (prices) that ensure net benefits

¹⁰Consider Marcel Mauss’s (1967) observations on gifts: “...prestations which are in theory voluntary, disinterested and spontaneous, but are in fact obligatory and interested. The form usually taken is that of the gift generously offered; but the accompanying behaviour is formal pretence and social deception, while the transaction itself is based on obligation and economic self-interest.”

¹¹Brousseau and Glachant (2002) note that “the notion of contract is simultaneously broader in scope and more general than the notion of the market.” Quite contrary to this assertion, discussion on contracts continues to be empirically pitched within the context of a given market. Clearly the two concepts of market are different, but what is more general than a market under one perspective may be a specific aspect of a market otherwise.

¹²Existing textbook definitions often use the *ex post* perspective on business models. Investopedia.com (2011), as well as several other websites on business, define business model as “[t]he plan implemented by a company to generate revenue and make a profit from operations. The model includes the components and functions of the business, as well as the revenues it generates and the expenses it incurs.” Thus the framework used to identify a product or service whose market is yet to be established is also an important component of a business model.

to both parties. Both approaches are considered valid and useful as long as their corresponding aspects are recognized and the limitations of singular focus on either is acknowledged.

The observed arrangements of 'contracts' among multiple agents in multiple spheres may be considered as equilibrium outcomes in accordance with the concept of (abstract) market equilibrium. Underlying an equilibrium are: the agents included in a model, the assumptions related to their objectives, the constraints they face in the forms of resource endowments or technology available for production and distribution (delivery), and the assumptions about power relations amongst the various agents.¹³ More importantly equilibrium may include the exclusion of one or more agents from viable contracts, making exclusion an equilibrium outcome. A new equilibrium may be established if any of the parameters mentioned above change (e.g., introduction of a new agent, innovative mechanisms that reduce cost, changes in objective function, etc.). The resulting new equilibrium may reduce exclusion in one sphere and increase exclusion in some other sphere. Alternatively viewed, one may design programs to change the setting in ways that reduce exclusion of an agent in a given sphere.

3.3 Contracts, Goods and Services, and Exclusion

Suppose there are 'i' categories of agents in a society, the i-th being identified as Λ_i ($i = 1, 2, \dots, i$). The simplest case of exclusion arises when there is a provider of a service and all but one type of agents avail themselves of the service. That is, contracts could be negotiated with all of those agents, but no feasible contract could be defined for (or negotiated with) the 'excluded' group. Social exclusion may be interpreted as exclusion in one space as a result of social contracts in multiple spaces within a given power relationship. Thus a 'socially excluded' group may have contracts in other spheres of the economy. Only in extreme cases of exclusion, where a group is alienated by all others, would the excluded group face extinction, or go into complete isolation and establish an alternative society, or create conflict for the mainstream (causing negative welfare) so that the latter is forced to renegotiate. In all these cases there is a set of predefined agents and a power relationship (jointly referred to as a 'system'), and exclusion may be defined as the presence of an 'agent' who is unable to negotiate a viable contract in a given sphere involving other agents in that 'system.' Below we use an applied research effort to provide a skill development program for urban domestic workers who were 'excluded' from regular education to illustrate the relationships between contracts, goods and services, and exclusion.

The author and several colleagues assessed the prospect of offering a tutoring and skill development program for domestic workers in the city of Dhaka. In most

¹³It is quite possible that multiple equilibria exist because the set of viable contracts may be large. The options, however, get reduced as the power relationships get more skewed. We consider the observed configuration to be a single equilibrium.

cases the domestic workers are school-age females whose parents were financially compelled to send them to work. Normally the work arrangement does not include any obligation on the employer to ensure the education of these child workers. It was noted, however, that there are employers who are keen to support the education of the children working at their homes. However, these desires did not materialize in most cases due to the absence of a favorable community environment and the perception among employers that a suitable arrangement could be reached at little or no cost arising from frequent travels by the children outside of their workplace. In other words, these workers were 'excluded' from traditional education means due to prevailing contracts among relevant stakeholders. Based on anecdotal evidence it was postulated that there were employers who would be willing to pay for tutoring their employees and that a contract (a program with a service package) could be defined that would reduce exclusion among the working children. The basic framework for identifying the feasible contract to reduce exclusion is described below.

There were three important stakeholders relevant for the purpose of the exercise: domestic workers, employers, and the committees that manage the affairs of each apartment building.¹⁴ The variables assigned to the three were 'w,' 'e,' and 'c' respectively. Any resulting program would have to be introduced by a service provider (represented by 's'). Additional terms can be added to describe other variables, such as: the regulatory regime, other actors (drivers, security guards, etc.) in an apartment building, and the general environment (law and order situation) in the neighborhood.

While an optimization problem could be used to solve for a possible comparative static analysis, for our purposes only the incentive compatibility issues were addressed to assess whether the set of viable contracts was null or non-null. This allows for remediating the exclusion of domestic workers from some form of education. We let 'Z' be the vector of the current contract that describes the influence of domestic worker variables (work hours, types of activities to be performed, payment received, holidays available, and mobility), employers' preferences and costs, the state of community variables (facilities available in the apartment building, etc.), and service providers (training or class schedule, payments, etc.), which were initially set to zeros.¹⁵

$$Z = (w_1, w_2, w_m, e_1, e_2, e_n, c_1, c_2, c_o, s_1, s_2, s_r) \quad (3.1)$$

We let Z^*_0 be the optimal contract prior to the program, and let $\{Z_1\}$ be the set of all possible contracts involving a service provider to offer education for the domestic workers.¹⁶ If $V_{ij} = V_i(Z_j)$ is the perceived net benefits of the i -th agent, ($i = w, e, c$) in

¹⁴In order to ensure that the number of domestic workers interested in participating in the program would be adequate for viable program operations, the focus of the exercise was confined to apartment-based residences only.

¹⁵Note that there are 'm' number of variables for domestic workers (w), 'n' number of variables for employers (e), 'o' number of community (c) variables, and 't' number of variables to account for service providers (s).

¹⁶Relevant elements in $\{s\}$, a subset of $\{Z_1\}$, will be strictly positive. For example, the number of hours spent by domestic workers in tutoring classes will be positive.

state j (0 and 1), the search for a viable contract with a service provider amounts to finding a vector Z^*_{j1} such that, $V_i(Z^*_{j1}) \geq V_i(Z^*_{j0})$, for all $i=w, e,$ and c ; and $V_s(Z^*_{j1}) =$ the net returns to the service provider that are \geq normal profit.¹⁷ Note that in the vector $\{s_1, s_2, s_r\}$ (in Z^*_{j1}) defines the new goods and services whose introduction has implications for the values of the elements in the Z -vector.

Initial consultations for the purpose of preparing a questionnaire suggested that certain aspects of skill development training and education could be offered in ways that encourage the employer and community stakeholders to enroll their domestic workers. Specifically, stakeholder willingness was responsive to: variation in the hours offered for tutoring or training, the age of domestic workers, the venue of classes, and the characteristics of the service provider. Proponents of the particular experiment believed that once an initial entry point was utilized and the positive benefits became apparent to relevant stakeholders, that the exclusion of urban domestic workers from education would be reduced at a broader level.

3.4 Types of Exclusion: Illustration with Service Demand and Supply

3.4.1 General Setting

The presence of agents with whom no viable contract may be negotiated in a given sphere by any other agent is meant to establish the existence of exclusion. The search for viable contracts is meant to reduce exclusion. It is however important to recognize that exclusion may arise for different reasons, necessitating different remedial measures. It is therefore necessary to categorize exclusion accordingly, so that programs or actions to reduce exclusion may be appropriately designed. In this section I use basic demand supply tools to illustrate the various types and options.

Consider a service 'x.' Each individual in a population may consume only one unit of x , or none at all.¹⁸ Those who consume x are considered 'included' and those who do not consume x , either voluntarily or involuntarily, are considered 'excluded.' Without delving into individual optimization leading to a threshold price below which one unit of x is availed of by an individual, I directly define a market demand function as:

$$D = f(p, c, t, M, \phi, z); \tag{3.2}$$

¹⁷There may be several Z^*_{j1} vectors fulfilling the requirement (equivalent to the Ricardian wage-profit frontier), and the final solution will depend on power relationships and relative access to information.

¹⁸Unit demand is assumed to only illustrate the number excluded from a given service and is not essential to the central argument of the exercise.

where:

p = the price received by provider of the service

c = the additional direct costs to the consumers to use the service

t = the indirect cost to consumers (including opportunity cost) for using the service¹⁹

M = the income of the household whose members use the service

φ = the information available to clients, which is less than or equal to Ω (symbolizing full information)²⁰

z = all other variables (including preference)

The demand function in Eq. 3.2 has the following properties where f_i is the first derivative of D with regard to the i -th argument in the equation:

if $f_1 < 0$, demand increases as provider reduces price

if $f_2 < 0$, demand increases as consumers pays less additional cost

if $f_3 < 0$, as opportunity cost increases, demand decreases

if $f_4 > 0$, demand increases with increase in income (this may reverse beyond a point)

f_5 may be positive or negative depending on whether inadequate information lessens or increases demand. We assume it to be positive on the presumption that increases in awareness increase demand for the program services.

To identify the various types of exclusion, we assumed z to be given in all illustrations. I consider the population size to be 'N' and assume that each individual is eligible to buy only one unit of the service under consideration. A total of five broad cases are illustrated, the first three deal with choice-based (voluntary) exclusion, although the third is structurally imposed and cannot be strictly considered voluntary.

3.4.2 Types of Exclusion

Type 1: choice-based or voluntary exclusion. Prices received by suppliers in the main market are equal to those paid by end consumers and unlimited supply is ensured at zero price (see Fig. 3.1).²¹ This implies that $p=c=t=0$. I also assume full information ($\varphi=\Omega$) and that M can take any positive value. Therefore $D=N_1 \leq N$ where N_1 is the maximum number that may avail the service if all other factors are (extremely) favorable and voluntary exclusion = $E_1 = N - N_1$.

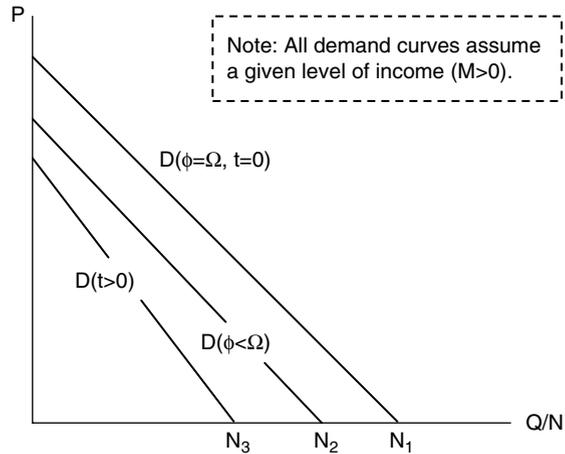
Type 2: exclusion due to a lack of awareness. Inadequate information about the benefits from a service (e.g., education) would imply lower effective demand, increasing the number of people excluded. This is also a case of voluntary exclusion, but rather as a result of inadequate awareness. Formally, if $p=c=t=0$, $\varphi < \Omega$ and M can take any positive value, then $D=N_2 \leq N_1$ and exclusion is described as $E_2 = N_1 - N_2$ (see Fig. 3.1).

¹⁹Prices of all other commodities have not been included, some of which could be considered under t . For the substitutes of the service under consideration the relation would be opposite.

²⁰Misinformation could be deliberately added, which would further complicate the relationship.

²¹The first three cases assume zero costs for ease of illustration. A positive equilibrium price could be assumed as well, however, that would call for adjustments on account of the changed values of φ and t .

Fig. 3.1 Three types of exclusion under zero price to borrowers

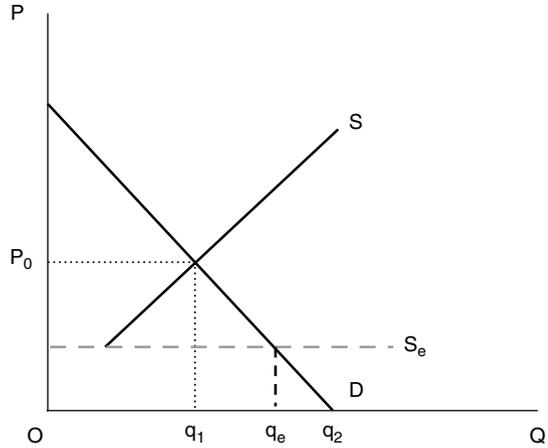


Type 3: exclusion for survival (compelled to remain excluded). The consumption of certain goods and services that a society generally perceives as normal may be considered a luxury by people who are at the brink of survival. These people, engaged in extremely low-earning jobs if employed at all, cannot afford the time or resources to consume the services, even when offered at zero prices. I differentiate this from voluntary exclusion, since the choice is 'structurally imposed' by initial ownership of endowments. If $p=c=0$; $\phi=\phi(N_2)$, $t>0$ and M can take finite positive value, then $D=N_3 < N_2$ and $E_3=N_2 - N_3$ (see Fig. 3.1).

Type 4: exclusion due to the lack of effective demand under positive prices. If one could control for all the three types of exclusion discussed above, all forms of social exclusion and those arising out of costly connectivity (discussed later), we would be left with the possibility of exclusion as a result of a lack of effective demand. This case is illustrated in Fig. 3.2 and assumes that prices received by main market suppliers are equal to those paid by end consumers. Of those agents (consumers) with positive effective demand at non-negative prices, (q_1, q_2) are unable to avail themselves of the service at a market price of P_0 .

Type 5: exclusion caused by 'distance'; (5A) social exclusion, and (5B) poor connectivity/ delivery system (or other factors). While the previous four types of exclusion are fairly straightforward, lumping together 'social exclusion' with exclusion caused by physical distance (from growth centers) and/or the lack of appropriate or efficient delivery mechanisms may be controversial. Reducing the concepts of exclusion (including that of social exclusion) to tractable cost equivalence is not meant to undermine the importance of the processes that generate exclusion. It is important to note that the subject of exclusion is also of interest to development practitioners because they believe that exclusion may be reversed and that there are costs involved for all such efforts towards inclusion. The equivalence of the two types of exclusion may be argued on the grounds that both arise due to 'distance,' one in social space and the other in physical space. Thus from a purely technical perspective (using supply and demand tools), the cost of including the socially excluded is

Fig. 3.2 Exclusion due to lack of effective demand



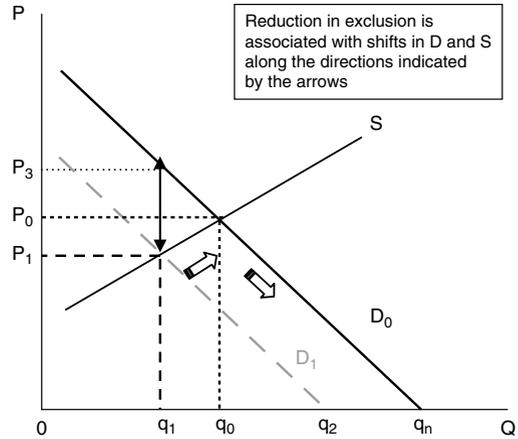
no different from the cost of the ‘delivery’ to a consumer in a distant market. In both cases an excluded person would have to pay in addition to the ‘normal’ price and the latter critically depends on the delivery system in place.

The horizontal supply line S_e in Fig. 3.2 is meant to represent socially excluded (SE) people under the assumptions of delivery at zero price and the effective demand of socially excluded persons are represented by the lowest segment of the demand curve. There is an interesting twist to the story in this particular case. When SE people are represented by the lower end of the demand curve, market forces (supply-side agents) may be less keen on changing the status quo and they would even be less keen if inclusion of the SE has negative effects on the willingness to pay at the upper end of the curve. Clearly increases in resource endowments of cash, assets, or intellectual capital among SEs will change the distribution of SE along the demand curve and market forces may be more eager to remove social exclusion.²²

A more general case is presented in Fig. 3.3 where I assume that $c > 0$ ($c = P_0 - P$), meaning that consumers have to pay an additional price to avail themselves of a service compared to a general (mainstream) consumer. With $c = 0$ (zero distance cost), equilibrium price and quantity would be P_0 and q_0 respectively. If $c > 0$ and all buyers have to pay the additional price (captured by a demand curve D_1 to the left), $q_0 - q_1$ would get excluded and receipt by a provider (P_1) would be less than payments made by the consumer (P_3). Innovations in service delivery, improved connectivity reducing delivery cost, and/or wider acceptance of the formerly excluded social groups would all push the S curve downward (or shift the D_1 curve to the right towards D_0), thus reducing exclusion.

²²A case in hand is the Dalit in India, a group of people considered ‘untouchables’ or ‘outcasts.’ This paper does not illustrate the case of labor markets, where market returns on investments in skill development of an otherwise ‘excluded’ group may be shown to be higher.

Fig. 3.3 Exclusion caused by 'distance'



3.4.3 Ways to Reduce Exclusion

Figures 3.1 and 3.2 make evident the kinds of shifts in demand and supply curves that may reduce exclusion of the six types discussed earlier. Sources of such shifts are rooted in various kinds of policies and changes in the market environment. A summary of options to reduce various kinds of exclusion are summarized in Fig. 3.4. If exclusion is voluntary the urge to reduce exclusion may be justified if the social benefits from inclusion are perceived to be higher than the costs perceived by private individuals opting for exclusion. In such cases individual action may be influenced either by motivating changes in the objective function of excluded agents or by providing incentives (if the cost of the latter is less than the perceived net social benefits). Similarly the second and third types of exclusion may be addressed by promoting awareness through networks and by addressing competing factors respectively (e.g., excusing school-age children from daily household chores).

Options are rather limited in the first three cases since it is only possible to address the demand side. In the last three cases options are open from both the demand and supply sides, as well as through innovations that reduce supply cost—through costs of production, delivery, or both. A comprehensive list of interventions is provided in Fig. 3.4.

3.5 Exclusion and Segmentation

Since multiple intervention choices exist for the last three types of exclusion, it is pertinent to discuss appropriate selection criteria. Traditionally we are introduced to two basic interrelated criteria that are also used for assessing program performance or efficiency: the cost of reducing exclusion and the efficacy of targeting. While these are important, the obvious implications of targeted programs for creating differentiated spaces or products in the market and society are often overlooked.

Various ways to reduce exclusion	Innovation reducing production cost (1)	Price subsidy (2)	Innovation introducing differentiated product (3)	Innovation in delivery reducing transaction cost (4)	Improve connectivity (5)	Promote/avail agencies with network capital (6)	Social awareness/change objective function (7)	Increase income/transfer (8)	Address competing factors (9)
Types of Exclusion									
1. Voluntary exclusion									
2. Lack of awareness									
3. Exclusion for survival/competing factors									
4. Market exclusion/lack of effective demand									
5A. Receipt < payment—social exclusion									
5B. Receipt < payment—poor connectivity, etc.									

Fig. 3.4 Ways to reduce exclusion

As noted earlier the current availability of goods and services subsumes a balance between agents with existing contracts (included) and agents with whom no viable contract could be negotiated (excluded). Any attempt to expand service coverage beyond a market-determined level calls for new contracts to be negotiated. In this case the corresponding goods and services may no longer be considered identical to the old ones. Several cases are discussed below to illustrate this situation.

The case of a perfectly discriminating monopoly is well-known amongst economists. In this scenario no new product is introduced, but the market is segmented to ensure greater profit to a monopolist, which also leads to the reduction of exclusion (in contrast to a competitive solution). Without reductions in the cost of producing or delivering a given good or service, coverage may be expanded (exclusion reduced) by introducing new goods and services of lower quality at lower cost.²³ Sometimes funds may be provided to extend an ‘existing’ product or service (e.g., primary education or sanitary toilets) to a targeted (excluded) population through a new contract with an additional agent (e.g., an NGO). Using a viable contract for reference

²³There is ample anecdotal evidence of this in markets, such as: housing services, apparel, all kinds of food, education, and health (most basic necessities).

Table 3.1 Implications of various interventions on segmentations

Intervention type	Implication
Innovation reducing production cost (1)	Inclusive in nature, no segmentation
Price subsidy (2)	If applied to all, inclusive: targeting requires segmentation
Innovation introducing differentiated product (3)	Segments, which may be irreversible in the short- to medium-term and may percolate into other spheres
Innovation in delivery that reduces cost of delivery (4)	Reduces segmentation
Improve connectivity/reduce distance (5)	Reduces segmentation
Promote/avail services of agencies with network capital (6)	If governed properly, reduces cost of delivery and therefore reduces segmentation
Social awareness (7)	If rightly pitched, reduces social differences
Increase income/transfers (8)	If accompanied by reduced inequality, reduces segmentation
Address competing factors (9)	Reduces segmentation

and a corresponding product or service, the targeted program is more likely to give rise to a new contract and a service or product that is not same as the one originally meant to be delivered!

Figure 3.4 presents nine interventions with potentials to reduce exclusion. The implications of these interventions for segmentation were described in Figs. 3.1, 3.2, and 3.3, where solutions were sought beyond 'market-determined' terms of exchange. Those are recast with explicit emphasis on segmentation and summarily presented in Table 3.1 above. At the practitioner level there is uncertainty about whether efforts towards inclusion can ever be completed. Or stated alternatively, does product differentiation introduced to 'include' subsequently lead to further segmentation? At the level of analysts and program evaluators a program may be fine-tuned (or have its performance assessed) on the basis of its degree of neutrality to or biases towards product differentiation and segmentation.

3.6 Concluding Observation

The inquiry into exclusion I pursued in this paper presumed that exclusion can be reduced, but ended by showing that there is a cost to most such attempts by way of introducing segmentation into the economy and society. The discord between textbook teaching of economics and development practices, further distorted by un-scrutinized inclusion of development issues into teaching, was one concern that led to this paper. The search for a set of core principles underlying various disciplines within 'political economy' was justified on the ground that 'exclusion' is being dealt with within those disciplines (breeding fragmented perspectives). Once these principles were laid out the rest of the paper followed the tradition of deductive reasoning.

Contracts embody exchanges that involve reciprocal transactions and are assumed to be driven by self-interest. This paper considered contracts to arise between various agents in a society in multiple economic and noneconomic spheres, and defined exclusion as the presence of one or more agents with whom viable contracts cannot be defined. ‘Contract’ as an analytical category was perceived more suitable a tool for *ex ante* analysis, whereas ‘goods and services,’ identified as elements of viable contracts, provide the basis for *ex post* analysis. Both routes of analysis were pursued in this paper to gain better insights into exclusion and for the design and assessment of programs to reduce exclusion. Although the subject was raised, this paper did not delve into the role of agencies (formal manifestation of agents above micro-levels) in introducing new forms of contracts. Nor did we pursue the arguments for identifying the areas of unity among various sub-branches of knowledge, particularly in economics, that are alleged to be ideologically tainted. It is hoped that the perspectives proposed in this paper will open avenues for such discourse in future.

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References

- Brousseau E, Glachant JM (2002) The economics of contracts and the renewal of economics. In: Brousseau E, Glachant JM (eds) *The economics of contract: theories and practices*. Cambridge University Press, Cambridge, pp 3–31
- Hawking S, Mlodinow L (2010) *The grand design: new answers to the ultimate questions of life*. Bantam Press, London
- Investopedia (2011) Definitions. <http://www.investopedia.com/#axzz28AKVwQed>. Accessed 5 Jul 2012
- Mauss M (1967) *The gift: forms and functions of exchange in archaic societies*. Norton Library, London
- Osmani SR (2003) *Evolving views on poverty: concept, assessment and strategy*. Poverty and social development papers no 7, Asian Development Bank, Manila
- Rhee SS (2010) *Market exchange, relational exchange, and evolution of market institution*. Soongsil University, Seoul
- Sen A (2000) *Social exclusion: concept, application and scrutiny*. Social development paper 1, Asian Development Bank, Manila
- Stilwell F (2006) Four reasons for pluralism in the teaching of economics. *Australian J Econ Educ* 3(1–2):42–55
- Zohir S (2010) *Exclusion, service delivery and segmentation: a partial framework to assess MDG implementation*. Presentation at the macroeconomic policy and development division seminar, UN-ESCAP, Bangkok, 18 August 2010
- Zohir S, Rabbani M, Mallik BA, Huq I, Afsana R (2008) *Exclusion and poverty: an analytical approach for understanding exclusion and assessing programmes targeting the very poor in Bangladesh*. BRAC Research and Evaluation Division and Economic Research Group, Dhaka

Chapter 4

Marginality from a Socio-ecological Perspective

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Abstract The authors analyze the concept of marginality from an ecological perspective and provide examples of some mechanisms of marginalization. Marginalization cannot solely be described as an ecological phenomenon, but rather occurs via the interplay of ecological and social aspects of complex arrangements. Hence the use of socio-ecological systems as a conceptual unit is proposed. One way to combat marginalization is to increase the resilience and adaptability of these systems. However, multiple needs must be considered simultaneously, including: food security, income generation, or ecosystem services. Research on marginality in the context of interlinked socio-ecological, complex, and dynamic systems demands paradigm shifts in scientific disciplines that are beginning to merge.

Keywords Socio-ecological systems • Carrying capacity • Competition • Resilience • Adaptability

4.1 Marginality in Ecology

The term marginality has become a buzzword across various disciplines and contexts (Cullen and Pretes 2000). Marginality can only be properly defined in a specific reference context. In social systems, marginalized people are often defined as subgroups that differ from the core or mainstream. The core group in this respect is the reference group that the outlier subgroups are marginal to. In ecological systems the designation of any of its components as marginalized is a more challenging

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exercise. This is because ecosystems consist of manifold interdependent components that are under the influence of a variety of biophysical factors.

In ecology marginality has been applied to describe phenomena that occur at biophysical limits of any kind. These may be geophysical boundaries, environmental thresholds, or habitats that are not well suited for particular species or populations (Odum and Barrett 1971; Cassel-Ginz et al. 1997; Leimgruber 2004). Since the diversity of nature provides a great variety of conditions, margins and marginal conditions are innumerable. Marginal areas may be environments that pose extreme challenges to the survival of certain species such as deserts, high altitude areas, ephemeral water bodies, or sites with heavy metal soils. Stochastic dynamics or disturbances such as volcanic eruptions, floods, or droughts also create temporary marginal conditions in ecological terms. The 'limits' of ecosystems in most cases merge into gradients rather than forming sharp boundaries, creating 'ecotones,' which are zones of transition between adjacent ecosystems (Holland 1988) where distinctions are blurred (Odum and Barrett 1971).

To comprehensively describe marginality with respect to an ecosystem requires the analysis of each of its components and their interactions. Each species has optimal conditions under which it can best survive and reproduce. The most extreme conditions would be lethal to a species, while less extreme conditions would prevent or limit growth and development and thus be considered marginal (Begon et al. 2006). For example, tree growth is determined by different factors such as temperature, soil conditions, humidity, etc. To determine whether marginality exists in the context of a forest requires an evaluation of the conditions of individual tree species. Changes in the status of one species affect the status of other species (positive/negative feedback). For instance, when resources are shared between competing species the superior competitors profit at the cost of inferior ones (Araujo and Pearson 2005; Soberon 2007).

At the species level, Liebig's law of the minimum states that the scarcest required resource determines the overall suitability of living conditions in a given area. With respect to the occurrence and abundance of plant or animal species, population growth and size are limited by the availability of the scarcest required resource or 'limiting factor.' Therefore it makes sense to describe marginalization in relation to the carrying capacity of the ecosystem, which is the maximum population size of a species that can be sustained indefinitely in a given area. In addition, the carrying capacity for one species is strongly influenced by the presence and relative abundance of other species that compete for the same resources. For example, nutrient availability limits the growth and size of populations of two species of phytoplankton in a pond. The population size of either species will depend on both nutrient availability and the ability of each competing species to procure these nutrients. If one species can access the scarcest nutrient more proficiently it will out-compete the other species in the long run if conditions and nutrient availability are constant over space and time (provided that population growth of the better competitor does not change with increases in population size, i.e., their increased abundance does not increase mortality via greater incidence of disease or predation rate). Therefore a species can be marginalized by the presence of a competing species despite the overall availability of required resources in an ecosystem.

Ecosystems can also be classified by the limiting biophysical factors at different hierarchical levels. For instance, edaphic conditions are more relevant at fine scales, while climatic and orographic factors are more relevant at broader scales (Pearson and Dawson 2003). A translation of this relationship directly to social systems would describe social marginalization as a result of overexploitation of a system's resources, often due to either high human population density or else decreased resource availability. Hence a relevant way of equating the concept of ecosystems to social marginality is that they are analogous to social systems in which marginality occurs when certain groups have only limited access to resources.

A direct link between marginality in ecological and social systems can be made when considering the concept of biological value and life regulation in living systems (Damasio 2010). The primitive of biological value (Damasio 2010, 2011) is the physiological state of living tissue within a homeostatic range that is necessary for normal function (i.e., health). Extremes of homeostatic ranges have low biological value to them, whereas more central conditions along homeostatic ranges have higher biological values. Thereby biological value is directly linked to need, and need is linked to life. The productive capacity of organisms can be reached in healthy organisms and environments, whereas it will always be underperforming in marginal environments with low biological value.

The propensity of humans to attach values to virtually everything around them relative to their desired living conditions can be perceived as a process which aims at achieving ideal homeostatic conditions. Humans formulate values that regulate the processes (economic and social) within their homeostatic range and thereby contribute to their well-being. Staying alive requires processes of transforming nutrients into energy, disposal of waste, and making use of energy for biological processes under particular biophysical conditions. Departures from homeostatic ranges are detected by the brain, which can stimulate corrective actions. The process of cognition (in simple organisms such as earthworms) and consciousness (in more complex organisms such as humans) is used to monitor and detect whether the body is operating within this range or else in danger—within or outside the homeostatic range (Parvizi and Damasio 2001). A situation where an organism is in danger due to homeostatic imbalance can be conceived as being analogous to organisms living in marginal conditions.

4.2 Socio-ecological Systems and Marginality

Evidently humans have decoupled themselves from purely physiological and competition-related ecological limitations due to technological developments that prop broad adaptive strategies. As a result humans are able to survive in areas that are otherwise unsuitable for them from an ecological point of view. This may, however, put populations that live close to (or beyond) the margins of ecological suitability at risk and make them dependent on inputs from external sources. Extreme examples are human settlements under completely hostile conditions such as polar or space stations that depend entirely on external inputs and modern technologies.

A couple of assumptions can be made regarding how ecological factors may determine social marginality and how boundaries in ecological marginality are similar to those in social marginality. We assume that marginalized people often lack access to resources due to unfavorable (geographical) location or generally restrictive local biophysical conditions (Gatzweiler et al. 2011). For instance, remoteness in the sense of living far away from economic centers may result in social marginality by limiting access to work, education, and health care (Leimgruber 2004). From an anthropocentric point of view, ecological systems provide goods and services that their inhabitants use to ensure their well-being. Constraints in resource procurement determine the extent of marginalization. Examples are farming in isolated areas, in areas with limited access to water, or where soils or other conditions are of limited suitability. Complementarily, people may become marginalized as the result of ecological degradation such as desertification, acidification, or salinization of soils, and air or water pollution, etc. In these cases marginalization is the result of a gradual process.

Assuming that unfavorable ecological conditions contribute to the general marginality of a human settlement, there may also be privileged individuals who are able to increase their resilience and adaptive capabilities at the expense of less privileged individuals or of common resources. In environments with poor or depleted biophysical assets, forms of social exclusion often manifest (Winchester and White 1988; Gatzweiler et al. 2011). These considerations suggest that it is appropriate to enlarge the scope of analysis over a broader realm in order to understand ecological marginality and the 'socio-ecological systems' (SES) concept.

It is generally acknowledged that understanding complex phenomena requires insights from multiple scientific disciplines, but not until the 1970s in the context of greater awareness of the global environmental crisis did an appropriate conceptual framework for considering 'mingled phenomena' emerge (Vayda and McCay 1975). It was during this period that the concepts such as 'lifescape,' 'livelihood,' 'coupled human-environmental,' and 'human-natural systems' were first proposed (Howorth 1999; Marschke and Berkes 2006). Recently SES has emerged as a concept integrating human-natural interrelationships that is used to harmonize social development and conservation goals. By asserting that many complex phenomena include both social and ecological systems simultaneously and inseparably (Gallopín 2006), and therefore any demarcation is artificial and arbitrary (Folke 2006), the application of crosscutting and integrated approaches such as the concept of marginality are advocated for the consideration of complex issues.

Based on this concept it is worth identifying situations where social marginalization occurs due to ecological variables or ecosystem settings. People can be marginalized due to environmental factors that inhibit their well-being. These factors generally act on distinct spatial and temporal scales due to variation in the physical and chemical characteristics of ecosystems (degraded soils, salinity, toxic pollutants, etc.). All of these factors may be used to describe the degree of marginality to which the inhabitants of an ecosystem are subject. For example, many tropical areas of Africa are affected by sleeping sickness/animal trypanosomiasis, which is transmitted by tsetse flies, making them marginal areas to inhabit and raise cattle: pastoralists who only have access to these areas are marginalized by environmental factors.

People can be marginalized by limited access to natural resources due to inherent variability of the amount and quality of the natural resources in a particular ecosystem (Landres et al. 1999). Constraints on an ecosystem that limit the amount of resources available to residents after having passed a physiological threshold (e.g., due to high human population density), can result in the marginalization of the inhabitants. Resource depletion can also occur due to the degradation of ecosystems by overexploitation (e.g., soil erosion, deforestation, extirpation of wildlife, etc.) or other means and lead to degradation-induced marginality.

Marginalization also occurs in SES through competition. This may occur directly, as when one actor takes land or resources from another, or through indirect mechanisms such as the appropriation of land by central governments (Cotula et al. 2009). Marginalization in a SES may occur consensually, for example the resettlement of populations for the construction of hydroelectric dams that contribute to the general well-being in a society.

The cases above reveal how marginality can be complex and often deal with SES that are subject to risk and uncertainty (Leach et al. 2007). Moreover the drivers of marginalization respond to changing socio-ecological factors and are often uncontrollable by the affected people, as the inherent causal mechanisms emerge on spatial, temporal, or administrative scales that the affected people have limited control over. Strengthening the resilience and adaptability of SES, however, helps to prevent the marginalization of its inhabitants.

4.3 Addressing Marginality in Socio-ecological Systems via Resilience and Adaptability

It has been found that human communities, particularly when overpopulated, often overuse local natural resources, thus aggravating poverty through natural resource depletion (Dasgupta and Mäler 1994). This feedback loop contributes actively to the marginalization of the poor by limiting their resource options (UNCCD 2003). This has been documented in the case of West African savannah agricultural systems that are constrained by limited soil productivity and highly variable precipitation patterns (Sanchez 2002; Sanchez et al. 2002; Challinor et al. 2007), in the case of slash-and-burn agriculture in rainforests at historically high population densities leading to deforestation and the exhaustion of soils (Palm et al. 2005), and in the case of the migration of Andean farmers to less productive, higher altitude areas due to reduced local availability of agricultural land at more favorable altitudes (Mayer 2002).

The difficulties of escaping such poverty/natural-resource-depletion feedback loops are aggravated by global drivers such as human population growth, habitat degradation and destruction, climate change, the global economic crisis, and their combined impacts. In this context the sustainable performance of a SES requires a dynamic configuration that can adjust to progressive or sudden changes (Adger 2006). Therefore considering marginality in SES requires taking into account

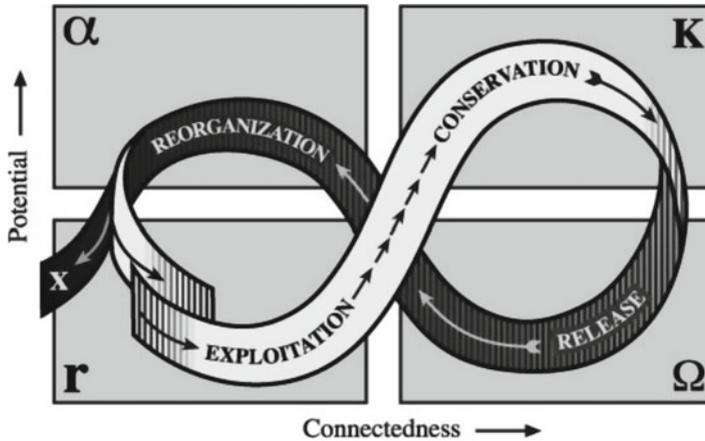


Fig. 4.1 The adaptive cycle: successive phases of response of a complex system to changing conditions (Gunderson and Holling 2002, 34; Reproduced by permission of Island Press, Washington, DC)

change and disturbance as the principal constraints that can be considered using the concepts of resilience and adaptability (Dilley and Boudreau 2001; Vogel et al. 2007).

Resilience was originally coined in ecology to describe the capacity of ecosystems to recover functionality after shocks (Holling 1973), and may be used to refer to the capacity for renewal and reorganization of a SES (Gunderson and Holling 2002; Berkes et al. 2003). It is conceived of as a system's capacity to maintain its identity, structure and function in response to a disturbance event (Walker and Meyers 2004). Adaptability is the capacity to adjust to change (Smit and Wandel 2006) or in other words the ability to remain in a stable configuration despite changes to internal or external factors over time (Denevan 1983; Andresen and Gronau 2005).

Despite coming from ecology, the concepts of resilience and adaptability have started to be used in interdisciplinary contexts (Janssen and Ostrom 2006; Vogel 2006) due to their utility for portraying the drivers of sustainability and long-term functionality of complex systems (Callo-Concha and Ewert 2011). In this framework a marginal SES is a system with limited or no resilience. Marginal systems are vulnerable in the sense that their stability is menaced by events that push them towards a threshold after which the system must either reach a new homeostasis under different conditions or else become unstable.

The adaptive cycle (Fig. 4.1) is a conceptual tool that portrays the successive stages of systems in response to changing conditions (Gunderson and Holling 2002). In the case of poverty and natural-resource-depletion feedback loops, the adaptive cycle can help to identify 'poverty traps' or situations where system diversity, connectivity, and resilience are reduced to the extent that system performance cannot be regained or is destabilizing. Gunderson and Holling (2002) provide examples of a productive savannah that became degraded due to drought and overgrazing fueled by economic incentives for maintaining high stocking densities. Other examples of system collapse are societies traumatized by civil war, where

social and cultural cohesion and adaptive abilities have been lost, preventing the rebuilding of society (Volkan 2000). In the case of ‘rigidity traps,’ decision circuits are highly interconnected, reinforcing themselves and making the system inflexible (Gunderson and Holling 2002). A good example is an old forest where larger, well-established trees inhibit the growth of saplings, impeding the renewal of the forest as a whole and increasing vulnerability to disturbances such as wildfire (Carpenter and Brock 2008). A corresponding social example would be the case of authoritarian governments where vertical decision-making structures impede innovation and adaptation, that tend to collapse when the overall settings such as democratic values become gradually hegemonic.

Preventing the marginalization of a human community by increasing its resilience and adaptive capacity cannot be achieved by concentrating on a single component without considering other interlinked components of the SES. Contrarily it must fulfill various complementary and successive goals (e.g., guaranteeing food security, creating income generating opportunities, and maintaining ecosystem services)—goals which aim at improving the conditions for living systems, either social or ecological. In consequence any intervention to prevent and eventually reduce marginality should consider the functionality of the components of the SES and the involved processes. Moreover these efforts need to acknowledge the complexity of SES and therefore adopt systemic principles that allow the identification and characterization of the components, and consideration of the context, boundaries, connectedness, feedback, inflows and outflows as proposed by the ‘Ecosystem Approach’ (Waltner-Toews et al. 2008), and further elaborated by Gatzweiler et al. (2011) in the context of social marginality.

4.4 Outlook

We have discussed basic biological, ecological, and social dimensions of marginality from a systems perspective. We support the assertion that understanding human-environmental interrelationships demands a broader conceptualization such as the SES concept. Furthermore, marginalization appears difficult to reverse once complex systems have produced states which are far outside of normal homeostatic ranges. One way to combat marginalization is to increase the resilience and adaptability of the SES. This can be done (e.g., by valuation, feedback, and monitoring), however, multiple needs must be considered at the same time that refer to the ideal condition for human and non-human life to prevail, mainly: food security, income generation, energy provision, and the maintenance of diversity. Research on marginality in the context of interlinked, complex, and dynamic socio-ecological systems demand paradigm shifts in scientific disciplines that are beginning to merge. New research networks and funding policies should address marginality by promoting interdisciplinary, systems-based, and practical (problem-solving) approaches to provide better decision-making arguments.

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References

- Adger W (2006) Vulnerability. *Glob Environ Chang* 16(3):268–281
- Andresen K, Gronau N (2005) An approach to increase adaptability in ERP systems. In: Khosrow-Pour M (ed) *Managing modern organizations with information technology: proceedings of the 2005 Information Resources Management Association international conference*, San Diego, Idea Group Publishing, Hershey, 15–16 May 2005, pp 883–885
- Araújo MB, Pearson RG (2005) Equilibrium of species' distributions with climate. *Ecography* 28:693–695
- Begon M, Townsend C, Harper J (2006) *Ecology: from individuals to ecosystems*, 4th edn. Blackwell Publishing, Malden
- Berkes VF, Colding J, Folke C (2003) *Navigating social-ecological systems*. Cambridge University Press, New York
- Callo-Concha D, Ewert F (2011) Assessing multifunctional agroforestry systems applying the Resilience/Vulnerability and Adaptability (RVA) approach. In: Becker M, Kreye C, Ripken C, Tielkes E (eds) *Tropentag 2011, book of abstracts, international research on food security, natural resource management and rural development*, Bonn, 5–7 October 2011. DITSL GmbH, Witzenhausen. <http://www.tropentag.de/2011/proceedings/proceedings.pdf>. Accessed 25 Jan 2013
- Carpenter SR, Brock WA (2008) Adaptive capacity and traps. *Ecol Soc* 13(2):40
- Cassel-Gintz MA, Lüdeke MKB, Petschel-Held G, Reusswig F, Plöchl M, Lammel G, Schellhuber HJ (1997) Fuzzy logic based global assessment of the marginality of agricultural land use. *Clim Res* 8(2):135–150
- Challinor A, Wheeler T, Garforth C, Craufurd P, Kassam A (2007) Assessing the vulnerability of food crop systems in Africa to climate change. *Clim Chang* 83(3):381–399
- Cotula L, Vermeulen S, Leonard R, Keeley J (2009) *Land grab or development opportunities: agricultural investment and international land deals in Africa*. International Institute for Environment and Development, Food and Agriculture Organization of the United Nations and International Fund for Agricultural Development, London/Rome
- Cullen BT, Pretes M (2000) The meaning of marginality: interpretations and perceptions in social science. *Soc Sci J* 37(2):215–229
- Damasio A (2010) *Self comes to mind. Constructing the conscious brain*. Pantheon Books, New York
- Damasio A (2011) Neural basis of emotions. *Scholarpedia* 6(3):1804
- Dasgupta P, Mäler KG (1994) *Poverty, institutions and the environment-resource base*. World bank environment paper 9, World Bank, Washington, DC
- Denevan WM (1983) Adaptation, variation and cultural geography. *Prof Geogr* 35(4):399–406
- Dilley M, Budreau T (2001) Coming to terms with vulnerability: a critique of the food security definition. *Food Policy* 26(3):229–247
- Folke C (2006) Resilience: the emergence of a perspective for social–ecological systems analyses. *Glob Environ Chang* 16(3):253–267
- Gallopin GC (2006) Linkages between vulnerability, resilience, and adaptive capacity. *Glob Environ Chang* 16:293–303
- Gatzweiler F, Baumüller H, von Braun J, Ladenburger C (2011) *Marginality: addressing the root causes of extreme poverty*. ZEF working paper no 77, Center for Development Research, University of Bonn, Bonn
- Gunderson LH, Holling CS (2002) *Panarchy: understanding transformations in human and natural systems*. Island Press, Washington, DC

- Holland MM (1988) SCOPE/MAB technical consultations on landscape boundaries report of a SCOPE/MAB workshop on ecotones. *Biol Int Spec Issue* 17:47–106
- Holling C (1973) Resilience and stability of ecological systems. *Annu Rev Ecol Syst* 4:1–23
- Howorth C (1999) *Rebuilding the local landscape: environmental management in Burkina Faso*. Ashgate Publishing, Farnham
- Janssen MA, Ostrom E (2006) Resilience, vulnerability, and adaptation: a cross-cutting theme of the international human dimensions programme on global environmental change. *Glob Environ Chang* 16(3):237–239
- Landres P, Morgan P, Swanson F (1999) Overview of the use of natural variability concepts in managing ecological systems. *Ecol Appl* 9(4):1179–1188
- Leach M, Scoones I, Stirling A (2007) *Pathways to sustainability: an overview of the STEP centre approach*. STEPS approach paper. STEPS Centre, Brighton
- Leimgruber W (2004) *Between global and local: marginality and marginal regions in the context of globalization and deregulation*. Ashgate Publishing, Farnham
- Marschke MJ, Berkes F (2006) Exploring strategies that build livelihood resilience: a case from Cambodia. *Ecol Soc* 11(1):42–58
- Mayer E (2002) *The articulated peasant: household economies in the Andes*. Westview Press, Boulder
- Odum E, Barrett G (1971) *Fundamentals of ecology*. Thomson Brooks, Cole
- Palm C, Vosti S, Sanchez P, Ericksen P (eds) (2005) *Slash-and-burn agriculture: the search for alternatives*. Columbia University Press, New York
- Parvizi J, Damasia A (2001) Consciousness and the brainstem. *Cognition* 79:135–159
- Pearson RG, Dawson TP (2003) Predicting the impacts of climate change on the distribution of species: are bioclimate envelope models useful? *Glob Ecol Biogeogr* 12:361–371
- Sanchez P (2002) Soil fertility and hunger in Africa. *Science* 295:2019–2020
- Sanchez P, Jama B, Niang A, Palm CA (2002) Soil fertility, small-farm intensification and the environment in Africa. In: Lee DR, Barrett CB (eds) *Tradeoffs or synergies? agricultural intensification, economic development and the environment*. Commonwealth Agricultural Bureau International, New York, pp 325–344
- Smit B, Wandel J (2006) Adaptation, adaptive capacity and vulnerability. *Glob Environ Chang* 16(3):282–292
- Soberón J (2007) Grinnellian and Eltonian niches and geographic distributions of species. *Ecol Lett* 10:1115–1123
- UNCCD (2003) *Confronting land degradation and poverty through enhanced UNCCD implementation*. Discussion paper prepared by the global mechanism of UNCCD for the sub-regional partnership building forum for the central Asian republics, Tashkent, Uzbekistan. United Nations Commission to Combat Desertification, Bonn
- Vayda AP, McCay BJ (1975) New directions in ecology and ecological anthropology. *Annu Rev Anthropol* 4(1):293–306
- Vogel C (2006) Foreword: resilience, vulnerability and adaptation: a cross-cutting theme of the international human dimensions programme on global environmental change. *Glob Environ Chang* 16(3):235–236
- Vogel C, Moser SC, Kasperson RE, Dabelko GD (2007) Linking vulnerability, adaptation, and resilience science to practice: pathways, players, and partnerships. *Glob Environ Chang* 17(3–4):349–364
- Volkan VD (2000) Traumatized societies and psychological care: Expanding the concept of preventive medicine. *Mind Hum Interact* 11:177–194
- Walker B, Meyers JA (2004) Thresholds in ecological and social–ecological systems: a developing database. *Ecol Soc* 9(2):3–19
- Waltner-Toews D, Kay JJ, Lister NM (2008) *The ecosystem approach: complexity, uncertainty and managing for sustainability*. Columbia University Press, New York
- Winchester HPM, White PE (1988) The location of marginalised groups in the inner city. *Environ Plann D Soc Sp* 6(1):37–54

Part II
Dimensions and Prevalence of Marginality

Chapter 5

Mapping Marginality Hotspots

Valerie Graw and Christine Husmann

Abstract In this chapter the authors applied innovative Geographical Information Systems mapping techniques to illustrate spatial dimensions of marginality at continental and regional levels. They sought to make the marginalized and poor more visible by identifying areas where many poor people live under difficult biophysical and socio-economic conditions. A broad set of variables covering ecological, social, and economic dimensions were described using existing datasets to identify ‘marginality hotspots’ which were then overlaid with poverty distribution data. Areas where a high percentage of poor people coincided with marginality hotspots were found in Central and South East Africa, especially the northern parts of Niger and in Chad, the Central African Republic, the Democratic Republic of the Congo, Mozambique, Malawi, and Burundi.

Keywords Marginality • Poverty • GIS • Area identification

5.1 Why Do We Map Marginality?

Maps are a powerful tool for presenting information in a way that is easily comprehensible by a non-specialist audience. Maps encourage visual comparison and make it easier to look for spatial trends, clusters or other patterns. Maps are therefore useful not only to governments and decision makers, but also to the local communities (Deichmann 1999, 3).

Historically the first and still one of the most famous examples of using geospatial analysis for mapping causal linkages is the cholera map of London made in 1854. By mapping information about drinking water, pumps, and the number of cholera victims, John Snow, an English physician, identified a positive relationship between

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drinking water and the spread of cholera (Kriz 2010). Today technologies and the development of Geographic Information Systems (GIS) allow us to easily demonstrate simple geographic spatial relationships and to analyze more complex ones.

Mapping and GIS were applied here to illustrate spatial dimensions of marginality at continental and regional levels. We hereby sought to make the marginalized and poor more visible by identifying areas where many poor people live under difficult biophysical and socio-economic conditions. A broad set of variables covering ecological, social and economic dimensions were identified for this purpose and we used existing datasets to describe each variable in the first step of our marginality mapping approach. We focused on Sub-Saharan Africa (SSA) and South Asia (SA), where most of the world's poor, and in particular the poorest, live (Ahmed et al. 2007; von Braun et al. 2009).

The number of extremely poor and hungry people remains unacceptably high. Being excluded from economic growth and other dimensions of societal development are indications of the extreme poor existing at the margins of society, which may trigger a downward spiral into poverty (Gatzweiler et al. 2011). Marginality is frequently cited as a root cause of poverty (von Braun et al. 2009) and is a complex issue that is not amenable to simple solutions or answers. It may be defined as:

an involuntary position and condition of an individual or group at the margins of social, political, economic, ecological and biophysical systems, preventing them from access to resources, assets, services, restraining freedom of choice, preventing the development of capabilities, and eventually causing extreme poverty (Gatzweiler et al. 2011, 3).

Marginality thus helps explain why individuals or groups are excluded from, or do not have access to processes or resources that would otherwise free them from extreme poverty. Single causal factors alone are not sufficient to explain marginality, which is seen more as a network of contributing causal factors that together lead to extreme poverty. Marginality is not only multidimensional with regard to the causation of poverty, but also multi-relational with regard to the character of the network of causal relations. We identified geographic areas where multiple dimensions of marginality overlap and described the nature of the observed overlap. If the reasoning that marginality contributes to poverty is true, then the areas where multiple dimensions of marginality overlap should also be areas where many people are extremely poor.

5.2 Marginality Hotspots

5.2.1 *Finding Proxies for Marginality Indicators on a Global Scale*

Given that marginality is a complex and multifaceted phenomenon, we included a broad set of variables covering ecological, social, and economic dimensions of human well-being in the focus regions. These “marginality dimensions” were based on the “spheres of life” defined in Gatzweiler et al. (2011, 13), including: “Economy”; “Quality of life”; “Landscape design and infrastructure”; “Ecosystems, natural

resources, and climate”; “Public domain and institutions”; and “Demography.” For the purpose of this mapping exercise, single indicators were used to represent each of the spheres. Here the spheres “Landscape design, land use, and location” and “Infrastructure” are both captured by the single indicator “accessibility”, and the sphere “Behavior and quality of life” is represented by stunting.

For each dimension a cut-off point along a range of indicator values was used to define the threshold below which an area was considered to be marginal. Indicator layers for each of the different dimensions of marginality were overlaid to find the areas where multiple layers of marginality overlap. We defined a ‘marginality hotspot’ as an area in which at least three dimensions of marginality overlapped. The maps were based on national and sub-national data published by the World Bank, the Food and Agriculture Organization of the United Nations (FAO), Harvest Choice, and others. Table 5.1 provides a detailed overview of the data used, the data sources, and the cut-off points chosen for each indicator.

5.2.1.1 Economic Dimension

Gross National Income (GNI) per capita (in current US\$) was used to represent the ‘Economy’ dimension rather than Gross Domestic Product (GDP) per capita, which is more commonly used for analyzing economic well-being (Syrquin 2011). This approach follows the United Nations Development Programme (UNDP), 2010 Human Development Report in which GDP was replaced by GNI as a more representative standard of living indicator. In contrast to GDP per capita—which only gives information on the monetary value of goods and services produced in a country but excludes information on how much is retained within the country—GNI also includes international flows such as remittances and aid, and thereby represents a more accurate measure of a country’s economic welfare (UNDP 2010).¹ The World Bank also uses GNI per capita as a key indicator for classifying economies into high-, middle- (subdivided into lower middle- and upper middle-income), and low-income countries (World Bank 2011).

The World Bank divides countries by GNI per capita into different income level categories using the World Bank Atlas method (World Bank 2011).² Low-income countries are those countries with a GNI per capita of US\$1,005/year or less, lower middle-income countries are from US\$1,006 to US\$3,975/year, upper middle-income countries are from US\$3,976–12,275/year, and high-income countries are at US\$12,276/year or more. For the purpose of marginality mapping we set the cut-off point for the economic dimension at US\$1,005/year or less per capita, which is the World Bank threshold for low-income countries.

¹ See also: <http://hdr.undp.org/en/statistics/hdi/>

² The World Bank Atlas Method includes the use of an atlas conversion factor which should reduce the impact of exchange rate fluctuations in the cross-country comparison of national incomes (<http://go.worldbank.org/IEH2RL06U0>).

Table 5.1 Proxies used for mapping marginality hotspots

Dimension I:	Economy
Indicator:	Gross National Income (GNI) per capita PPP (current US\$)
Input:	World Bank Data 2010, visualized and geo-processed in ArcGIS (GIS software from ESRI (Environmental Systems Research Institute))
Cut-off point:	US\$1,005 GNI per capita World Bank definition for a low-income country (\leq US\$1,005)
Source:	World Bank (compiled data from 2008 to 2010)
Dimension II	Behavior and quality of life
Indicator:	Prevalence of stunting among children under age five, by lowest available subnational administrative unit, varying years (FGGD)
Input:	Global raster data layer with 5-arc-minutes resolution, data compilation by FAO including the prevalence of stunting, LandScan global population database and the percentage of stunted children under age 5
Cut-off point:	Prevalence of stunting among children under 5 >50 %, which is the FGGD definition for ‘very high’ stunting prevalence
Source:	FAO 2007—the data are based on sources compiled by UNICEF, the map was created within the FGGD Digital Atlas
Dimension III	Landscape design, land use and location/Infrastructure
Indicator:	Travel time to major cities—a global map of accessibility
Input:	Infrastructural data (based on data on populated places, cities, road networks, travel speeds, railway networks, navigable rivers, major water bodies, shipping lanes, borders, urban areas, elevation, and slope)
Cut-off point:	More than 10 h travel time to the nearest city of 50,000 people or more
Source:	Nelson 2000 (http://bioval.jrc.ec.europa.eu/products/gam/sources.htm)
Dimension IV	Ecosystems, natural resources and climate
Indicator:	Global land area with soil constraints
Input:	Soil depth, chemical status, fertility, drainage, texture, and miscellaneous constraints
Cut-off point:	Soils that have ‘frequent severe’ and ‘very frequent severe’ soil constraints as well as ‘unsuitable for agriculture’ according to FAO 2007 classification
Source:	FGGD, IIASA 2000 study on Global Agro-Ecological Zones (GAEZ) (van Velthuizen et al. 2007)
Dimension V	Public domain and institutions
Indicator:	Political stability, governance indicator
Input:	perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including political violence or terrorism (Thomas 2009, 5)
Cut-off point:	Lowest third-quantile
Source:	World Bank 2009 (http://info.worldbank.org/governance/wgi/index.asp)

5.2.1.2 Demography and Quality of Life Dimension

‘Stunting,’ which refers to low height for a particular age resulting from malnutrition over a long period (de Onis et al. 2011) was used to represent the ‘Behavior and quality of life sphere’. Children were defined as stunted if their height was below

the fifth percentile for their age group in their reference population (Lewit and Kerrebrock 1997). Stunting is a result of chronic malnutrition and thus a good overall indicator of health and hunger, as it reflects the cumulative effects of long term nutritional deficiency (Yohannes et al. 2010; Syrquin 2011).

The ‘Prevalence of stunting among children under 5 by lowest available subnational administrative unit, varying years’ dataset (FAO 2007) was produced by the FAO ‘Food Insecurity, Poverty, and Environment’ (FGGD) project.³ The data was compiled from different sources such as ‘Demographic and Health Surveys,’ the ‘Multiple Indicator Cluster Survey’ of the United Nations International Children’s Fund (UNICEF/MICS), the World Health Organization (WHO), the Global Database on Child Growth and Malnutrition, as well as national-level surveys. According to the FGGD dataset stunting is rated as ‘very high’ when the prevalence of stunting among children under age 5 is more than 50 %. We used this threshold for the “Behavior and quality of life” dimension of marginality.

5.2.1.3 Landscape Design and Infrastructure Dimension

An interesting approach developed by Nelson (2009) that measures accessibility via the travel time to the nearest major city was used to represent the ‘Landscape design and infrastructure’ sphere. Accessibility was defined as “the travel time to a location of interest using land (road or off-road) or navigable water based travel” (JRC 2010). To calculate travel time, a friction surface had to be developed that included any geographic features of interest for the analysis. The key indicators of this approach are sources of agglomeration economics, and include: population size, population density, travel time, land-cover, and elevation (Hirosugu and Nelson 2010). An enumeration of all input variables is shown in Table 5.1.

The cut-off point for this dimension was set at the point where more than 10 h of travel time were required to reach the nearest city of 50,000 or more people. The size of 50,000 was based on Uchida and Nelson (2008), who defined settlements with 50,000 inhabitants as large. We chose 10 h of travel time—a relatively high value—as the cut-off-point for an approximation of a travel time required to reach a ‘distant’ city in developing countries. In some countries of SSA people travel days to reach hospitals with specialized services or markets for special goods and services while in other countries—such as Bangladesh—the travel time to the nearest large city is much lower. Therefore we tried to find an approximate travel time as it was difficult to find a precise definition of ‘distant’ as used in the literature.

³The Food Insecurity, Poverty, and Environment Global GIS Database (FGGD) was also implemented by FAO (as FIVIMS) as an initiative to improve the use of disaggregated spatial information on different scales, global- and national-levels (see also: <http://geonetwork3.fao.org/fggd>).

5.2.1.4 Ecological Dimension

We used data from the FGGD ‘Global land area with soil constraints’ dataset to represent the ‘Ecosystems, natural resources, and climate’ sphere.⁴ The rural poor are often particularly dependent on local natural resources and the land they live on (Lee and Neves 2009). The chosen dataset includes information on soil depth, soil chemistry, soil fertility, drainage, texture, and miscellaneous land-cover classes (i.e., land that is unsuitable for agriculture, such as salt flats, deserts or glaciers) (van Velthuisen et al. 2007). This information was derived from various datasets, including several GIS layers on: soil, elevation, land-cover, climate variables, and remote sensing images (e.g., for slope data). The ‘Global land area with soil constraints’ dataset includes a broad set of information on soils in 5-min grid-cell resolution. Elevation data from the GTOPO 30—a global digital elevation model dataset of the Earth Observation and Science (EROS) Data Center with a resolution of ca. 1 km (30-arc-seconds)—also provided information on slopes. That dataset was compiled using different raster sources and remote sensing images.⁵ Based on the FAO classification we defined marginal soils as those in the categories ‘frequent severe soil constraints’ and ‘very frequent severe soil constraints,’ as well as soils classified as ‘unsuitable for agriculture’ (van Velthuisen et al. 2007).

5.2.1.5 Public Domain Dimension

For the sphere of ‘Public domain and institutions’ we took into account the Worldwide Governance Indicators (WGI) developed by Kaufmann et al. (2010) for the World Bank⁶ that defined governance as:

the traditions and institutions by which authority in a country is exercised. This includes (a) the process by which governments are selected, monitored and replaced; (b) the capacity of the government to effectively formulate and implement sound policies; and (c) the respect of citizens and the state for the institutions that govern economic and social interactions among them.

Following this definition, the WGI were based on six indicators with two measures of governance for each of the three areas: (a) ‘Voice and Accountability’ and ‘Political Stability and the Absence of Violence/Terrorism,’ (b) ‘Government Effectiveness’ and ‘Regulatory Quality,’ and (c) ‘Rule of Law’ and ‘Control of Corruption.’ All indicators were based on subjective or perception based measures of governance gathered through surveys of households and firms, as well as expert assessments produced by various organizations (Kaufmann et al. 2010). The indicators were based on data from 1996 to 2010 and included 212 countries (in 2010), compiled

⁴For more information visit: <http://geonetwork3.fao.org/fggd>

⁵For more information visit: http://eros.usgs.gov/#/Find_Data/Products_and_Data_Available/topo30_info

⁶See also: <http://info.worldbank.org/governance/wgi>

from several hundred individual variables that measured perceptions of governance according to 35 separate data sources conducted globally by 33 different organizations (Kaufmann et al. 2009). We assessed the correlation between all six governance indicators and found that they were all highly correlated.

Among the six indicators, ‘Political Stability’ was chosen to represent the ‘Public domain and institutions’ sphere. Political stability is one of the indicators of the “perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including political violence or terrorism” (Thomas 2009, 5). According to Collier (2002), civil wars (severe political instability) are one of the three main causes for a country remaining in a ‘developing’ state. Political stability or instability indicates the ability of governments to lead their respective populations. Political stability is also linked to economic growth, in as much as instability is associated with reduced growth in terms of per capita GDP, especially in low-income countries (Polachek and Sevastianova 2010; The Economist 2011). Political stability is also an important issue with regard to the socio-economic development of Africa, as a result of the establishment of an institutional and legislative framework (Ong’ayo 2008). This dimension was described by three quantiles, and we chose the cut-off point at the lowest quantile.

Because we were interested in the number of people affected by the different marginality dimensions we included population data, particularly data on the number of poor by Harvest Choice based on the population database provided by the Socioeconomic Data and Applications Center (SEDAC) and the Center for International Earth Science Information Network (CIESIN) (CIESIN/IFPRI/World 2004). The Gridded Population of the World and the Global Rural–Urban Mapping Project provided data with a resolution of 2.5-arc-minutes on population densities based on a population layer that was compatible with the datasets on social, economic, and earth science fields.

5.2.2 The Marginality Hotspots

Using classification and overlay techniques in ESRI ArcGIS, a ‘marginality hotspot map’ was produced that reveals areas where three or more dimensions of marginality overlapped (Fig. 5.1). In terms of marginality hotspots, we identified heavily affected areas in SA (particularly India and Nepal) and SSA, especially Central and Eastern Africa (Eritrea, Mozambique, Central African Republic, the Democratic Republic of the Congo, Sudan, and large areas of Niger). Comparing the two regions, in SSA the value of at least one dimension lies below the cut-off in nearly 70 % of the total area compared to 20 % for SA (Fig. 5.1). Marginality hotspots included 27 % of the area of SSA and 11 % of SA. In SA there were no areas with five overlapping dimensions in contrast to SSA, where around 1 % of the total area is affected in this way (Fig. 5.2).

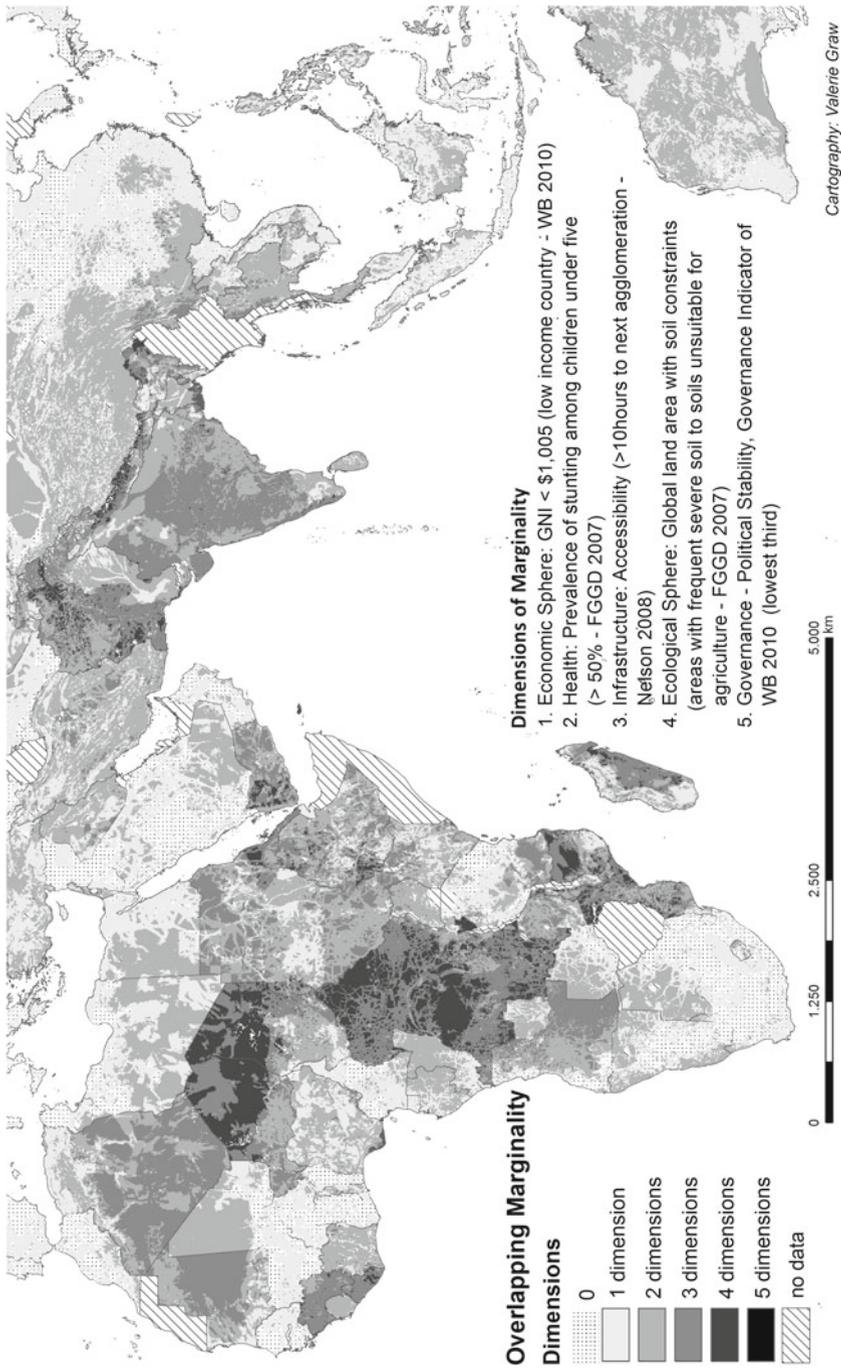


Fig. 5.1 Dimensions of marginality—where do negative values in different dimensions of marginality overlap?

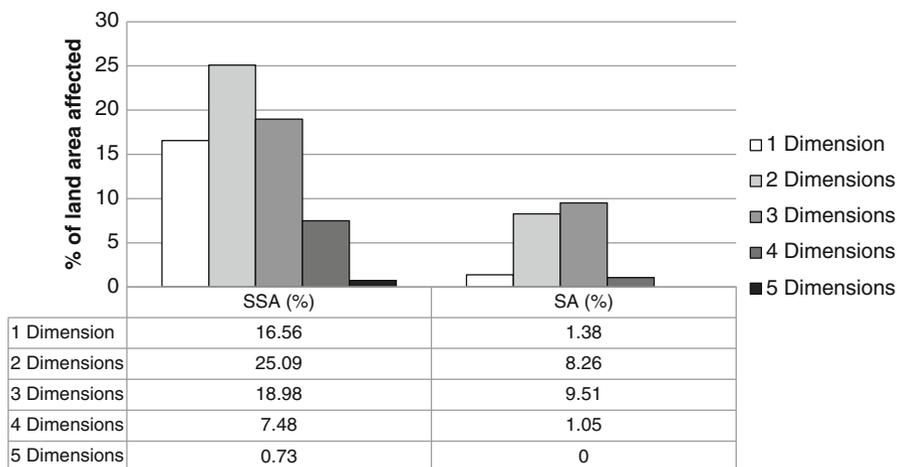


Fig. 5.2 Comparison of areas affected by marginality dimensions in Sub-Saharan Africa and South Asia (Based on data from map in Fig. 5.1)

5.3 Poverty and Marginality Hotspots—Where Do They Overlap?

After identifying marginality hotspots based on the data describing the five dimensions of marginality, two additional maps were generated to assess how these dimensions overlap with data on poverty. To this end, marginality hotspots were overlaid with sub-national poverty data provided by Harvest Choice of the proportions of populations, and the total number of people whose consumption levels were below the poverty line of US\$1.25/day. It is important to bear in mind that the poverty data set is still under development and that data for some countries was missing, particularly outside of SSA, making it difficult to draw final conclusions. Nevertheless a number of areas can be identified that were marginal in several dimensions and that were also greatly affected by poverty.

Figure 5.3 shows the overlay of the number of dimensions in which people were marginalized and the percentage of the population living below US\$1.25/day. We identified marginality and poverty overlap in large areas of SSA as well as SA. Areas where a high percentage of poor people coincided with marginality hotspots were found in Central and South East Africa, especially the northern parts of Niger and in Chad, the Central African Republic, the Democratic Republic of the Congo (especially the western part of the country), Mozambique, Malawi, and Burundi. In SA marginality hotspots coincided with high poverty rates, particularly in Bangladesh and Nepal. The case of Ethiopia highlights the difficulties of relying on official poverty data. In Fig. 5.3 parts of the country appear in dark-blue color indicating marginality hotspots, but official poverty rates for the country are astonishingly low (Ahmed et al. 2007) and no areas of extreme poverty and marginality hotspots overlapped.

Figure 5.4 shows the overlay of marginality hotspots with the number of people living below US\$1.25/day. The greatest number of marginalized poor in SA was

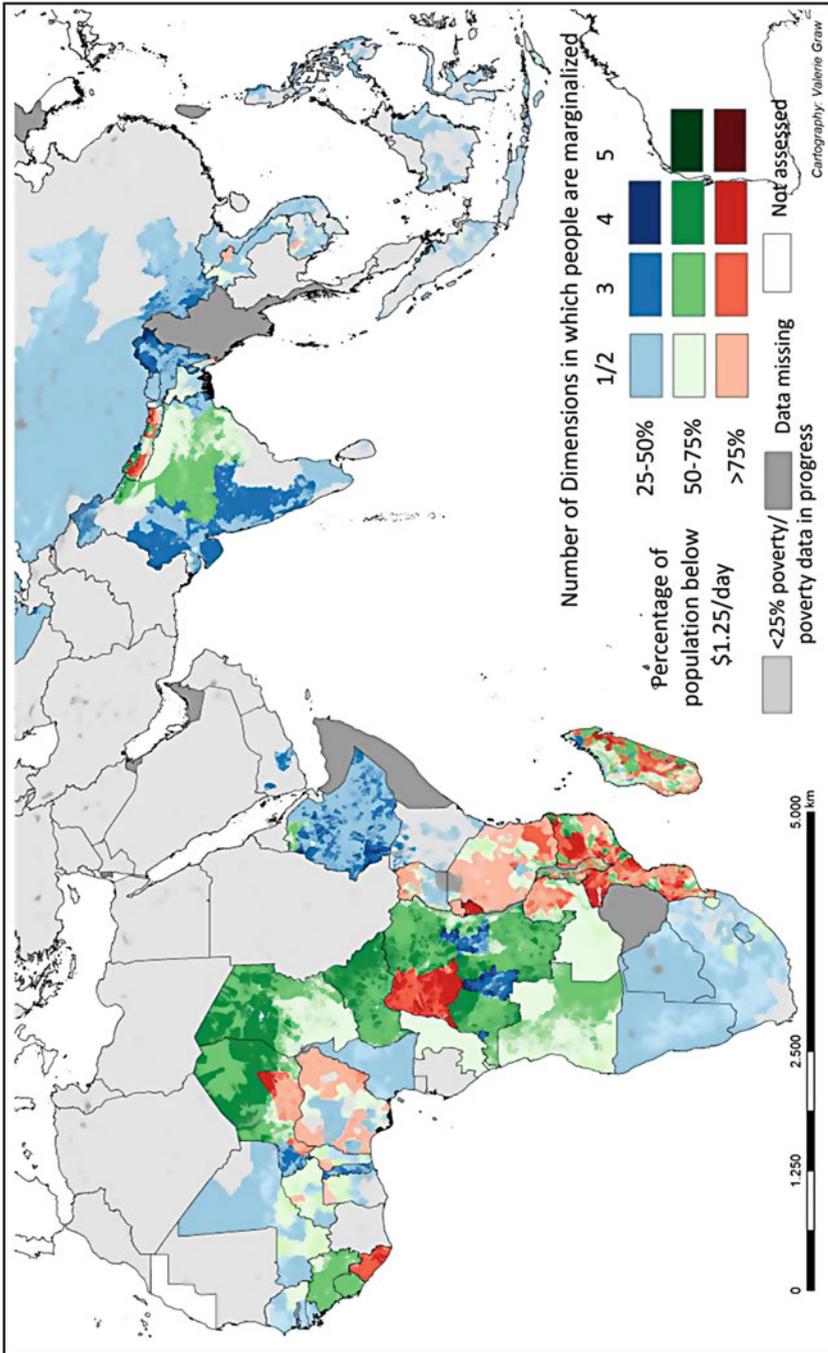


Fig. 5.3 Overlay of the number of marginality dimensions with percentages of populations living below US\$1.25/day

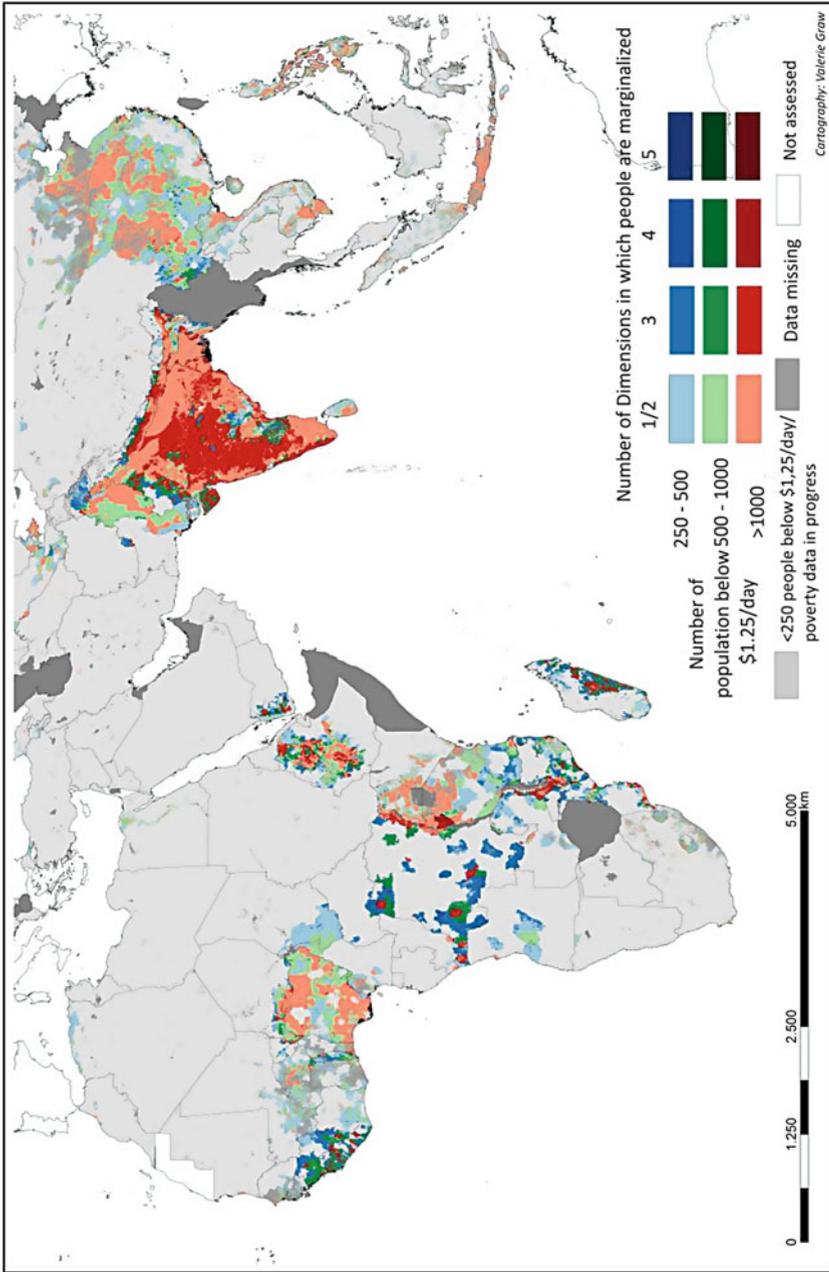


Fig. 5.4 Overlay of the number of marginality dimensions with the number of people living on less than US\$1.25/day

located in India and Bangladesh, and in SSA the most were in Ethiopia, southeastern Africa, and some parts of western Africa. While poverty rates in India were generally not as high as in other regions, large populations were affected, particularly in central and western parts of the country.

Comparing the maps in Figs. 5.3 and 5.4 we clearly identified that the percentage of poor and extremely poor was high in SSA, while in SA (particularly India and Bangladesh), the sheer number of poor was extremely high. In contrast Africa's central regions no longer stand out as clearly on the map when the number of poor people (rather than poverty rates) was taken into account. Nevertheless small areas of the Democratic Republic of the Congo, Ethiopia, Uganda, Burundi, Mozambique, Malawi, and the coastal areas of several West African countries appear to be marginality hotspots where large numbers of poor people live. Figure 5.4 confirms that in Asia the quantity of poor people was extremely high, whereas in Africa the percentages of poor and extremely poor people were particularly high.

5.4 Limitations and Outlook

Marginality is a complex issue that often lies at the root of poverty. To geographically reflect the different dimensions that influence marginality, we undertook this mapping exercise in a first attempt to take into account the different 'spheres of life,' instead of focusing on subsets of social, economic, or environmental aspects. The most important limitation of this approach were the variable scales of the different data sets. In the absence of comprehensive sub-national data, we used GNI and political stability data at national-level scales. In contrast data on stunting were provided on sub-national scales, and soil constraints on a pixel-level scale of 5-arc-minute grid cells. These different scales made comparisons difficult. Therefore further work is needed to find more representative data sets at finer levels. An additional advantage would be to refine the pixel resolution, as our mapping approach used a pixel size of 8×8 km, which is a small scale for the purpose of global mapping, however, 64 km^2 is a relatively large area in terms of the number of people potentially living there and therefore interpretations needed to be made carefully.

We also acknowledge that the determination of the cut-off points in each dimension were arbitrary and therefore debatable. Further research is needed to assess how different cut-off points influence marginality hotspot mapping. One example was our definition of 'distant' using the accessibility dataset of Nelson (2009) based on an infrastructure and cost-distance model. Most of the extremely poor live in rural areas, particularly in remote areas (Sachs 2005). Even where available public transport might be unaffordable to those in extreme poverty, the distances in the map were based on the minimum time needed to get to the nearest large settlement using vehicular transportation. The time expenditure is much higher for people without access to vehicular transportation. Further research could apply

the accessibility methodology on a more local scale in order to measure walking distances or alternative forms of travel to the nearest roads with regular transportation services.

The use of satellite images to identify marginal areas should also be explored further. The advantage of remote sensing is relatively low cost compared to other methods (except for very high resolution data). It is much more time consuming to conduct a large survey than to process data (for example, land-use data from several remote sensing images). Satellite imagery also provides pixel-level data, allowing researchers to determine the geographic scope of their analyses at greater detail than by relying on national or regional-level data that may generate misleading results.

It was also a challenge to map coupled human-environmental systems. For a more precise observation of environmental aspects, data on climatic factors such as precipitation or drought events should be integrated into analyses. More detailed information on soils could help evaluate the potential for agricultural productivity as well as land use. Finding good indicators of the status of complex socio-ecological systems is therefore challenging. Several mapping approaches are working on this issue, especially those undertaken by the FAO. Some difficulties arose from the lack of data, such as rainfall data in developing countries, because analyses relied on complete time series data information to get more insight in the rainfall variability and its effects (Hughes 2006). Progress is being made on expanding rainfall data collection stations in many remote areas, but in many cases these data are verified only rarely, and therefore the data is not always accurate or consistent. As a result, monitoring and the assessment of environmental variables are increasingly based on remote sensing imagery, offering good tools for monitoring land surface changes, whether human or natural. Nevertheless this data, even if very high resolution, should also be ground-truthed to validate results.

The limitations of mapping approaches are manifold, especially when using data on a global-scale. The lack of data in some areas also makes it difficult to make comparisons between countries and regions. It is important to bear in mind that the maps presented here were primarily meant to provide a general indication of the distribution of particularly disadvantaged areas, which may be analyzed further through more detailed data analysis at smaller scales.

A logical next step in mapping marginality would involve the optimization of indicators for identifying marginality hotspots on a global scale, while developing more reliable and representative approaches on the national level. In addition to identifying hotspots at the global-level, further studies at national and sub-national levels are necessary. Follow-up research will include scenario modeling to better understand causal linkages between different indicators of the spheres of life and to identify possibilities for the design and application of poverty and marginality alleviation efforts.

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References

- Ahmed AU, Hill RV, Smith LC, Wiesmann DM, Frankenberger T (2007) The world's most deprived: characteristics and causes of extreme poverty and hunger. 2020 discussion paper 43, International Food Policy Research Institute, Washington, DC
- CIESIN/IFPRI/World Bank/CIAT (2004) Global rural–urban mapping project, Version 1 (GRUMPv1): population density grid, Palisades. Center for International Earth Science Information Network, Columbia University/International Food Policy Research Institute/World Bank/Centro Internacional de Agricultura Tropical. Socioeconomic Data and Applications Center, Columbia University, New York. <http://sedac.ciesin.columbia.edu/gpw>. Accessed 15 Jan 2012
- Collier P (2002) On the incidence of Civil War in Africa. *J Confl Resolut* 46(1):13–28
- de Onis M, Blössner M, Borghi E (2011) Prevalence and trends of stunting among pre-school children, 1990–2020. *Public Health Nutr* (Epub):1–7
- Deichmann U (1999) Geographic aspects of inequality and poverty. World Bank, Washington, DC. http://siteresources.worldbank.org/INTPGI/Resources/Pro-Poor-Growth/5319_povmap.pdf. Accessed 15 Jan 2012
- FAO (2007) Prevalence of stunting among children under five, by lowest available subnational unit, varying years (FGGD). Raster dataset. Food and Agriculture Organization of the United Nations, Rome. <http://www.fao.org/geonetwork/srv/en/metadata.show?id=14055&currTab=simple>. Accessed 12 Feb 2013
- Gatzweiler F, Baumüller H, von Braun J, Ladenburger C (2011) Marginality: addressing the root causes of extreme poverty. ZEF working paper no 77, Center for Development Research, University of Bonn, Bonn
- Hirotsugu U, Nelson A (2010) Agglomeration index, towards a new measure of urban concentration. World Institute for Development Economics Research, United Nations University, Helsinki
- Hughes D (2006) Comparison of satellite rainfall data with observations from gauging station networks. *J Hydrol* 327(3–4):399–410
- JRC (2010) Travel time to major cities. A global map of accessibility. Data source. Joint Research Centre, European Commission, Brussels. <http://bioval.jrc.ec.europa.eu/products/gam/sources.htm>. Accessed 12 Feb 2013
- Kaufmann D, Kraay A, Mastruzzi M (2009) Governance matters VIII: aggregate and individual governance indicators, 1996–2008. World Bank Policy Research working paper no 4978, World Bank, Washington, DC
- Kaufmann D, Kraay A, Mastruzzi M (2010) The worldwide governance indicators: methodology and analytical issues. World Bank Policy Research working paper no 5430, World Bank, Washington, DC
- Kriz K (2010) Mapping different geographies. Springer, Heidelberg
- Lee DR, Neves B (2009) Rural poverty and natural resources: improving access and sustainable management. background paper for IFAD 2009 rural poverty report. <http://www.ifad.org/rural/rpr2008/chapter2/2.pdf>. Accessed 12 Feb 2013
- Lewit E, Kerrebrock N (1997) Population-based growth stunting. The future of children. *Child Poverty* 7(2):149–156
- Nelson A (2000) Accessibility, transport and travel time information. CIAT hillsides project report, International Center for Tropical Agriculture (CIAT), Cali
- Nelson A (2009) Travel time to major cities: a global map of accessibility. Joint Research Centre, European Commission, Brussels. <http://bioval.jrc.ec.europa.eu/products/gam/index.htm>. Accessed 12 Feb 2013
- Ong'ayo AO (2008) Political instability in Africa. Where the problem lies and alternative perspectives. African Diaspora Policy Centre, Amsterdam. http://www.diaspora-centre.org/DOCS/Political_Instabil.pdf. Accessed 18 Jan 2012
- Polachek SW, Sevastianova D (2010). Does conflict disrupt growth? Evidence of the relationship between political instability and national economic performance. IZA discussion paper no 4762, Institute for the Study of Labor, Bonn

- Sachs J (2005) *The end of poverty: how we can make it happen in our lifetime*. Penguin Press, New York
- Syrquin M (2011) GDP as a measure of economic welfare. ICER working paper no. 3/2011, International Centre for Economic Research, Prague
- The Economist (2011) The sun shines bright. *The Economist*, 3 December 2011, 401(8762):77–79. <http://www.economist.com/node/21541008>. Accessed 12 Dec 2011
- Thomas MA (2009) What do the worldwide governance indicators measure? *Eur J Dev Res* 22(1):31–54
- Uchida H, Nelson A (2008) Agglomeration index: towards a new measure of urban concentration. Background paper for the world development report 2009: reshaping economic geography, World Bank, Washington, DC. <http://siteresources.worldbank.org/INTWDR2009/Resources/4231006-1204741572978/Hiro1.pdf>. Accessed 12 Feb 2013
- UNDP (2010) *Human Development Report 2010: the real wealth of nations: pathways to human development*. United Nations Development Programme, New York
- van Velthuisen H, Huddleston B, Fischer G, Salvatore M, Ataman E, Nachtergaele FO, Zanetti M, Bloise M (2007) Mapping biophysical factors that influence agricultural production and rural vulnerability. Food and Agriculture Organization of the United Nations, Rome
- von Braun J, Hill RV, Pandya-Lorch R (2009) The poorest and hungry: a synthesis of analyses and actions. In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 1–61
- World Bank (2009) Governance indicators. World Bank, Washington, DC. <http://info.worldbank.org/governance/wgi/index.asp>. Accessed 12 Feb 2013
- World Bank (2010) World development indicators. World Bank, Washington, DC. <http://data.worldbank.org/data-catalog/world-development-indicators>. Accessed 12 Feb 2013
- World Bank (2011) World Bank atlas method. World Bank, Washington, DC. <http://data.worldbank.org/about/country-classifications>. Accessed 12 Feb 2013
- Yohannes Y, Fritschel H, Olofinbiyi T, Nestorova B, Menon P, Ruel MT, von Grebmer K, von Oppeln C, Towey O, Golden K (2010) 2010 Global Hunger Index: the challenge of hunger: focus on the crisis of child undernutrition. International Food Policy Research Institute, Washington, DC

Chapter 6

The Poorest: Who and Where They Are?

Akhter U. Ahmed, Ruth Vargas Hill, and Farria Naeem

Abstract This chapter provides a global quantitative perspective on where the world's poor and particularly the poorest live, and the extent of progress made in the reduction of income poverty close to and far below the international poverty line (US\$1.25/day per capita) over the past two decades. The characteristics of the ultra-poor are identified based on a quantitative assessment across developing countries. Poverty reduction from 1990 to 2008 was quite equal between those who are somewhat below that poverty line and the ultra-poor—in fact it slightly favored the ultra-poor. This suggests that the theory of enduring poverty traps may not be holding true for those in ultra-poverty in recent years, as this pattern is different compared to earlier global findings. For interventions to reach the ultra-poor (i.e., those living on less than US\$0.63/day) effectively, geographically marginal households should be targeted; and the low-levels of education, and in the case of Asia, landlessness should be taken into account.

Keywords Poverty • Ultra-poverty • Poverty traps • Targeting • Exclusion

6.1 Where Do the Poor Live?

Although poor people live in almost every society they are often concentrated geographically in certain areas. The severity of poverty varies across countries and the geographic patterns of concentration are not static. Moreover while the poor share certain common characteristics, the profile of the poor often differs

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among societies. Knowledge of where the poor live, how severe their poverty is, and other characteristics can be critical for designing effective policies to meet their needs and improve their welfare.

In this chapter we have provided a general review of where the world's poor and particularly the poorest live, the extent of progress made in poverty reduction, and the characteristics of the poor based on a quantitative assessment across selected developing countries.¹ Our research shows that despite much progress reducing poverty worldwide, a substantial number of the world's poorest people are being left behind. Millions of people across the developing world are still solely preoccupied with survival and hunger is a reality in their everyday lives. Today around 1.3 billion people in the developing world subsist on less than US\$1.25/day and 234 million live on less than US\$0.63/day. Our findings also indicate that compared to the poor with incomes closer to the poverty line of US\$1.25/day, the poorest typically belong to socially excluded groups, lived in remote rural areas, and had less education, fewer assets, and less access to markets.

In September 2000 the Millennium Declaration was adopted by 189 member states of the United Nations. The heads of states confirmed their countries' commitments to achieving the eight Millennium Development Goals (MDGs) by 2015. The first MDG is to reduce the proportion of people that lived in poverty and hunger in 1990 by half by 2015. The MDG indicator of extreme poverty is living on less than US\$1.25/day,² which we used in this chapter to identify the regions where the world's poor live and trends in poverty from 1990 (the base year for the MDGs) until 2008. We disaggregated this measure of poverty to look at the locations and changes in the welfare of those living below US\$0.63/day and by doing this we captured trends in the severity of extreme poverty.

In 1990 the developing world had a population of 4.43 billion, of which 1.91 billion (43.1 %) lived on less than US\$1.25/day. From 1990 to 2008 the number of people in developing countries grew by 1.32 billion and the number of people living on less than US\$1.25/day declined. Of the developing world's 5.75 billion people in 2008, 1.29 billion (22.4 %) lived on less than US\$1.25/day (Fig. 6.1). The regional composition of the developing world's poor changed remarkably over the 18-year period (Fig. 6.1).³ East Asia and the Pacific's share of the world's poor declined by more than half to only 22 % during that period. In contrast South Asia's

¹This chapter was largely drawn from Ahmed et al. (2007) along with analyses of an updated dataset.

²The World Bank defines the extreme poor of the world as those who live on less than US\$1.25/day, measured at the 2005 purchasing power parity (PPP) exchange rates. The measures of poverty used in this chapter come from PovcalNet (World Bank 2011). PovcalNet is an interactive computational tool that has been developed by a team at the World Bank Research Group that allows users to calculate poverty measures for different poverty lines and country groupings based on household survey data.

³The developing world was divided into six regions: East Asia and the Pacific, South Asia, Sub-Saharan Africa, Latin America and the Caribbean, Eastern Europe and Central Asia, and the Middle East and North Africa (in decreasing order of total population). We have removed China from the East Asia and Pacific region to observe China's performance separately.

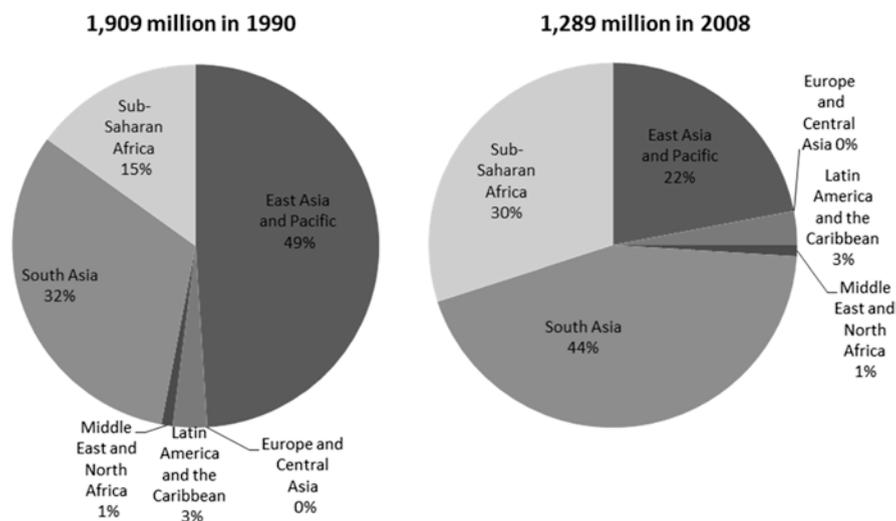


Fig. 6.1 Where the poor lived: 1990 and 2008 (Ahmed et al. 2007, updated 2012)

share of the extreme poor increased from 32 to 44 % and Sub-Saharan Africa's share doubled over the same 18-year period.

The difference in trends of the quantity of extreme poor living in East Asia and the Pacific versus South Asia and Sub-Saharan Africa is remarkable. While East Asia and the Pacific had a larger number of poor (926 million) than South Asia (617 million) in 1990, East Asia and the Pacific had 287 million fewer people in extreme poverty than South Asia in 2008. Indeed East Asia and the Pacific is the only region that experienced a substantial decline in the numbers of those living on less than US\$1.25/day (from 926 million to 284 million) between 1990 and 2008. South Asia saw a modest decline of 46 million and the number of extreme poor actually increased in Sub-Saharan Africa by about 96 million (from 290 million in 1990 to 386 million in 2008). The total number of extreme poor in Sub-Saharan Africa became larger than in East Asia and the Pacific during this period.

The proportion of the developing world's population living on less than US\$1.25/day fell from 43.1 % in 1990, the base year for the MDGs, to 22.4 % in 2008, suggesting that the poverty component of the first MDG has virtually been met at the global-level 7 years before the target date of 2015. Regional progress, however, has been uneven. The decline in the global proportion of people living in extreme poverty has been largely driven by East Asia and the Pacific, and to some extent by South Asia. Indeed East Asia and the Pacific overachieved the poverty MDG—extreme poverty (below US\$1.25/day) in the region fell by 42 % points from 56.2 % in 1990 to 14.3 % in 2008. Extreme poverty also declined substantially in South Asia from 53.8 to 36.0 % over 1990–2008. In Latin America and the Caribbean the decline was from 12.2 to 6.5 %. Although Sub-Saharan Africa experienced some decline in extreme poverty from 1990 to 2008, the decline was very limited (from 56.5 to 47.5 %).

6.2 Looking Beneath the US\$1.25/day Line: Subjacent and Ultra-poverty

While the MDGs classify extreme poverty as living on less than US\$1.25/day, we disaggregated those living on less than that amount into two groups. We chose cut-off points that split the distribution into two meaningfully sized groups while at the same time using simple, equally spaced cut-off points. We designated the two groups as those living in ‘subjacent’ and ‘ultra-poverty’ as follows⁴:

- Subjacent poverty were those living on US\$0.63–1.25/day
- Ultra-poverty were those living on less than US\$0.63/day

Out of 1,289 million poor living below US\$1.25/day in 2008, 1,055 million (82 %) were subjacent poor and 234 million (18 %) were ultra-poor. Figure 6.2 shows that most of the world’s ultra-poor lived in Sub-Saharan Africa. Most of Asia’s extreme poor lived just below the US\$1.25/day line—only a small minority there was ultra-poor.

Figure 6.3 shows the trends in ultra-poverty proportions in three major regions from 1990 to 2008. Again we see that the declines were much more rapid in East Asia and the Pacific than elsewhere. The proportional declines in ultra-poverty from

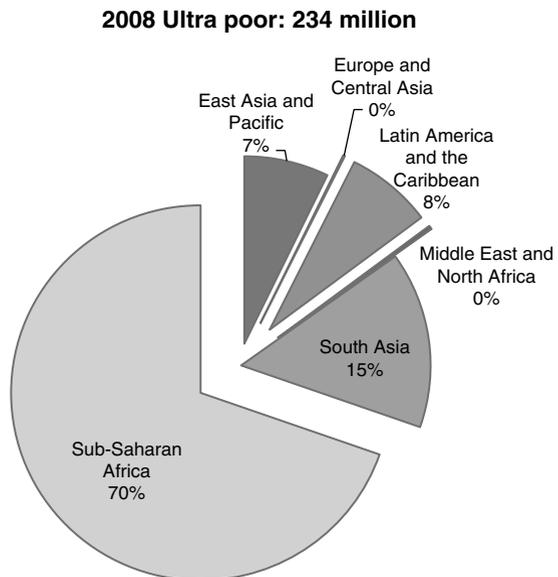


Fig. 6.2 Where those in subjacent and ultra-poverty lived: 2008 (Ahmed et al. 2007, updated 2012)

⁴Although the poverty gap ratio and the distribution-sensitive squared poverty gap ratio could be used to measure the depth and the severity of poverty respectively, we used the head-count measure of poverty because its interpretation is straightforward.

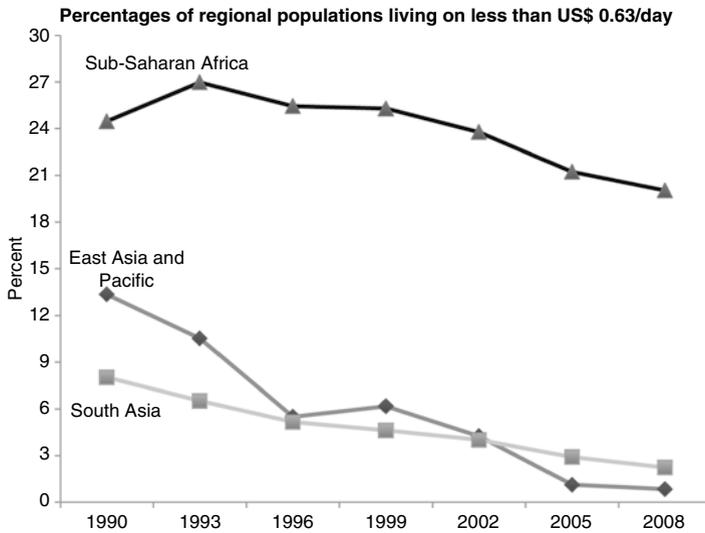


Fig. 6.3 Trends in ultra-poverty proportions of regional populations, 1990–2008 (Ahmed et al. 2007, updated 2012)

1990 to 2008 by region were as follows: East Asia and the Pacific from 13.4 to 0.9 %; South Asia from 8.0 to 2.2 %; and Sub-Saharan Africa from 24.5 to 20.0 %.

The East Asia and the Pacific region experienced substantial economic growth during this period and also had initial conditions such that the growth benefited many people living in poverty (i.e., growth elasticity of poverty reduction was very high). South Asia also achieved remarkable economic growth rates during the period, but was less able to convert this growth to reductions in poverty. Sub-Saharan Africa saw both limited economic growth and poverty reduction during this period. Given population growth throughout this period, Sub-Saharan Africa has seen increases in the number of people living in ultra-poverty even though the proportion of the population living in ultra-poverty has declined. Sub-Saharan Africa's high proportion of ultra-poverty and limited growth and progress in reducing poverty calls into question the idea that business-as-usual will create improvements in well-being in a timely manner for a large share of the world's absolute poorest. Indeed the continued prevalence and severity of poverty in Sub-Saharan Africa is one of the major contemporary ethical challenges to the global society.⁵

⁵Poverty traps have been identified in Madagascar (Barrett et al 2006), Kenya (Barrett et al. 2006), South Africa (Adato et al. 2006), and Cote d'Ivoire (Barrett et al. 2001), but have not been identified in Russia (Loshkin and Ravallion 2004), China (Jalan and Ravallion 2001), and Mexico (Antman and McKenzie 2005), although the authors found considerable persistence of poverty over time in Mexico.

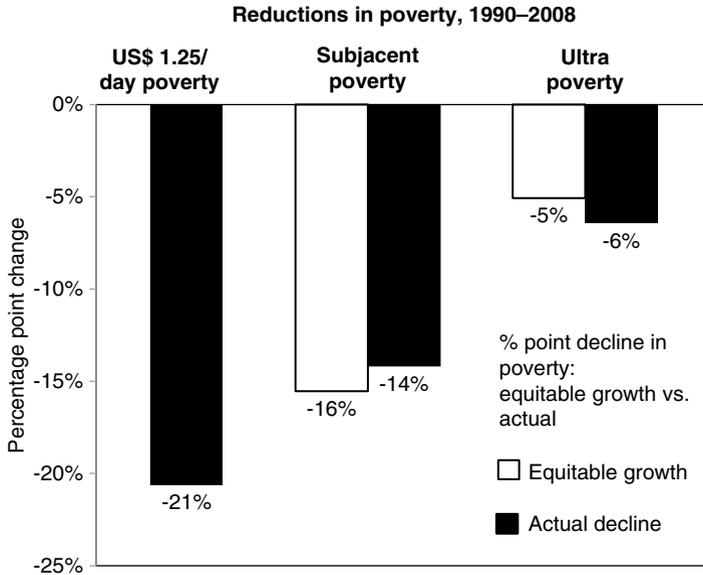


Fig. 6.4 Percentage point changes in poverty from changes in subjacent and ultra-poverty: 1990–2008 (Ahmed et al. 2007, updated 2012)

Under theoretical standard growth models the convergence hypothesis implies that gains should come quickest to those living in ultra-poverty. Theories of poverty traps link severe poverty with slow improvements in welfare. The severity of poverty and the limited progress in reducing it indicate that the poorest in Sub-Saharan Africa may be trapped in poverty as some recent literature suggests (Azariadis and Stachurski 2005; Sachs 2005; Collier 2007). Micro-level evidence of poverty traps has been found for a number of countries in Sub-Saharan Africa, while little evidence has been found for countries in other regions of the world where the severity of poverty is lower (Russia, China, Mexico).

If poverty traps exist, those in ultra-poverty may be so poor that optimal behavioral choices cause them to rise out of poverty much more slowly than those who are less poor. If this is the case, then gains may come more quickly to those living just under US\$1.25/day in subjacent poverty and the people furthest from the extreme poverty line—those in ultra-poverty—will experience less poverty reduction. How can we tell whether those in ultra-poverty have fared better or worse than those closer to the line?

While panel data is needed to decisively answer this question, we calculated the amount that subjacent and ultra-poverty would have been reduced (or increased in some cases) if poverty reduction had come from across-the-board income growth by the same amount to get an indication of this from national poverty data. We compared this ‘equal growth scenario’ poverty reduction with the amount of poverty reduction that actually took place. The ‘equal growth scenario’ poverty reduction is shown as a white bar next to the actual change in poverty proportions in Fig. 6.4

(the appendix describes how this was calculated). For example, if the 21 percentage point decrease in global poverty had come from universal income growing by the same amount, there would have been a decline in subjacent poverty of 16 percentage points and a fall in ultra-poverty of five percentage points.

We found that the incidence of poverty among those just below the US\$1.25/day poverty-line fell two percentage points less than it would have had all incomes grown equally, whereas the incidence of ultra-poverty fell one percentage point more than it would have had all incomes grown equally. This finding suggests that poverty reduction was quite equal between the subjacent poor and the ultra-poor—in fact it marginally favored the ultra-poor. It is encouraging to see that the theory of poverty traps may not be holding true for those in ultra-poverty. This is in contrast to the trend that was observed from 1990 to 2004, when ultra-poverty fell much more slowly than subjacent poverty (Ahmed et al. 2007), which was more consistent with theoretical expectations of the existence of poverty traps. Part of the reason for this change is that we are using the 2005 purchasing power parity (PPP) exchange rate rather than the 1993 PPP rate upon which the previous results were based.

6.3 Ranking Countries by Concentration of Poor

The distribution of the people living below US\$1.25/day in the developing world shows that poverty concentration by country was quite similar in 1990 and 2008. The global distribution of poor remained highly concentrated, with ten countries accounting for 78 % in 2008 (Fig. 6.5) compared to 85 % in 1990 (Fig. 6.6).

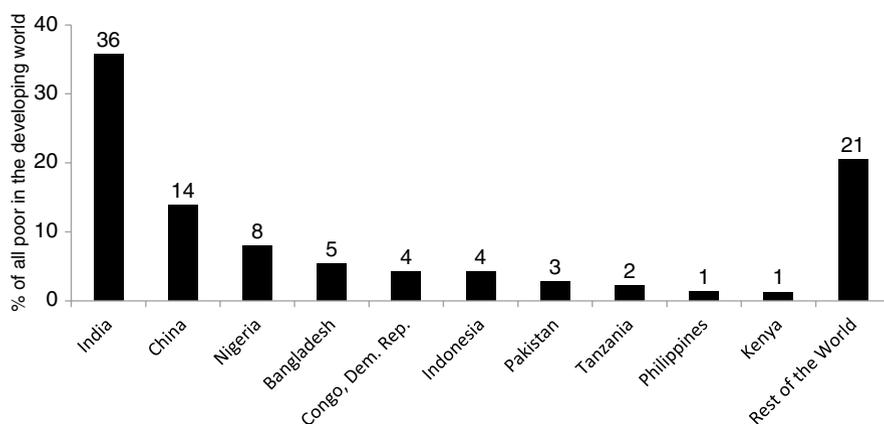


Fig. 6.5 Top ten countries in terms of the percentage of people living below US\$1.25/day in 2008 (Ahmed et al. 2007, updated 2012)

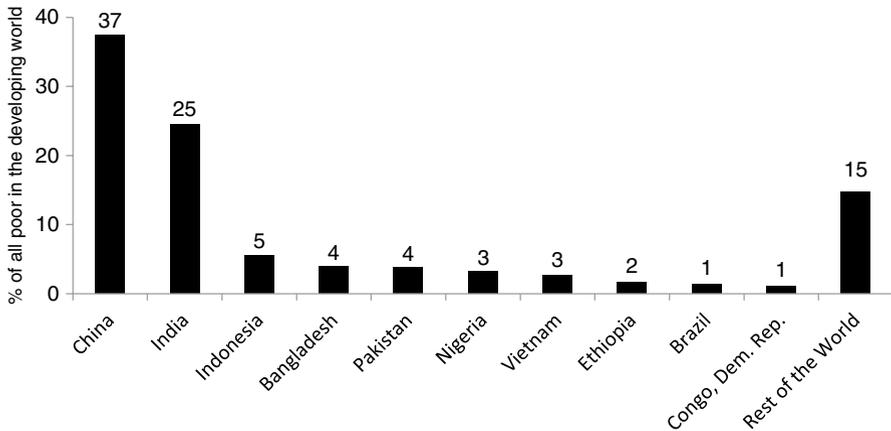


Fig. 6.6 Top ten countries in the number of people living below US\$1.25/day in 1990 (Ahmed et al. 2007, updated 2012)

However, a distinct pattern in country-wise poverty reduction emerged when we looked into changes in the numbers of poor over time.

In 2008, 14 % of the global poor lived in China, compared to 37 % in 1990. This high number of poor in China is due in part to sheer population size. China has had remarkable success in extreme poverty reduction—from 680 million in 1990 to only 173 million in 2008.

A comparison of Figs. 6.5 and 6.6 indicates that Brazil, Ethiopia, and Vietnam were among the ten countries with the highest proportions of poor in 1990; but were replaced by Kenya, the Philippines, and Tanzania in 2008. Between 1990 and 2008 there was an upward movement in the distribution of global poor in some Sub-Saharan Africa countries such as Nigeria and the Democratic Republic of Congo. The ranking of countries with the highest numbers of people living in poverty also changed; in 1990 the top three countries were China, India, and Indonesia, but in 2008 they were India, China, and Nigeria.

Further disaggregation of poverty data within countries showed that global extreme poverty was highly concentrated in rural areas of India and China. In 2008 40 % of the total developing world's poor lived in rural areas of India and China—27 % in rural India and 13 % in rural China. A recent World Bank study (2009) found a widening rural–urban poverty gap in China, particularly for the western provinces where the incidence and severity of poverty is highest. Similarly the divergence in rural–urban poverty rates in India has been an impediment to its overall poverty reduction (Fig. 6.7).

Ultra-poverty was also highly concentrated in a few countries. Ten countries accounted for 75 % of the world's total ultra-poor in 2008. Nigeria alone accounted for 23 % of the world's ultra-poor. Nigeria's ultra-poor population (50 million) accounted for almost half of Nigeria's total poor in 2008. Similarly for the

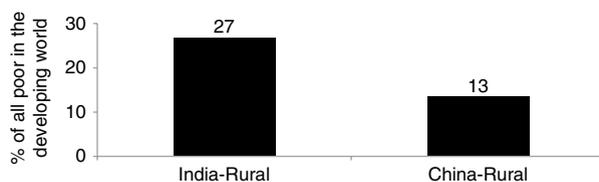


Fig. 6.7 Percentage of the world's extreme poor (below US\$1.25/day) living in rural areas of China and India in 2008 (Ahmed et al. 2007, updated 2012)

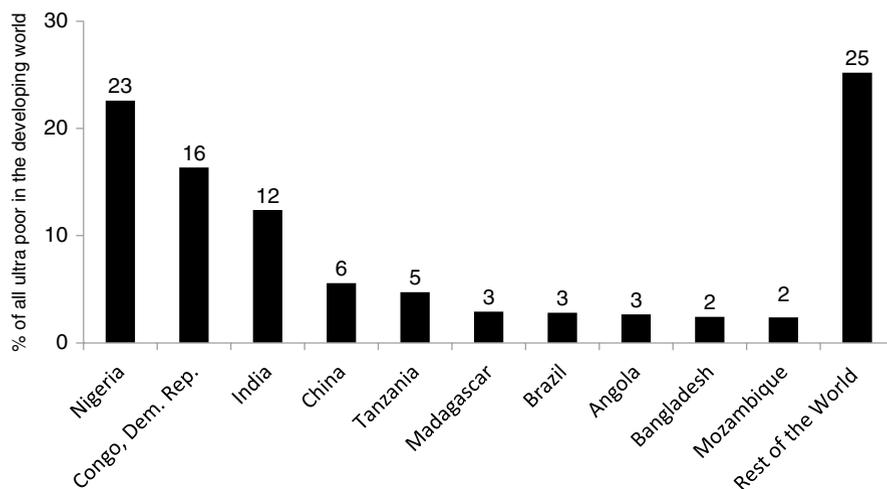


Fig. 6.8 The percentages of the global poor population represented by the top ten countries in terms of the number of ultra-poor living below US\$0.63-a-day in 2008 (Ahmed et al. 2007, updated 2012)

Democratic Republic of Congo, its share of the global ultra-poor was 16 %, which accounts for more than half of the country's total poor.

On the other hand, although India accounted for 12 % of the world's total ultra-poor, the absolute number of ultra-poor was around 28 million, which was only 2.4 % of the total population of the country. Similarly for China, the share of ultra-poor was 6 % of global-ultra poor, but the absolute number of ultra-poor (13 million) was only 1 % of China's total population in 2008. The small fraction of ultra-poor with respect to the total populations of China and India indicates that despite the concerted poverty reduction efforts made by these nations the ultra-poor have been hard to reach. A World Bank (2009) poverty assessment of China notes that it has become harder to eliminate the remaining poverty in the country because the extremely poor are highly dispersed. Addressing this problem would require shifting from area-based poverty reduction approaches to more innovative and streamlined household-based targeting approaches (Fig. 6.8).

6.4 Who Are the Poor?

Understanding the characteristics of the world's poorest is important for designing effective policies to meet their needs and improve their welfare. In this section we contribute to this understanding by analyzing household data and reviewing the results of empirical research in 20 countries: Burundi, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Rwanda, Senegal, Zambia, Bangladesh, India, Pakistan, Sri Lanka, Laos, East Timor, Vietnam, Tajikistan, Peru, Guatemala, and Nicaragua. The characteristics considered here were limited to those that can be compared across countries, at least to the extent possible.

6.4.1 Spending on Food, Fuel, Housing, and Health Care

Across income groups and regions, expenditures on food represented the highest share of household budgets. In general poorer households and those in rural areas spent a relatively higher proportion of the family budget on food than others, but the differences were not large. Expenditures on fuel represented the second highest expenditure share in Bangladesh, India, and Pakistan, while housing costs represented the second highest share in all three sample countries in Latin America and in Tajikistan. No clear pattern between health care expenditures and poverty emerged across these countries, which is a worrisome finding because poverty assessments for these countries have repeatedly found that ill health is associated with poverty (Ahmed et al. 2009).

6.4.1.1 Remoteness

The poorest and most food-insecure households were located furthest from roads, markets, schools, and health services. In addition to being an indicator of wealth, an electricity connection also indicates, to a certain extent, the 'connectedness' of households to roads, markets, and communications infrastructure, and the resulting income-earning opportunities and public services. Consistently across countries, extremely poor households had considerably lower access to electricity than those living above the poverty line (Ahmed et al. 2009).

6.4.1.2 Education

Education has been shown to have significant positive impacts on agricultural productivity, employment, access to credit, use of government services, personal and children's health, and education outcomes. In nearly all study countries the proportion of uneducated adult males was almost double or more among the ultra-poor than for people living above the poverty line. Quality primary education can provide children

from poor families with the tools to move out of poverty. In all study countries, however, the evidence was the same: children from poorer families were less likely to go to school. Without education the future of children living in extreme poverty will likely be a distressing perpetuation of their current experience (Ahmed et al. 2009).

6.4.1.3 Landlessness in Rural Areas

The ownership or control of productive assets is an important indicator of livelihood quality because such assets generate income. In all parts of Asia the landless were highly represented among the poorest. For example, nearly 80 % of the ultra-poor in rural Bangladesh did not own land. In Sub-Saharan Africa, however, little difference was found between the incidence of landlessness among the poorer and less poor households, and in some cases the reverse was true. This corresponds to findings of other studies that in Sub-Saharan Africa the poorest often own some land (but too little), but lack access to other key assets and markets (Ahmed et al. 2009).

6.4.1.4 Excluded Groups

In each of the 20 countries considered in this study some social groups—but not the societal majorities—had consistently higher prevalence of poverty and hunger. Individuals in groups excluded from regional progress against poverty remained among the poorest in Asia. For example, in Laos the prevalence of poverty was more than twice as high among the minority Mon-Khmer than the majority Lao, and in Vietnam the incidence of extreme poverty was more than six times higher among ethnic minorities than among the Kinh and Chinese ethnicities. In India disadvantaged castes and tribes (referred to as Scheduled Castes and Scheduled Tribes) were overrepresented among the ranks of the extremely poor, particularly among those living in ultra-poverty. This was more commonly the case for Scheduled Tribes than for Scheduled Castes (Ahmed et al. 2009).

In Sub-Saharan Africa access to land and other resources depends on membership in groups of common descent, which results in outsiders having difficulty accessing resources and securing stable livelihoods. This is true in Senegal where refugees from Mauritania and displaced people from the Casamance were more likely to remain in poverty than native Senegalese. The genocide in Rwanda also displayed the importance of ethnicity in determining access to resources (Ahmed et al. 2009).

6.4.1.5 Women

Some weak evidence supports the hypothesis that female-headed households are overrepresented among the ultra-poor, but in general, significant differences were not found. Examining only the differences between male-headed and female-headed

households obscures the reality that, within households headed by men, the welfare of women and girls may be lower than that of their male counterparts. Some studies in South Asia have shown that within households, women consume significantly less food and sometimes less high-quality food such as meat and eggs (Ahmed et al. 2009).

6.5 Conclusion

We have sought to answer two crucial questions—‘who are the world’s poorest?’ and ‘where are they concentrated?’ We approached these questions by identifying the regions of the world in which deprivation was most severe and noting where progress has been achieved, and also by examining the characteristics of the extremely poor. The overall goal of this research was to strengthen the empirical basis upon which policymakers can make informed policy choices for reducing extreme poverty. The proportion of the developing world’s population in extreme poverty, defined here as those living on less than US\$1.25/day, fell from 43.1 % in 1990 (the base year for the MDGs), to 22.4 % in 2008. This suggests that the poverty component of the first MDG had virtually been met at the global-level 7 years before the target date of 2015.

Regional progress, however, was uneven. The decline in global extreme poverty has been largely driven by East Asia and the Pacific, aided by South Asia. Indeed East Asia and the Pacific overachieved the poverty MDG, as extreme poverty in the region fell by 42 percentage points from 56.2 % in 1990 to 14.3 % in 2008. Extreme poverty also fell substantially in South Asia, from 53.8 to 36.0 % over 1990–2008. In Latin America and the Caribbean the decline was from 12.2 to 6.5 %. Although Sub-Saharan Africa experienced some decline in extreme poverty from 1990 to 2008, the decline has been very limited (from 56.5 to 47.5 %).

Disaggregating those living on less than US\$1.25/day into two groups allowed us to consider changes in the severity of extreme poverty: Those in subjacent poverty (between US\$0.63 and US\$1.25/day) and those in ultra-poverty (less than US\$0.63/day). Using this disaggregation we have shown that 234 million of the world’s 1.3 billion extremely poor people lived in ultra-poverty in 2008. Most of the world’s ultra-poor lived in Sub-Saharan Africa. Most of Asia’s poor lived in the subjacent category—only a small minority there was ultra-poor.

Our findings suggest that poverty reduction from 1990 to 2008 was quite equal between the subjacent poor and the ultra-poor—in fact it marginally favored the ultra-poor. It is encouraging to see that the theory of enduring poverty traps may not be holding true for those in ultra-poverty. This is in contrast to the trend that was observed from 1990 to 2004, when ultra-poverty fell much more slowly than subjacent poverty, which was more consistent with theoretical expectations regarding the existence of poverty traps.

The distribution of people living below US\$1.25/day in the developing world shows that extreme poverty was highly concentrated in a few countries—ten countries accounted for 78 % of global poor in 2008. Ultra-poverty was also highly concentrated—ten countries accounted for 75 % of the world’s total ultra-poor in 2008. In 2008 Nigeria accounted for 23 % of the world’s ultra-poor.

Understanding who the poorest are is crucial for the design of effective interventions to improve their welfare. Without context-specific and timely information, it is difficult to design programs that fit their needs. It is thus important to broaden the collection of and access to accurate data on the world’s poorest.

The evidence presented in this chapter suggests that for interventions to reach those living on less than US\$0.63/day effectively, remote households that are traditionally excluded from resources and markets should be targeted, and both the low-levels of education and in the case of Asia, landlessness should be taken into account. Our findings suggest that interventions to protect the poor against health shocks, to address the exclusion of social groups, to prevent child malnutrition, and to enable investments—particularly in education—are essential for helping them rise out of poverty.

Appendix: Subjacent and Ultra-poverty Decomposition Analysis

To calculate the change in extreme poverty that would have resulted from equal growth in all incomes it was assumed that incomes within countries and regions were log-normal distributed (a common assumption in the inequality literature, see Bourguignon 2003 and Klasen and Misselhorn 2006), such that the distribution of income in 1990 was log-normal distributed with a mean, y and a standard deviation σ . Bourguignon (2003) shows that in this case the poverty rate P_t can be calculated from only the mean and standard deviation of income by:

$$P_t(z) = \Pi \left[\left(\frac{\log z - \log y}{\sigma} \right) + \frac{\sigma}{2} \right] \quad (6.1)$$

Where z is the poverty line and Π is the cumulative normal distribution. When incomes are log normally distributed the standard deviation can be calculated from the Gini coefficient of income (G) by:

$$\sigma = \sqrt{2} \Pi^{-1} \left(\frac{G+1}{2} \right) \quad (6.2)$$

Where Π^{-1} is the inverse of the cumulative normal distribution.

Using Eq. (6.1) it is possible to determine the growth in income commensurate with the observed change in dollar/day headcount poverty between 1990 and 2004

by calculating the estimated level of mean income \bar{y}_{2004} that would give the observed headcount poverty estimate of $P_{2004}(1.08)$ if the standard deviation of the distribution (σ_{1990}) had stayed the same:

$$\log \bar{y}_{2004} = \log(1.08) - \left[\Pi^{-1} [P_{2004}(1.08)] - \frac{\sigma_{1990}}{2} \right] \sigma_{1990}$$

Using this estimate of \bar{y}_{2004} , headcount poverty estimates $\bar{P}_{2004}(0.81)$ and $\bar{P}_{2004}(0.54)$ can be determined and from this expected change in subjacent and ultra-poverty can be generated.

Country Gini indices were taken from World Bank (2011). For regions the standard deviation of the regional distribution of income was taken directly from Besley and Burgess (2003). Milanovic's (2002) estimates of the distribution of world income from household survey data were used to estimate the Gini of the developing world.

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References

- Adato M, Carter M, May J (2006) Exploring poverty traps and social exclusion in South Africa using qualitative and quantitative data. *J Dev Stud* 42(2):226–247
- Ahmed AU, Hill RV, Smith LC, Wiesmann DM, Frankenberger T (2007) The world's most deprived: characteristics and causes of extreme poverty and hunger. 2020 discussion paper 43, International Food Policy Research Institute, Washington, DC
- Ahmed AU, Hill RV, Smith L, Frankenberger T (2009) The poorest and hungry: characteristics and causes. In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 107–116
- Antma, F, McKenzie D (2005) Poverty traps and nonlinear income dynamics with measurement error and individual heterogeneity. World Bank Policy Research working paper 3764, World Bank, Washington, DC
- Azariadis C, Stachurski J (2005) Poverty traps. In: Aghion P, Durlauf S (eds) *Handbook of economic growth*. North-Holland, Elsevier, Amsterdam/San Diego, pp 295–384
- Barrett C, Bezuneh M, Aboud A (2001) Income diversification, poverty traps and policy shocks in Cote d'Ivoire and Kenya. *Food Policy* 26(4):367–384
- Barrett C, Marenya P, Mcpeak J, Minten B, Murithi F, Oluoch-Kosura W, Place F, Randrianarisoa JC, Rasambainarivo J, Wangila J (2006) Welfare dynamics in rural Kenya and Madagascar. *J Dev Stud* 42(2):248–277
- Besley T, Burgess R (2003) Halving global poverty. *J Econ Perspect* 17(3):3–22
- Bourguignon F (2003) The growth elasticity of poverty reduction: explaining heterogeneity across countries and time periods. DELTA working paper 2002–03, Department and Laboratory of Applied and Theoretical Economics, Paris
- Collier P (2007) *The bottom billion: why the poorest countries are failing and what can be done about it*. Oxford University Press, Oxford
- Jalan J, Ravallion M (2001) Household income dynamics in rural China. Policy Research working paper series no 2706, World Bank, Washington, DC

- Klasen S, Misselhorn M (2006) Determinants of growth semi-elasticity of poverty reduction. Mimeo, University of Göttingen, Göttingen
- Lokshin M, Ravallion M (2004) Household income dynamics in two transition economies. *Stud Nonlinear Dyn Econometr* 8(3):374–389
- Milanovic B (2002) True world income distribution, 1988 and 1993: first calculations based on household surveys alone. *Econ J* 122:51–92
- Sachs J (2005) *The end of poverty: economic possibilities for our time*. Penguin Press, New York
- World Bank (2011) PovcalNet: an online poverty assessment tool. World Bank, Washington, DC. <http://iresearch.worldbank.org/PovcalNet/index.htm>. Accessed 6 Jun 2012
- World Bank (2009) *From poor areas to poor people: China's evolving poverty reduction agenda. An assessment of poverty and inequality in China*. Poverty Reduction and Economic Management Department/World Bank, Washington, DC

Chapter 7

Targeting the Poorest and Most Vulnerable: Examples from Bangladesh

Nusha Yamina Choudhury and Christa Räder

Abstract Programs to alleviate poverty and hunger are most effective when they reach the poorest and most vulnerable, however, identifying target groups is often difficult. This chapter focuses on geographic and beneficiary targeting mechanisms for safety-nets, along with the strengths and limitations of each approach. Different modalities of beneficiary targeting of the poorest and most vulnerable groups were examined with examples from the United Nations World Food Programme safety-net initiatives in Bangladesh. The chapter highlights the importance of strengthening targeting mechanisms in government operated safety-net programs and improving relevant governmental capacity.

Keywords Bangladesh • Social safety nets • Intervention targeting • GIS

7.1 Introduction: Why Targeting?

The identification of the poorest and most vulnerable is primarily linked to how we define and characterize them. In Bangladesh most definitions of poverty incorporate income, expenditures, and food consumption dimensions. The Household Income and Expenditure Survey (HIES) conducted by the Bangladesh Bureau of Statistics (BBS) defines poverty by the Cost of Basic Needs (CBN) and Direct Calorie Intake (DCI) methods. The CBN defines poverty based on per capita expenditures on basic food and nonfood items, and differentiates between the poor and extremely poor

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using upper and lower poverty lines.¹ The DCI defines poverty and extreme poverty based on daily per capita food consumption below 2,122 and 1,805 kcal respectively. In the measurement of poverty, diet is an important element, hence both methods have a certain degree of overlap.

Over the past decade Bangladesh has achieved significant reductions in poverty as measured by the CBN and DCI methods. In this paper we focus on the CBN method of poverty measurement because it is widely preferred over the DCI method (BBS 2003). Based on the CBN method, the prevalence of poverty was as high as 57 % at the beginning of the 1990s, declined to 50 % in 2000 and to 40 % in 2005. Subsequent estimates from BBS in 2010 revealed that poverty had declined even further to 32 %. The prevalence of extreme poverty was also reduced from 34 % in 2000 to 25 % in 2005. Despite reductions in the prevalence of poverty the absolute number of poor and marginalized remains high due to population size. Out of a population of 128 million in 2000, 64 million were poor and 44 million were extremely poor. By 2005 the population of Bangladesh had grown to 140 million population, of which the poor and extremely poor accounted for 56 and 35 million respectively.

In addition to the large number of poor, geographical variation in per capita poverty measurement and the severity of poverty are also concerns. The eastern regions of Bangladesh have increasingly benefited from integration with major urban centers, namely Dhaka and Chittagong, in contrast to the more isolated west and southwest, which are economically lagging and where poverty levels are higher. This disparity raises questions about the values of a regional versus a nationwide focus of poverty reduction initiatives.

In poverty reduction efforts the targeting choice between poor versus extremely poor presents another challenge to the design of programs and their implementation strategies. In the recent past most of Bangladesh's national policies, as well as mainstream development programs, addressed poverty, whereas extreme poverty received more focus from international development partners. In Bangladesh extreme poverty and marginality not only denote a lack of income, but are also strongly linked to increased exposure to risk of natural and economic shocks, limited or no access to social and economic entitlements, and exclusion from mainstream development activities.

While the national government of Bangladesh and its development partners have prioritized poverty on their agenda, limited availability of resources to address the 40–60 million people living in poverty remains a daunting challenge. In poverty and vulnerability reduction efforts the effective utilization of limited resources is a key challenge for development practitioners, especially when choices have to be made and criteria for prioritization need to be defined. This challenge leads to three major questions: Who are the most vulnerable? Why are they vulnerable? Where do they live? It is here where targeting and the prioritization of areas and beneficiaries become necessary for the implementation of effective and efficient safety net programs.

¹The upper poverty line corresponds to households in absolute poverty whose food consumption expenditures are at or below the food poverty line (based on the cost of a basic diet that provides 2,122 kcal/person a day). The lower poverty line corresponds to households in extreme poverty whose total expenditures are equal to the food poverty line.

7.2 Geographic Targeting

When resources are limited, or issues and problems have regional dimensions, geographic targeting is the most efficient way to allocate resources. With geographic targeting, eligibility for benefits is first and foremost determined by location. Poverty maps can be used to focus programs in areas of the country or to allocate resources by subnational jurisdictions.

In Bangladesh the United Nations World Food Programme (WFP) initiated the spatial targeting of programs during the 1980s. In the beginning resource allocation maps were produced for the Vulnerable Group Development (VGD) program. These maps were partly based on perceptions of poverty and partly on indicators associated with poverty. Later with the availability of poverty maps in 2004 the targeting of programs became more robust by incorporating data from surveys and censuses.

7.3 Mapping of the Poorest and Most Vulnerable

Programs to alleviate poverty and hunger are most effective when they provide assistance in areas where the poorest reside and where socio-economic development lags behind. In the past the ability to identify lagging areas was limited. Geographic targeting became a popular approach for resource allocation and decision making with the development of appropriate analytical and statistical methods, and the availability of information on poverty and hunger indicators.

Poverty mapping is an exercise to estimate poverty prevalence at a level where a typical household income and expenditure survey cannot produce statistically reliable poverty estimates due to high sampling errors. In Bangladesh official poverty rates are not estimated below the division level.² Various poverty mapping methods were devised to disaggregate the higher administrative level poverty data to a lower administrative or geographic level, and to overcome the increasing imprecision of poverty estimates arising from the disaggregation. The Small Area Estimation (SAE) poverty mapping method developed by Elbers et al. (2003), has been widely tested and validated throughout the world as the most efficient for mapping poverty. One advantage of this method is that in addition to estimating poverty prevalence it also estimates the expected standard error as well.

With technical support from Massey University in New Zealand, the BBS and the WFP produced absolute poverty and extreme poverty maps for 2001 at the *Upazila* (sub-district or county) level based on the SAE method using a 5 % sample

²Divisions are the largest geopolitical administrative unit in Bangladesh, followed in diminishing scale by districts, sub-districts or *Upazilas*, and unions. There are seven divisions, 64 districts, over 500 *Upazilas*, and over 4,000 unions in Bangladesh.

from the 2001 Population Census³ (BBS 2001) and the 2000 HIES (BBS 2003).⁴ The method takes advantage of the strengths of both sources. In the case of the HIES data, its strength is that direct measures of poverty (i.e., income and expenditure data) are available. In the case of the census data its strength is associated with its scale; data was collected from every household in the country as opposed to being a sub-sample of a larger population.

Both maps became outdated. With the publication of the 2005 HIES data (BBS 2007) there was growing demand for upgraded poverty maps. In response to this demand the BBS, the World Bank, and the WFP produced *Upazila*-level poverty maps for 2005 using the 2001 census and the 2005 HIES datasets (BBS et al. 2009a, b, 2011). The 2004 Population Sample Census, which was representative at the district level, was also used to validate the findings of the poverty-mapping exercise (BBS 2005; Fig. 7.1).

The poverty map and extreme poverty map are useful for different purposes. One possible application of the extreme poverty map would be for the prioritization of areas identified with a high prevalence of ‘extreme poverty’ in terms of resource allocations. Areas with a higher prevalence of extreme poverty are also areas where vulnerability, deprivation, and food insecurity are likely to be more severe, therefore planning interventions to address the worst situations might benefit more from consideration of the extreme poverty map as opposed to the poverty map (Fig. 7.2).

7.4 Utilization of Poverty Maps for Prioritizing Areas for Social Safety Nets

The key focus of WFP’s safety net and development programs are the extremely poor. The WFP in Bangladesh is a pioneer in the use of poverty mapping tools for geographic targeting and resource allocation, both for its own efforts as well as for governmental social safety net programs. The major preventative social safety net efforts that the WFP operates in Bangladesh are ‘school feeding,’ ‘community nutrition,’ VGD,⁵ and ‘disaster risk reduction’ programs. In addition to these regular programs, the WFP also implements natural disaster relief and recovery programs.

Through its school feeding program the WFP provides micronutrient fortified biscuits to primary school students. The program goals are to increase class attendance and reduce micronutrient deficiencies among school children. The program is operational in selected *Upazilas* that have high-levels of extreme poverty and poor performance on education indicators.

The VGD program is a nationwide safety net that is now exclusively operated by the Ministry of Women and Children’s Affairs, with technical and facilitation support from

³During the poverty mapping exercise, the complete Population Census 2001 data (BBS 2001) was not available therefore a 5% sample from the census was used. Later after the complete census data became available the 5% sample data was verified and no significant variation was found between the two.

⁴The International Rice Research Institute also produced a rural poverty map using the 2001 Population Census data and the 2000 HIES data.

⁵The WFP operated the VGD program until the end of 2010 and in 2011 transferred program operations entirely to the government.

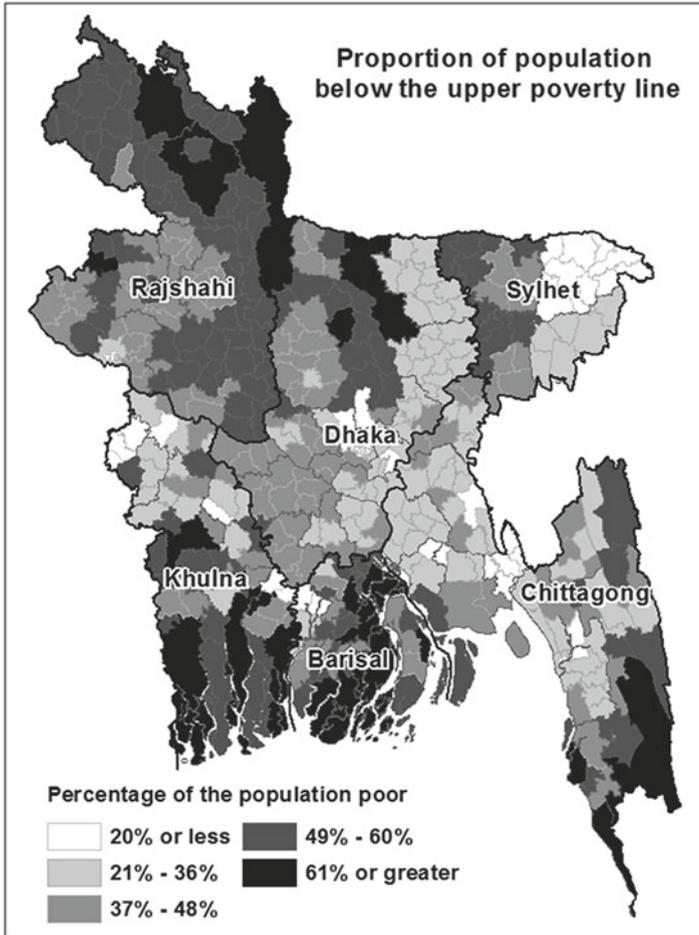


Fig. 7.1 Bangladesh poverty map 2005 (BBS/WB/WFP 2009a)

the WFP. All VGD program participants are women from the poorest households. The major entitlement of this program is food, which is complemented with training on income generating activities and nutrition. Due to limited resources, a certain number of extremely poor households are selected from each *Upazila* as beneficiary households and these numbers are determined using the extreme poverty map.

The community nutrition program provides a package of services to certain groups that are vulnerable to nutrient deficiencies. In particular the program targets moderately undernourished children aged 6–59 months and pregnant and lactating women, from areas with a high prevalence of poverty. To enhance the effectiveness of the community nutrition program it is integrated with other social safety net programs.

The WFP disaster risk reduction program enhances community resilience to different types of natural disasters and the effects of climate change, while strengthening

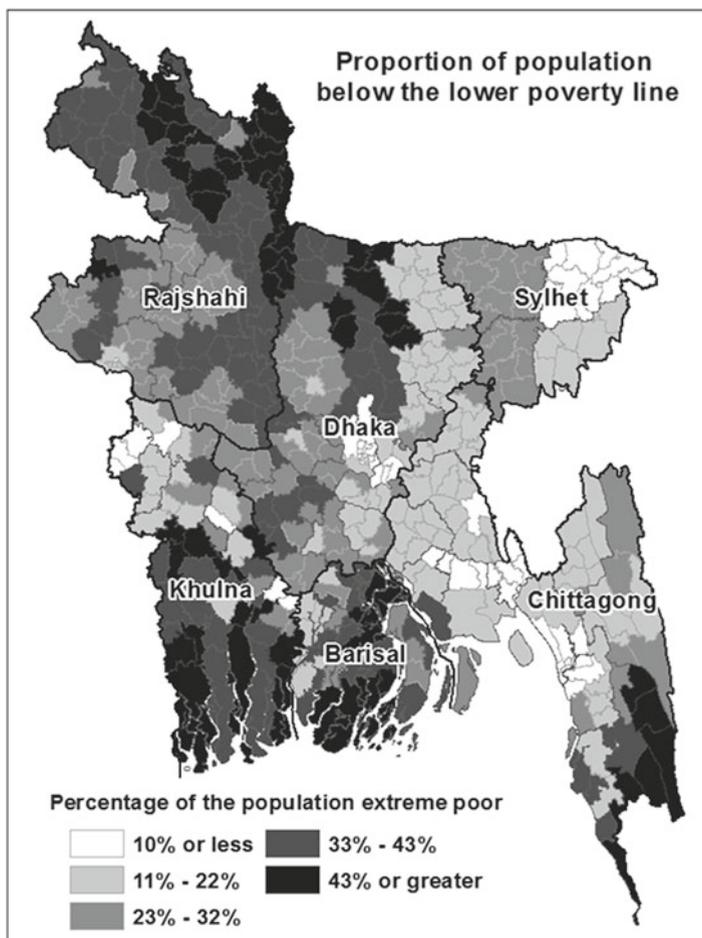


Fig. 7.2 Bangladesh extreme poverty map 2005 (BBS/WB/WFP 2009b)

household food security. To do this, community infrastructure such as roads, embankments, and flood and cyclone shelters are built and maintained. These interventions are mostly targeted in disaster-prone areas with a high prevalence of extreme poverty.

7.5 Geographic Targeting: Prioritizing Assistance Areas for the School Feeding, Community Nutrition, and Disaster Risk Reduction Programs

Bangladesh has been quite successful in increasing primary school enrollment, however, achieving quality universal primary education by 2015 remains a challenge due to irregular attendance, low primary school completion levels, and the poor

Extreme poverty rates	Primary education completion rates				
	1. Very low <38%	2. Low 39–49%	3. Moderate 50–60%	4. Good 61–71%	5. Better >71%
1. Very high >44%	1 st Priority: Very severe	1 st Priority: Severe	2 nd Priority: Moderately severe	3 rd Priority: Less Severe	3 rd Priority: Less Severe
2. High 43–33%	1 st Priority: Very severe	1 st Priority: Severe	2 nd Priority: Moderately severe	3 rd Priority: Less Severe	3 rd Priority: Less Severe
3. Moderate 32–23%	2 nd Priority: Moderately severe	2 nd Priority: Moderately severe	2 nd Priority: Moderately severe	4 th Priority: Least Severe	4 th Priority: Least Severe
4. Low 22–11%	4 th Priority: Least Severe	4 th Priority: Least Severe	4 th Priority: Least Severe	4 th Priority: Least Severe	4 th Priority: Least Severe
5. Very Low <10%	4 th Priority: Least Severe	4 th Priority: Least Severe	4 th Priority: Least Severe	4 th Priority: Least Severe	4 th Priority: Least Severe

Fig. 7.3 Area prioritization matrix for the WFP school Feeding program (WFP 2011a)

quality of education. Both the government and NGOs, including the WFP, are working to improve enrollment and attendance in primary education through various interventions. In this context the WFP attempts to prioritize areas for the school feeding program based on primary education outcomes and poverty prevalence.

Areas were prioritized for the school feeding program based on two indicators: the percentage of primary school students reaching grade five (DPE 2008) and the prevalence of extreme poverty (BBS et al. 2009b). Both indicators were divided into five categories with specific thresholds. The thresholds were determined by applying a Geographic Information System (GIS) based data classification technique called ‘natural break.’ *Upazilas* with greater than 33 % poverty levels and primary education completion of less than 49 % were identified as top priority areas for the school feeding program. *Upazilas* with 32–23 % poverty levels and 50–60 % primary education completion were given second priority. In Fig. 7.3 is a summary of the method of geographic prioritization for the school feeding program, followed by an illustration (Fig. 7.4) of the prioritization process for the school feeding program as guided by the matrix. For the sake of clarity only the scenarios for the Rajshahi and Rangpur divisions in the northwest of Bangladesh have been presented here.

Using similar methods, area prioritization was determined for two other WFP safety net efforts, the ‘disaster risk reduction’ and ‘community nutrition’ programs. The cut-off values that were used to classify poverty estimates and other indicators were also determined using the GIS ‘natural break’ data classification system. The thresholds may vary depending on the scenario (i.e., the highest and lowest values in the database).

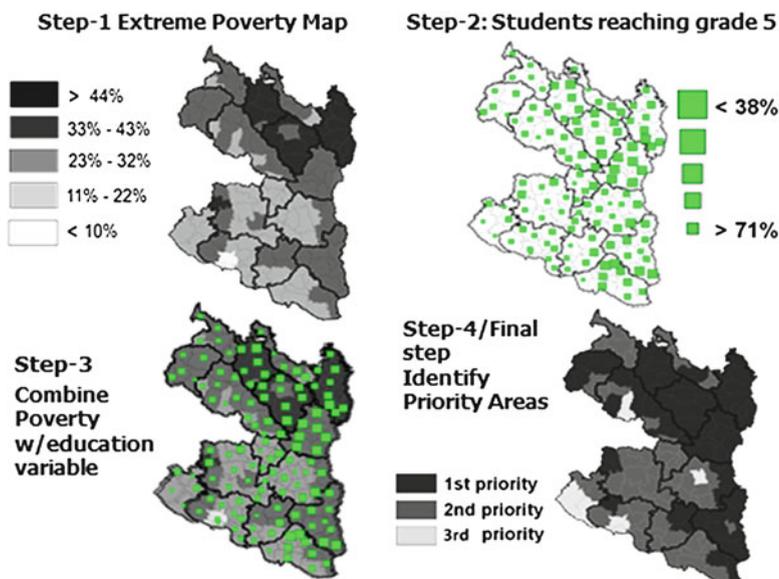


Fig. 7.4 Area prioritization for the school feeding program in the divisions of Rajshahi and Rangpur (WFP 2011b)

Geographic prioritization for the disaster risk reduction program was based on two indicators, the prevalence of extreme poverty and vulnerability to flooding and cyclones. This second indicator was derived from historical data. The final results from the analysis showed that high-priority areas for disaster risk reduction activities were along the major rivers and coastal region. During the analysis it was observed that areas prone to severe disasters also had a very high prevalence of absolute and extreme poverty, indicating a strong association between natural disasters and poverty (Figs. 7.5 and 7.6).

Due to the absence of *Upazila*-level nutrition or diet information the targeting for the community nutrition program was based only on the extreme poverty map due to the strong linkage between poverty and malnutrition. To more clearly observe the impacts of the program it was decided not to implement the program in areas where the government-operated National Nutrition Programme was being implemented.

Because the WFP works with limited resources, most programs are implemented in top priority areas only. Often even more selective prioritization becomes essential due to funding shortfalls, however, the WFP advocates for the other priority areas to donors and development partners. Recently the Ministry of Primary and Mass Education utilized the WFP school feeding priority map in order to plan the implementation of their own program, 'School Feeding in Poverty-prone Areas,' in the remaining high-priority areas where the WFP programs were unable to operate.

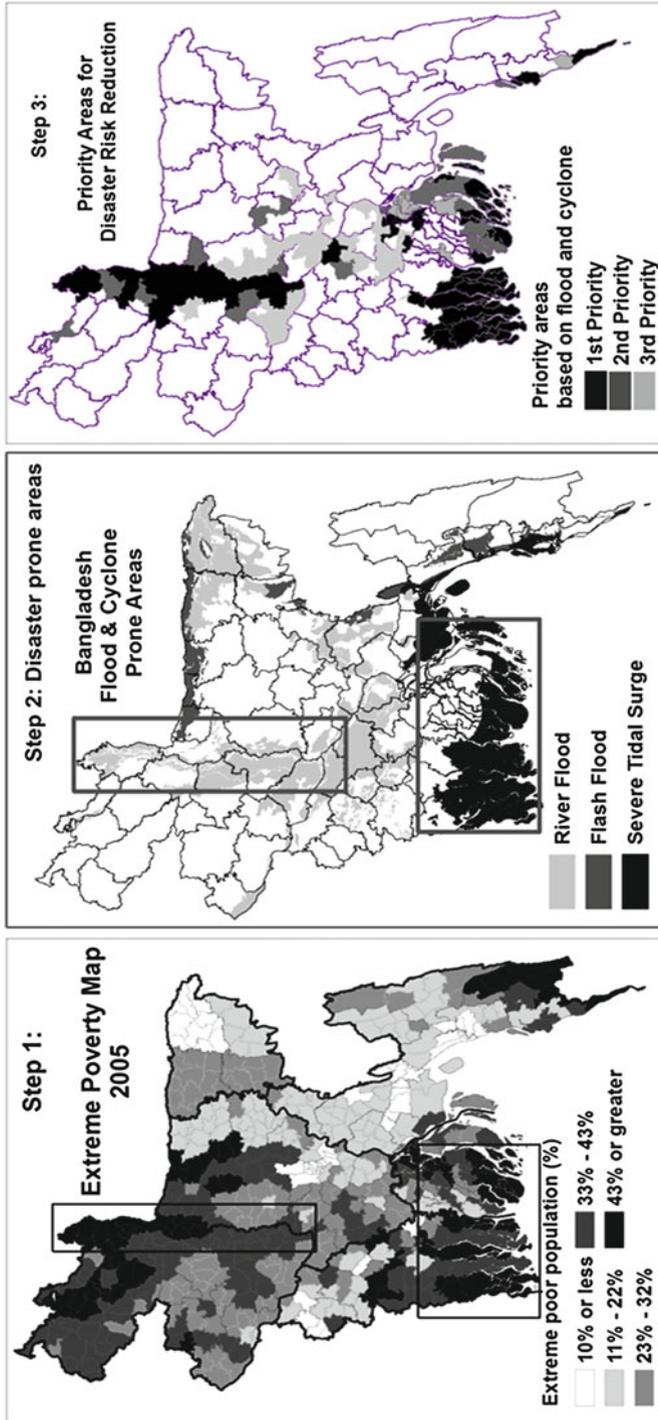


Fig. 7.5 Prioritization of areas for the disaster risk reduction program (WFP 2011c)

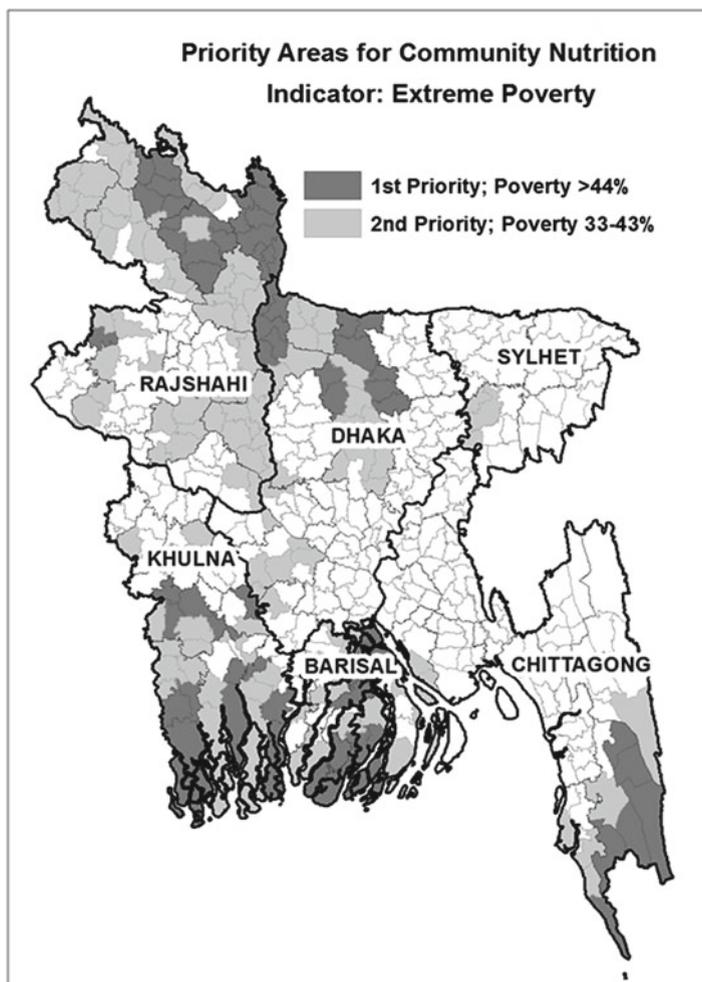


Fig. 7.6 Priority areas for the community nutrition program (WFP 2011d)

7.5.1 *Resource Allocation for National Safety Net Programs Guided by Poverty Estimations*

The extreme poverty map has been used extensively by the WFP and the Government of Bangladesh to plan resource allocation for nationwide safety-net efforts like the VGD and ‘100-Days Employment Generation’ programs. In such programs area prioritization was not an issue and all *Upazilas* were entitled to benefits, however, the number of extreme poor selected from within each *Upazila* for program entitlements was a major concern. The extreme poverty map provided a neutral basis for determining the total beneficiary numbers, where the numbers were proportional to

the per capita rates of extreme poverty in each *Upazila*. For instance, in the VGD program there were 750,000 households nationwide that were entitled to benefits. Based on poverty estimates, *Upazilas* where extreme poverty levels were higher had a larger number of beneficiary households selected.

7.5.2 Advantages and Limitations of Geographic Targeting

There are many advantages to geographic targeting: it is administratively simple, there is no bias in the selection of areas, political compromises may be avoided, and the most appropriate areas can be selected. One disadvantage of geographic targeting is that it will perform poorly as a prioritization method when poverty or the desired target population is not spatially concentrated. Performance also depends on the accuracy of the map, a concern that is becoming less relevant over time as the small-area estimation technique has advanced in its sophistication and application. The poverty and extreme poverty maps only geographically target vulnerable areas, leaving marginal populations living in less poverty-prone areas without social program entitlements.

7.6 Beneficiary Targeting: Identification of the Poorest and Most Vulnerable in the WFP Safety Net Programs

Geographic targeting only identifies areas where assistance is needed. It provides little insight into the characteristics of the beneficiaries for whom the social safety nets are intended. Therefore geographic targeting is followed by beneficiary targeting.

7.6.1 Criteria Used to Target the Poorest and Most Vulnerable

The WFP safety-net programs target the poorest most food insecure households, as well as nutritionally vulnerable social groups such as children under the age of 5, and pregnant and lactating women. WFP usually provides food and cash assistance to poor, food insecure households, while nutritionally vulnerable groups receive nutritious or fortified food combined with nutrition training. In protective and promotional safety-net programs, the food or cash entitlements are usually transferred to one individual per household, but the entitlement benefits are shared among all household members. Certain generic criteria are used by the WFP and other stakeholders to identify the poorest and most food insecure households. The selection criteria are usually applied in combination and are conditional, for example a household should meet three out of five of the following criteria:

- Land ownership of less than 0.06 ha
- Female-headed households (widowed, separated, divorced, or with disabled husband)

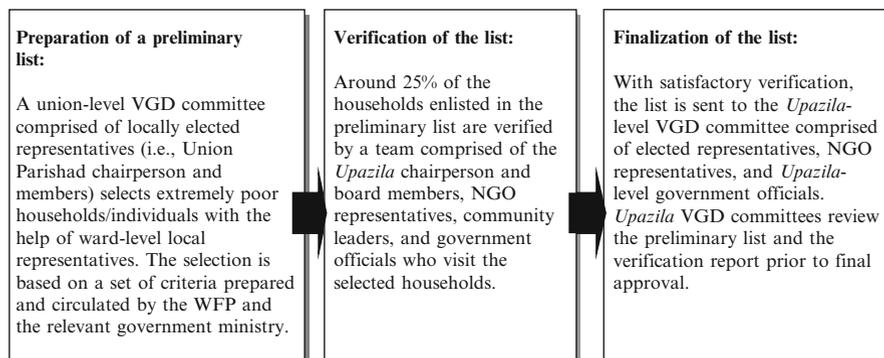


Fig. 7.7 Selection of the poorest and most vulnerable households by local government in the joint WFP-government partnership program VGD (WFP 2009)

- Extremely-low and/or irregular household income from day or casual labor and virtually no productive assets
- Household members affected by chronic food shortages (i.e., who often skip meals due to insufficient food)
- Poor housing conditions (low quality construction materials, sanitation facilities, and household goods).

In addition to these conditional criteria, some mandatory selection criteria are also considered during the selection of beneficiaries. The most commonly used mandatory criteria are:

- Household members do not benefit from other social safety-net programs
- The selected participant must be 18–49 years of age and physically able to participate in program activities

7.6.2 Beneficiary Selection Process

The selection of the poorest and most vulnerable households and individuals based on the criteria is either performed by local government, or by NGOs and the communities. In both cases the WFP oversees the selection process. The two illustrations summarize the selection process for program beneficiaries in social safety nets that address food security (Figs. 7.7 and 7.8).

The identification of nutritionally vulnerable individuals by the WFP community nutrition program follows a different process. This program is entirely operated by the WFP and NGOs without government involvement. The NGOs initially select female volunteers called village nutrition promoters from communities and train them to select beneficiaries. The village nutrition promoters then select undernourished children under age 5 and pregnant and lactating women from the communities through a screening process. The NGOs conduct sample verification of the initially selected beneficiaries and finalize the list.

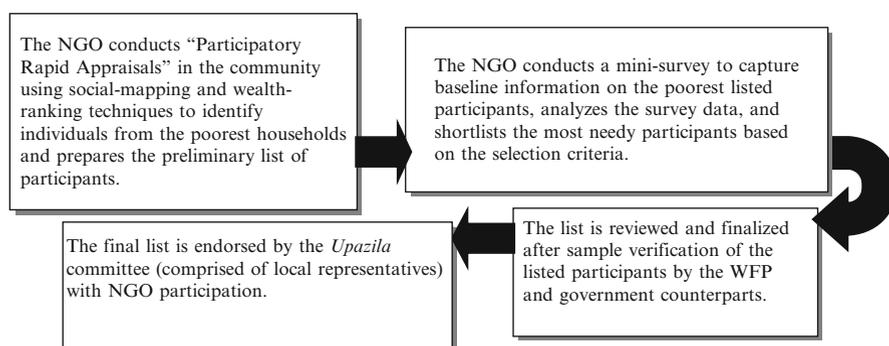


Fig. 7.8 Selection of participants from the poorest households by NGO partners in a joint WFP-government partnership Disaster Risk Reduction program (WFP 2007)

7.6.3 *Limitations and Challenges in Targeting the Poorest and Most Vulnerable*

Properly targeting the poorest and neediest is an essential requirement for social safety nets to function effectively. A World Bank (2006) study reported that 27 % of the VGD beneficiaries and 47 % of the Primary Education Stipend⁶ Programme beneficiaries in Bangladesh were not poor. An evaluation of the government operated Employment Generation Programme that ostensibly targeted the poor also found that one-third of the program participants were from middle-income families (MoFDM 2009).

The exclusion of individuals who are most in need of social safety nets due to resource constraints is unavoidable. However, providing benefits to people who do not belong to the intended target population (inclusion and exclusion errors) is a key concern for all stakeholders. The major reasons for inclusion and exclusion errors in beneficiary selection are as follows:

- Political influence, social and personal biases lead to the inclusion of unintended beneficiaries.
- A general set of selection criteria applied throughout the country may leave out area-specific characteristics of poverty.
- Some of the beneficiary selection criteria are debatable on the ground of exclusion. For instance certain safety net programs that target reproductive or working age women do not consider participants over 49 years of age. This could prevent vulnerable women beyond this age who are mentally and physically fit from participating in social safety nets. Alternatively physical fitness could be substituted for age criteria.

⁶The Primary Education Stipend Programme is a state-run social safety net for primary school students from poor households who achieve satisfactory exam results and regularly attend school.

The involvement of local governments can enhance government proprietorship in the implementation of the program, though it also presents many risks: favoritism, bias towards the better-off, and the denial of benefits to the neediest community members. Such a system bears the risk of exacerbating and perpetuating existing patterns of social exclusion. Monitoring of the selection by an unbiased third party may reduce inclusion errors to some extent. Moreover sensitizing local communities to the selection procedures may create greater local awareness of selection anomalies.

Community-based targeting often uses a group of community members who are not eligible for the transfer programs to decide who in the community should benefit. The mere presence of influential members of the community during the selection process can influence the choices. In general, community-based targeting has more advantages than drawbacks. It relies on local information about individual circumstances, which is generally more accurate than information available from any other method. This approach also introduces local definitions of need and welfare. Hence community-based targeting tends to be most appropriate where local communities are well-established and cohesive.

The targeting mechanisms described here are applicable to, and have been practiced in rural situations. In the design of interventions for urban poor living in slums both geographic and beneficiary targeting are complex. Targeting urban populations entails additional challenges such as the lack of information on slum conditions and residents, the frequent shifting of slum households, and the diversified livelihoods of the urban poor, etc. Currently development partners working for the urban poor in Bangladesh have developed various targeting mechanisms that need to be consolidated and strengthened.

7.7 Conclusion

The concepts of identifying the poorest areas and the poorest and most vulnerable populations are gaining popularity among development practitioners, despite criticisms of the spatial restriction of social safety net programs to certain areas. The process of targeting the poorest areas and individuals still lacks rigor, especially in government operated social safety nets, diminishing the efficiency and effectiveness of programs. Technical expertise on the utilization of poverty maps in Asia at this point is still largely confined to the WFP. Such capacities need to be transferred to governmental and non-governmental counterparts in order to help improve targeting mechanisms on broader levels. Defining and articulating the targeting criteria and process to the public provides transparency and accountability, which are essential for reducing the chances of misappropriation of social safety net benefits.

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References

- BBS (2001) Population census report 2001. Bangladesh Bureau of Statistics, Dhaka
- BBS (2003) Report of the household income and expenditure survey 2000. Bangladesh Bureau of Statistics, Dhaka
- BBS (2005) Population sample census 2004. Bangladesh Bureau of Statistics, Dhaka
- BBS (2007) Report of the household income and expenditure survey 2005. Bangladesh Bureau of Statistics, Dhaka
- BBS/WB/WFP (2009a) Bangladesh poverty map 2005. Bangladesh Bureau of Statistics/World Bank/World Food Programme, Dhaka/Washington, DC
- BBS/WB/WFP (2009b) Bangladesh extreme poverty map 2005. Bangladesh Bureau of Statistics/World Bank/World Food Programme, Dhaka/Washington, DC
- BBS/WB/WFP (2011) Updating poverty maps: Bangladesh poverty maps for 2005. Bangladesh Bureau of Statistics/World Bank/World Food Programme, Dhaka/Washington, DC
- DPE (2008) Primary education survey 2008. Bangladesh Ministry of Mass and Primary Education, Directorate of Primary Education, Dhaka
- Elbers C, Lanjouw JO, Lanjouw P (2003) Micro-level estimation of poverty and inequality. *Econometrica* 71(1):355–364
- MoFDM (2009) 100 Days employment generation program, implementation guideline 2009. Bangladesh Ministry of Food and Disaster Management, Dhaka
- WFP (2007) Operational guidelines for the planning and implementation of the World Food Programme—assisted enhancing resilience component of the Country Programme for Bangladesh 10410.0 (2007–2011). World Food Programme, Dhaka
- WFP (2009) Vulnerable group development programme implementation guideline. World Food Programme, Dhaka
- WFP (2011a) Technical note on prioritizing upazilas for school feeding programme. World Food Programme, Dhaka
- WFP (2011b) Priority area map for school feeding programme. World Food Programme, Dhaka
- WFP (2011c) Priority area map for enhancing resilience programme. World Food Programme, Dhaka
- WFP (2011d) Priority area map for community nutrition programme. World Food Programme, Dhaka
- World Bank (2006) Social safety nets in Bangladesh: an assessment. Bangladesh Development series no 9. World Bank, Washington, DC

Chapter 8

Correlates of Extreme Poverty in Rural Ethiopia

Degnet Abebaw and Assefa Admassie

Abstract This chapter examines the determinants of extreme poverty in rural Ethiopia at the household level using indicators that reflect consumption expenditures, dietary calorie intake, and household assets. The descriptive analyses results indicated that ultra-poverty in the household consumption dimension was positively associated with distance from educational and health facilities, roads, and other infrastructure. The results of an econometric model showed that ultra-poverty was positively and significantly associated with household size and the age of the household head, and inversely associated with the ownership of farming assets and livestock.

Keywords Ethiopia • Ultra-poverty • Consumption expenditures • Nutrition • Asset ownership

8.1 Introduction

In recent years Ethiopia has experienced rapid economic growth (MoFED 2011). Given the country's widespread poverty, high and sustained economic growth is needed to improve the welfare of the population. According to official estimates (MoFED 2011) each 1 % increase in national economic growth decreases the population living in poverty by 1.7 %.

Since the early 1990s the Ethiopian government has undertaken various policy reforms to reduce deep rooted poverty and food security problems. The current government formulated and implemented the 1994 Agriculture-Led Industrialization Strategy (ADLI), the 1995 Constitution (FDRE 1995), and other economy-wide as well as sector, gender, and location oriented development strategies and programs.

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The government also began the transition from a planned to a free-market economy immediately after taking power in 1991.

Many of the country's poverty reduction efforts receive financial and technical support from development partners, including bilateral and multilateral donors, NGOs, civic societies, and the private sector. Despite the many efforts to reduce poverty and food insecurity in Ethiopia, the country is still one of the poorest countries in the world, with low per capita income and public health service capacities, and high illiteracy and malnutrition rates. According to the United Nations Development Programme, Ethiopia's human development index score ranked 157th among 169 countries in 2010 (UNDP 2011). While economic growth is necessary to reduce poverty and food insecurity, the extent to which the many forms of poverty are reduced also depends on the equitable distribution of the returns of economic growth. Poverty is still common, particularly in rural areas (MoFED 2008), and the reduction of income discrepancy has been limited. If segments of the population are left aside in the process of development because of political, cultural, or environmental factors, then merely increasing the pace of economic growth is unlikely to reduce poverty or food insecurity.

While the reduction of poverty is the indicated goal of various government policies and programs there is little empirical evidence of their impacts on the well-being of the poorest, whose condition we refer to in this paper interchangeably as either extreme poverty, ultra poverty, or marginality. The main purpose of this paper was to examine the determinants of extreme poverty in rural Ethiopia at the household level using indicators that reflect consumption expenditures, dietary calorie intake, and household asset ownership.

8.2 Marginality: Conceptual Issues

The definitions of marginality are diverse and many. Mehretu et al. (2000, 89) defined marginality as "a complex condition of disadvantage that individuals or communities may exercise because of vulnerabilities which may arise from unequal or inequitable environmental, ethnic, cultural, social, political and economic factors." Gatzweiler et al. (2011, 3) defined marginality as "an involuntary position and condition of an individual or group at the margins of societal, political, economic, ecological and biophysical systems, preventing them from access to resources, assets, services, restraining freedom of choice, preventing the development of capabilities and eventually causing extreme poverty." According to Gatzweiler et al. (2011) marginalized social groups are products of multiple failures of markets, institutions, and policies.

Gurung and Kollmair (2005) described marginality through two major dimensions, societal and spatial. The societal dimension includes demography, religion, culture, social structure, economics, and politics that limit access to resources by individuals or groups. In this respect the focus of discussion is often on the underlying causes of exclusion, inequality, and social injustice

(Gans 1993; Massey 1994; Sommers et al. 1999; Brodwin 2001; Leimgruber 2004; Gurung and Kollmair 2005). Marginalization may be discrimination or suppression on the basis of the societal factors mentioned above in terms of access to livelihood options, participation in social life, and/or public space (Brodwin 2001; Larsen 2002a, b; Gurung and Kollmair 2005). Societal marginality can arise because of population dynamics, political instability, intensification of agriculture, degradation of land resources, poor access to technologies, and limited industrial growth (Gurung and Kollmair 2005).

The spatial dimension of marginality typically results from limited access to centers of development due to location and distance (Sommers et al. 1999; Leimgruber 2004; Müller-Böker et al. 2004; Gurung and Kollmair 2005). In this dimension of marginality the impacts of physical location on the well-being of individuals or groups and the geographical area itself are considered. There is also an *in situ* level of spatial marginality or unequal development within relatively small geographical areas (Sommers et al. 1999).

Societal biases regarding gender, ethnicity, age, or social hierarchy are more prevalent in locations that are remote and isolated from major economic and service centers (Müller-Böker et al. 2004). The International Food Policy Research Institute (IFPRI) characterized the ultra-poor as people living in remote rural areas furthest from roads, markets, schools, and health services with few assets and little education or access to credit, or those who are excluded because of their ethnicity, gender, or disability (IFPRI 2007). The Moro, a remote West African tribe whose members have little education, land, or other assets have been characterized as ultra-poor (Ahmed et al. 2007; von Braun et al. 2009). The predominant social groups among the ultra-poor are women, the disabled, the elderly, and orphans (Ahmed et al. 2007).

Marginality may be dynamic and relative, emerging and evolving over time. Kirkby (2000) asserted that marginality can reinforce itself, but may also be overcome. The ultra-poor may remain poor because of complex factors and/or from being trapped in situations that perpetuate poverty (IFPRI 2007). Marginality is a relative term and may exist in any nation despite economic status; however, the depth and nature of marginality are a function of a nation's economic, political, social, and technological development.

Mehretu et al. (2000) distinguished between contingent and systemic marginality. They describe contingent marginality as a condition of being adversely affected by competitive inequality in free-market dynamics. This form of marginality affects those that are least prepared to successfully negotiate in the marketplace due to living in remote locations, inadequate labor skills, or a lack of useful information about opportunities (Castells 1989). Systemic marginality is created by socially constructed non-market biases often used by a dominant social class to maintain political control, social exclusion and/or economic exploitation over subordinate classes (Gans 1993; Mingione 1996). Tribal-based exclusionary marginalization in Rwanda, Ethiopia, and Sudan are excellent examples of social constructions resulting in systemic marginality (Palmer 1977). Policies designed to redress contingent marginality may be inherently inappropriate for situations of systemic marginality.

8.3 Data and Empirical Approach

8.3.1 Data and Geographic Context

The data used for this paper were obtained from the Central Statistical Agency's (CSA) Welfare Monitoring Survey (WMS) conducted in 2004 (CSA 2007a) and Household Income Consumption and Expenditure (HICE) survey conducted in 2004 and 2005 (CSA 2007b). The WMS provided data on various socioeconomic indicators, including: access to health, education, and nutrition, the utilization of basic facilities and services, and other non-income aspects of well-being. The HICE survey provided data on household income, consumption, and expenditures. With the exception of the regional state of Gambella and parts of Afar and Somali that were all excluded from the WMS and HICE efforts, the datasets covered a nationwide sample of 36,352 (24,152 rural and 12,200 urban) and 21,600 (9,494 rural and 12,106 urban) households respectively. Our analyses focused on the rural household data from both surveys.

We combined and analyzed the WMS and HICE data on household consumption expenditures, dietary calorie intake, and asset ownership to examine the determinants of extreme poverty in rural Ethiopia. The correlates used to characterize the poverty outcomes were a host of household demographic and socioeconomic variables. Most of the data used in our empirical analyses were derived from 9,494 households that were common observation units in both the WMS and HICE efforts.

8.3.2 Empirical Approach

Both qualitative and quantitative methods can be used to analyze marginal poverty.¹ Due to data availability we used quantitative methods, including both descriptive analysis and econometric estimation, to characterize the extreme poverty of the sample households. We used three household well-being indicators to analyze poverty across the survey households: Adult-Equivalent Consumption Expenditure (AECE), Adult-Equivalent Caloric Intake (AECI), and asset ownership.

Household criteria for extreme poverty within the value range of each of these indicators were defined as follows. Based on AECE values, households were designated as extremely poor if consumption expenditures² were in the bottom

¹Gurung and Kollmair (2005) identified various qualitative and quantitative indicators of the degree of marginality. Qualitatively, marginality could be assessed in terms of violations of social and legal norms such as child labor, gender inequality, and social and human rights exclusions. Assessing the existence and magnitude of marginality through qualitative techniques is beyond the scope of this paper because of the lack of appropriate data.

²Consistent with other studies (MoFED 2008), we used a nutrition (calorie) based approach (Dercon and Krishnan 1998).

quintile of the distribution. Regarding AECI, the cut-off point for extreme poverty was designated at 1,600 kcal/day per adult. The asset ownership indicator was based on range of important farming and household assets (Baker and Schuler 2004). We also attempted to accommodate several explanatory household variables in the models based on marginality literature and the data available from the WMS and HICE survey datasets. The household variables considered in the econometric analysis were the following:

Education (Hheduc). The education level of the household head is often a key determinant of household welfare and was measured in the number of years of school completed.

Household size (Hhsize). Land is state property in Ethiopia and per capita land-holding sizes are declining in rural areas, therefore we expected large households (measured by the number of members) to face greater difficulty in meeting nutritional needs.

Marital status of household head (Hhmar). Marriage is a form of social capital and therefore we expected households with single heads (denoted using 0) to be at higher risk of extreme poverty than married household heads (denoted using 1).

Gender (Hhgender). Female-headed households in Ethiopia face multiple disadvantages and thus we expected these households (denoted using 0) to be more vulnerable to extreme poverty than male-headed households (denoted using 1).

Age of household head (Hhage). The age of the household head was used as a proxy for life stage and productivity because older household heads were expected to have greater professional knowledge and experience, and a larger amount of family labor available. We also included a quadratic-term (age square) to capture negative impacts of age after a certain age threshold due to elderliness.

Livestock size (Livestock). Livestock are one of the few common assets and an important source of capital in rural Ethiopia. The relative size of livestock was used in two of the Probit regressions as an explanatory variable with the expectation that households with healthier livestock would be less associated with ultra-poverty.

Farm assets (Farm_material). This index value was calculated through a factor analysis as a continuous variable based on household ownership of agricultural tools and equipment, which we expected to have an inverse relationship with extreme poverty.

Radio ownership (Radio). One of the few means of getting current information relevant to the productivity and well-being of rural households in rural Ethiopia is via radio, therefore we used a dummy variable (1=radio ownership, 0=otherwise) to observe if there was an association between radio ownership and extreme poverty.

Regional dummies. We also included regional dummy variables to observe whether regional differences in geographic, historical, cultural, or socioeconomic factors influenced marginality.

Table 8.1 Regional distribution of the rural household sample

Regional state or city	Number of households	Percentage
Tigray	851	9.0
Afar	419	4.4
Amhara	2,029	21.4
Oromiya	2,325	24.5
Somali	484	5.1
Benishangul-Gumuz	537	5.7
S.N.N.P.	2,000	21.1
Harari	288	3.0
Addis Ababa	276	2.9
Dire Dawa	285	3.0
Total	9,494	100.0

Based on WMS and HICE data from CSA (2007a, b)

8.4 Descriptive Assessment of Poverty Situation

Of the total rural household sample (9,494), 77 % (7,351) were male-headed and 23 % (2,143) were female-headed. The majority of households (88 %) were headed by people aged 15–65 years and the remaining 12 % had older heads. Households with married heads accounted for 78.4 % of the sample, 18.7 % were divorced, separated, or widowed and the remaining 2.9 % had never married. Approximately 73 % of the household heads were illiterate, less than 20 % had completed primary school, and only 8.4 % had attended secondary education or above.

The sample households were located in eight regional states and two city administrations of Ethiopia. The three most populous states, Oromiya, Amhara and SNNP, accounted for two-thirds of the sample. Sample households from rural areas of the two city administrations, Addis Ababa and Dire Dawa, constituted around 6 % of the total sample. The remaining 28 % were drawn from the other regional states, the least developed of which (Afar, Benishangul-Gumuz, and Somali), accounted for around 15 % of the total (Table 8.1).

8.4.1 Consumption Expenditures and Dietary Calorie Intake

Consumption expenditures and caloric intake are two important indicators of household well-being. According to HICE survey data the mean household AECE in 2004–2005 was Birr 2,217.26 or US\$256.33 (see Table 8.2). The distribution revealed significant disparity, ranging from Birr 1,078.46 (US\$124.68) in the lowest quintile to Birr 4,018.07 (US\$464.07) in the highest quintile, indicating a nearly four-fold difference among rural households. Table 8.2 presents the AECI values separated by AECE quintiles to examine the association between consumption expenditures and caloric intake among the survey households. Households in the

Table 8.2 Consumption expenditures and calorie intake distributions by AECE quintile

AECE quintile	Consumption expenditure (average in Birr)	Daily calorie intake (average in kcal)
1	1,078.46	1,825
2	1,549.97	2,485
3	1,981.34	3,012
4	2,458.64	3,332
5	4,018.07	3,899
Average	2,217.26	3,332

Based on HICE data from CSA (2007b)

Table 8.3 Regional distribution of daily household AECI values

Regional state or city	Net daily kilocalories			Deviation from national mean
	Less than 1,600	Between 1,600 and 2,200	More than 2,200	
Tigray	10.9	24	65.1	-6.8
Afar	24.7	29.8	45.5	-7.5
Amhara	15.5	17.4	67.1	-9.8
Oromiya	9.1	19.5	71.4	+4.7
Somali	8.3	26.5	65.3	-3.4
Benishangul-Gumuz	18.8	19	62.2	-5.6
SNNPR	9.1	19.2	71.7	+5.7
Harari	4.7	15.7	79.7	+15.1
Addis Ababa	9.1	23.6	67.3	-1.7
Dire Dawa	7.2	20.4	72.4	+4.2
Nationwide	11.2	16.2	69.6	-

Based on WMS and HICE data from CSA (2007a, b)

lowest AECE quintile also had AECI values that were about half that of the highest AECE quintile. The greater disparity of AECE values compared to AECI values suggests that poorer households rely on cheaper and higher calorie dietary items (Table 8.3).

Table 8.4 presents the regional distribution of expenditure-based and diet-based poverty in Ethiopia. As the table shows, diet-based poverty was nearly as high as expenditure-based poverty in all regions. Mean expenditure-based poverty was 39 % in 2004–2005. Mean diet-based poverty was 38 % during the same period.

As indicated in Table 8.4 the relative amounts of extreme poverty based on AECE and AECI appear to be the highest in the regional states of Tigray, Benishangul-Gumuz, Somali, Afar, and Amhara. With the exception of Afar these states also had the greatest overall poverty gap and squared poverty gap index values in the country (MoFED 2008), indicating income shortfalls for meeting basic nutritional need.

Table 8.4 Regional poverty variation in Ethiopia

Regional state or city	Expenditure-based poverty	Diet-based poverty	Overall poverty gap	Overall squared poverty gap
Tigray	0.51	0.48	0.104	0.032
Afar	0.429	0.436	0.078	0.021
Amhara	0.404	0.391	0.104	0.036
Oromiya	0.372	0.371	0.075	0.024
Somali	0.452	0.439	0.099	0.03
Benishangul-Gumuz	0.458	0.459	0.106	0.035
SNNP	0.382	0.369	0.071	0.022
Harari	0.206	0.184	0.033	0.007
Addis Ababa	0.299	0.316	0.052	0.012
Dire Dawa	0.398	0.384	0.063	0.015
Nationwide	0.393	0.385	0.085	0.027

Adapted from MoFED (2008)

Diet-based poverty includes households with daily dietary intake of 1,600 kcal or less per adult

Table 8.5 Major reasons for not seeking health care among rural households by AECE quintile

AECE quintile	Gender	No need to consult	Financially incapable	Distance	Other
1	Male	38.8	9.6	1.1	0.55
	Female	37.4	10.5	1.2	0.69
	Total	76.3	20.1	2.3	1.24
2	Male	40.5	8.1	1.1	0.81
	Female	38.3	9.1	1.2	0.73
	Total	78.8	17.2	2.4	1.54
3	Male	39.9	7.1	1.2	0.88
	Female	40.2	8.5	1.1	0.96
	Total	80	15.6	2.3	1.85
4	Male	41.8	6.2	0.9	0.67
	Female	39.6	8.3	1.3	1
	Total	81.4	14.4	2.2	1.69
5	Male	40.3	7.2	1	1.03
	Female	39.1	9.1	0.8	1.34
	Total	79.5	16.3	1.8	2.36

Based on WMS and HICE data from CSA (2007a, b)

8.4.2 Health and Medical Services

Household health conditions and the utilization of health care varied among AECE quintiles. The incidence of illness was higher in the bottom quintile than the top quintile; however, health care service utilization was greater for the top than for the bottom quintile households. This suggests that access to health care is inversely related to income in rural areas of Ethiopia. The main reasons cited for not seeking health care despite justifiable need included: the lack of financial resources, distance, and lack of awareness of health care services (see Table 8.5). An inverse

Table 8.6 Percentage of childbirths by type of assistance and AECE quintile

Support provider	AECE quintile					Total
	1	2	3	4	5	
Health care professionals	0.7	1.3	1.9	4.5	26.6	5.7
Traditional attendant	36.8	27.5	26.8	25.4	21.9	28.1
Relative or others	55.2	64.9	66.7	65.2	46.6	60.5
None	6.9	6.1	4.4	4.7	4.7	5.4
Total (%)	100	100	100	100	100	100

Based on WMS and HICE data from CSA (2007a, b)

Table 8.7 Educational status of household heads by AECE quintile

AECE quintile	Illiterate	Primary (1–6)	Primary (7–8)	Secondary		Total
				and above	Other	
1	74.2	18.3	2.3	0.8	4.4	100.0
2	72.0	20.5	2.5	1.1	3.8	100.0
3	73.0	17.8	3.1	1.7	4.4	100.0
4	71.3	20.0	2.6	2.0	4.1	100.0
5	66.4	22.3	3.2	4.1	2.8	100.0

Based on CSA (2007a)

relationship between health care and household consumption expenditure was also observed for childbirth services.

In general the percentage of births attended by health professionals in Ethiopia is extremely low by global standards (World Bank 2005). As might be expected, the vast majority (88.7 %) of women gave birth at home with the assistance of relatives and traditional midwives rather than at medical facilities attended by health care professionals (see Table 8.6). Births assisted by health care professionals tended to increase with asset ownership. For instance the percentage of births assisted by health professionals for women in the fifth quintile was over 25 percentage points higher than for women in the lowest quintile. This suggests that apart from supply-side policy interventions to expand health care facilities, demand-side policy interventions for increasing household assets may contribute to increased health care utilization among pregnant women.

8.4.3 Educational Status

Generally speaking the education and literacy of household heads increased from the lowest to the highest AECE quintile. The percentage of literate household heads increased from around 26 % in the lowest quintile to around 34 % in the highest quintile. The proportion of household heads with secondary schooling or above increased by more than four-fold from the lowest to highest quintiles (see Table 8.7).

Table 8.8 Probit estimations based on household consumption expenditures

Variables	Probit regression		Marginal effect	
	Coefficient	SE	Coefficient	SE
Hhsize	0.2924	0.0099***	0.0702	0.0024***
Hhgender	-0.0524	0.0634	-0.0127	0.0157
Hhage	0.0152	0.0073*	0.0029	0.0017*
Hhagesquare	-0.0001	0.00007	-0.00002	0.00002
Hheduc	-0.1562	0.0321***	-0.0375	0.0077***
Hhmar	-0.076	0.068	-0.0186	0.0171
Radio	-0.3505	0.0476***	0.0757	0.091***
Livestock	-0.2355	0.0293***	-0.0565	0.00703***
Farm_material	-0.0772	0.0274***	-0.0185	0.00661***
Regional dummy variables				
Tigray	0.0042	0.113	0.0102	0.0288
Afar	-0.0627	0.1273	0.0146	0.02681
Amhara	0.0935	0.1060	0.0023	0.02681
Oromiya	-0.5643	0.1073***	-0.01164	0.0187***
Somali	0.0836	0.1211	0.03208	0.0313
BenishangulGumuz	-0.4344	0.1256***	-0.0845	0.0190***
SNNPR	-0.2136	0.1072**	-0.0480	0.02256**
Harari	-0.7145	0.1567***	0.1175	0.0154
Dire Dawa	-0.0557	0.1353	-0.013	0.01629***
Constant	-2.2182	0.1912***		
Number of observations				8,825
Log Pseudo likelihood				-3,676.76
Wald chi ² (10)				1,155.39
Pseudo R ²				0.165
Percent of households predicted correctly				70.4

Based on WMS and HICE data from CSA (2007a, b)

***, **, * denote statistical significance at 1, 5, and 10 %, respectively, Addis Ababa is the reference region

8.4.4 Probit Estimation Results and Discussion

We used three binary probit models to estimate the correlates of extreme poverty as measured by the three household well-being indicators; consumption expenditure, calorie intake and asset ownership. We defined the dependent variables of these models as follows. For consumption expenditure the dependent variable was coded one if the household was in the lowest AECE quintile and zero otherwise. For calorie intake the dependent variable was coded one if the daily household AECE was below 1,600 kcal and coded zero if otherwise. For asset ownership the dependent variable was coded one for households in the lowest index quintile and coded zero if otherwise. The estimation results are presented in Tables 8.8, 8.9 and 8.10. The overall fit of the estimated models was good. The pseudo R² values ranged 0.11–0.20 and correct predictions varied 66–74 %.

Table 8.9 Probit estimations based on household dietary caloric intake

Variables	Probit regression		Marginal effect	
	Coefficient	SE	Coefficient	SE
Hhsize	0.2152	0.0102***	0.0354	0.0017***
Hhgender	-0.0272	0.0709	-0.0045	0.0119
Hhage	0.0081	0.0081	0.0013	0.0013
Hhagesquare	-0.00006	0.00008	-0.000010	0.00001
Hheduc	-0.0093	0.03278	-0.00153	0.00539
Hhmar	-0.2255	0.075***	-0.0406	0.0147***
Radio	-0.1089	0.0500**	0.0172	0.00755**
Farm_material	-0.3351	0.0311	-0.0055	0.0051
Livestock	-0.1995	0.0330***	-0.0328	0.0054
Regional dummy variables				
Tigray	0.2871	0.1425***	0.0549	0.0311*
Afar	0.8303	0.1499***	0.2095	0.0503***
Amhara	0.6416	0.1341***	0.1329	0.0336***
Oromiya	0.1125	0.1347	0.0192	0.0239
Somali	0.1381	0.1577	0.0246	0.0303
Benishangul-Gumuz	0.5629	0.1468***	0.1253	0.0413***
SNNPR	0.1788	0.1361	0.03145	0.0256
Harari	-0.1842	0.1950	-0.0269	0.0250
Dire Dawa	-0.07121	0.1761	-0.0122	0.03155
Constant	-2.594	0.2226***		
Number of observations				8,824
Log Pseudo likelihood				-2,812.26
Wald chi ² (17)				648.48
Pseudo R ²				0.1133
Percent of households predicted correctly				66.8

Based on WMS and HICE data from CSA (2007a, b)

***, **, * denote statistical significance at 1, 5 and 10 %, respectively, Addis Ababa is the reference region

Household expenditure-based poverty. Table 8.8 presents the results of the probit analysis of the correlates of household expenditure-based poverty. Larger households were more likely to be ultra-poor than smaller households *ceteris paribus*. The effect of household head gender was not significant. The marital status of the household head had a negative association with extreme poverty but was not significant. As expected, education of the household head had a negative but not statistically significant association with household ultra-poverty. The ownership of a radio had a negative and significant relationship with ultra-poverty. Household asset ownership was negatively associated with ultra-poverty. The estimation results also revealed strong associations between location and ultra-poverty: most of the regional dummy variables had negative and significant associations with the dependent variable.

Household diet-based poverty. Table 8.9 shows the relationships between household variables and diet-based extreme poverty. About 12 % of the sample households qualified as marginalized based on caloric intake. In contrast to the

Table 8.10 Probit estimation based on household assets

Variables	Probit regression		Marginal effect	
	Coefficient	SE	Coefficient	SE
Hhsize	-0.1892	0.0111***	-0.0440	0.0024***
Hhgender	-0.5974	0.0512***	-0.1621	0.0157***
Hhage	-0.0335	0.0061***	-0.0078	0.0015***
Hhagesquare	0.00030	0.00006***	0.00007	0.00001***
Hheduc	0.2386	0.0246***	0.0555	0.0057
Hhmar	-0.3884	0.0571***	-0.1017	0.0166***
Regional dummy variables				
Tigray	-0.1553	0.1121	-0.0696	0.0195***
Afar	0.4188	0.1206***	0.1164	0.0405***
Amhara	-0.4059	0.1076**	-0.0834	-0.0194***
Oromiya	0.1418	0.1069	0.0318	0.0231
Somali	0.2312	0.1257*	0.0596	0.0375*
Benishangul-Gumuz	0.2034	0.1222*	0.0518	0.0337
SNNPR	0.02162	0.107	0.0051	0.0253
Harari	0.1297	0.1404	0.0283	0.02861
Dire Dawa	0.1949	0.1392	0.041	0.0264
Constant	1.509	0.1717***		
Number of Observations				8,860
Log Pseudo likelihood				-3,549.22
Wald chi ² (15)				1,336.06
Pseudo R ²				0.1995
Percent of households predicted correctly				72.02

Based on WMS and HICE data from CSA (2007a, b)

***, **, * denote statistical significance at 1, 5, and 10 %, respectively, Addis Ababa is the reference region

consumption expenditure model, most of the regional dummy variables had positive and significant relationships, indicating greater likelihood of diet-based extreme poverty among households in the regional states of Tigray, Afar, Amhara, and Benishangul-Gumuz compared to rural households located near the capital. There was a negative and significant relationship between married household heads and diet-based extreme poverty.

Household asset-based poverty. Unlike the expenditure and caloric intake based model results, the age, educational status, and gender of the household head all had unexpected association signs with extreme poverty with respect to household assets. The probability of asset-based extreme poverty was less likely among female-headed households compared to male-headed households. The incidence of asset-based extreme poverty was also more prevalent for households with literate heads. Compared to the capital city, households in Afar, Somali, and Benishangul-Gumuz were more likely to be ultra-poor based on asset ownership, whereas those in Amhara were less likely. The variability of the relationships of the regional dummy variables with asset-based extreme poverty may be due to geographic variability in the functional value of farming assets. In most parts of Afar, Somali, and some parts of Benishangul-Gumuz farming equipment is relatively unimportant because most

of the people in these regions are pastoralists who rely little on farm tools and equipment that are vital for sedentary crop-based agriculture.

8.5 Conclusion

The descriptive results indicated that ultra-poverty based on the household expenditure dimension was positively associated with distance from educational and health facilities, roads, and other infrastructure. The descriptive results also revealed considerable overlap of the different indicators of ultra poverty or marginality among the sample households. In particular, ultra-poor households in terms of expenditures also tended to be ultra-poor in terms of dietary caloric intake and asset ownership. The incidence of ultra poverty exhibited significant variation across the different regions in the country.

The results of the probit models indicated several interesting results. Ultra poverty based on the household expenditure dimension was positively and significantly associated with household size and the age of the household head, and inversely with the ownership of farming assets and livestock. Ownership of a radio and the education level of household heads were both inversely associated with expenditure-based extreme poverty. Many of the key factors that were associated with expenditure-based extreme poverty were similarly associated with diet-based extreme poverty; however, the relationships of education of the household head and farming assets did not have statistically significant relationships with diet-based extreme poverty. There was a negative and significant relationship between married household heads and diet-based extreme poverty. Unlike the results for expenditure-based and diet-based extreme poverty, household size had a negative and statistically significant association with asset-based ultra-poverty. There was also a negative and statistically significant association between female household heads and asset-based poverty. Also contrary our expectation, the incidence of asset-based extreme poverty was positively associated with the education level of the household head. In all three poverty dimensions most of the regional dummy variables were strongly associated with extreme poverty, suggesting considerable marginality in rural areas throughout the country.

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References

- Ahmed AU, Hill RV, Smith LC, Wiesmann DM, Frankenberger T (2007) The world's most deprived: characteristics and causes of extreme poverty and hunger. 2020 discussion paper 43, International Food Policy Research Institute, Washington, DC
- Baker J, Schuler N (2004) Analyzing urban poverty: a summary of methods and approaches. World Bank Policy Research working paper no 3399, World Bank, Washington, DC

- Brodwin P (2001) Marginality and cultural intimacy in a trans-national Haitian Community. Occasional paper no. 90, Department of Anthropology, University of Wisconsin, Milwaukee
- Castells M (1989) *The information city*. Blackwell, Oxford
- CSA (2007a) *Welfare Monitoring Survey 2004*. Statistical report on basic population characteristics, education, health, nutritional status and child care. Statistical bulletin, Central Statistical Authority, Addis Ababa
- CSA (2007b) *2004–05 Household income, consumption and expenditure survey*. Statistical bulletin 394, Central Statistical Authority, Addis Ababa
- Dercon S, Krishnan P (1998) *Changes in poverty in rural Ethiopia 1989–1995: measurement, robustness tests and decomposition*. Center for the Study of African Economies WPS/98–7, Centre for the Study of African Economies, University of Oxford, Oxford
- FDRE (1995) *Constitution*. Federal Democratic Republic of Ethiopia, Addis Ababa
- Gans HJ (1993) From underclass to undercaste—some observations about the future of the postindustrial economy and its major victims. *Int J Urban Reg Res* 17:327–335
- Gatzweiler F, Baumüller H, von Braun J, Ladenburger C (2011) *Marginality: addressing the root causes of extreme poverty*. ZEF working paper no 77, Center for Development Research, University of Bonn, Bonn
- Gurung GS, Kollmair M (2005) *Marginality: concepts and their limitations*. IP6 working paper, Swiss National Centre of Competence in Research North South, Bern
- IFPRI (2007) *Taking action for the World's Poor and Hungry People: the 2020 conference at a Glance*, Beijing, 17–19 October 2007. International Food Policy Research Institute, Washington, DC
- Kirkby J (2000) *Land degradation and development, optimism or pessimism?* SAPES Trust, Harare
- Larsen JE (2002a) *Who cares about and for marginal people?* Danish Social Science Research Council, Copenhagen. <http://www2.ihis.aau.dk/gep/publicationer/nr3.pdf>. Accessed 12 Apr 2011
- Larsen JE (2002b) *Spatialization and culturalization of social policy: conducting marginal people in local communities*. Paper presented at the area-based initiatives in contemporary urban policy conference, Copenhagen, 17–19 May 2001. Danish Building and Urban Research Association, Copenhagen
- Leimgruber W (2004) *Between global and local: marginality and marginal regions in the context of globalization and deregulation*. Ashgate Publishing, Farnham
- Massey D (1994) *Space, place and gender*. University of Minnesota Press, Minneapolis
- Mehretu A, Pigozzi BW, Sommers LM (2000) Concepts in social and spatial marginality. *Geogr Ann* 82(2):89–101
- Mingione E (1996) *Urban poverty in advanced industrial world: concepts, analysis and debates*. In: Mingione E (ed) *Urban poverty and the underclass*. Blackwell, Oxford
- MoFED (2008) *Dynamics of growth and poverty in Ethiopia (1995/96–2004/05)*. Ministry of Finance and Economic Development, Addis Ababa
- MoFED (2011) *Ethiopia five years (2010/11–2015/16): growth and transformation plan*. Ministry of Finance and Economic Development, Addis Ababa
- Muller-Böker U, Geiger D, Kansakar VBS, Kollmair M, Molesworth K, Suleri A (2004) *Sustainable development in marginal regions of South Asia*. In: Hurni H, Wiesmann U, Schertenleib S (eds) *Research for mitigating syndromes of global change: a trans-disciplinary appraisal of selected regions of the world to prepare development—oriented research partnership*. Schlaefli and Maurer Publishing, Bern
- Palmer RH (1977) *Land racial discrimination in Rhodesia*. University of California Press, Berkeley
- Sommers LM, Mehretu A, Pigozzi BW (1999) *Towards typologies of socio-economic marginality: north/south comparisons*. In: Jussila H, Majoral R, Mutambirwa C (eds) *Marginality in space—past, present and future: theoretical and methodological aspects of cultural, social and economic parameters of marginal and critical region*. Ashgate Publishing, Farnham
- UNDP (2011) *Human development report 2011*. United Nations Development Programme, New York

- von Braun J, Hill RV, Pandya-Lorch R (2009) The poorest and the hungry: a synthesis of analyses and actions. In: von Braun J, Hill VR, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 1–61
- World Bank (2005) *Ethiopia: a country status report on the health and poverty*. Volume II, report no. 28963-ET, World Bank, Washington, DC

Chapter 9

Examining the Circle of Attachment Trauma, Shame, and Marginalization: The Unheard Voices of Young Kutchi Girls

Manasi Kumar

Abstract This chapter offers a psychological understanding of the experience of social marginality as viewed from the perspective of young girls from the Indian province of Gujarat. Secure attachments are one of the primary ‘capabilities’ that have direct bearing on an individual’s sense of identity and freedom. Insecure attachments, particularly dismissing kinds, lead to inhibitions in personality development and build up layers of shame and self-doubt. The author examines how the psyche is tormented by repeated experiences of social marginalization in the form of dismissal at the hands of family, and how shame becomes an abiding emotion—creating further doubts, disenfranchisement, and alienation.

Keywords Psychological attachment • Emotions • Identity • Freedom

9.1 Introduction

Let me start by explaining how I arrived at this undertaking. I am neither a development practitioner nor an economist; rather I am a psychologist interested in social issues such as poverty, gender inequity, environmental degradation, violence, etc. My interest in real-life events and their ramifications entail a bifocal examination: one aspect pertaining to how the *outside* world changes and impinges on the individual and another on how individual mental frames and ways of thinking, emoting, and feeling change behaviors and perceptions towards the world. My doctoral work at University College in London from 2005 to 2009 examined the differential impacts of natural disasters and social violence on the mental health of children, particularly

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on the attachment representations of children. I was particularly interested in understanding how massive trauma events trigger further trauma and psychopathology in children, and whether social trauma has distinctive clinical signatures in that change among communities, families, and individuals from both the *inside* and the *outside*. The findings of that work are not the focus here, but rather I present a subset of findings about post-disaster adversity and the social marginalization of young girls who I interviewed in the Kutch district of the western Indian province of Gujarat. I worked there with children who had survived the debilitating 2001 Gujarat earthquake. In order to better understand childhood in the rural Gujarati/Indian context, I interviewed children from both working-class and middle-class families, which also offered a control sample that I needed for my disaster trauma research.

Visiting schools in the villages of Lodai and Khengarapur, the city of Bhuj, and in Adriyana in the Surendranagar district was an eye-opening experience for me. While the young boys played with my laptop and camera, and surrounded me asking questions about where I was from, what I would do in my research, and generally sharing with me about their lives in the schools and villages; the girls seemed disinterested, withdrawn, and rarely came forward to greet me. In my ignorance I overlooked this for a while and thought that perhaps the boys were simply less inhibited and that perhaps the girls were not as well-educated or accustomed to outsiders. My 'attachment interviews' were video recorded and those involving girls were uneventful, as they spoke very little there were often long pauses, and a profound silence would accompany anything they described. They did not make eye contact, there was no liveliness in their tone or discussion content, and I was always struck by something heavy building-up inside myself when I listened to these children. Besides practical details such as the video camera losing power, the interviews were getting accomplished without much content and I was getting behind schedule because single interviews lasted more than an hour. One interview after another felt similar. After nearly 30 interviews with the girls and three to five group exercises with the children my experiences confirmed to me that something was indeed problematic with the girls here. My first reaction was to get irritated by their reluctance, thinking of them as somehow less intelligent or engaging than the boys, who seemed more free spirited and childlike. In psychology as in other disciplines such as anthropology, a researcher's own feelings and intuition are powerful tools for understanding individuals and social interactions.

There were other difficulties that contributed to this situation, such as the impossibility of hiring a female translator for the work with the young girls. No female translator could be contracted because women in this region do not normally travel or work outside their homes or the confines of their own village or town. There was a local saying, "no women stepping outside the *darbargarh*" (an ancient fort inside the nearby city of Bhuj), that also seemed to be an obvious boundary for women, symbolizing their confinement inside the old city. Several girl participants were hesitant to be interviewed or tested by a male translator, and the translator, as an adult male, brought a certain power dynamic and unique cultural angularities into the testing situation that appeared to me as if they could potentially interfere with deriving the information needed from the participants. On several occasions I realized that a

benign question such as inquiring whether the child remembered when the quake had occurred was instead put to the child as a general knowledge question, requiring the child to reproduce the exact time, date, and epicenter of the quake. This approach made the children more anxious, making the assessment more difficult; however, becoming aware of such dynamics motivated me to intervene myself. I decided after three or four of such interviews that I would do the remaining testing myself despite the language barriers and this approach was successful in the long run.

Even though no gender differences were found in the psycho-social adjustment of the children as a result of the actual testing, the young girls appeared much more fragile and needed more time to think and provide answers or form opinions than the boys. At times it appeared that they had never been asked to share their personal experiences or day-to-day problems, and that sudden testing on psychosocial adjustment seemed to puzzle them. Some girls were so nervous that their hands would shake and I was aghast to see them covering their faces before me, making me feel as if I too became perceived as a 'domineering male presence' before them. For these reasons I pulled out the interviews with the Kutchi girls and studied them carefully after I returned to my office in London.

9.2 Attachment: The Concept and Its Social Application

Attachment in this research context is understood as a concept that permeates culture and is embedded within a dialectical intrapsychic/intersubjective matrix (Green 2000). Attachment is part of a sense of self that is developed through the influence of the *other*. It is not only the need for the other, but also about what kind of presence the other has had or made in a person's life. As children mature, attachment security becomes an attribute of the person rather than of relationships (Fonagy 2001, 2005; Thompson and Raikes 2003). Attachment is an innate need and also one of the important capabilities that sustain human relationships. At the same time it is also embedded within an interpersonal equation, since the presence of a vital other is needed to animate and activate relational ties. In their work on moral philosophy Nussbaum (2004) and Lear (2007) have discussed how social values and organization can be understood by examining the emotional capabilities of individuals.

Attachment research over the last 30–40 years has shown that a caregiver's presence, contact, and comfort efficiently appease a child's emotional state (Harlow 1959; Bowlby 1969; Sroufe and Waters 1976; Ainsworth et al. 1978). In this process the adults around children endow them with cultural information and meanings that not only pass on language, social skills, and traditions etc., but that also provide a safety net to survive in a complex world. Children listen to and are greatly influenced by the stories narrated by their significant others and the adults around them (Bruner 1990), and soon adopt this experienced quality of storytelling. This capacity to share information and narrate, exchange, and negotiate ideas and experiences forms the basis of later socio-emotional development.

Research on emotions has shown that negative emotions stimulate social comparison, narration, and conversation to fuel cognitive work and to allow a metabolizing process. The social-representation theory of Moscovici (1984) and the social-constructionist approaches of Bruner (1990) are examples of how distressed individuals seek social contact and how conversations provide a medium to digest unfamiliar or threatening situations or objects. In distressing situations the attachment mechanisms get activated (Bowlby 1969) and serve two purposes: direct anxiety reduction and increased cognitive clarity. It is thought that the proximity and care of caregivers can restore these functions when such are required. An emotional experience, particularly a negative one, stimulates social sharing of the experience in both interpersonal as well as collective contexts. Repetitive communication allows an emotional experience to get registered and lends itself to the evolution of its mental representation. It is hypothesized that the quality and amount of sharing of one's experiences, especially negative experiences, reveal how children have dealt with these issues in their interpersonal and social environments. Researchers working on emotions of shame and guilt have also found that unshared emotional episodes elicit more intense feelings of shame and guilt than shared ones (Finkenauer and Rimé 1998).

9.3 Insights on Attachment Trauma, Shame, and Poverty: A Discourse Analysis of Interviews with Young Girls in Kutch

9.3.1 Methods

I quantitatively analyzed Child Attachment Interview (CAI) narratives of 12 selected girl participants from the earthquake group. I selected the participants on the basis that their narratives provided a broad sweep of themes that represented the entire CAI sample. For this chapter a simple treatment of narratives using thematic analysis (using actual sentences as themes), in keeping with principles of grounded theory (Glaser and Strauss 1967) and a phenomenological approach extended by psychological anthropology (Rosaldo 1984; Shweder and LeVine 1984; Shweder 1991; Berry et al. 1997) were favored over other qualitative techniques. Phenomenology seeks the psychological meanings that constitute a phenomenon through investigating and analyzing past examples of the phenomenon within the context of the participant's lives (assuming that the capacity to live through events or respond to different situations greatly exceeds the capacity to know exactly "what we do" or "why we do what we do"). Narratives are also seen as the performance of the self or as a story of identity (Parker 2004). The analysis of the CAI transcripts helped unfold processes where identity and self were threatened and/or a certain kind of identification was either denied or affirmed.

9.3.2 *The Child Attachment Interview: The Tool*

The CAI explores the way young children (8–14 years of age) think about themselves and how they represent relationships with their parents. It includes about 19 semi-structured questions to be pursued with the child during the course of the interview. Shmueli-Goetz et al. (2008, 4) presented the CAI as an instrument where “a better compromise between indirect assessment of representations and simply using an adult interview and coding system” has been reached. Additionally, it is designed to overcome the ‘measurement roadblock’ in attachment (i.e., the lack of validated assessment instruments and clinical interventions with pre-pubescent children). The interview helps assess children’s internal models of attachment relationships by directly questioning them about their experiences with, and perceptions of, their primary caregivers.

The majority of the CAI scales are intended to assess the child’s overall current state of mind with respect to attachment, a state of mind that is assumed to be reflected in the narrative as a whole (Target et al. 2003). These scales are: Emotional Openness, Preoccupied Anger, Idealization, Dismissal, Self Organization/Disorganization, Balance of Positive and Negative References of Attachment Figures, Use of Examples, Resolution of Conflicts, and Overall Coherence. Three of these scales (Preoccupied Anger, Idealization, and Dismissal) are rated separately for mothers and fathers. All scales have value ranges from 1 to 9 denoting the lowest to highest score respectively. All scales were coded from 1 to 9 with anchor points at odd values illustrated with examples of episodes characteristic of that level, as well as a description of the ways in which that aspect of the child’s representations was manifested across an entire interview. In a nutshell, the CAIs help illuminate both the contents of the mind and its conversation with the *other*.

9.3.3 *Sample Characteristics*

Approximately 12 interviews were conducted with girls from rural Gujarat. The mean age of the interviewees was 11.7 years old (range=10–14). Interviews were typically conducted in schools at four locations across the district of Kutch: Bhuj, Lodai, Khengarpur, and Khavda. On some occasions (such as during school holidays) interviews were conducted in other places such as local community halls. The first few interviews were done with the help of a translator and subsequently my limited but increasing familiarity with Kutchi and Gujarati enabled me to conduct them myself. Although all 12 girls were selected from the earthquake affected areas of Kutch, none of them were severely affected mentally or physically by the quake. The children lived in *kutchi* (makeshift construction) houses and worked at home doing household chores, looking after younger siblings and embroidering cloth at home to help make ends meet. The average monthly income of the girl’s parents was around 3,000 rupees (US\$800) for households with an average of five to six members. Approximately 500–700 (US\$133–187) additional rupees were contributed by

children who are old enough to embroider or engage in other paid work such as making wristbands, brooms, local cigarettes, etc. Physically the girls appeared very weak and severely anemic, and they often suffered from conditions such as chest congestion, cough, ‘chikungunya’ (*Alphavirus*) infections, or were recovering from waterborne parasite infections.

9.4 Analysis of the Attachment Interview Material

The section below highlights key themes that came up in the 12 interviews with the Kutchi girls. In comparison to those conducted with young boys, the girls’ interviews were more cryptic, hesitant, and shorter. The nonverbal gestures and facial expressions of these girls by contrast conveyed a lot more than their speech did. What were revealed in the interviews were multiple narratives strewn with shame; uncertainty about one’s identity, fate, or future; and the inhibited speech conveyed their status as disenfranchised units of the family and community in general. Names of the participants have been changed below and abbreviated, and the numbers indicate the ages of the children interviewed.

Characteristic questions and responses on CAIs: shame, inhibition, and uncertainties.

- How would you describe yourself? Who are you as a person?
 - “I am expected to get along well with my family and be kind to them.” (FB, 12)
 - “I don’t like to fight with others.” (FB, 10)
 - “I am a quiet girl.” (FB, 10)
 - “I am a good girl.” (FK, 12)
 - “Sometimes I think and sometimes I don’t think.” (FB, 11)
 - “I would like to study so that I never feel that I did not realize my potential like even if I get married no one is able to boss or maltreat me.” (FB, 13)
 - “I do not like to be fashionable.” (FB, 13)
- How would you describe your relationship with your mother?
 - “Doesn’t give me any money (but she buys me things).” (FB, 14)
 - “I never go out without her.” (FB, 14)
 - “I do whatever she tells me to do.” (FB, 10)
 - “She is happy when I behave well.” (FB, 11)
 - “Like if mummy tells me to collect all the trash, I do that. If she tells me to wash the utensils I do that too, and if she goes out and she gets late and tells me to do the entire house work, I do that as well.” (FB, 9)
 - “When I don’t play with my little brother, then she scolds me.” (FB, 9)
 - “It’s good. I sweep and do all the work.” (FK, 10)
 - “I am my mother’s daughter.” (FB, 11)
 - “I like working with her in the kitchen.” (FB, 11)

- “Mum likes it when I work in the house.” (FB, 11)
- “I like sitting and talking with mother (about) household gossip.” (FL, 13)
- “When papa tells me not to come to school and mummy sends me—I like that.” (FB, 12)
- How would you describe your relationship with your father?
 - “It’s good, I don’t know more.” (FB, 11)
 - “Papa keeps on saying that girls can’t do anything ... he doesn’t understand. Papa doesn’t believe that a girl can do something. I want him to realize that we can.” (FB, 13)
 - “Whatever I say, my father gets it for me.” (FK, 12)
- In what ways would you like to be like your mother?
 - “My mother never wishes ill for others, listens to others, keeps me with her and keeps her pain to herself, doesn’t tell anyone that I have this problem.” (FB, 10)
 - “Yes, but I would not want to remain a housewife like her.” (FB, 12)
 - “Yes, I don’t know.” (FB, 10)
- Do you feel loved by your parents?
 - “I have never felt this with papa, but with my mother yes,...whenever she talks so—I feel she wants to push me out of the house...that she doesn’t want me there.” (FB, 15)
- Do your parents fight? How does that make you feel?
 - “Never.” (FK, 11)
 - “I don’t know about that.” (FB, 10)
 - “When father shouts at mother, I feel very scared.” (FB, 11)
 - “Yes my father doesn’t listen to my mother. He drinks and there are many other things that he doesn’t listen to what mummy says to him—so they fight.” (FB, 15)
- Do you have any wishes?
 - “No.” (FL, 10)
 - “I don’t know.” (FL, 12)
 - “I want to be a madam (*memsahib*, which literally means an English dame).” (FB, 12)
 - “I want to be a teacher, pilot, and scientist.” (FB, 10)
 - “I want to be an inspector. The rest is up to God. I want to be someone, let’s see where my destiny takes me. Because my parents want me (to become) married. I want to do any work—though I want to be an inspector—but actually I will take up any work as long as there is some work available. I want to be someone.” (FB, 15)
 - “I want to study till 10th grade.” (FK, 12)
 - “If my father lets me study, then I would like to do a job.” (FL, 12)

Common patterns and trends that emerge from the case vignettes described above are:

1. Paucity of material/discourse—reflecting a reality of life?—or an issue of the ease and agency in qualitative research?
2. Absent gazes, prolonged silences, smiles, and monosyllables
3. Difficulty in putting very basic everyday activities or problems into words or a comprehensible narrative (poor literacy/educational background, verbal facility)
4. Lack of imagination—inability to garner enough material to express needs, thoughts, desires, or wishes
5. Idealized responses—Ferenczi's (1988) 'wise baby'—traumatized child—particularly on questions about parents
6. Psychic equivalence (Fonagy et al. 2002)—“symbolic equation” (Segal 1988)

9.5 Discussion: Explorations into the Aporias and Absences, Re-examining Subjectivities

The patterns of response here suggest some sort of deficit in thinking and emoting. Both of these capacities are compromised in situations of high stress or amidst continual negligence and dismissal of personal needs.

9.5.1 *Particular Quality to the Narratives of Absence*

If the interviews are seen as 'forms of self-telling,' then at least two formations of self can be discerned from the material above. Freud's psychic reality was not so much about how life was, but rather how it was recounted and interpreted to be. So the stories here also provided fodder to look beneath the mask and see the layered nature of these young girls' psychic reality. Two response patterns could be discerned through an attempt to differentiate narrative modes of thought based on narrative discourse.

9.5.1.1 **Embalming of Absence and Invisibility**

This narrative response was mentally and bodily connected to shame—concreteness and invisibility—compelling mental numbness. Shame, like any self-conscious emotion, requires an organism's own sensitivity, is related to external appearance, and is directed externally. Shame becomes a heightened consciousness of self, an unusual and distinct form of self-perception. The self is seen as small, helpless, frozen, and emotionally hurt (Lewis 2003). Such a self-perception or internal attribution often emanates from harsh socialization or when there exists a high degree of punishment for failure (or reward for success). The experience of shame makes the

self both the subject and the object: the self is embroiled in a battle with itself only. Research also shows that there tends to be less sharing when people feel shame acutely (Shweder 2003; Rimé 2009).

Another quality of their narratives was the concreteness of metaphors (Grubrich-Simitis 1984), in that an open-ended quality of fantasy life or imagination was absent. Fixed gazes and expressions carry an object-like, unalterable quality. “Metaphorization” and “mentalization” are possessions of the ego, and when these are impaired it speaks about the functioning of the ego. Their absence then is also colored with ‘real’ mental capability deprivation.

9.5.1.2 Daunting Presence of Dismissive Defensive Strategy

It is important to differentiate here that the latter is different from dismissive attachment. It is not that the children were dismissive of the relationships/parents, but that they were dismissive of their own neediness, desires, and the disturbing things that were happening around them. The style of functioning could be dismissive—not in terms of undermining the relationships, but in dismissing the need to be cared for and the feelings of loss associated with it. This is what the sample showed. There seems to be a precocious ‘wise-baby’ who deflects the emotional life to a place where it cannot be felt (Winnicott 1970; Ferenczi 1988) and takes on a maternal function in an inverted way. The loss of mental states (Lear 2007), the lack of openness, and a certain solipsism are also about problems in this relational matrix, where parenting and socialization experiences have been hurtful, insensitive, frightening, etc.

9.5.2 *Is Inhibition a Symptom or Different from a Symptom?*

The responses above also allude to restrictiveness, constraint in the ability to express and share stories of their lives. This may be due to either a paucity of vital experience or a marring of the ability to make sense and engage with one’s experiences. It may also be due to both of these factors.

One text that engages with this restricted ability is Freud’s (1926) “Inhibitions, symptoms, and anxiety,” where he began by discussing how inhibition is different from a symptom (or symptom formation). According to Freud, inhibition has a special relation to function, where it is a normal restriction of a function and at times may be closer to being a symptom and carry a pathological dimension. Inhibitions akin to symptoms are products of disturbed functioning of the ego. Apart from disturbances in the ego, functioning due to sexual or nutritional needs, ego strength is known to get disrupted when in conflict with the demands of either the super-ego or the id. Freud (1926) traced the generalized inhibitions of the ego to impositions on the ego as a measure of precaution, or as brought about as a result of depletion in energy. He was emphatic to point out that, unlike a symptom, inhibitions take place and act upon the ego itself. This might also mean that inhibitions are closer to the

conscious (or belong to the domain of the pre-conscious) than symptoms per se. In this sense one's socialization and familial surroundings might play a more active role in causing or exacerbating such restrictions in the sense of self. It seemed that these young girls were fighting their own selves and inner persecutory parents/family in this process.

Freud (1926) conceptualized shame as an inhibiting emotion that led to repression, therefore giving it a central importance in the development and maintenance of psychopathology. In a bid to solidify his drive model (*eros* and *thanatos* as "life" and "death" drives), he underplayed the role that shame/inhibition plays in repression (Scheff 2000). As his model became more and more intrinsically driven, shame ceased to occupy a place in the literature.

9.5.3 Domesticity and Docility—(En)gendered Identifications

It is not in doubt that the norms and practices that affect adults also affect children; cultural practices inhibiting women's movement and access to resources are examples. The responses given by these girls depicted the burgeoning unpaid work burden and in many ways their narratives are also ways in which culture and its practices transmit themselves. What might vary is the cultural and linguistic perspective or narrative form in which it is formulated and expressed (Bruner 2004). Whether it was paid or unpaid domestic work or work outside the house it was clear that work was a critical factor in the lives of these children. The largest inequality took place in household work. The interviews made the enormous burden of work on these girls quite explicit, apart from highlighting the rewards/punishments that are associated with it. Love, care, and acceptance were bartered for work. The excessive exposure to household work in many ways obstructs other potential functions, such as knowledge seeking, education, hygiene, health, leisure activities, etc. It was quite explicit from the children's narratives that the gendered social norms and traditions gave preference to boys and prioritized education for boys over girls. It leads to the question of whether being a girl was something shameful or at least culturally devalued. Being respected and treated with dignity also belong to the domain of well-being, and prolonged discrimination weakens ego strength, trust, and a sense of security that is crucial for secure attachments.

9.6 Intergenerational Import and Transmission of Attachment, Trauma and Poverty

The Kutchi girls that I interviewed seemed to face a continual disenfranchisement of their voices, needs, and desires. Attachment trauma in the young girls of rural Gujarat was precisely this inability and failure of their families to adequately nurture psychological and social capabilities in the girl children, and this trauma was

transmitted intergenerationally. A few implications of the points described above need to be made clear:

- The literature on both poverty and trauma points out that these two themes are multidimensional and intergenerational in their import. Psychologists studying massive trauma events such as the Nazi atrocities against the European Jews during World War II, describe how the third and fourth generations after the original survivors continue to suffer from pain, guilt, and loss. Similarly development economists have shown how poverty is a trap in which people live in poverty, die in poverty, and pass it on to subsequent generations. Attachment also is intergenerational in that, if not dealt with, insecurities keep repeating and the same relational patterns pass them on from one generation to the next. This intergenerational cycle of the transfer of poverty/trauma/attachment needs to be studied altogether and in-depth.
- Considering that poverty is understood today as capability deprivation, attachment at least as described in this paper is offered as a concept that denotes basic human well-being or a need, and one that is akin to a capability that family/caretaker/society nurture in an individual. As a capability it endows an individual with a sense of security, safety, and relational contentment that are essential for a healthy sense of self, identity, and purpose in life. Attachment trauma of the kinds that these Kutchi girls exhibited suggests a life where shame and self-doubt were prominent emotions. So acute was the feeling of shame that it annihilated the self into a complete dismissal of personal needs—right from the need to be loved, to be cared for, to the need for autonomy and identity. Development research could potentially enrich the discourse on poverty by looking at attachment trauma as a capability deprivation akin to how poverty and social marginalization are understood today. A young child’s mind and its capacities are marred in an environment that generates constant conflict between needs and discrimination, and along with the lack of love, care, or warmth, takes away any possibility of viewing oneself as a capable human being.
- Shame has not been examined adequately in either psychological or other social-science literature. Amongst the few contributions made to our understanding of this emotion is the work of Cooley (1992), who talked of shame as a social emotion. In his concept of the “looking-glass self” Cooley talked about the process of self-monitoring, where the processes involved are: the imagination of our appearance to others, the imagination of their judgment of that appearance, and some sort of self feeling—like pride or mortification. In the young girls, a deep sense of inferiority developed due to continual discrimination and disengagement that is also partly mirrored by their mothers (or other female figures) who likewise are not necessarily able to reflect a sense of identity and independence. The “looking-glass self” then only senses lack, inadequacy, and absence in one’s self, and that is what these interviews captured. Something that these interviews conveyed was that the change had already happened—the self was absent and silence echoed around these young girls of Kutch. Shame is isolating, it is a disconnection from social bonds because it is also an evaluative emotion unlike guilt, which is an

individualistic emotion (Chodorow 1996). Lewis (1971) further explains shame as a social emotion—where a social bond is threatened, calling it a “bodily and/or mental response to the threat of disconnection from the other.” In this sense the girls in my study were in such strong identification with the authority that minimized their freedom and existence that any thinking or reasoning that differed caused them great shame or discomfort.

Nurturing attachment also implies nurturing or developing a certain ‘intelligibility,’ which is a combination of sensitivities and capabilities in the parents’ mind about the larger concerns for their child. Research evidence (Harper et al. 2003; Robeyns 2003; Baneerjee and Duflo 2012) shows that sensitization and empowerment of women enables them to act on their general preferences in making decisions that are in the best interests of their children’s well-being. The transmission can be positive (such as resilience). What is important is how and whether the real and perceived negative effects can be overcome over the course of a lifetime and/or between generations, and if not, what is it that prevents these outcomes.

The capabilities approach developed by Sen (1982) insists that the focus should be on the real freedoms that people have for leading a fulfilling and meaningful life. This approach refuses to make normative judgments based exclusively on income, commodities, or material resources. Capabilities are considered people’s potential function or their ability to exist and act. Thus as a means of enhancing the well-being of its people, a society also needs to focus on the freedom of individuals to achieve their intrinsic capabilities. Attachment can be seen as a function of a person’s capabilities that are intergenerationally nurtured and passed on. Psychologists think that children are endowed with the need to seek secure attachments, though at the end of the day it is also the family and social milieu that instill and reinforce attachment security. So there exists a dual process of initiation of the capability for secure attachment—one which a human being is programmed to strive towards (like love, trust, empathy, etc.), and on the other hand it is also to be harnessed and developed over the course of one’s lifetime through socialization. It is in this domain that these young girls were contesting their struggle for survival, identity, and freedom to achieve what they desire.

9.7 Post Disaster Adversities: A Coda

One measure of the long-term damage post disasters is to examine personal and social adversities in the lives of survivors. The severity of post-event adversities then is one index of ongoing and often compounded traumatization. Medical anthropologists Kleinman (1995) and Young (1995) have argued that the actual appreciation of the influence of social conditions has been compromised due to the extreme popularity of post-traumatic stress disorder (PTSD) as a psychiatric/medical diagnostic category and the consequent “pathologization” of the person as a whole (see Caruth (1996) review of PTSD for a critical commentary on this theme).

This tendency towards “psychologization” undermines the role of structural forces, and how institutions and social systems control and exert tremendous influence on individual lives (Scheper-Hughes 1992; Leys 2000; Parker 2007).

That life after trauma is more painful and difficult to lead than the traumatic event itself is well known to psychologists. But in instances where individual or communal trauma is made more potent by a breakdown of socio-economic or political security, or by a lack of access to basic entitlements, rights, and privileges, the psychological damage is manifold (Nieuwenhuys 1990; Scheper-Hughes 1992; Erikson 1995; Young 1995; Kaplan 2005). Essential elements for recovery from such experiences include:

- a healthy family environment where one is able to communicate their needs (since every other need becomes subservient to the struggle for survival)
- the ability to empathize with the pain and suffering of others (without meaning to underrate the quality of care that poor or materially less able parents may provide to their children or the daily survival takes a toll on time, energy, and resources that can be channeled towards a child’s well-being)
- the ability to think about moral and ethical choices associated with decision making on family issues, such as forcing a child to drop out of school in order to work.

When the secure socio-cultural field around which the family is supposed to function collapses, the adults and children in the family may experience an enormous sense of loss and disorientation. Therefore along with the morality that emanates from internal family structure, a social structure is needed to enforce ethical and child-rights oriented decision making on behalf of parents and caretaking adults.

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References

- Ainsworth MDS, Blehar MC, Waters E, Wall S (1978) *Patterns of attachment: a psychological study of the strange situation*. Erlbaum, Hillsdale
- Baneerjee AV, Duflo E (2012) *Poor economics: a radical rethinking of the way to fight global poverty*. Random House, New Delhi
- Berry JW, Poortinga YH, Pandey J (eds) (1997) *Handbook of cultural psychology*. Allyn and Bacon, Boston
- Bowlby J (1969) *Attachment and loss: vol 1. Attachment*. Basic Books, New York
- Bruner J (1990) The narrative construction of reality. *Crit Inq* 18:1–21
- Bruner J (2004) Life as narrative. *Soc Res* 71(3):691–710
- Caruth C (1996) *Unclaimed experience: trauma and narrative*. John Hopkins University Press, Baltimore
- Chodorow NJ (1996) Theoretical gender and clinical gender: epistemological reflections on the psychology of women. *J Am Psychoanal Assoc* 44S:215–238
- Cooley CH (1992) *Human nature and the social order*. Transaction Publishers, Piscataway Township

- Erikson K (1995) Notes on trauma and community. In: Caruth C (ed) *Trauma: explorations in memory*. John Hopkins Press, Baltimore, pp 183–199
- Ferenczi S (1988) Confusions of tongue between adults and the child: the language of tenderness and of passion. *Contemp Psychoanal* 21:196–216
- Finkenaue C, Rimé B (1998) Socially shared emotional experiences vs. emotional experiences kept secret: differential characteristics and consequences. *J Soc Clin Psychol* 17:295–318
- Fonagy P (2001) *Attachment theory and psychoanalysis*. Other Press, New York
- Fonagy P (2005) Attachment, trauma, and psychoanalysis: where psychoanalysis meets neuroscience. Keynote lecture at the IPA 44th Congress on Trauma: New Developments in Psychoanalysis, International Psychoanalytic Association, Rio De Janeiro, 28–31 July 2005
- Fonagy P, György G, Jurist EL, Target M (2002) *Affect regulation, mentalization and the development of the self*. Other Press, New York
- Freud S (1926) Inhibitions, symptoms and anxiety. Standard edition of the collected works of Sigmund Freud, vol 20. Hogarth Press, London
- Glaser BG, Strauss A (1967) *Discovery of grounded theory: strategies for qualitative research*. Transaction Publishers, Piscataway Township
- Green A (2000) The intrapsychic and intersubjective in psychoanalysis. *Psychoanal Q* 69:1–39
- Grubrich-Simitis I (1984) From concretism to metaphor—thoughts on some theoretical and technical aspects of the psychoanalytic work with children of Holocaust survivors. *Psychoanal Study Child* 39:301–319
- Harlow H (1959) The nature of love. *Am Psychol* 13:573–685
- Harper C, Marcus R, Moore K (2003) Enduring poverty and the conditions of childhood: life course and intergenerational poverty transmissions. *World Dev* 31(3):535–554
- Kaplan S (2005) Children in Africa with experiences of massive trauma: a research review. SIDA monograph, Swedish International Development Cooperation Agency, Stockholm. http://www.multietn.uu.se/hgs/staff_hgs/pers_homepages_hgs/kaplan_SIDA4629en_Children_in_Africa_w.pdf. Accessed 20 Oct 2012
- Kleinman A (1995) *Writing at the margin: discourse between anthropology and medicine*. University of California Press, London/Berkeley/Los Angeles
- Lear J (2007) Working through the end of civilization. *Int J Psychoanal* 88:291–308
- Lewis HB (1971) *Shame and guilt in neurosis*. International University Press, New York
- Lewis M (2003) The role of self in shame. *Soc Res* 70(4):1181–1204
- Ley S R (2000) *Trauma: a genealogy*. University of Chicago Press, Chicago/London
- Moscovici S (1984) The phenomenon of social representations. In: Farr M, Moscovici S (eds) *Social representations*. Cambridge University Press, Cambridge
- Nieuwenhuys O (1990) *Children's lifeworlds: gender, welfare and labour in the developing world*. Routledge, London
- Nussbaum M (2004) Body of the nation. Boston review of literature. <http://bostonreview.net/BR29.3/nussbaum.html>. Accessed 25 Oct 2012
- Parker I (2004) *Qualitative psychology: introducing radical research*. Open University Press, London
- Parker I (2007) *Revolution in psychology: alienation to emancipation*. Pluto Press, London
- Rimé B (2009) Emotion elicits the social sharing of emotions: theory and empirical review. *Emot Rev* 1:60–85
- Robeyns I (2003) Sen's capability approach and gender inequality. *Fem Econ* 9(2–3):61–92
- Rosaldo MZ (1984) Toward an anthropology of self and feeling. In: Shweder RA, LeVine RA (eds) *Culture theory: essays on mind, self, and emotion*. Cambridge University Press, Cambridge
- Scheff TA (2000) Shame and the social bond: a sociological theory. *Sociol Theory* 18(1):84–99
- Scheper-Hughes N (1992) *Death without weeping: the violence of everyday life in Brazil*. University of California Press, Berkeley
- Segal H (1988) *Introduction to the works of Melanie Klein*. Karnac Books, London
- Sen A (1982) *Choice, welfare and measurement*. Blackwell, Oxford
- Shmueli-Goetz Y, Target M, Fonagy P, Datta A (2008) The child attachment interview: a psychometric study of reliability and discriminant validity. *Dev Psychol* 44(4):939–956

- Shweder RA (1991) *Thinking through cultures*. Harvard University Press, Boston
- Shweder RA (2003) Towards a deep psychology of shame. *Soc Res* 70(4):1109–1129
- Shweder RA, Levine RA (eds) (1984) *Culture theory: essays on mind, self, and emotion*. Cambridge University Press, New York
- Sroufe LA, Waters E (1976) The ontogenesis of smiling and laughter: a perspective on the organization of development in infancy. *Psychol Rev* 83:173–189
- Target M, Fonagy P, Shmueli-Goetz Y (2003) Attachment representations in school-age children: the development of the child attachment interview (CAI). *J Child Psychother* 29:171–186
- Thompson RA, Raikes HA (2003) Toward the next quarter-century: conceptual and methodological challenges for attachment theory. *Dev Psychopathol* 15:691–718
- Winnicott DW (1970) The maturational processes and the facilitating environment. *Int Psychoanal Press* 64:1–276
- Young A (1995) *The harmony of illusions: inventing post-traumatic stress disorder*. Princeton University Press, Princeton

Part III
Environmental Drivers of Marginality

Chapter 10

Poverty, Agriculture and the Environment: The Case of Sub-Saharan Africa

Prabhu Pingali, Kate Schneider, and Monika Zurek

Abstract Marginal areas of sub-Saharan Africa (SSA) have historically offered low productivity potential and low returns on investments in agricultural productivity growth. Population and agricultural market dynamics in Africa are improving the prospects for productivity-enhancing investments in this environment. In this chapter the authors introduce an opportunity cost framework to demonstrate where agricultural development is now an opportune strategy to reduce marginality in SSA and to guide strategic priority setting for public investment for the sustainable improvement of agricultural productivity. It then lays out policy and technology priorities for sustainable development of marginal production environments.

Keywords Opportunity costs • Priority setting • Investments • Yield gaps • Agricultural productivity growth

10.1 Introduction

Poverty in Sub-Saharan Africa (SSA) remains predominantly a rural phenomenon and the vast majority of the rural poor are smallholder farmers (World Bank 2007). Many of those farmers are concentrated in areas that have remained unattractive for agricultural development and as a result, demonstrate extremely low agricultural productivity. Such marginal areas have historically offered little return on investment due to low population density or poor access to markets and thus remain marginal precisely because investments to alter their condition have been unfavorable to the public and private sectors (including the farmers themselves), and have not been made. However, as population density increases and market dynamics open, new opportunities and the potential for attractive returns on investment in agricultural

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development are becoming increasingly promising. In this chapter we introduce an opportunity cost framework to demonstrate where agricultural development is now an opportune strategy to reduce marginality in SSA and to guide strategic priority setting for public investment to sustainably improve agricultural productivity and thereby reduce marginality.

Marginal environments are areas that have been relatively unfavorable for agricultural production due to one or more socioeconomic, technological, or biophysical constraints. Farmers may face constraining factors in the agro-ecological environment (agro-ecological zone or farming system), environmental resource availability, remoteness (distance to markets and services, transportation or communication infrastructure), market access, socioeconomic resources, or an unfriendly policy environment. Some marginal environments are characterized by unfavorable conditions in several of these domains, while others may be considered marginal due to more limited sets of factors (Lipper et al. 2007). Low population density and poor market access limit the attractiveness of investments to enhance agricultural productivity. Today, as population density is increasing and market demand and infrastructure are improving, investments in intensification are becoming increasingly attractive in areas previously considered to be unfavorable.

Many of SSA's marginal areas, while becoming increasingly favorable for investments to enhance productivity, also pose unique challenges, with important technology and policy implications for ensuring that productivity growth is both pro-poor and sustainable. Poor farmers depend in large part on 'orphan crops' such as sorghum and cassava, and face constraints due to poor natural resource endowments and an already degraded resource base. Therefore, effectively reducing marginality through agricultural productivity growth in SSA requires a technology focus on the crops and traits that are important to the poor. Similarly, increasing population density and urbanization pose both an opportunity for agricultural development as well as a constraint, as they also increase pressure on agriculture and the natural resource base. These pressures are further exacerbated by existing environmental degradation and the impacts of climate change. Therefore agricultural development strategies must focus on sustainable intensification. Policy can help to foster the sustainability of productivity growth by addressing the environmental constraints particular to marginal areas and by providing the proper incentives for natural resource use that help reduce or reverse degradation. At the same time, some areas will remain unfavorable for agriculture, such as extremely arid, steep sloped or rocky areas. Policy intervention is also necessary to help keep such areas out of agricultural production and find alternative uses, such as providing ecosystem services.

10.2 Poverty and Marginal Environments in Sub-Saharan Africa

Marginality with respect to agriculture has been conceptualized as areas that are less favorable for agriculture due to both biophysical and socioeconomic factors. These areas are regions that demonstrate low potential for agricultural production due to

fragile agricultural resource bases and/or limited access. Most less-favorable areas are uplands, highlands, arid or semi-arid zones where low agricultural productivity results from a variety of constraining environmental factors including limited soil fertility, prohibitive slopes, or unfavorable temperature or hydrological conditions with economic factors such as poor infrastructure or market access. Appropriate production strategies in these areas include perennial and tree crops, rotating cultivation systems, and mixed cropping. The constraints of limited natural endowments are aggravated to begin with by increasing degradation trends, such as soil erosion and compaction, water stress, over-grazing, deforestation, and desertification in the drylands (Ruben et al. 2007).

Quantifying the extent of land area and the size of populations found in marginal areas is challenging, as existing information on these subjects and on local limiting factors are not mutually exclusive. However, looking at the above characteristics in turn—resource endowment and degradation—provides some basic context on marginal lands.

Resource Endowment: Nearly half (43 %) of the African continent is characterized as dryland and therefore environmentally constrained in agro-ecological terms. Drylands include arid, semi-arid, and dry sub-humid agro-ecological zones, as defined by their average growing season length (UNDP 2009). The vast majority of drylands—about 72 %—are in developing countries, where they are home to 13 % of the developing world's population (Millennium Ecosystem Assessment 2005). In SSA the predominant farming systems in the drylands include migratory livestock herding, agro-pastoral systems, and rainfed mixed cropping (Dixon et al. 2001; Ruben et al. 2007; UNDP 2009). Drought and water stress are the predominant environmental constraints, exacerbated in many areas by land degradation (Adhikari 2011).

Land Degradation: Degraded lands may be defined as areas demonstrating long-term decline in ecosystem function, one aspect of which can be measured in terms of declining net primary productivity¹ over time (Bai et al. 2008). As of 2003 more than 188 million people in SSA depended directly on degraded lands for their livelihoods and worldwide agricultural lands are substantially over-represented in their share of degraded land area (Bai et al. 2008 and authors' calculations). Specifically among the drylands, degradation associated with agriculture is slightly more prevalent in the dry sub-humid and semi-arid areas than in the arid regions (Adhikari 2011). Estimates of agricultural productivity loss due to land degradation vary greatly and most are based on expert opinion or assumptions, with few rigorous experimental efforts (Ruben et al. 2007). While numerous studies have found high levels of soil erosion and soil nutrient depletion in several African countries and particularly in the drylands (see Ruben et al. 2007), many have criticized the methods and accuracy of these efforts, leaving little agreement over the extent of the productivity gap resulting from land degradation (Ruben et al. 2007).

¹The net rate at which vegetation fixes carbon dioxide from the environment, estimated by remotely sensed proxy indicators.

10.2.1 Poverty and Marginality

Poverty coincides with marginal environments across SSA. Evidence across nations demonstrates that not only are the poor mainly found in rural areas where agriculture is the main source of income, but also that poverty rates are higher in areas that can be classified as marginal for agricultural production (authors' calculations; HarvestChoice 2010; FAO 2013). In terms of absolute numbers, more people live in agriculturally favorable environments, so the share of the rural poor living in marginal environments is relatively smaller. However, there is debate regarding the relative incidence and severity of poverty in different types of rural environments and data on the geographic distribution of poverty is extremely limited (Ruben et al. 2007). This debate stems in part from different conceptualizations of marginality as discussed above, though studies in Africa have consistently found that poverty prevalence and severity are often greater in areas less-favored for both environmental and economic reasons across the continent (Ruben et al. 2007).

The relationship between poverty and marginal agricultural environments is even more pronounced for the ultra-poor—those living on less than US\$0.75/day—who are often found in semi-arid and arid environments. The ultra-poor are a significant share of the total poor in SSA, approximately 136 million people nearly all of whom (93 %) are farmers (HarvestChoice 2010). Globally, the ultra-poor are becoming ever more concentrated in SSA and South Asia, and are overrepresented in marginal areas (Gatzweiler et al. 2011). Figure 10.1 presents the example of Ghana, where the prevalence of poverty and ultra-poverty in rural areas is highest in the sub-humid and driest regions of the country. Similar analyses have found this trend to be consistent across many countries (HarvestChoice 2010).

10.2.2 Agriculture Is an Engine of Growth and Poverty Reduction

Agriculture continues to be an important source of income for rural households across all income levels. In fact a substantial body of evidence supports the relationship between agricultural productivity growth and poverty reduction, demonstrating generally high poverty reduction elasticity for agricultural productivity growth (Hazell 2010; Pingali 2010). Worldwide agricultural growth has been consistently shown to be more effective in reducing poverty than comparable growth in other economic sectors; for instance, on average a 1 % increase in the agricultural growth rate has been estimated to reduce poverty by 1.6 % more than equal growth in industrial sectors and by three times more than in service sectors (Christiaensen and Demery 2007).

In SSA specifically, investment in agriculture contributes 4.25 times more towards reducing poverty than comparable investments in any other sector (Pingali 2010). Furthermore, agriculturally driven growth generates a larger welfare effect than non-agriculturally driven growth, especially for the poorest 20 % of the population (World Bank 2007). Agricultural productivity growth is thus an important

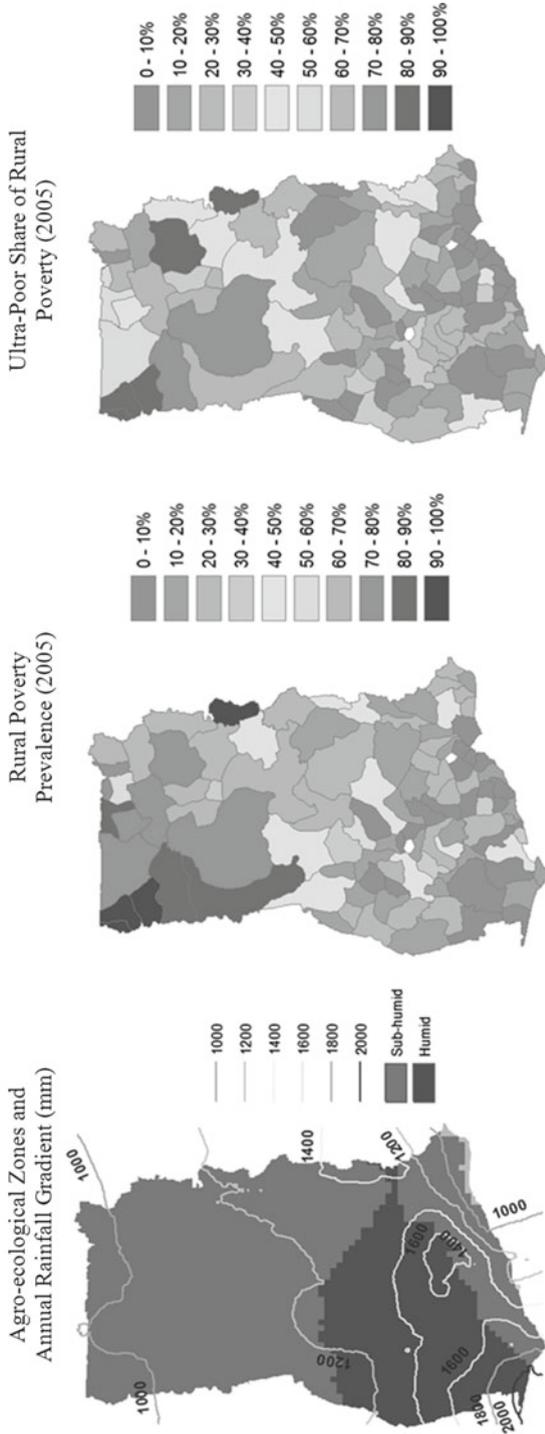


Fig. 10.1 Poverty prevalence by agro-ecological zone in Ghana (HarvestChoice 2010)

lever for poverty and hunger reduction, however, the policy environment must be favorable for intensification in order to incentivize farmers to adopt technologies and practices that increase their productivity (Johnston and Mellor 1961; Lipton 2005; World Bank 2007).

10.3 Agricultural Development Strategies in Marginal Areas

Technological advancements and agricultural development interventions can reduce marginality by addressing the contributing environmental and economic factors where the potential for returns on investments in productivity growth is favorable. Market access and population density largely determine where productivity enhancing technologies and investments are attractive to both farmers and external investors (public and private).

Population density largely determines the relative costs of land and labor, which provides a framework for understanding where intensification is favorable to farmers and what strategies—labor- or land-saving—are likely to be pursued (Pingali 2001). Additional strategies, including both technological and policy interventions, are necessary to improve the sustainability of approaches to productivity growth (Lipper et al. 2007). In Fig. 10.2 we present the opportunity costs of land and labor within a framework for understanding the evolution of production and intensification strategies. We further employed this framework to articulate the appropriate strategies for productivity growth and sustainability to reduce marginality and improve agricultural performance in SSA.

As population densities rise and the opportunity cost of land increases, farmers have more incentive to increase productivity through intensification strategies that increase yield, such as using more or improved inputs and/or increasing the intensity of cultivation practices. Multiple examples throughout history demonstrate that population pressure has driven shifts from traditional rotational fallow systems to annual and multi-crop cultivation systems (Boserup 1965). Similarly, as the opportunity cost of labor increases, farmers have a growing incentive to employ labor-saving technologies and practices. Market opportunities are important factors in determining the relative scarcity of labor, as employment alternatives increase wage rates and decrease the supply of labor. Factors such as trade integration (as it impacts prices and access to markets), availability of off-farm employment, and overall economic growth also influence the opportunity cost of agricultural labor, the incentive to intensify, and the ability to do so via labor-related savings. These aforementioned labor market dynamics often accompany rising population density, though not always. Intensification may also be found even where population density remains low, if market access is favorable or unique market opportunities (such as niche or quality markets) exist (Pingali 2001).

Opportunity cost of LABOR Trade Integration, and Economic Growth ↑	High	Farming System: Mechanized large-scale cereal production systems (e.g., Brazil)	Farming System: High value commercial agriculture (e.g., Israel)
		Productivity Strategy: Reducing unit cost of production	Productivity Strategy: Food safety and quality, value added premium (e.g., labels)
		Environment Strategy: High potential for payment based ecosystem services schemes (e.g., carbon market mechanisms, payments for ecosystem services)	Environment Strategy: High competition between food production and other ecosystem services, need to find win-win solutions (e.g., organic, high-value products)
	Low	Farming System: Traditional low productivity subsistence systems (e.g., marginal environments in SSA)	Farming System: Intensive cereal crop systems (e.g., Punjab, India; potentially higher quality areas of SSA)
		Productivity Strategy: Increasing and stabilizing local food supplies	Productivity Strategy: Input efficiency and diversification
		Environment Strategy: win-win technologies crucial (e.g., integrated soil fertility management, intercropping)	Environment Strategy: Productivity tradeoffs for environmental conservation and provision of ecosystem services (e.g., long fallow periods, organic, conservation agriculture)
Low		High	
Opportunity cost of LAND Marginal → Favorable			

Fig. 10.2 Agricultural development strategies by opportunity cost of land and labor

10.3.1 Agriculture-Environment Interactions in Marginal Areas

Tradeoffs between agriculture and natural resource needs in the environment can be severe with increasing pressure on land, potentially allowing short-term resource availability or productivity gains while undermining the long-term security of ecosystem function (Hazell and Wood 2008; Barbier 2010). Evidence has shown that unsustainable land use and degradation are more likely where population growth occurs rapidly without sufficient simultaneous agricultural intensification relative to that growth (Pingali 2001; Ruben and Kuyvenhoven 2003; Hazell and Wood 2008). While much population growth is taking place in areas that are favorable for agriculture, many marginal environments are witnessing similar trends. For instance, in dryland areas human population growth increased 18.5 % globally between 1990 and 2000, and experts have noted that degradation demonstrates one of the greatest threats to both agricultural productivity and poverty reduction across dryland areas worldwide (Reardon et al. 2002; Millennium Ecosystem Assessment 2005; Adhikari 2011).

Degradation is likely to be most severe where the returns on investments in land improvement are lowest and in regions with a relatively large proportion of marginal lands (Pingali 2001). Intensive cultivation without the addition of capital and inputs to conserve and replace natural resources and nutrients degrades the natural resource

base. As resource degradation worsens pressure on rural households increases, and this may deepen poverty and thereby undermine the poverty reduction potential of agriculturally driven growth strategies (Hazell and Wood 2008).

Policy plays a critical role in ensuring that an enabling environment for intensification helps incentivize more sustainable approaches. Effective property rights are a necessary foundation. Where farmers rights to their land are insecure they are likely to opt for practices that yield the greatest benefits in the short-term, leading to underinvestment in land improvements that preserve the natural resource base for long-term productivity (Pingali 2001).

10.4 Agricultural Productivity in Sub-Saharan Africa: Towards a ‘Green Revolution 2.0’

While the second half of the twentieth century was characterized by the Green Revolution (GR) that generated widespread productivity growth and affiliated poverty reduction that lifted millions out of poverty in Asia and Latin America, Africa was largely left out (Pingali 2012). Crop yield growth over the period from 1961 to 2010 was slower in SSA than the global average for nearly all crops, with exceptions only for a few crops (wheat and soybeans) of which Africa’s share of global production is negligible (Pardey et al. 2012). Many areas of SSA have abundant agricultural potential in terms of environmental resource availability, labor, and knowledge, yet productivity has remained extremely low.

The GR package of innovations was most pertinent to areas of high land scarcity that were amenable to rapid intensification. These were densely populated areas with high rainfall or irrigated areas suitable for the major cereal crops: wheat, rice, and maize. That strategy was not appropriate for Africa where population densities were low, market infrastructure was weak, and the poor depended largely on ‘orphan’ crops, with little history of crop improvement research (Binswanger and Pingali 1988; Evenson and Gollin 2003; Webb 2009; Pingali 2012). However, the situation is quite different today, with rising population densities and increasing demand as emphasized already, some areas in Africa have land/labor ratios similar to those in Asia at the start of the GR. This suggests that the incentive to intensify land use is rising and it is already becoming evident that Africa is finally beginning to experience a GR “2.0” (Otsuka and Kijima 2010; Pingali 2012).

For SSA, intensification is thus a promising strategy to reduce marginality where rising population densities and improving market access and opportunities offer substantial returns. In these areas agricultural development must prioritize removing the key constraints that contribute to their environmental and economic marginality, including basic crop improvement for the ‘orphan crops’ that have little history of agricultural research and development, management strategies appropriate to resource-limited environments, and stress tolerance. Addressing agricultural-environmental tradeoffs must focus on leveraging win-win opportunities that do not compromise productivity in the short- or long-term.

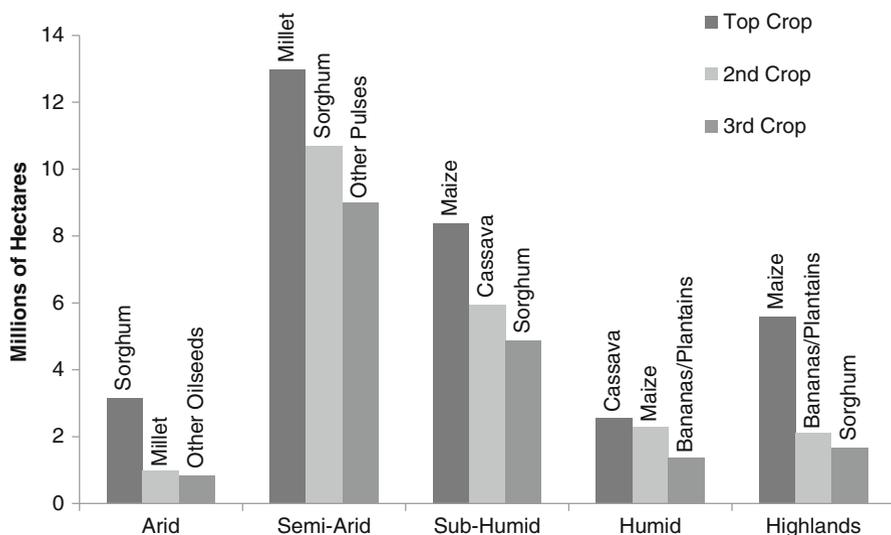


Fig. 10.3 Top ranked tropical crops in Sub-Saharan Africa by major agro-ecological zone (HarvestChoice 2010)

10.4.1 Substantial Yield Gaps Remain

Despite potential and budding GR 2.0 momentum, substantial yield gaps remain in SSA. Poor productivity is a multi-faceted problem resulting in large part from low investment in research, low input usage, limited market access, poor policy and regulatory environments, and environmental constraints. Large public investments in agricultural research and development (R & D) were responsible for the GR's success in increasing productivity and drastically reducing poverty and hunger across much of Asia (Hazell 2010; Herdt 2010). However, such investments have dropped off dramatically since those made during the GR period (1966–1985).

What crops are important to the poor? Across all agro-ecological zones of SSA the most important crops in terms of area harvested include: sorghum, millet, cassava, maize, oilseeds, pulse beans, and bananas/plantains. Of this list only maize has a history of substantial R & D investment in crop improvement, the others typically fall into the category of 'orphan crops' that have historically received little R & D attention. Figure 10.3 illustrates the most important crops for the five major agro-ecological zones of SSA according to production area (HarvestChoice 2010). Sorghum, millet, and cassava are prominent across zones, but more so in the marginal areas, particularly dryland zones.

Quantifying yield gaps. Yield gaps represent the most economically feasible potential for improving yields based on currently available technologies, though new technologies may make closing this yield gap easier or more feasible with fewer inputs. The percentage of that yield gap that can be 'closed' with existing technologies

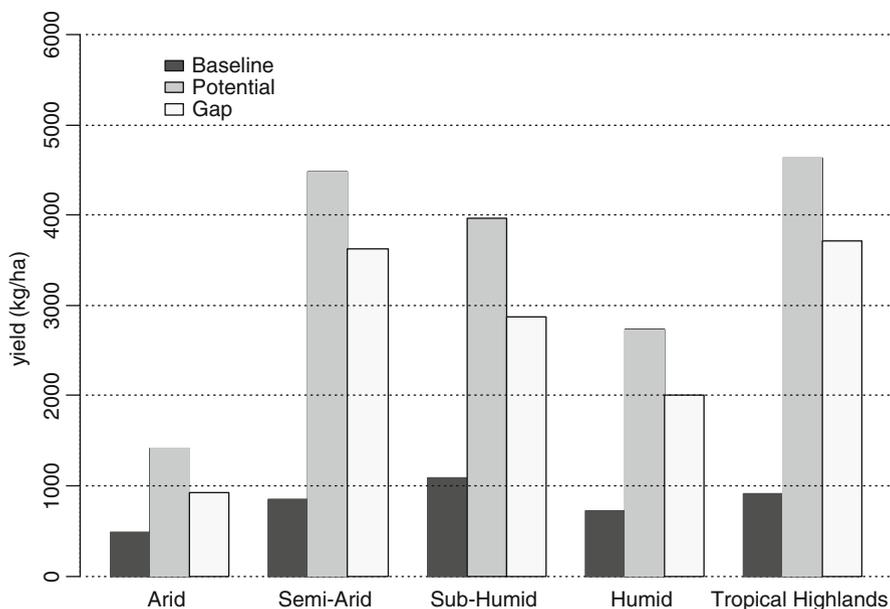


Fig. 10.4 Yield gaps for sorghum in Sub-Saharan Africa (HarvestChoice 2010)

and under a certain set of conditions provides an estimate for the overall potential for yield gains. Across SSA there is a substantial estimated yield gap for all of the three top ranked crops in every major agro-ecological zone. For example, as Figs. 10.4 and 10.5 illustrate, estimated yield gaps in sorghum and cassava are 512–73 % respectively (HarvestChoice 2010).

Yield gaps for the other top ranked crops in SSA are equally high. For millet the estimated yield gap is 404 %, for bananas and plantains it is estimated to be 81 %. “Other oilseeds” and “other pulses” presented in Fig. 10.4 represent aggregate categories of minor crops that are estimated to have an average yield gap close to 300 %. Even for maize, the only crop ranked among the most important in SSA that has benefitted from substantial investment in crop improvement, a significant average yield gap of 287 % exists as illustrated in Fig. 10.6.

10.4.2 Technology Priorities

Productivity constraints and the resulting yield gaps in SSA demonstrate substantial market failures in the provision of R & D and infrastructure investments, where neither private firms nor national governments have sufficient incentive to invest. The case for international public sector investment in basic science and agricultural R & D to serve the poor is clear: neither the private sector nor individual country governments have sufficient incentives to invest in the necessary upstream research to develop

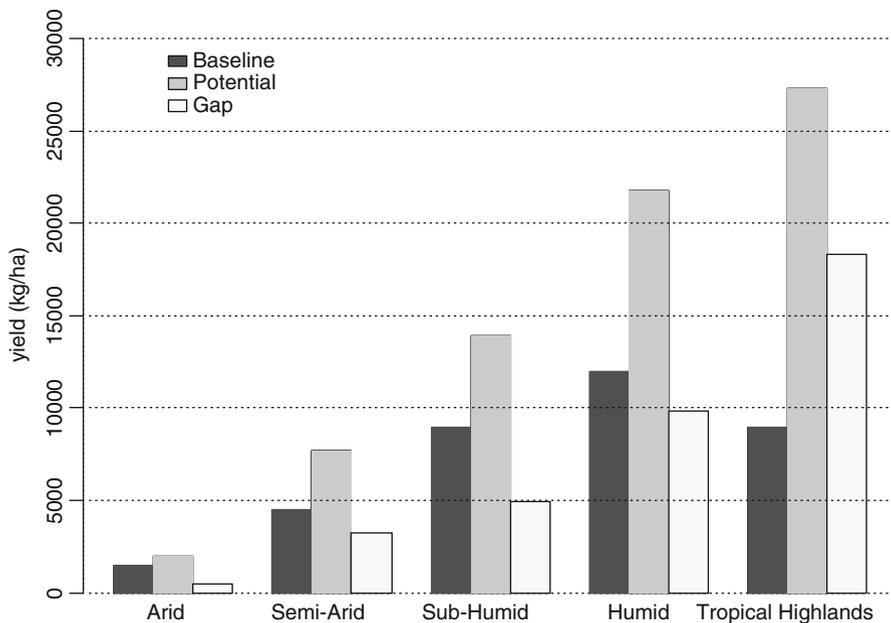


Fig. 10.5 Yield gaps for cassava in Sub-Saharan Africa (HarvestChoice 2010)

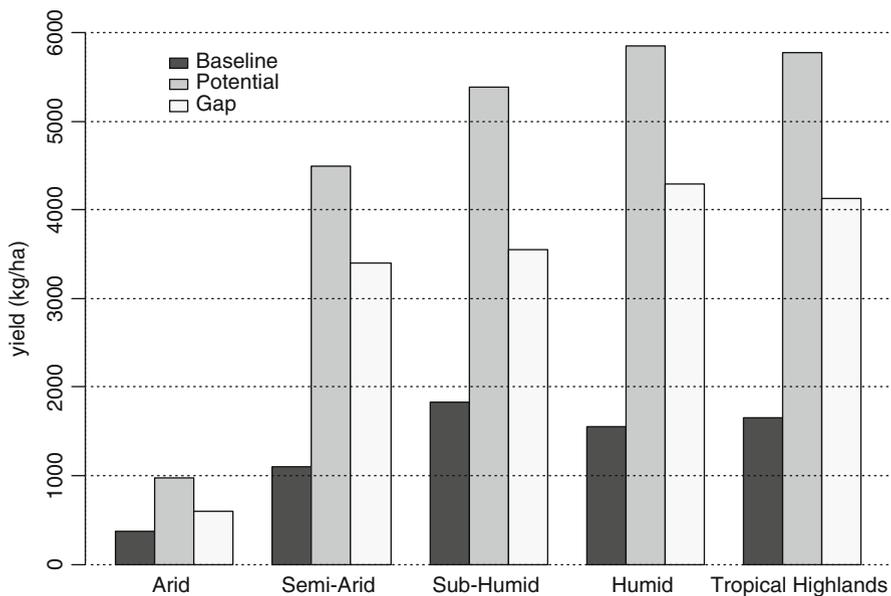


Fig. 10.6 Yield gaps for maize in Sub-Saharan Africa (HarvestChoice 2010)

appropriate technologies for the crops and traits that are important to the poor. The poor do not offer a value proposition to the private sector and many of the benefits will be accrued by others outside of a particular country's borders. Therefore an investment gap exists for such international public goods. Just as it was necessary to spur the GR, the international public sector, such as the CGIAR, is needed to close the yield gaps in SSA (CGIAR 2000). Reducing marginality through agricultural development is possible with public investment focused on basic R & D and improved delivery of goods and services to farmers, and to better understand and respond to their needs.

Upstream basic science and crop improvement. First, upstream R & D is needed to fill the gap in basic crop improvement for the 'orphan crops.' These are the most important crops to the poor in marginal areas of SSA and basic crop improvement can have substantial impacts on improving the favorability of drylands for agricultural production. Targeting R & D to appropriate agro-ecological conditions will maximize the spillover benefits to other areas and increase resilience to climatic shocks.

In addition to shifting the yield frontier, public R & D efforts ought to focus on developing stress-tolerant crop varieties with resistance to both biotic (e.g., pests, disease) and abiotic (e.g., drought, flood) stresses. Such stresses characterize many of SSA's marginal environments and improving farmers' resilience to such risks will reduce their marginality and expand the areas that are favorable for sustainable agricultural intensification. For example, submergence-tolerant rice and drought-tolerant maize varieties provide options that reduce farmers' risks and improve incentives to invest in additional productivity enhancing technologies. Furthermore, environmental risks and stresses are now becoming increasingly frequent, less predictable, and shifting geographically as the climate changes.

Downstream innovation in delivery. Investment and innovation are also needed to improve the science of delivering information and technology options to farmers, as well as for gathering information from farmers to ensure that public sector investments are responsive to their needs. Adapting existing technologies for local agro-ecological and environmental conditions the poor face offers particularly low-hanging fruit for productivity gains in SSA. Increasing feed demand and emerging biofuel markets also create new opportunities for farmers in more marginal areas to produce crops for non-food markets (Binswanger-Mkhize and McCalla 2010). However, increasing access to technologies and markets must be accompanied by concurrent improvements in market strength and function. Ensuring that farmers have access to the knowledge and products that can increase their productivity is insufficient to achieve widespread productivity gains and increase favorability for agricultural intensification if markets are unable to reliably provide the necessary inputs, absorb increased outputs, and improve price stability.

10.4.3 Policy and Institutional Priorities

Public policy plays an important role at the national level in ensuring that productivity-enhancing technologies and innovations both reach and benefit smallholder farmers.

Focusing on agriculture as an engine of economic growth and poverty reduction requires policy interventions and investments at both the national and international levels to ensure an enabling environment that is favorable for smallholders increasing their productivity sustainably.

Focus on agriculture as an engine of economic growth and poverty reduction. In recent years SSA country governments and international donors have demonstrated renewed interest in agriculture as an engine of economic growth and poverty reduction as evidenced by regional increases in donor aid and government commitments for agricultural development (Pingali 2012). The trend is positive, but continued attention is necessary to keep agriculture on the regional policy agenda. Sustainably increasing agricultural productivity and reducing marginality and poverty in SSA will require policy interventions to: (1) sustain investment in agricultural R & D, (2) improve regulatory and trade policy, and (3) improve infrastructure.

Although public investment in agriculture has increased since 2006, and particularly after the food price crisis of 2008, public sector R & D investment in SSA still remains low despite the fact that countries there continue to rely on agricultural productivity to drive hunger and poverty reduction (Lipton 2005; World Bank 2007). Agricultural R & D in a large number of developing countries exhibited a negative growth rate in recent decades. On average, public spending in SSA increased by only 0.6 % per year from 1981 to 2000, however, half of the countries actually spent less in 2000 on agricultural R & D than a decade prior (Beintema and Elliott 2009).

In addition to limited public sector investment, poor regulatory environments limit the incentives for private sector engagement along supply chains. A favorable enabling environment for innovation requires policies and regulations that ensure intellectual property rights that guarantee that private benefits can be captured as returns on investments. Functional and transparent biosafety regulations are also important for reducing risk and uncertainty that otherwise jeopardize potential returns and discourage investment (Pingali 2012). Weak regulation and high transaction costs for private sector development more broadly, such as a lack of licensing, price limits, or existing cartels, limit market development from R & D to the distributions of inputs and agricultural products that would be necessary to achieve broad productivity, food security, and poverty reduction goals on the continent. Effective regulation and transparency require effective institutions to encourage and govern, for instance, the distribution of agricultural inputs and outputs. Such enabling factors are necessary preconditions to grow and sustain agricultural markets, yet remain weak or nonexistent in many countries (World Bank 2012). Lastly, existing policies governing agricultural R & D and other technologies often inhibit accessing and employing modern tools such as biotechnology to innovate on behalf of poor farmers, to improve food security, and to protect environmental interests.

Some policies can actually counteract the impacts of official development assistance, such as in the cases of trade and investment. African farmers actually face the highest trade barriers in the world with respect to accessing the inputs that they need and in getting their food to markets and consumers (World Bank 2012). The lack of transparency around regulations over food safety and quality standards, in addition to protectionist policies, impede the cross-border trade of inputs and

agricultural products within the region that could benefit producers as well as strengthen markets, lower transaction costs, and lower food prices for consumers. For example, tariffs and quotas vary and are often poorly communicated, which creates market uncertainty that further limits cross-border trade and contributes to food price volatility (World Bank 2012).

Rural roads and transportation infrastructure are limited in many countries of SSA, and distribution networks for inputs and agricultural products are poor. Transportation costs in Africa remain high, though not necessarily due primarily to poor roads as is often presumed. A recent study from the World Bank found that the lack of investment and competition in transport services is the primary factor contributing to high transportation costs in SSA: cartels are still common in the transportation sector and roadblocks continue to undermine efficiency, weakening incentives to invest in modern logistics networks. The World Bank estimates that reducing transportation costs by 50 % would lead to increases in agricultural GDP of 7.0 % in Mozambique and 3.0 % in Malawi. Limited cross-border trade, due mainly to the existing policy and regulatory environments discussed above, further compounds the negative impacts of weak transportation networks and impedes the ability of farmers to access markets and move goods from areas of surplus to centers of demand (World Bank 2012).

Build local capacity for sustainable productivity growth. An enabling policy environment for sustainable smallholder productivity growth must involve and be responsive to the needs of farmers and local communities. At the local level a community-driven development approach offers a model for capacity building and local engagement that focuses on empowering local communities to lead their own development processes. These incorporate five central components, including: empowering communities and local governments, creating joint responsibility and control between local and central authorities, improving accountability, and developing capacity (Binswanger and Nguyen 2004). At the national level, investments in systems—both institutional reform and infrastructure investment—are needed. For example, this includes ensuring that national scientific facilities have access to modern equipment, investing in training and development of local scientists and policymakers, and ensuring that the right information and data are available to policymakers and decision makers throughout supply chains in order to foster informed decisions regarding agricultural development strategies.

10.4.4 Technology and Policy Priorities for Sustainable Intensification

Promoting sustainable intensification strategies can reduce the threat of environmental degradation and foster long-term productivity. While poverty and environmental degradation often coexist, the impact of one on the other and the direction of that causality are not yet well understood. While many argue that poverty is a driver of environmental degradation, the evidence is not conclusive. Recent gains in poverty

reduction have not demonstrated parallel gains in sustainable resource management (Hazell and Wood 2008). This underscores the critical importance for sustainable intensification strategies that both preserve and enhance the natural resource base in areas where agricultural development offers a promising strategy to reduce marginality and poverty. Sustainable intensification requires policies that provide incentives to farmers for preserving and improving the natural resource base and that will ensure the capacity for both short- and long-term productivity growth.

Create incentives for the sustainable use of natural resources. Farmers need the proper incentives to use resources judiciously and efficiently. Low output prices due to a lack of market access or market distortions undervalue natural resource and other inputs, reduce farmers' profitability, and decrease incentives for investment in more sustainable farming practices or intensification (Ruben and Kuyvenhoven 2003). Across SSA smallholder access to and ability to invest in improved inputs is severely limited. Poor market access and high costs lead to low investment in land improvement. For example, SSA has seen extremely limited use (or the complete lack) of fertilizers, resulting in declining soil fertility (Ruben et al. 2007). Average fertilizer applications per hectare in SSA peaked in the 1980s at 10 kg/ha, returning since to the mean 1970s level of 7.0 kg/ha during the years 2001–2007, which is the period for which the most recent data are currently available (Binswanger-Mkhize 2012). However, as intensification rises, so do returns on soil fertility improvements and other productivity investments such as small-scale irrigation. Additionally, regulations and market mechanisms (i.e., payments for ecosystem services, carbon finance) both offer potential avenues to change incentives for natural resource use, however, building the capacity and informing the design of appropriate institutions to implement and regulate these policy interventions in SSA is still needed.

Crop management practices can also be employed to strengthen the natural resource base for more sustainable productivity growth. For instance, nutrient management and plant protection can increase productivity while reducing environmental degradation and potentially improving natural resource bases. For example, a variety of agronomic, biological, and mechanical techniques exist to enhance soil fertility, structure, and availability/uptake of nutrients. Win-win strategies in this regard include integrated soil fertility management and intercropping. Crop rotation and intercropping practices also offer protection against pre-harvest losses. Combining biological, cultural, genetic, and chemical techniques through integrated pest management can improve plant protection relative to inorganic pesticides, which often lose their effectiveness as the species they target adapt. Additionally, water management techniques such as household- and watershed-level planning to decrease the variability of water availability are also productivity-enhancing measures, including: water-harvesting techniques, surface water diversion, and irrigation (Ruben et al. 2007). Many of these strategies are knowledge-intensive and must be complemented with the aforementioned investment and innovation in downstream delivery of information to farmers.

Intensify to release marginal lands from agriculture. Promoting intensification on lands that have high agricultural potential (i.e., where returns on agricultural

development are favorable) will allow for the release of agriculturally marginal and ecologically fragile lands from agricultural production, allowing them to provide other ecosystem services such as increased carbon sequestration through carbon stock regeneration. Where the opportunity costs of land and labor both remain low—such as very arid, steep sloped, or rocky areas—returns on investment in sustainable intensification will continue to be low as well. By moving these marginal areas out of agricultural production, they will be available to provide other ecosystem services.

Valuing Ecosystem Services. In the long-term our ability to value and pay for ecosystem services could be a critical means of addressing agricultural-natural ecosystem tradeoffs. In the short-term establishing the analytical groundwork and incorporating the value of natural resources into policy decision making are important steps, however, neither the metrics nor the institutional frameworks are sufficiently established to directly pay or penalize smallholder farmers at the local level. Policy priorities in the short-term should include macro-level interventions to establish an enabling environment, such as the removal of perverse subsidies to agricultural, fisheries, and energy sectors that cause harm to people and the environment (Pingali 2012). These can be complimented in the long term by appropriate payment mechanisms for ecosystem services that will improve incentives for farmers to pursue the dual objectives of productivity and maintaining natural resource bases at the production level. Investment must also focus on the establishment of metrics that are meaningful scientifically and the institutional infrastructure to implement successful payment for ecosystems services schemes that could reach and benefit smallholder farmers.

10.5 Conclusion

The marginal areas of SSA have historically been unfavorable for agricultural productivity improvements due to environmental and/or economic constraints. Up to now they have largely remained marginal because circumstances have not made investment in unlocking the constraints underlying their marginal status attractive. Low returns on potential investments for agricultural development in SSA have been driven in large part by low population densities and poor market access. However, demographic shifts in SSA are making productivity enhancing investments more attractive in many areas of SSA, where demand is rising and the opportunity costs of land and labor are increasing. As such, agricultural development now offers new opportunities to reduce marginality and poverty, and to increase the sustainability of agricultural production strategies. Capitalizing upon these opportunities requires careful attention to the opportunity costs of land and labor, pursuing intensification where it makes sense, and releasing marginal lands from agricultural pressures where returns on productivity growth investments will continue to remain low in order to allow these areas to provide natural ecosystem services.

While SSA offers new opportunities for decreasing marginality through agricultural intensification, poor environmental endowments, widely degraded lands, and the

threat of climate change require that productivity growth be achieved as sustainably as possible. Investing in targeted R & D both upstream and downstream to address SSA's particular constraints—especially focusing on the crops and traits that are important to the poor and the particular environmental conditions they face—can dramatically increase the continent's agricultural productivity, lessen marginality, and contribute to widespread reductions in poverty. Concurrent policy interventions are necessary to create an enabling environment for productivity, including reducing distortions in trade policies, improving infrastructure, and improving the regulatory environment for scientific innovation. Population and market dynamics open new opportunities for productivity growth in the near-term. Careful strategies to mitigate agricultural-environmental tradeoffs will ensure that productivity potential is better preserved in the long term.

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References

- Adhikari B (2011) Poverty reduction through promoting alternative livelihoods: implications for marginal drylands. *J Int Dev*. doi:[10.1002/jid.1820](https://doi.org/10.1002/jid.1820)
- Bai ZG, Dent DL, Olsson L, Schaepman ME (2008) Global assessment of land degradation and improvement. Identification by remote sensing. Report 2008/0, International Soil Reference and Information Center, University of Wageningen, Wageningen
- Barbier EB (2010) Poverty, development, and environment. *Environ Dev Econ* 15(06):635–660
- Beintema N, Elliott H (2009) Setting meaningful investment targets in agricultural research and development: challenges, opportunities and fiscal realities. In: Proceedings of the expert meeting on how to feed the world in 2050, Rome, Food and Agriculture Organization of the United Nations, Rome, 24–26 June 2009
- Binswanger-Mkhize HP, McCalla A (2010) The changing context and prospects for agricultural and rural development in Africa. In: Pingali P, Evenson R (eds) *Handbook of agricultural economics*. Elsevier BV, Amsterdam
- Binswanger-Mkhize HP (2012) The role of agriculture in the structural transformation. In: Timmer P, McMillan M, Badiane O, Rodrik D, Binswanger-Mkhize HP, Wouterse F (eds) *Patterns of growth and structural transformation in Africa: trends and lessons for future development strategies*. International Food Policy Research Institute, Washington, DC, pp 10–11
- Binswanger HP, Nguyen T (2004) Scaling up community-driven development for dummies. World Bank, Washington, DC
- Binswanger HP, Pingali P (1988) Technological priorities for farming in Sub-Saharan Africa. *World Bank Res Obs* 3:81–98
- Boserup E (1965) *The conditions of agricultural growth*. Allen and Unwin, London
- CGIAR (2000) CGIAR research priorities for marginal lands. Consultative Group on International Agricultural Research Technical Advisory Committee, Food and Agriculture Organization of the United Nations, Rome
- Christiaensen LJ, Demery L (2007) *Down to earth: agriculture and poverty in Africa*. Working paper no 2010/35, World Bank, Washington, DC
- Dixon J, Gulliver A, Gibbon D (2001) *Farming systems and poverty: improving farmers' livelihoods in a changing world*. Food and Agriculture Organization of the United Nations and World Bank, Rome/Washington, DC

- Evenson RE, Gollin D (2003) Assessing the impact of the green revolution, 1960 to 2000. *Science* 300:758–762
- FAO (2013) Rural Income Generating Activities (RIGA). Food and Agriculture Organization of the United Nations, Rome. Available at <http://www.fao.org/economic/riga/riga-database/en/>
- Gatzweiler F, Baumüller H, von Braun J, Ladenburger C (2011) Marginality: addressing the root causes of extreme poverty. ZEF working paper no 77, Center for Development Research, University of Bonn, Bonn
- HarvestChoice (2010) Commissioned research. International Food Policy Research Institute, Washington, DC
- Hazell P (2010) An assessment of the impact of agricultural research in South Asia since the green revolution. In: Pingali P, Evenson RE (eds) *Handbook of agricultural economics*, vol 4. Elsevier BV, Amsterdam, pp 3469–3530
- Hazell P, Wood S (2008) Drivers of change in global agriculture. *Philos Trans R Soc Lond B Biol Sci* 363(1491):495–515
- Herdt R (2010) Development aid and agriculture. In: Pingali P, Evenson RE (eds) *Handbook of agricultural economics*, vol 4. Elsevier BV, Amsterdam, pp 3253–3304
- Johnston B, Mellor J (1961) The role of agriculture in economic development. *Am Econ Rev* 51:566–593
- Lipper L, Pingali P, Zurek M (2007) Less-favoured areas: looking beyond agriculture towards ecosystem services. In: Ruben R, Pender J, Kuyvenhoven A (eds) *Sustainable poverty reduction in less-favoured areas*. CABI Publishing, Wallingford, pp 442–460
- Lipton M (2005) The family farm in a globalizing world: the role of crop science in alleviating poverty. International Food Policy Research Institute, Washington, DC
- Millennium Ecosystem Assessment (2005) *Ecosystems and human well-being: current state and trends*, vol 1. Island Press, Washington, DC
- Otsuka K, Kijima Y (2010) Technology policies for a green revolution and agricultural transformation in Africa. *J Afr Econ* 19:ii60–ii76
- Pardey PG, Alston JM, Kang CC (2012) Agricultural production, productivity and R & D over the past half century: an emerging new world order. Plenary paper presented at the International Association of Agricultural Economists (IAAE) Triennial Conference, Foz do Iguacu, 18–24 August 2012
- Pingali P (2001) Population and technological change in agriculture. In: Smelser NJ, Baltes PB (eds) *International encyclopedia of the social and behavioral sciences*. Elsevier Science Ltd, Oxford, pp 11742–11744
- Pingali P (2010) Agriculture renaissance: making “agriculture for development” work in the 21st century. In: Pingali P, Evenson RE (eds) *Handbook of agricultural economics*, vol 4. Elsevier BV, Amsterdam, pp 3867–3894
- Pingali P (2012) Green revolution: impacts, limits, and the path ahead. *Proc Natl Acad Sci U S A* 109:12302–12308
- Reardon T, Barrett C, Kelly V, Savadogo K (2002) Policy reforms and sustainable agricultural intensification in Africa. *Dev Policy Rev* 17:375–395
- Ruben R, Kuyvenhoven A (2003) Investing in poor people in less-favoured areas: institutions, technologies and policies for poverty alleviation and sustainable resource use. Paper presented at the international conference on staying poor: chronic poverty and development policy, University of Manchester, Manchester, 7–9 March 2003
- Ruben R, Pender J, Kuyvenhoven A (2007) Sustainable poverty reduction in less-favoured areas: problems, options and strategies. In: Ruben R, Pender J, Kuyvenhoven A (eds) *Sustainable poverty reduction in less-favoured areas*. CABI Publishing, Wallingford, pp 1–62
- UNDP (2009) *Climate change in the African drylands: options and opportunities for adaptation and mitigation*. United Nations Development Programme, New York
- Webb P (2009) More food, but not yet enough: 20th century successes in agriculture growth and 21st century challenges. In: Eiselen H (ed) *Fiat panis: for a world without hunger*. Hampp Media/Balance Publications, Stuttgart
- World Bank (2007) *World development report 2008: agriculture for development*. World Bank, Washington, DC
- World Bank (2012) *Africa can help feed Africa: removing barriers to regional trade in food staples*. World Bank, Washington, DC

Chapter 11

The Marginal Poor and Their Dependence on Ecosystem Services: Evidence from South Asia and Sub-Saharan Africa

Pushpam Kumar and Makiko Yashiro

Abstract In this chapter the authors employ a meta-study to explore why it is critical to address the degradation of ecosystems for poverty alleviation, especially in South Asia and Sub-Saharan Africa. The authors also investigate the linkages between ecosystem services and aspects of extreme poverty. Their findings suggest that the poor are often more vulnerable to the loss of ecosystem function that restricts the supply of natural goods and services. The poor depend upon ecosystem services, but the nature of this dependence is necessarily not uniform throughout the year. The poor also tend to benefit less from environmental conservation efforts than those who are not poor. The dynamic patterns of dependence on ecosystem services of the poor and their coping strategies require regionally specific and in-depth evaluation.

Keywords Ecosystem services • Poverty alleviation • Vulnerability • Linkages • Agriculture

11.1 Introduction

Poverty may be defined as pronounced deprivation in well-being, which not only signifies material deprivation as measured by an appropriate concept of income or consumption, but may also include low achievement in education and/or health, high vulnerability to and/or exposure to risk, and a lack of socio-political representation or powerlessness (World Bank 2000). Multiple dimensions of well-being were also highlighted in the conceptual framework used for the Millennium

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Ecosystem Assessment (MA 2005a) including: security, basic materials for living, health, social relations, and freedom of choice and action. The conflicting interests among various stakeholders who depend on common ecosystem services and products highlight the political economy in regions with high levels of poverty like South Asia and Sub-Saharan Africa, emphasizing the fact that powerlessness is an important dimension of poverty because it is the powerless who suffer most when such conflicts arise. The fact that the poor are often more critically affected by ecosystem degradation due to reduced access to resources and a lack of alternatives is usually evident (ESPASA 2008). Migration and finding alternative livelihoods (under duress rather than choice) are the most prevalent coping strategies for the natural resource dependent poor who lose these conflicts, but these strategies often result in homelessness, lowered self-esteem, and feelings of alienation and/or detachment.

In this paper we explored why, in this context, it is critical to address the degradation of ecosystems for poverty alleviation, especially in South Asia and Sub-Saharan Africa. We also investigated the linkages between ecosystem services and aspects of extreme poverty. Subsequently we synthesized literature evidence of the dynamic relationships between the incidence of poverty and the state of ecosystems from the regions of South Asia and Sub-Saharan Africa.

11.2 Why Is It Important to Address the Marginal Poor to Achieve Poverty Alleviation?

There is great variation among countries in the achievement of poverty alleviation. For example, among the five countries of South Asia (Bangladesh, Bhutan, India, Nepal, and Pakistan), all except Pakistan have experienced a declining trend in the incidence of poverty—in terms of national poverty lines—since the mid-1990s.

According to the 1997 Human Development Report issued by the United Nations Development Programme, poverty is usually worse in drier zones relative to more humid zones (UNDP 1997). The MA (2005b) also reported that in arid and semi-arid lands, people's dependence on ecosystem services is often high because of the limited availability of alternative livelihood options in fragile environments. In India arid and semi-arid regions include 125 districts in over 12 states that are officially identified as drought prone areas under the Drought Prone Area Programme, and 32 of these districts have either a high or very high incidence of poverty. The non-income dimensions of poverty are very much evident in drought prone regions: livelihood security is low on account of the high instability of crop production and there are significant social costs on account of large-scale inter-state population movements that result from resulting food shortages (Mehta and Shah 2006).

In South Asia poverty is primarily a rural phenomenon, with the majority of the population living in rural areas and primarily dependent on agriculture for income and employment (World Bank 2008). The ability of the rural poor to sustain their livelihoods is generally constrained due to adverse environmental conditions: high

ecological vulnerability, low productivity of natural resources, and limited access to land and other resources (World Bank 2002). Poverty in forested regions of India, however, is also linked to widespread entitlement failure (Mehta and Shah 2006). The rural poor are also hampered by their lack of access to markets, reliance on rain-dependent agriculture, and the prevalence of threats to food security. For the rural poor access to a variety of natural resources is often critical for sustaining livelihoods because they provide diversification options when environmental conditions change (Koziell and Saunders 2001). Chronic rural poverty in semi-arid regions of India has also been attributed to the negligible or inferior natural resource endowments that restrict the ability to augment income (Singh and Binswanger 1993).

11.2.1 Vulnerability and Insecurity

A key dimension of poverty is vulnerability, which reflects a household's resilience in the face of shocks and the likelihood that a shock will lead to a decline in well-being (World Bank 2008). Poor households are vulnerable to sudden and pronounced fluctuations in income that may arise due to poor health, market fluctuations, and natural calamities. Since most rural poor are dependent on agricultural livelihoods they are automatically the most vulnerable to climate-change induced risks of crop failure and livestock losses.

For example, vulnerability to natural disasters is fairly high in Bangladesh. During seasonal floods women and children become particularly vulnerable to related health impacts and wage laborers suffer from shortages of employment opportunities. For many rural households in Bangladesh riverbank erosion is a constant threat to their well-being. The impacts are severest among the landless and marginalized farmers. Hutton and Haque (2004) suggested that the displaced, particularly women, suffer mental stress because of social fragmentation and the difficulties of adjusting to the urban areas where they often immigrate.

Unanticipated environmental consequences of development projects have also often been a great source of misery for local communities. The construction of upstream projects may create downstream environmental hazards that are detrimental to livelihoods. For instance, the construction of embankments in the Ganga-Brahmaputra river basin to moderate flood impacts has caused large areas in the basin to remain in a semi-permanent waterlogged state, seriously affecting human health and agriculture (Bandyopadhyaya 2002).

The lack of explicit government policy on ecosystems services, the absence of a suitable accounting system, the general lack of awareness, and the lack of research evidence to convince policy-making authorities to recognize and institutionalize the management of ecosystem services have jointly played a role in the degradation of ecosystems in South Asia and Sub-Saharan Africa with negative impacts on the poor. Aberrations in ecosystem function such as unexpected flooding, long droughts, desiccation of springs, increased spread of invasive species on productive lands, and reduced productivity of natural resources like non-timber forest products or fish

usually have the greatest impact on the poorest people who directly depend on these products for subsistence purposes.

Distortions take place in policy cases, like offering subsidies for fertilizers and pesticides to farmers to enhance crop productivity (for poverty alleviation), that are oblivious of the resultant negative impacts on soil quality. While the provision of natural ecosystem services is diminishing, demand is constantly growing. Furthermore, ecosystems are not treated in policy frameworks as ‘natural capital,’ with tremendous potential to generate employment and income.

11.3 Links Between Ecosystem Services and Poverty

The links between the status of ecosystems and human well-being, including the importance of various ecosystem services and products to human well-being, have been increasingly recognized in recent years (MA 2005a, b; ESPASSA 2008; Shackleton et al. 2008; Tallis et al. 2011). Furthermore there is a general consensus that poverty is a major contributor to environmental degradation (WCED 1987). That report (also known as the “Brundtland Report”), as well as the definition of sustainable development developed by the World Commission on Environment and Development (WCED), were landmarks in the sense that they identified direct links between environmental degradation and poverty in the context of economic development in developing countries, and that they called for collective action to address environmental threats and economic development goals as interrelated phenomena (Speth and Haas 2006). The World Bank joined the consensus with the 1992 World Development Report, which highlighted the dependence of poor families on natural capital for meeting their short-term livelihood needs, often leading to environmental degradation.

There is shared recognition that most natural ecosystems are in a state of decline, with negative impacts on human well-being, especially for those living in extreme poverty. The MA (2005a) findings highlighted significant negative trends in the delivery of many ecosystem services and concluded that these declines were barriers to achieving the Millennium Development Goals (MDGs). In fact many of the regions facing severe problems related to the deterioration of ecosystem services overlap with those facing significant challenges to achieving the MDGs.

Many of the world’s poorest people live in rural areas and are highly dependent on ecosystem services and products, such as those that contribute to food production via agriculture, fishing, and hunting. As previously mentioned, people living in extreme poverty are highly vulnerable to ecosystem changes such as the availability or quality of water, or the loss of wetland and coral reef ecosystems that might increase the likelihood of coastal floods or storm damage. In addition to the goal of eradicating extreme poverty, the ability of ecosystems to supply services also has strong relevance in addressing other aspects of the MDGs, such as the goal of eradicating hunger, the reduction of child mortality, combating disease, and ensuring environmental sustainability (MA 2005a). At the same time,

achieving many of the aspects of well-being that are linked with ecosystem services will directly or indirectly contribute to the attainment of a number of the MDGs (UNEP/IISD 2004).

11.4 Global Evidence

The relationships between poverty, the environment, and ecosystems have commanded a significant amount of attention by academics, non-governmental organizations (NGOs), development practitioners, and civil society. A number of influential studies (Dasgupta 1997; Pearce 2005; Barbier 2010) have dispelled the usual beliefs about the relationships between poverty and the environment rather than establish any profound new insight into these relationships. Conventionally it is assumed that the poor discount the future and are unable to act with regard to long-term interests, and hence are responsible for mining the soil, depleting the groundwater, and causing deforestation more than their wealthier counterparts (Dasgupta 1995). Many others believe that affluence increases the use of forest products, pollution generating products, and leads to a lifestyle that is more inimical to the existence of nature. Both perspectives are correct as well as wrong, as they happen to be purely contextually and culturally specific, and are dependent on: property rights regimes, the prevailing political climate, historical trends of resource use, relevant social and religious practices, and the aspirations of consumption fueled by the global market and investment conditions. While these drivers of change remain relevant to the relationships between poverty and the environment, the degree of association and dimensions of causality can be perceived in various ways, and the particular environmental resources or attributes linked to poverty also need to be considered.

It is important to mention that while natural resources remain self-explanatory, poverty here refers to absolute and chronic poverty, where the material conditions of people's lives are well below designated cut-offs, which indicates the limited ability to buy enough food for minimum caloric intake. Evidently this is a very conservative method of defining poverty and many aspects of well-being fall outside uni-dimensional definitions. Therefore poverty in such cases is a measure of the distance of people's actual condition from a state considered 'well,' but it does not necessarily reflect their well-being.

The facts remain that the unsustainable use of natural resources contributes to poverty, and on the other hand that poverty can also contribute to environmental degradation (Duraiappah 1998). To solve these problems both poverty alleviation and environmental policies need to be addressed. Many developing countries view the need for improved management of natural resources as part of the attack on the underlying causes of degradation and depletion, specifically excessive population growth and poverty, which are the main drivers of immigration into the remaining areas of natural habitat. Strong programs to reduce population growth rates and create jobs for unemployed and underemployed rural residents will be crucial to the

long-term prospects of reducing environmental degradation, especially to reduce deforestation (Pfaff et al. 2000).

Many of the world's poor occupy the least resilient, most threatened environmental areas (Pearce and Warford 1993). There is also some evidence that the poor are more dependent upon common property natural resources than the rich (Jodha 1986). The assertion is often made that poor people have a greater tendency to overexploit natural resources like land, forests, and water, and thereby degrade them. This is based on the belief that the poor deplete natural resources at a greater rate than their more affluent counterparts because they have direct access to them and limited prospects of gaining access to other types of resources and economic opportunities. Additionally, because the poor struggle for their subsistence they are preoccupied with day-to-day survival, and are assumed to have limited incentives and capability for long-term planning or investing in management efforts that improve the sustainability of natural resource use over the long-term (i.e., soil conservation efforts). Thus the poor have little choice but to employ the natural resource use practices that fulfill their immediate subsistence needs, even if these practices are detrimental to those resources over the long-term.

Growing poor populations in precarious environments (i.e., ecologically fragile areas) are a major cause of the severe environmental destruction that has been documented in developing countries by numerous recent studies (Comim et al. 2009). The problems of poverty and environmental degradation are complicated and resolving them is made vastly more urgent by the relentless increase in the number of people living in developing countries. In many cases poor people must degrade their environment just to make ends meet, but in doing so they take not only from nature's bounty, but also from the well-being of future generations.

In addition to being agents of environmental degradation, the poor are also often the victims of environmental damage due to the fact that they often depend heavily on natural resources for subsistence, and therefore are generally more affected by environmental degradation than those who are not poor (Tallis et al. 2011). Due to this strong dependence of the poor on natural resources the degradation of ecosystems may affect their survival and 'trap' them in poverty (Comim et al. 2009). Natural resources often serve as *de facto* safety nets for the poor, especially at times of stress such as poor performance of subsistence agriculture (Pattanayak and Sills 2001). A greater number of poor people suffer from extreme natural disasters due to the facts that they predominate in the areas and under conditions that are more susceptible to damage from these events, they lack the resources to cope with the impacts of these events, and they have less access to social safety nets that alleviate the impacts of these events (UNEP/IISD 2004).

Thus it is generally the poorest who suffer the most from the consequences of pollution and environmental degradation, and degraded environments can accelerate the process of impoverishment because the natural assets and common resources that the poor depend directly become less available. They often derive a large part of their livelihoods from nonmarket environmental resources, common grazing lands, or forests where food, fuel, and building materials are gathered. The diminishment or loss of such resources therefore may particularly hurt the poorest and

undermine their future productivity. Moreover shortages of drinking water or fuel wood tend to affect the poor more than the people with greater means. Environmental degradation depresses people's income by causing them to invest more effort into routine household tasks such as fuel wood and water collection by decreasing the productivity or availability of these natural resources from which they wrest a living. The synergetic interactions between poverty and environmental destruction can lead to a downward spiral of ecological deterioration that threatens the well-being of many of the world's poorest people (Dasgupta 2010).

11.4.1 Evidence from South Asia and Sub-Saharan Africa

In response to the growing recognition of the linkages between declining ecosystem services and poverty, conservation organizations and development agencies have been designing and implementing initiatives that focus on maintaining ecosystem services. Although the concept of ecosystem services provides a new platform for the challenge of aligning conservation with development objectives through common links to human well-being, the success of on the ground efforts has been limited. This is due partly to the perception among practitioners that it is difficult to integrate these objectives consistently, as well as some skepticism within the environmental community of the application of an ecosystem services-based approach to conservation (Tallis et al. 2009). Furthermore the availability of robust empirical studies on the nexus between poverty and the environment is limited, particularly due to difficulties in obtaining relevant data from developing countries (Dasgupta et al. 2005).

In the following sections we have highlighted reported examples of the dependence on ecosystem services by people living under extreme poverty from countries in South Asia and Sub-Saharan Africa in order to contribute to awareness of ecosystem management efforts and poverty alleviation. The information on the links between ecosystem services and poverty alleviation summarized in the following sections is drawn from studies undertaken by the Consortium on Ecosystems and Poverty Alleviation (CEPSA) in South Asia (ESPASSA 2008) and Sub-Saharan Africa (Shackleton et al. 2008). The South Asia effort focused on India and the Hindu Kush Himalayan Region including: Bangladesh, Bhutan, Nepal, and Pakistan. South Asia is home to almost one-quarter of the world's population, and has experienced intensive development processes that in many cases have led to severe environmental degradation. The Sub-Saharan Africa component of the study includes eight case studies with in-depth analyses and local information from arid and semi-arid areas of: Botswana, Mozambique, Namibia, South Africa, Swaziland, and Zimbabwe (Shackleton et al. 2008). In arid and semi-arid lands people's dependence on ecosystem services is often high due to limited alternative livelihood options, the fragile nature of these ecosystems, and relatively high risk involved in achieving livelihood objectives (MA 2005b). A brief summary of the links between different types of ecosystem services and poverty based on these studies is provided below.

11.4.2 Evidence from South Asia

In India and the Hindu Kush Himalayan Region rural communities typically depend on ‘provisioning services,’ or products provided by ecosystems. Forest ecosystems provide resources used for energy, food, animal fodder, medicine, farm implements, and various household assets, and grassland ecosystems provide grazing areas for domestic as well as wild herbivores, although most of the original grasslands of India’s Gangetic plains have disappeared due to population pressure.

The livelihoods of a large population of pastoral and agro-pastoral communities in the arid and semi-arid regions of Bhutan, India, Nepal, and Pakistan depend on common pasturelands and free-grazing livestock. The ‘provisioning services’ provided by freshwater wetlands, such as fish and other aquatic resources were also important to the livelihoods of rural communities. Bangladesh, India, and Pakistan have extensive coastlines that include wetlands and these areas often host dense populations with a high incidence of poverty (ESPASSA 2008).

The wetlands of South Asia are threatened by encroachment, unsustainable harvesting of aquatic resources, industrial pollution, agricultural runoff, and the spread of invasive exotic species. While agro-ecosystems play an important role in the provision of food and fiber for the rural poor, help preserve scenic rural landscapes, and ensure groundwater recharge, they also have negative impacts on ecosystems such as nitrate run-off from cropland to downstream catchments and soil erosion from overgrazed hillsides. Grasslands also provide such ecosystem services as carbon sequestration, methane absorption, and the reduction of nitrogen dioxide emissions. In addition to the provision of wood for fuel and construction, a wide range of ecosystem services provided by mangroves were highlighted, including: shoreline stabilization, storm protection, water quality control, micro-climate stabilization, groundwater recharge, flood control, sediment and nutrient retention, and providing essential habitat for important bird and marine species.

As is the case in Sub-Saharan Africa, the cultural services provided by ecosystems are important in South Asian countries, for example forest and mangrove ecosystems have recreational and tourism value, generating important income for the poor. One example is the Sundarban Tiger Reserve, where part of the extensive mangrove forest spanning the India-Bangladesh border provides livelihood opportunities based on ecotourism (Chopra et al. 2009; Kumar 2012). One of the key findings of the consortium study (EPASSA 2008) in South Asia, however, was the asymmetrical distribution of economic benefits favoring those who can invest and operate in ecotourism over the poor.

11.4.3 Evidence from Sub-Saharan Africa

The poor in Sub-Saharan Africa depend heavily on various natural resources for energy needs, food, medicines, construction, crafts, tools, and for ritual and cultural purposes. According to the valuation studies conducted in arid and semi-arid areas of the region reviewed by CEPASA (Shackleton et al. 2008), wild resources

such as fuel wood, wild foods, and construction materials have significant economic value for rural households with the equivalent income share from these products representing as much as one-third of total household incomes.

Many wild resources such as raw materials, medicines, and botanical oil extracts are traded in local, national, and increasingly, international markets to generate income. The development of natural products for specialized cosmetic, pharmaceutical, food, and health markets is increasingly seen as an opportunity to alleviate poverty while maintaining ecosystem health. A significant proportion of the harvested natural products are for social, spiritual, and cultural purposes, exemplified by the fact that in eastern parts of the cape of South Africa the amount of plant material harvested for cultural uses exceeded that for utilitarian uses (Shackleton et al. 2008).

Natural products are often gathered, used and/or sold in times of crisis to hedge income gaps and to meet specific needs such as school fees or celebration costs. This kind of natural safety net helps the poor reduce household risk and vulnerability, and their ability to cope with difficult events such as drought, disease, the escalation of commodity prices, and conflict. Wild foods and medicinal plants were two of the most common and important uses of natural products relevant to human well-being in the region. The role of wild foods in ensuring household food security and of wild plants used as traditional medicines are important to the poor, though the local extinction of certain species due to commercial overharvesting was also reported in the region (Shackleton et al. 2008). A meta-study undertaken by Vira and Kontoleon (2010) highlighted evidence of the dependence of the poor on biodiversity for their income.

Fuel wood also plays an important role in support of the poor who are reliant on it for household energy and therefore changes in the availability and access to fuel wood can significantly affect their livelihoods and well-being. Fresh water provided by rivers and wetlands is also essential for supporting the poor, for both domestic purposes and for supporting agricultural-based livelihoods. Ensuring sufficient quantities of fresh water is a challenge due to the lack of necessary infrastructure. In relation to regulating services, soil fertility is a key factor that affects the crop production capacity of the poor. Declines in soil fertility potentially deepen poverty levels through various mechanisms, such as reducing crop yields that in turn decreases sales and income, contributing to food insecurity, and diverting scarce cash resources from other needs to purchase food and/or fertilizers. The flood control services provided by natural wetlands in arid and semi-arid areas of southern Africa are important regulating services for the poor. The spiritual, aesthetic, and recreational services provided by ecosystems were also highlighted by the study as important for the poor (Shackleton et al. 2008).

The studies conducted by the Consortium on Ecosystems and Poverty in South Asia and Sub-Saharan Africa (ESPASSA 2008; Shackleton et al. 2008), reported knowledge gaps in the identification of the whole range of ecosystem services and their values. While it is widely recognized that the well-being of the poor is affected by changes in ecosystem services both directly and indirectly, very few existing studies address these mechanisms. Furthermore the study in Sub-Saharan Africa (Shackleton et al. 2008) highlighted the fact that most of existing work to date has focused on natural resources, while other types of ecosystem services have not been well captured. Due to the fact that the poor often live in marginal areas that

are most susceptible to the negative impacts of declining ecosystem services such as flooding, drought, poor air quality, and soil degradation, further work is required to better understand these aspects. It was also noted in that report that ecosystem management projects implemented by various agencies did not adequately consider poverty alleviation issues, highlighting the need for further research and communication of the importance and value of ecosystem services to convince policy-makers and practitioners to integrate conservation and development efforts.

11.5 Conclusions and Lessons Learned

- The poor are often more vulnerable to the loss of ecosystem services that result in diminished supplies of natural goods and services. There is often a socioeconomic asymmetry in the benefits from conservation. Those who are not poor often benefit more economically than the poor from environmental conservation efforts, while the poor generally suffer more from environmental degradation. A robust theoretical and implementable framework is required to conceptualize the linkages between poverty and ecosystem services.
- The poor often depend upon ecosystem services, but the nature of this dependence is usually not uniform throughout the year. In most areas there are cyclical annual weather patterns that determine the timing of agricultural activities and natural phenomena like flood and drought. The seasonal patterns of dependence of the poor and their coping strategies require regionally specific and in-depth evaluation.
- In all of the reviewed cases of poverty-ecosystem linkages indicators of the intensity and directionality of linkages were either diffuse or incoherent. Future research should seek indicators that enable more coherent understanding of directionality and appropriate policy approaches.
- We have a limited understanding of the links between poverty alleviation and the range of ecosystem services. Information is particularly limited on how regulatory ecosystem services, many of which are critical for supporting the lives of the poor, affect their well-being. Increased understanding of these linkages is critical for understanding the relationships between ecosystem services and poverty.

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References

- Bandyopadhyaya J (2002) A critical look at the report of the World Commission on Dams in the context of the debate on large dams on the Himalayan rivers. *Int J Water Resour Dev* 18(1):127–145
- Barbier EB (2010) Poverty, development, and environment. *Environ Dev Econ* 15(6):635–660
- Chopra K, Kapuria P, Kumar P (2009) Biodiversity, land-use change and human well being. Oxford University Press, New Delhi

- Comim F, Kumar P, Sirven N (2009) Poverty and environment links: an illustration from Africa. *J Int Dev* 22:447–469
- Dasgupta P (1995) *An inquiry into well-being and destitution*. Oxford University Press, New York
- Dasgupta P (1997) *Environmental and resource economics in the world of the poor. Resources for the Future*, Washington, DC
- Dasgupta P (2010) Nature's role in sustaining economic development. *Philos Trans R Soc B* 365:5–11
- Dasgupta S, Deichmann U, Meisner C, Wheeler D (2005) Where is the poverty-environment nexus? Evidence from Cambodia, Lao PDR, and Vietnam. *World Dev* 33(4):617–638
- Duraiappah A (1998) Poverty and environmental degradation: a review and analysis of the nexus. *World Dev* 26(12):2169–2179
- ESPASSA *Ecosystem Services and Poverty Alleviation Study in South Asia* (2008) A situation analysis for India and the Hindu Kush Himalayan region. The Energy and Resource Institute, New Delhi
- Hutton D, Haque EE (2004) Human vulnerability, dislocation and resettlement: adaptation processes of river-bank erosion-induced displaces in Bangladesh. *Disasters* 28(1):41–62
- Jodha N (1986) Common property resources and rural poor in dry regions of India. *Econ Pol Wkly* 21(27):1169–1181
- Koziell I, Saunders J (2001) *Living off biodiversity: exploring livelihoods and biodiversity, issues in natural resources management*. International Institute for Environment and Development, London
- Kumar P (2012) Impact of economic drivers on mangroves of Indian Sundarbans: an exploration of missing links. *Environ Dev Sustain* 14(6):939–953
- MA (2005a) *Ecosystems and human well-being: general synthesis*. Millennium ecosystem assessment. Island Press, Washington, DC
- MA (2005b) *Ecosystems and human well-being: desertification synthesis*. Millennium ecosystem assessment. Island Press, Washington, DC
- Mehta AK, Shah A (2006) *Chronic poverty in India: overview study*, CPRC working paper 7. Chronic Poverty Research Centre, University of Manchester, Manchester
- Pattanayak SK, Sills EO (2001) Do tropical forests provide natural insurance? The microeconomics of non-timber forest product collection in the Brazilian Amazon. *Land Econ* 77(4):595–612
- Pearce DW (2005) *Investing in environmental wealth for poverty reduction*, report prepared on behalf of the poverty environment partnership. United Nations Development Programme, New York
- Pearce DW, Warford J (1993) *World without end: economics, environment, and sustainable development*. Oxford University Press, New York
- Pfaff ASP, Kerr S, Hughes RF, Liu S, Sanchez A, Schimel D, Tosi J, Watson V (2000) The Kyoto protocol & payments for tropical forest: an interdisciplinary method for estimating carbon-offset supply and increasing the feasibility of a carbon market under the CDM. *Ecol Econ* 35(2):203–221
- Shackleton C, Shackleton S, Gambiza J, Nel E, Rowntree K, Urquhart P (2008) Links between ecosystem services and poverty alleviation: situation analysis for arid and semi-arid lands in southern Africa. Consortium on Ecosystems and Poverty in Sub-Saharan Africa, Cape Town. <http://www.unpei.org/PDF/preliminaryassessments/Links-Ecosystem-Services-and-Poverty-Alleviation.pdf>. Accessed 15 Feb 2013
- Singh RP, Binswanger H (1993) Income growth in poor dryland areas of India's semiarid tropics. *Indian J Agric Econ* 48(1):52–64
- Speth JG, Haas PM (2006) *Global environmental governance*. Island Press, Washington, DC
- Tallis H, Goldman R, Uhl M, Brosi B (2009) Integrating conservation and development in the field: implementing ecosystem service projects. *Front Ecol Environ* 7(1):12–20
- Tallis H, Pagiola S, Zhang W, Shaikh S, Nelson E, Stanton C, Shyamsundar P (2011) Poverty and the distribution of ecosystem services. In: Kareiva P, Tallis H, Ricketts TH, Daily GC, Polasky S (eds) *Natural capital: theory and practice of mapping ecosystem services*. Oxford University Press, Oxford, pp 278–293

- UNDP (1997) Human development report 1997. United Nations Development Programme. Oxford University Press, New York
- UNEP/IISD (2004) Exploring the links: human well-being, poverty and ecosystem services. United Nations Environment Programme/International Institute for Sustainable Development, Nairobi/Winnipeg
- Vira B, Kontoleon A (2010) Dependence of the poor on biodiversity: which poor, what biodiversity? Paper presented at the CPRC international conference 2010, Chronic Poverty Research Centre, University of Manchester, Manchester, 8–10 September 2010
- WCED (1987) Our common future. World Commission on Environment and Development, United Nations, New York
- World Bank (2000) World development report 2000/2001: attacking poverty. World Bank, Washington, DC
- World Bank (2002) Linking poverty reduction and environmental management: policy challenges and opportunities. World Bank, Washington, DC
- World Bank (2008) Social dimensions of climate change: workshop report 2008. World Bank, Washington, DC

Chapter 12

Land Degradation, Poverty and Marginality

Nicolas Gerber, Ephraim Nkonya, and Joachim von Braun

Abstract This chapter emphasizes the complexity and plurality of the types and magnitudes of causal relationships between poverty and environmental degradation, based on a review of the literature. The authors use case studies focused on the issue of land degradation to illustrate these relationships. Land degradation (LD) is influenced by natural and anthropogenic factors, including socioeconomic conditions. LD is of importance to people because it decreases the provision of terrestrial ecosystem services and the benefits they provide for human well-being. A key question is whether lower levels of well-being lead to more or less destructive resource use and management strategies. The authors call for a systematic and science-based assessment of LD worldwide as a necessary first step toward the inclusion of LD in global measures of well-being.

Keywords Ecosystem services • Global indicators • Land management • Agricultural productivity • Environmental Kuznets curve • Land degradation

12.1 Introduction

Land degradation (LD) has affected many parts of the world for centuries and is reported to be increasing in extent and severity. LD has negative consequences on the productivity of land and the ability to provide ecosystem services, and thus

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increases environmental and social vulnerability. As used in this chapter, LD captures comprehensively the terms 'land and soil degradation' as well as 'desertification' and refers to the long-term decline of ecosystem function and productivity. In this matter we followed the most recent definitions of LD (Nachtergaele et al. 2010) used by The Global Land Degradation Information System (GLADIS).

Humid areas of the world account for a higher share of the world's total degraded land (78 %) than previously thought (Bai et al. 2008a). Nonetheless LD of arid and semi-arid areas (often referred to as desertification) remains a significant global problem because they host 38 % of the world's population (Reynolds et al. 2007) and are typically less resilient to environmental disturbance than more humid areas. According to the Global Land Degradation Assessment (GLADA) LD is increasing, with almost one-quarter of the total global land area having been degraded between 1981 and 2003. Furthermore Nachtergaele et al. (2010) estimate that 1.5 billion people depended on degraded areas (to variable degrees) for their livelihoods in 2007, while in excess of 42 % of the world's very poor population lived in degraded areas.

LD is influenced by natural and anthropogenic factors, including socioeconomic conditions. Most human-induced LD occurs as a result of the interactions between the land and its users (Vlek et al. 2010). LD is of importance to humans because it negatively affects the provision of ecosystem services and the benefits they provide to human well-being. Unfortunately and despite considerable advances in the economic valuation of ecosystem services in recent years, there are still many gaps in the valuation of such services, including the economic valuation of specific ecosystem services and the geographic dimension of such valuation. LD can be particularly detrimental to ecosystem function and human well-being in arid and semi-arid areas, where the meaningful valuation of ecosystem services has been under-represented.¹

LD can affect any ecosystem, including anthropogenic ecosystems such as agro-ecosystems, forestry plantations, rangelands, and urban areas (Ellis and Ramankutty 2008). Anthropogenic and natural ecosystems provide environmental support and regulation services (e.g., nutrient and hydrological cycling, climate regulation, etc.). Hence the impacts of LD on human well-being should be assessed across all terrestrial ecosystems for an accurate valuation of these impacts. The links between human well-being and LD are multiple and multi-directional due to the variety of human benefits derived from ecosystem services. Furthermore human well-being and especially human 'ill-being' (i.e., poverty) can be both a cause and a consequence of LD.

LD impacts human well-being in several dimensions or components. The Millennium Ecosystem Assessment (MA 2005) described the links between ecosystem services and human well-being using four broad dimensions: security, basic living material, health, and social relations. Balmford et al. (2008) showed that the value of ecosystem services is best accounted for when ecosystem services are translated into benefits to humans (i.e., food, water, material, energy, property,

¹This is reflected in the relatively small number of arid and semi-arid area case studies reviewed by TEEB (2009).

health, psychological well-being). Ecosystem services as defined by MA (2005) mostly refer to processes such as nutrient and hydrological cycling, and cannot be directly valued without incurring the risk of over-estimating (e.g., land restoration through afforestation can be valued for the environmental regulation services it provides and also for material benefits such as fuel, construction, or pulp wood). McGregor and Summer (2009) defined human well-being in the context of development as being three dimensional: material, relative, and subjective. These dimensions are linked to “the resources that a person is able to command...what needs and goals they are able to meet [and] the meaning that they give to these goals” (McGregor 2006, 4). Economic assessments of the impacts of LD on human well-being generally concentrate on the first two points: how LD affects resource availability and use, and how those effects impact the choices and goals of resource consumers and society at large.

Several authors have modeled relationships between the state of the environment and human well-being. One recurrent question has been whether lower levels of well-being (e.g., measured as limited socioeconomic development or poverty rates) lead to more or less destructive resource use and management practices. From the literature it can be concluded that a clear consensus on the relationship between poverty and LD does not exist. The levels of LD resulting from land use practices involve complex and dynamic processes and multiple feedback and synergistic effects that tend to be local, specific, and cannot be analyzed at the global scale. An effective analysis would require close attention to local circumstances, in terms of the environment and of socioeconomic characteristics, including institutional frameworks. Theoretical models of development and resource degradation help explain how these dynamics may play out in specific settings (Reardon and Vosti 1995; Grepperud 1997; Bulte and van Soest 2001; Carter and Barrett 2006; Barbier 2010).

12.2 Conceptual Framework

To investigate the relationships between poverty and LD it is useful to place them in the broader context of an assessment of LD, including its causes, consequences, and costs. Figure 12.1 presents a conceptual framework for this broader context. The rounded boxes represent physical elements of the system under consideration that have direct relationships, and the black arrows denote the directionality of impact flow. The proximate causes of LD include: biophysical factors (climatic conditions, topography, etc.) and unsustainable land management techniques (clearing, over grazing, etc.). The underlying causes of LD include the policies and institutional or other socioeconomic factors that determine land management practices. Proximate and underlying causes may be related to each other, for instance through feedback loops or synergistic processes, making it difficult to assess the influence of a single factor. National, international, and local policies and strategies; access to markets; infrastructure; the availability of appropriate agricultural extension services;

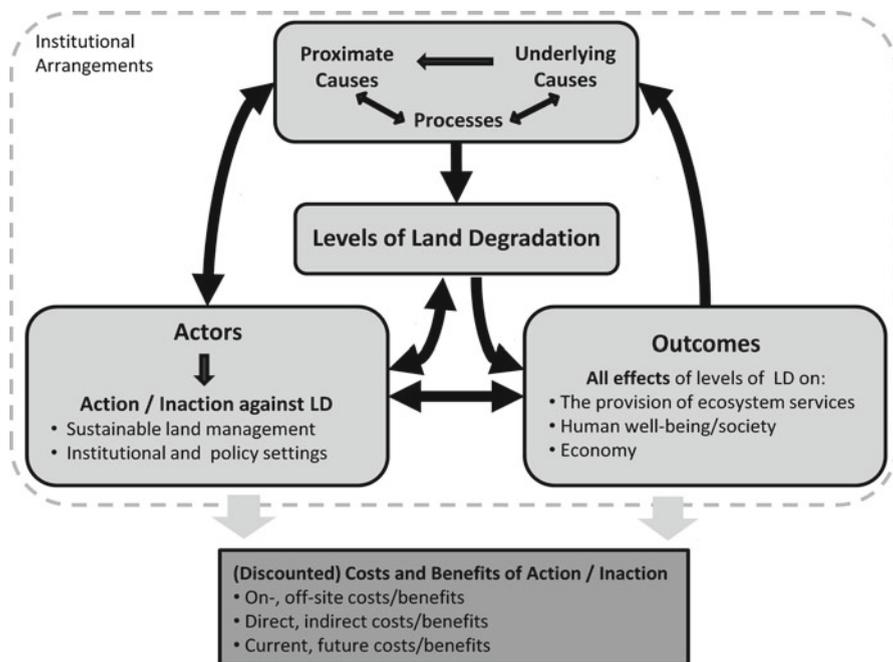


Fig. 12.1 A conceptual framework for the analysis of the economics of land degradation (Based on Nkonya et al. 2011a)

population density; poverty; and land tenure conditions are all underlying causes that have been empirically associated with LD. For example, poverty could contribute to the failure to invest in sustainable land management practices. Similarly policies that enhance investment in land management, such as payments for ecosystem services resulting in reforestation of steep slopes can mitigate the proximate causes of LD (soil erosion on denuded slopes). Increasing population density may lead to increased investment in land management (Boserup 1965; von Braun et al. 1991; Tiffen et al. 1994) or to LD (Grepperud 1996) depending on situational factors.

The level and type of LD determine its outcomes or effects—whether on-site or off-site—on the provision of ecosystem services and the benefits humans derive from those services. If actions to halt or mitigate LD are taken, the actors involved should be determined by the causes of LD that need to be addressed, the level of degradation, and by its effects. Actors can then take action to control or counter the causes, levels, or effects of LD.

Many ecosystem services are not traded in markets, so the beneficiaries do not directly pay for those services. The economic concept of externalities refers to the costs and benefits arising from the production or consumption of goods (or 'bads') and services for which no appropriate compensation is paid (e.g., on- and off-site environmental effects such as sedimentation, and indirect societal effects such as emigration and food insecurity). The values of such externalities are not necessarily

considered in land-use decisions, often leading to the undervaluation of land and of ecosystem services, and to levels of LD that are not socially optimal (the social optimum is reached when the marginal social costs of LD are equal to the marginal social costs of action to prevent or rectify it).

The dark square box at the base of Fig. 12.1 represents a cost/benefit analysis of the human impacts of LD. The light arrows indicate the flow of information necessary to perform such an analysis. A decrease in the provision of ecosystem services and their benefits has direct economic costs to humans, such as decreased food security and increased food prices. In addition LD has indirect negative effects of economic importance to humans: LD affects land prices and the prices of the goods produced on it. The impacts of LD on economic sectors directly linked to land use have indirect, economy-wide effects that are passed to other sectors by multiplier effects. Direct and indirect effects of LD can broadly affect poverty and national income, and thus have far-reaching socioeconomic consequences. Ideally all direct and indirect effects of LD would need to be accounted for in an assessment of its social and environmental costs. The causal relationships represented in Fig. 12.1, as well as their magnitudes, are partly determined by a broad set of institutional arrangements—or the ‘rules of the game’ influencing how actors make decisions. For example, excessive use of groundwater for irrigation has resulted from a lack of direct financial costs based on the volume of water used.

12.2.1 The Dynamic Nature of LD

Degradation of an ecosystem may not translate directly or immediately into a noticeable loss of ecosystem services and benefits. Generally speaking ecosystems can sustain some level of degradation before reaching a threshold after which ecosystem function declines (often rapidly) in one or more dimensions (TEEB 2009). The impacts of specific LD processes and of the actions used to mitigate them become apparent over time in a way that is often nonlinear. For instance, the impacts of afforestation on nitrogen cycling are clearly time dependent. Similarly, erosion has a nonlinear impact on crop yields due to the fact that the initial stages of topsoil depletion represent a greater loss of nutrients and productivity than subsequent erosion. Facing such dynamic and nonlinear processes and relationships, it is important to analyze them accordingly. This requires analysis of the impacts of changes in LD on the economy, as well as the impacts of changes in socio-economic factors on LD levels.

In this context the choice of discount rates and the time horizon for the cost-benefit analysis is crucial. High discount rates indicate a strong time preference for the present (a 10 % yearly discount rate indicates that a \$1 investment today must provide a \$1.1 return in 12 months to justify the initial investment). They tend to discourage investments that generate long-term benefits and favor those that create short-term benefits but also significant long-term costs. From a society’s perspective

the latter case is not desirable. From an individual's perspective it might be a rational decision to adopt practices that maximize short-term benefits even if they contribute to LD in the long-term.

Particularly in a poor economy, the basis of land use decisions made by individuals often reflects their preference for the immediate or short term benefits and is often much different from what a social planner with a long-term perspective would adopt. Private individuals' preference for the short term, conceptually reflected in high private discount rates, may be due to constrained land management choices due to poverty, leading to LD rather than sustainable practices, or else due to high levels of risk aversion in determining land-use practices. In some cases LD, poverty, and short-term temporal preferences can be interrelated and synergistic. As poverty increases land use practices are increasingly determined by immediate need, thereby accelerating LD. The resulting increase in LD reduces ecosystem function and its ability to provide the services and benefits upon which the land users (and others) depend, aggravating poverty and thus increasing incentives for basing land-use decisions on short-term outcomes.

At this stage it is important to stress that such synergy is not a universal or necessary feature of the poverty-LD nexus. As discussed in this chapter, there is no consensus in the literature on the general relationships between poverty and LD. Indeed these deleterious spiral effects can be avoided. An essential dynamic to mitigate in such a context would be the increasing poverty trend. There are several examples of schemes that target this dynamic. For instance, guaranteeing secure land tenure may help induce farmers to adopt long-term approaches to land management. Payments for ecosystem services can alleviate the impacts of poverty on low investment in sustainable land management. The success of any such measures and programs will be dependent on their design and administration.²

12.3 Global Indicators of LD

A number of efforts have attempted to assess LD at the global scale (Nkonya et al. 2011a). The Global Assessment of Human-induced Soil Degradation (Oldeman et al. 1991) evaluated the extent and severity of soil degradation across climate types based on expert judgment, which helped raise awareness about global soil degradation. In response the World Overview of Conservation Approaches and Technologies network (WOCAT) initiated efforts to help prevent and reduce LD through sustainable land management (SLM) practices in 1992 by documenting and evaluating soil and water conservation measures worldwide. The Land Degradation Assessment in Drylands (LADA) and the

²See Requier-Desjardins et al. (2011) for a more detailed review of instruments for the management of externalities that are suitable for preventing or mitigating LD and desertification.

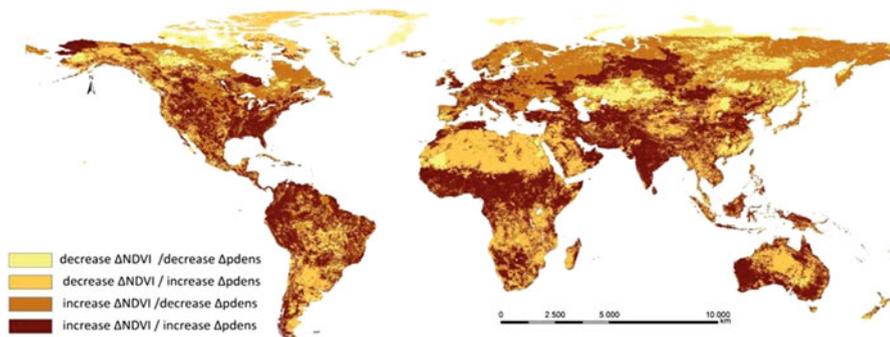


Fig. 12.2 Relationship between change in NDVI and population density (Based on NDVI data from GLCF 2011 in Nkonya et al. 2011a, population data from CIESIN 2010 in Tucker et al. 2004, and GDP data from IMF 2010)

Global Land Degradation Assessment (GLADA) projects of the FAO made use of geographical information systems and remote-sensing data to map LD between 1981 and 2003. More recently the GLADIS effort (Nachtergaele et al. 2010) assessed global LD using a combination of biophysical and socioeconomic indicators (biomass, soil, water, biodiversity, economic, and socio-cultural). Methodological concerns about the LADA, GLADA, and GLADIS efforts are discussed in Nkonya et al. (2011a).

Most studies use land-cover changes as indicators to approximate LD. Land-cover change is the most direct and pervasive anthropogenic effect used to determine trends in land status (Vitousek 1994). Many studies have used the normalized difference vegetation index (NDVI) and related indices as indicators of changes in ecosystem productivity and LD. NDVI measures vegetation cover and thus analyses of changes in vegetation cover based on NDVI may conceal some forms of LD. For example, the encroachment of weeds and alien species or the effects of carbon fertilization on degraded lands (Vlek et al. 2010) may be perceived as land improvements on the basis of NDVI analyses. In addition, land-use changes such as the conversion of agricultural areas into residential areas may be difficult to identify using NDVI data based analyses. Despite these and other disadvantages (Nkonya et al. 2011a) NDVI remains one of the most widely used analytical tools for providing information about the condition of the aboveground biomass based on remote sensing images, especially at the global scale.

The methods, assumptions, and extent of LD in each of these studies varied and therefore are not directly comparable to one another (Nkonya et al. 2011a). For a global assessment of LD and its links to poverty, analyses of remote-sensing images and geo-referenced data are definitely needed. However, assessment results should be validated on the ground before they can be considered reliable. In particular, the empirical results presented in the meta-analysis suggest that some of the links between population density and LD, and between economic growth and LD (Figs. 12.2

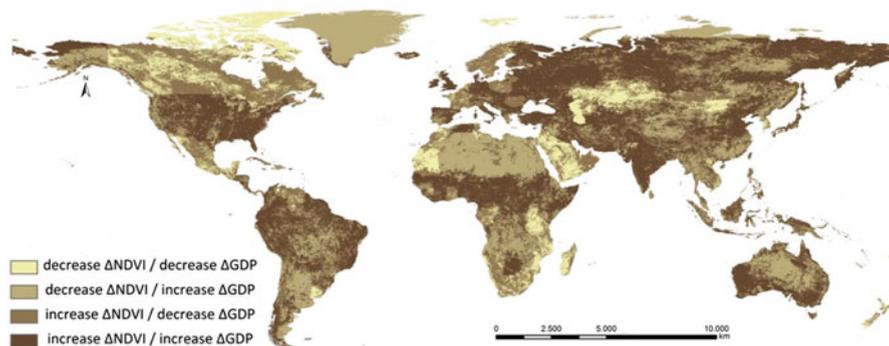


Fig. 12.3 Relationship between GDP and NDVI (Based on NDVI data from GLCF 2011 in Nkonya et al. 2011a, population data from CIESIN 2010 in Tucker et al. 2004, and GDP data from IMF 2010)

and 12.3),³ display complex regional differences. For instance, the maps illustrate that a decrease in NDVI can be associated with either an increase or decrease in population density in neighboring areas (Fig. 12.2, data from the western Sahara), and also with either an increase or decrease in GDP (Fig. 12.3, same region). This clearly supports the idea that targeting population density or poverty alone will not improve LD. Population density and poverty can be underlying causes of LD, but need not be depending on their combination with other causal factors and institutional frameworks (such combinations are not captured in Figs. 12.2 and 12.3).

In order to support SLM globally, cost calculations of global LD are urgently needed for a comparison with the costs of remedial efforts. Such cost assessments need to rely on a clear theoretical framework that links the causes of LD and their consequences in terms of their marginal impact on LD levels. The links between local poverty, development, and food security; their indirect impacts on global society; a clear investigation of the strong regional and national dimensions of LD; and the extent and severity of LD are essential elements for building this framework.

12.4 The Links Between Poverty and LD

LD is important because of its direct effects on:

- the range of land use activities that people can undertake and the range of services provided by the land—in other words LD restrains land use choices and options

³To mitigate the impacts of abnormal years, the baseline and endline for the change in NDVI were computed at an 8×8 km resolution for the periods 1982–1984 and 2003–2006 respectively from GLCF (2011) and Tucker et al. (2004). The population data was collected at a $0.5^\circ \times 0.5^\circ$ resolution from 1990 to 2005 (CIESIN 2010). The GDP data for each country was from 1982–1984 and 2003–2006.

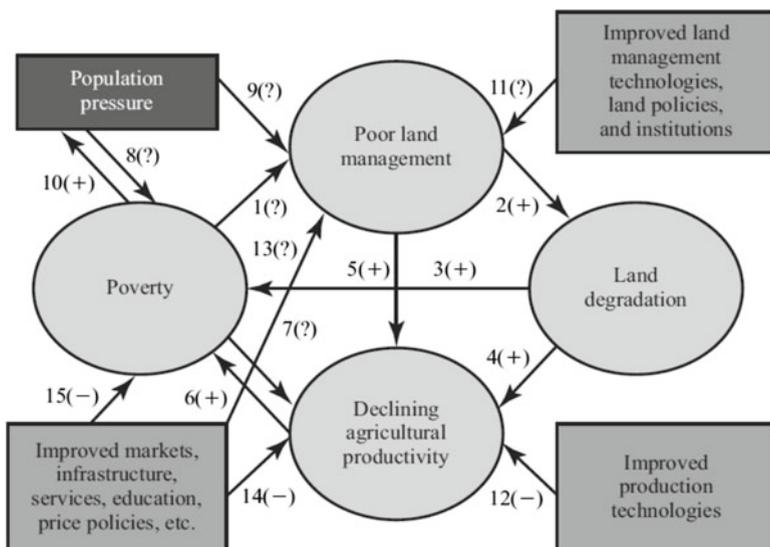


Fig. 12.4 Possible linkages between poverty, land management, land degradation, and agricultural productivity, with associated factors. The nature of the linkages followed by (?) are undetermined. (Nkonya et al. 2008)

- the productivity of land-use activities and ecosystem services, and the economic returns they generate
- the intrinsic value of land

Degradation affects the economic value of land because such values are based on the capacity to provide services and benefits. These benefits include not only physical outputs (e.g., food and resources), but also other services that are beneficial to human well-being (e.g., recreation). The ethical, philosophical, and cultural dimensions of ecosystem valuation, as well as the intrinsic value of land, are not part of the scope of our evaluation of the links between LD and human well-being.

Considering that LD negatively affects people and society both directly and indirectly, why does it take place and why are investments in SLM not reversing, or at least halting LD worldwide? Is poverty a major cause of this under-investment, and if so, through what mechanisms? In this chapter we focused on the case of LD in developing countries, as there is little doubt that socially sub-optimal LD in the industrialized world is not an issue of poverty.

The lack of consensus on the relationships between LD and poverty can be extended to the global context of poverty and natural resource depletion. Nkonya et al. (2008, 8) attribute this fact to the “complexity and context dependence of the linkages [and] to the lack of comparable empirical evidence on these issues.” Multiple examples of the linkages between poverty and LD are illustrated in a figure that leaves no doubt about the complexity of the issue (Fig. 12.4), and its uncertainty in terms of the nature of some of the linkages or indeed their existence (Nkonya et al. 2008, 9–10).

The authors also reviewed established empirical links between poverty and LD with an emphasis on the contradictory nature of the published results, and made a strong case for the contextual dependency of such results. Furthermore, a concept as broad as poverty is subject to different interpretations and definitions. The adoption of a specific definition over another, or a narrow focus on a specific dimension of poverty (e.g., income level) over another (e.g., access to markets) can lead to contrasting empirical findings in terms of the links between poverty and LD. That meta-analysis (Nkonya et al. 2011a) also found that while some studies support the association of poverty with behavior based on short-term perspectives, other studies found that such behaviors were not correlated to income levels. Some studies have found a positive link between high discount rates and lower willingness to pay for conservation, while other studies have found that poor farmers facing negative shocks prefer to reduce consumption in order to preserve their assets (including land).

In this section we discuss some of the theoretical treatment of the poverty/LD interrelationships found in the literature. In economic studies it is now common practice to use inclusive definitions of poverty that consider physical, human, natural, and financial limitations, and even access to infrastructure and services, which should be given priority over restrictive definitions linked to indicators of income or consumption. Nkonya et al. (2008) adopted a comprehensive definition of poverty that intended to encompass all matters that constrain the land management decisions of farmers (access to different forms of capital, infrastructure, markets, services, education, etc.). This broad definition of poverty is consistent with the notion of ‘investment poverty’ developed by Reardon and Vosti (1995), and with more recent work on poverty traps (Carter and Barrett 2006). The latter refers to the ‘assetless’ poor whose situation is characterized by self-perpetuating patterns of poverty: poor farmers become locked in a dynamic of contributing to environmental degradation due to a lack of alternatives available to them as a result of a limited asset base.

Barbier (2010, 647–653) presented a simple poverty trap model in which rural households hold only two types of capital, land and labor. The latter can be used for production activities on the land or allocated to external paid labor. In this case a poverty trap is created by labor market dynamics when wage rates for external employment fall below the household’s reservation wage (i.e., the maximum wage at which the household still chooses to allocate zero time for external paid labor). For instance, when LD forces labor off farms on a large scale (due to decreased agricultural labor productivity) it may cause excess labor supply for nonagricultural work. At that stage households will reallocate their labor back to on-farm production activities, further depleting their land resources and locking themselves into a poverty-LD trap. The author postulated that such cases are likely when poor people live on marginal land, which was partially supported by the results of a statistical analysis (Barbier 2010).

Theoretically and in practice, causal linkages between resource degradation and worsening poverty have not been established (Nkonya et al. 2008). In fact resource degradation may be an optimal strategy from the private or household perspective if other activities and assets can be invested in pursuits that yield higher returns. It is

then a case of substituting different types of capital to maximize household welfare. As the authors noted, under perfectly functioning market conditions resources are allocated according to their most profitable uses. Under imperfect conditions such as uncertainty, however, market and institutional failures may cause poverty and LD to be closely associated. The form, intensity, and direction of this association may depend on the nature of the market failure, poverty, or the type of LD.

A theoretical example of the relationship between poverty and environmental degradation that has been much discussed in economics literature is the ‘environmental Kuznets curve’ (EKC). The EKC postulates that the relationship between income level and environmental degradation has the shape of an inverted U, that degradation initially increases with income up to a maximum point and thereafter monotonically decreases as income increases continue. The main assumption behind the EKC is that accelerating wealth creation through economic growth encourages the technological progress necessary to counter environmental degradation. The EKC has been discussed empirically and theoretically (Bulte and van Soest 2001; Hill and Magnani 2002), and proven empirically for specific types of degradation (e.g., air pollution in Selden and Song 1994), disproven for others (e.g., deforestation in Koop and Tole 1999), and similarly across regions and countries (Harbaugh et al. 2002). A major theoretical issue lies in the existence and determination of the ‘turning point,’ i.e., the income level at which the sign of the relationship changes. Caviglia-Harris et al. (2009) and Azomahou et al. (2006) further reviewed existing studies that tested the EKC concept. Caviglia-Harris et al. (2009) also tested for the existence of an EKC relationship in the context of a comprehensive indicator of environmental degradation, the ecological footprint, and found no empirical evidence to support it.

Bulte and van Soest (2001) examined the possibility of a (reverse) EKC in a general theoretical setting that was well-suited to developing countries. Their approach is interesting in that it did not rely on the usual trade-offs between production (or consumption) and degradation at various income-levels (as most studies do). Rather the resource management decisions of the households indirectly consider degradation through their allocation of labor time. This set up is particularly suited to the issue of LD, as farm households can effectively choose whether or not to allocate time to specific activities in order to preserve their natural capital (land).⁴ The authors assumed that households cannot trade labor, but fully allocate it across three activities: agricultural production, preservation/regeneration of their stock of natural capital, and leisure. The households maximize their utility under a budget constraint and simultaneously make decisions on consumption and production (i.e., a non-separable household model). Environmental degradation is accounted for by inter-temporal variations in the stock of the natural resource or by the rate of resource extraction, and changes in income are reflected by changes in the farm output prices. Their interesting results show that under imperfect labor markets, the combined income and substitution effects of rising prices can be either consistent with the EKC hypothesis or not, depending on the choice of environmental degradation indicator.

⁴Nkonya et al. (2011a) provides a summary of solutions to different types of LD.

Salvati and Carlucci (2010, 3–4) noted that most EKC studies focus on air pollution and to a lesser extent on deforestation. They only listed a few studies that examined EKCs in the context of other processes with potential links to LD such as agricultural land use, land cover change, and farmland conversion. Their study empirically tested the links between economic drivers (proxied by per capita value added) and process-specific drivers (crop intensity, irrigation, share of industry in total product, urban land use, and tourism concentration), and LD vulnerability at the district level in Italy. Their LD vulnerability index (LVI) is composed of 14 indicators reflecting soil quality, climate, and land use. The authors tested several specifications of the relationship between per capita value added and LVI, and overall found a negative relationship between economic growth (increase in district-level value added) and the LVI over the period 1990–2000. It must be noted, however, that even though Italy has very significant differences in income and growth levels across regions, these results cannot be taken as a universal illustration of the existence of an EKC for LD. Given the highly disputed theoretical underpinning of the EKC, it can only inform policymaking after it has been thoroughly tested at appropriate spatial scales.

12.5 Case Studies

We chose Niger and India as case studies because both countries have implemented land management policies that have had significant positive impacts despite daunting challenges. Niger is ranked among the poorest countries in the world, yet the country has developed exemplary land management programs, demonstrating that even the poorest countries can achieve SLM with appropriate policies. Niger's GDP per capita increased from an average of US\$475 in 1981–1984 to US\$610 in 2003–2006 (based on purchasing power parity [PPP] (IMF 2011)), while deforestation rates in the country decreased from 3.7 % in 1990–2000 to 1.7 % in 2000–2010 (FAO 2011a). Reforested areas increased significantly during the same period and contributed a large share of the reduction in overall deforestation in the country.

India—the second most populous country in the world—has implemented community-based resource management efforts with notable successes. Over the past 20 years India's economy has been growing fast. Per capita GDP increased from an average of US\$529 in 1981–1984 to US\$2,068 in 2003–2006 (based on PPP and international dollars (IMF 2011)). Despite an increasing population size and greater demand for forest products, forest cover in India increased by 0.2 % in 1990–2000 and by 0.55 % in 2000–2010 (FAO 2011a).

As seen in Table 12.1, both countries are mostly arid or semi-arid, the amount of arable land area per capita is less than 1 ha, and soil sodicity (i.e., a form of salinity caused by excessive concentrations of sodium in the soil that results from the evaporation of sodium bearing irrigation water and that negatively affects plant growth) is a common issue. Soil erosion is a larger problem than sodicity in India, primarily water-induced erosion. In Niger water induced erosion is limited because of less

Table 12.1 Land resources and severity of land degradation

Land resource and severity of degradation	India	Niger
Arable land per capita (ha)	0.18	0.44
Arid and semi-arid lands (% of total land area)	72	94
Soil erosion hazard (% of total land area)	29	7
% of total land area affected by sodicity	1	1

FAO (2010)

Table 12.2 Adoption rates of land management practices in Niger and Kenya

Practice	Niger ^a	Kenya ^a
Use of chemical and organic fertilizer	0	33.0
Animal manure application	1.0	68.0
Improved fallow	0.6	4.9
Crop-residue incorporation	0.1	34.4
Mulching	6.4	35.2
Rotational grazing	0.4	7.5
Water harvesting	0.4	17.2

Nkonya et al. (2011a), based on FAO (2011b)

^aPercentage of households using practice

rainfall and relatively flat terrain, however, wind erosion is a major problem there (Sterk 2003). Soil nutrient depletion, overgrazing, salinity in irrigated cropland, and deforestation are also major problems in Niger.

12.5.1 Niger

Soil nutrient depletion in Niger is high. On average the country applies only about 0.28 kg of nitrogen per hectare, the second lowest rate in the region. In comparison, the rate of NPK uptake per hectare for millet—the most common crop in Niger—is 56 kg (Henao and Baanante 2006), suggesting that the rate of soil nutrient mining is high. As shown in Table 12.2, the use of organic soil fertility management practices is also limited. Six percent of households used mulching and only 1 % or less adopted similar land management practices. Underscoring the strong association of land degradation and poverty, Nkonya et al. (2011b) showed that the use of chemical fertilizer and organic inputs was lower for poor farmers than for farmers who were not poor. Similarly it is tempting to conclude that there is an association between poverty and the lack of adopting certain land management practices with respect to change in GDP and land management in Niger and Kenya. GDP per capita in Niger (see section above) grew significantly less between 1981–1984 and 2003–2006 than in Kenya (US\$764 to US\$1,382 based on PPP and international dollars

(IMF 2011)), and this pattern reflects a much lower rate of adoption of improved land management practices in Niger than Kenya. However, rural services, institutions, marketing, and other factors also affect the adoption of certain land management practices.

Livestock production is the major source of income in the arid and semi-arid regions of the country and overgrazing is a major problem. The average stocking rates in Niger (in terms of tropical livestock units [TLU]) increased from about 0.25 TLU/ha in 1992 to a little over 0.4 TLU/ha (Nkonya et al. 2011a).⁵ That study also evaluated the effects of overgrazing in Niger and found that overgrazing reduced forage yields by an average of 32 %, which has led to associated losses in beef carcass weights and milk production.

Costs of action and inaction. Nkonya et al. (2011a) estimated the costs of action and inaction at the farm level. The costs of action are the costs a farmer will incur by engaging in efforts to address LD, whereas the costs of inaction are the losses the farmer will incur due to the effects of LD if no remedial actions are taken. In the case of soil nutrient depletion, the study evaluated sorghum, millet, and rice production and estimated the loss of profits due to exclusive use of passive crop residues as a soil fertility management practice. To determine the costs of inaction, sole reliance on passive crop residue was compared with the use of: 40 kg of nitrogen per hectare, 1.67 tons of manure per hectare, and the active incorporation of 50 % of crop residues. The results indicated annual national level profit losses due to exclusive reliance on passive crop residues reaching US\$6 million for rice, US\$133 million for millet, and US\$157 million for sorghum. The availability of fertilizers and appropriate training in fertilizer application are limiting factors in the case of poor farmers. Well known systems exist to overcome such barriers (e.g., contract farming, subsidies, extension services, etc.), their success in terms of using SLM practices and poverty reduction being somewhat case specific.

In the case of sodicity the costs of action are the costs of the water and labor required for leaching. The cost of inaction is the value lost due to sodicity. This cost is estimated by determining the difference between the net present value (NPV) of leaching practices and the NPV without desalinization. The study showed that the costs of action were only about 10 % of the costs of inaction per hectare, indicating the high costs that farmers suffer for not addressing sodicity problems, as well as the importance of LD costs in terms of income and annual GDP loss (8 %) due to salinity. Nonetheless poverty may prevent farmers from taking action, especially if the water and labor costs for leaching are up-front costs. Without financial support poor farmers are left to suffer decreasing yields and benefits, thus increasing the risk of poverty and further LD.

Land management success stories in Niger. Niger is one of the few Sub-Saharan African countries that has achieved remarkable land rehabilitation results. The

⁵Tropical livestock units (TLU) are based on a standard animal live weight of 250 kg. The average TLU conversion factor for common livestock are 0.9 TLU for individual adult cattle and 0.2 TLU for goats and sheep (Defoer et al. 2000).

government and development partners have invested in land management programs because the majority of the population depends heavily on the land. The ‘Special Program of the President,’ *Projet de Gestion des Ressources Naturelles* (Natural Resources Management Program), and more than 50 other programs have been implemented by the national government, NGOs, and donors since the early 1980s (World Bank 2009). In addition to these efforts the government has also restructured its institutions and passed a rural code in 1993 that gave traditional leaders more power to manage land, and encouraged them to engage in reforestation efforts and allows them to benefit from such efforts without government intervention. Allowing the poor to benefit from conservation actions was a key incentive for active land management. For instance, the forest policy gave landholders tenure rights to the trees that they planted or protected (Yatich et al. 2008; World Bank 2009). In addition the government promoted contract farming in state-controlled forests (Yatich et al. 2008). These policies created a sense of proprietorship and helped provide the economic incentives needed to protect the forests. The sales and subsistence use of forest products also helped farmers cope with agricultural production risks.

These policies and investments have led to the significant recovery of forest cover in the Sahelian regions where they were implemented. For example, villages where the *Projet Intégré Keita*; *Projet de Développement Rural de Maradi* operated were found to be much greener than what could be explained by change in rainfall only (Herrmann et al. 2005; Adam et al. 2006; Reij et al. 2008). In total, tree planting and protection efforts have led to the restoration of forest cover on three million hectares (Adam et al. 2006).

Other important factors contributed to this remarkable success. The droughts that occurred during the 1970s and 1980s led to a loss of vegetation that increased the perceived value of shade produced by trees. The loss of vegetation also increased the difficulty of collecting firewood and reduced forage available to the livestock sector, especially in northern Niger where trees provide fodder during the dry season. Hence tree scarcity significantly affected livelihoods in rural communities, prompting residents to shift from land-clearing to reforestation. The national government of Niger also responded to this challenge. In the 1970s it started to aggressively promote reforestation and changed Independence Day to National Tree Day.

NGOs and religious organizations also helped significantly in building the capacity of local institutions to manage natural resources and mobilized communities to plant and protect trees. For example, the farmer-managed natural regeneration (FMNR) program—in which communities protect or plant new trees in order to benefit from fuel wood, fodder, nitrogen fixation from leguminous trees, reduced erosion due to windbreaks, and other ecosystem benefits—was initiated by a religious organization (Reij et al. 2008). The authors in that study estimated that villages working with FMNR had 10–20 times more trees than before participating in FMNR. Consistent with Bai et al. (2008a), higher tree densities were found in villages with higher population densities (Reij et al. 2008).

The lessons that can be drawn from Niger are the institutional (rural code) and grassroots (NGOs and religious organizations) linkages. These gave local communities the mandate and the capacity to cultivate and manage natural resources. The rural

Table 12.3 Trends of total factor productivity growth of major crops in India (Kumar and Mittal 2006)

Crop	Period	Declining TFP	Annual TFP growth <1 %	Annual TFP growth >1 %
Rice	1971–1986	30.5	25.9	43.6
	1987–1900	15.0	32.8	52.2
Wheat	1971–1986	10.3	17.3	72.4
	1987–2000	2.8	74.7	22.5
Coarse cereal	1971–1986	19.8	9.6	70.5
	1987–2000	60.2	9.8	30.1
Pulse bean	1971–1986	42.8	36.6	20.5
	1987–2000	69.2	26.6	4.2
Oilseed	1971–1986	35.6	18.3	46.1
	1987–2000	28.3	10.6	61.1
Sugarcane	1971–1986	20.3	61.0	18.6
	1987–2000	90.9	5.4	3.7
Fiber	1971–1986	53.8	7.2	39.0
	1987–2000	32.5	1.4	66.1
Vegetables	1971–1986	0.0	27.5	72.5
	1987–2000	27.5	0.0	72.5

code provision, which allowed communities to benefit from their reforestation efforts also created strong incentives for farmers to invest their limited resources in land management, which alleviated poverty and resource degradation.

12.5.2 *India*

The nature of land degradation in India is different from what is found in Sub-Saharan African countries. India is among the countries that benefited from the Green Revolution. Agricultural productivity in India has been generally improving due to the increasing use of fertilizers and improved crop varieties. The total factor productivity (TFP) of more than 50 % of the major crops increased from 1970 to 2000 due to the increasing use of fertilizer and other inputs (Table 12.3).

Overexploitation of groundwater is one of India's major environmental problems. Approximately 63 % of total cereal production is irrigated and groundwater accounted for 45 % of the 567 km³ of irrigation water used in 2000 (Kumar et al. 2005; de Fraiture et al. 2008). Wheat and rice are the major irrigated cereals; the other cereal crops are largely rain fed (Kumar et al. 2005). Soil salinity is also becoming an increasing problem in areas where crops are irrigated, affecting an estimated 2 % of the cropland in India (FAO 2010). Salinity can reduce crop rice yields by up to 22 % (Nkonya et al. 2011a). The costs of action for mitigating LD in this case include the costs of desalinization, which involves staggered leaching of salts. The annual cost of irrigation water in India varies from US\$0.0 to as high

as US\$470/ha in Gujarat (Cornish et al. 2004). The costs of desalinization in Gujarat were estimated to be about US\$127/ha (Nkonya et al. 2011a). As seen in Niger, the costs of action are less than the costs of inaction, suggesting that inaction is not due to the lack of an economic incentive. Shouldering these costs may simply not be possible for many farmers, who may eventually be forced to abandon their land and move to other (marginal) areas.

Three land management success stories in India. India has had mixed success with community-based watershed management strategies. A study in Tamil Nadu evaluated the impact of community-based watershed management through *Panchayati Raj* (traditional governance) institutions, local user groups, and NGOs. Results showed that community-based watershed management efforts in Tamil Nadu have raised water tables, improved the reliability of wells, and increased the availability of water for agriculture and domestic use (Kuppannan and Devarajulu 2009). These findings are consistent with other studies that have found cases of successful community-based natural resource management in India and elsewhere (Ostrom and Nagendra 2006; Kerr 2007). The examples in India illustrate the importance of participatory and bottom-up approaches that place natural-resource management responsibilities into the hands of local institutions and communities. A review by Darghouth et al. (2008) found that participatory watershed management was successful when the programs were of common interest to the community, were flexible, and offered mechanisms for capacity building and empowerment of local communities. Community-based watershed management efforts have not been effective in managing larger watersheds (Darghouth et al. 2008), or where culturally or economically diverse communities are involved (Kerr 2007). These findings suggest the need for creating well-coordinated linkages that address complex watershed management scenarios.

India is one of a few countries that have seen significant improvements in rain fed agriculture performance (Bai et al. 2008b), due in part to successful agroforestry and renewable energy programs. Such improvements are evidence of the potential of SLM practices for combating LD and improving agricultural productivity. A contributing factor to the increased NDVI values in rain fed agricultural areas of India is the significant development of agroforestry, which is a traditional practice (Pandey 2007). Agroforestry plantations cover approximately 17 million hectares in India (Pandey 2007), equivalent to about 10 % of the country's agricultural area (FAO 2008). India is also one of the leading producers of jatropha, a multi-purpose crop often used as a biofuel that can grow on highly-degraded soils and in arid areas. Jatropha cultivation has helped reclaim 85,000 ha of degraded land in northern India (ICRAF 2008). Jatropha production on highly degraded lands has helped alleviate poverty, beneficiaries of a project in northern India earned an average of US\$1,200 annually per producer from sales of jatropha seed only 3 years after initial investments. Targeting degraded lands is one of the key features of this project, which has the potential to reclaim up to 30 million hectares of severely degraded land in India (ICRAF 2008).

India enacted the National Rural Employment Guarantee Act in 2006. Under this social protection act participants are guaranteed employment for at least 100 days

per year (UNEP 2011). About 84 % of the public works executed under this program have addressed water conservation, irrigation, and land management investments. It is estimated that the program has provided three billion workdays and benefited 58 million households (UNEP 2011). Even though there have been challenges with such programs in India and elsewhere (Deshingkar et al. 2005) they have shown to be win-win public investments, creating employment, reducing poverty, and enhancing the land and water resources (UNEP 2011).

12.6 Conclusion

To close this chapter we want to re-emphasize the complexity and plurality of the types and magnitudes of the causal relationships between poverty and environmental degradation. The wide array of relationships between LD and poverty were confirmed by literature review, where it is difficult to find an empirical based consensus on the nature of the links between the two. The breadth of the nature of poverty–LD linkages can be explained by several factors. First, there are several feedback and synergistic effects between the different causal factors of LD, therefore the true impact of poverty on LD cannot be captured in a bivariate analysis. Second, there are feedback effects between poverty and LD that make it harder to determine the direction of the causality. Finally, the institutional framework within which land users operate and make their land management decisions can supersede the impacts of poverty on LD. This was clearly exemplified by case studies in Niger and India. All of these empirical findings were shown to be independent of the cost effectiveness of SLM practices (Nkonya et al. 2011a), and are echoed in the theoretical literature on poverty and growth and their links to environmental degradation. The existence of an EKC has been debated at length. Bulte and van Soest (2001) showed that under imperfect labor markets, the combined income and substitution effects of rising resource prices can lead to an allocation of farm labor that is either consistent with the EKC hypothesis or not, depending on the choice of environmental degradation indicator.

Poverty as well as LD can be accounted for using a wide variety of indicators, the choice of which will influence the understanding gained about any particular linkage, which can differ vastly across regions and countries. A global and inclusive definition of poverty is inevitably linked to a general concept of well-being and welfare. There are currently no established indicators at the global-level that fully capture the variability in human well-being. Well-being is partially attributable to the state of the environment. This can be captured to some extent by global indicators such as genuine savings (Aglietta 2010), which adjusts the savings rate for the depletion of natural resources in particular. However, as noted in Nkonya et al. (2008), LD is a form of ‘squandering’ that is not addressed by any current frameworks and indicators of well-being, not even in measures of genuine savings. This needs to change, because productive land is a global public good that is increasingly under pressure to deliver the required ecosystem benefits to support a growing world population, sparking increasing competition over its ownership (Deininger and Byerlee 2011). A first

step towards the inclusion of LD into general measures of well-being that truly reflect the state of the environment is a systematic and science-based assessment of the extent, severity and costs of LD worldwide (Nkonya et al. 2011a).

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References

- Adam T, Reij C, Abdoulaye T, Larwanou M, Tappan G (2006) Impacts des Investissements dans la Gestion des Ressources Naturelles (GRN) au Niger: Rapport de Synthèse. Niamey. Centre Régional d'Enseignement Spécialisé en Agriculture (CRESA)/The Freedom University of Amsterdam, Niamey/Amsterdam
- Aglietta M (2010) Sustainable growth: do we really measure the challenge? Paper presented at the eighth Agence Française de Développement, European Development Research Network conference, Paris, 1 December 2010
- Azomahou T, Laisney F, Van Nguyen P (2006) Economic development and CO₂ emissions: a non-parametric panel approach. *J Public Econ* 90(6–7):1347–1363
- Bai ZG, Dent DL, Olsson L, Schaepman ME (2008a) Proxy global assessment of land degradation. *Soil Use Manag* 24(3):223–234
- Bai ZG, Dent DL, Olsson L, Schaepman ME (2008b) Global assessment of land degradation and improvement. 1. Identification by remote sensing. GLADA report 5 (November). Report 2008/01. International Soil Reference and Information Center, University of Wageningen, Wageningen
- Balmford A, Rodrigues A, Walpole M, ten Brink P, Kettunen M, Braat L (2008) The economics of biodiversity and ecosystems: scoping the science. European Commission, Cambridge
- Barbier E (2010) Poverty, development, and environment. *Environ Dev Econ* 15:635–660
- Boserup E (1965) The conditions of agricultural growth: the economics of agrarian change under population pressure. Aldine Press, New York
- Bulte EH, van Soest DP (2001) Environmental degradation in developing countries: households and the (reverse) environmental Kuznets curve. *J Dev Econ* 65:225–235
- Carter MR, Barrett CB (2006) The economics of poverty traps and persistent poverty: an asset-based approach. *J Dev Stud* 42(2):178–199
- Caviglia-Harris JL, Chambers D, Kahn JR (2009) Taking the “U” out of Kuznets: a comprehensive analysis of the EKC and environmental degradation. *Ecol Econ* 68(4):1149–1159
- CIESIN Center for International Earth Science Information Network (2010) Global distribution of poverty. Center for International Earth Science Information Network, New York. http://sedac.ciesin.columbia.edu/povmap/ds_info.jsp. Accessed 3 Aug 2012
- Cornish G, Bosworth B, Perry C, Burke J (2004) Water charging in irrigated agriculture. An analysis of international experience, FAO water report 28. Food and Agriculture Organization of the United Nations, Rome
- Darghouth S, Ward C, Gambarelli G, Styger E, Roux J (2008) Watershed management approaches, policies, and operations: lessons for scaling up, Water sector board discussion paper 1. World Bank, Washington, DC
- De Fraiture C, Giordano M, Liao Y (2008) Biofuels and implications for agricultural water use: blue impacts of green energy. *Water Policy* 10(1):67–81
- Defoer T, Budelman A, Toulmin C, Carter S (2000) Building common knowledge: participatory learning and action research. In: Defoer T, Budelman A (eds) *Managing soil fertility in the tropics. A resource guide for participatory learning and action research*. Royal Tropical Institute, Amsterdam, pp 23–35

- Deininger K, Byerlee D (2011) Rising global interest in farmland: can it yield sustainable and equitable benefits? World Bank, Washington, DC
- Deshingkar P, Johnson C, Farrington J (2005) State transfers to the poor and back: the case of the food-for-work program in India. *World Dev* 33(4):575–591
- Ellis EC, Ramankutty N (2008) Putting people in the map: anthropogenic biomes of the world. *Front Ecol Environ* 6:439–447
- FAO (2008) FAOSTAT Online agricultural data. Food and Agriculture Organization of the United Nations, Rome. <http://faostat.fao.org>. Accessed 25 June 2012
- FAO (2010) Land resource potential and constraints statistics at country and regional level (TERRASTAT). Food and Agriculture Organization of the United Nations, Rome. <http://www.fao.org/ag/agl/agll/terrastat>. Accessed 25 June 2012
- FAO (2011a) State of the world's forests. Food and Agriculture Organization of the United Nations, Rome
- FAO (2011b) FAOSTAT Online agricultural data. Food and Agriculture Organization of the United Nations, Rome. <http://faostat.fao.org>. Accessed 25 June 2012
- GLCF (2011) Global inventory modeling and mapping studies (GIMMS). Global land cover facility, University of Maryland, College Park. <http://glcf.umiacs.umd.edu/data/gimms>. Accessed 26 June 2012
- Grepperud S (1996) Population pressure and land degradation: the case of Ethiopia. *J Environ Econ Manag* 30(1):18–33
- Grepperud S (1997) Poverty, land degradation and climatic uncertainty. *Oxf Econ Pap* 49(4):586–608
- Harbaugh WT, Levinson A, Wilson DM (2002) Rethinking the empirical evidence for an environmental Kuznets curve. *Rev Econ Stat* 84(3):541–551
- Henaio J, Baanante C (2006) Agricultural production and soil nutrient mining in Africa: implications for resource conservation and policy development. International Fertilizer Development Center, Muscle Shoal
- Herrmann S, Anyamba A, Tucker CJ (2005) Recent trends in vegetation dynamics in the African Sahel and their relationship to climate. *Glob Environ Chang* 15(4):394–404
- Hill RJ, Magnani E (2002) An exploration of the conceptual and empirical basis of the environmental Kuznets curve. *Aust Econ Pap* 41:239–254
- ICRAF (2008) Agroforestry for food security and healthy ecosystems. World agroforestry center annual report. International Center for Research in Agroforestry, World Agroforestry Center, Nairobi
- IMF (2010) World economic outlook data. International Monetary Fund, Washington, DC. <http://www.imf.org/external/pubs/ft/weo/2010/02>. Accessed 27 June 2012
- IMF (2011) World economic outlook data. International Monetary Fund, Washington, DC. <http://www.imf.org/external/pubs/ft/weo/2011/01/weodata/index.aspx>. Accessed 19 June 2012
- Kerr J (2007) Watershed management: lessons from common property theory. *Int J Common* 1(1):89–110
- Koop G, Tole L (1999) Is there an environmental Kuznets curve for deforestation? *J Dev Econ* 58:231–244
- Kumar P, Mittal S (2006) Agricultural productivity trends in India: sustainability issues. *Agric Econ Res Rev* 19:71–88
- Kumar R, Singh RD, Sharma KD (2005) Water resources of India. *Curr Sci* 89(5):794–811
- Kuppannan P, Devarajulu SK (2009) Impacts of watershed development programmes: experiences and evidences from Tamil Nadu. *Agricultural economics research review* 22 (conference number), pp 387–396. <http://mpira.ub.uni-muenchen.de/18653>. Accessed 22 June 2012
- MA (2005) Ecosystems and human well-being—a framework for assessment. Millennium ecosystem assessment. Island Press, Washington, DC
- McGregor JA (2006) Researching wellbeing: from concepts to methodology. WeD research paper 20. ESRC Research Group on Wellbeing in Developing Countries, Bath. <http://www.welldev.org.uk/research/workingpaperpdf/wed20.pdf>. Accessed 25 July 2012

- McGregor JA, Summer H (2009) After 2015: '3D human wellbeing', Focus policy briefing 9. Institute for Development Studies, Brighton
- Nachtergaele F, Petri M, Biancalani R, van Lynden G, van Velthuisen H (2010) Global land degradation information system (GLADIS), Beta version, an information database for land degradation assessment at the global level, land degradation assessment in drylands technical report 17. Food and Agriculture Organization of the United Nations, Rome
- Nkonya E, Pender J, Kaizzi KC, Kato E, Mugarura S, Sali H, Muwonge J (2008) Linkages between land management, land degradation, and poverty in Sub-Saharan Africa: the case of Uganda, IFPRI research report 159. International Food Policy Research Institute, Washington, DC
- Nkonya E, Gerber N, Baumgärtner P, von Braun J, De Pinto A, Graw V, Kato E, Kloos J, Walter T (2011a) The economics of land degradation: toward an integrated global assessment. Peter Lang, Essen
- Nkonya E, Place F, Pender J, Mwanjolo M, Okhimamhe A, Kato E, Crespo S, Ndjunga J, Traore S (2011b) Climate risk management through sustainable land management in Sub-Saharan Africa, IFPRI discussion paper 01126. International Food Policy Research Institute, Washington, DC
- Oldeman LR, Hakkeling RT, Sombroek G (1991) Status of human-induced soil degradation, 2nd edn. International Soil Reference and Information Center, University of Wageningen, Wageningen
- Ostrom E, Nagendra H (2006) Insights on linking forests, trees, and people from the air, on the ground, and in the laboratory. *Proc Natl Acad Sci USA* 103(51):19224–19231
- Pandey D (2007) Multifunctional agroforestry systems in India. *Curr Sci* 92(4):455–463
- Reardon T, Vosti S (1995) Links between rural poverty and the environment in developing countries: asset categories and investment poverty. *World Dev* 23(9):1495–1506
- Reij C, Tappan G, Smale M (2008) Re-greening the Sahel: farmer-led innovation in Burkina Faso and Niger. In: Spielman D, Pandya-Lorch R (eds) *Millions fed. Proven successes in agricultural development*. International Food Policy Research Institute, Washington, DC, pp 53–58
- Requier-Desjardins M, Adhikari B, Sperlich S (2011) Some notes on the economic assessment of land degradation. *Land Degrad Dev* 22:285–298
- Reynolds J, Stafford Smith M, Lambin E, Turner BL II, Mortimore M, Batterbury SPJ, Downing TE, Dowlatabadi H, Fernández RJ, Herrick JE, Huber-Sannwald E, Jiang H, Leemans R, Lynam T, Maestre FT, Ayarza M, Walker B (2007) Global desertification: building a science for drylands development. *Science* 316:847–851
- Salvati L, Carlucci M (2010) Economic development as a determinant of desertification risk: exploring a local-EKC hypothesis. Paper prepared at the 31st general conference of The International Association for Research in Income and Wealth, St. Gallen, Switzerland, 5–11 August 2010. <http://www.ariatw.org/papers/2010/poster1Salvat.pdf>. Accessed 30 July 2012
- Selden TM, Song D (1994) Environmental quality and development: is there an environmental Kuznets curve for air pollution emissions? *J Environ Econ Manag* 27:147–162
- Sterk G (2003) Causes, consequences and control of wind erosion in Sahelian Africa: a review. *Land Degrad Dev* 14:95–108
- TEEB (2009) The economics of ecosystems and biodiversity. An interim report. A Banson Production, Cambridge. <http://www.teebweb.org/Portals/25/Documents/TEEB-InterimReport-English.pdf>. Accessed 30 July 2012
- Tiffen M, Mortimore M, Gichuki F (1994) More people, less erosion: environmental recovery in Kenya. Wiley, London
- Tucker CJ, Pinzon JE, Brown ME (2004) Global inventory modeling and mapping studies (GIMMS). Global land cover facility. University of Maryland, College Park
- UNEP (2011) Green economy. Pathways to sustainable development and poverty eradication. A synthesis for policy makers. United Nations Environment Programme, Nairobi
- Vitousek PM (1994) Beyond global warming: ecology and global change. *Ecology* 75:1861–1876
- Vlek PL, Le QB, Tamene L (2010) Assessment of land degradation, its possible causes, and threat to food security in Sub-Saharan Africa. In: Lal R, Stewart BA (eds) *Food security and soil quality*. CRC Press, Boca Raton, pp 57–86

- von Braun J, de Haen H, Blanken J (1991) Commercialization of agriculture under population pressure: effects on production, consumption, and nutrition in Rwanda, Research report 85. International Food Policy Research Institute, Washington, DC
- World Bank (2009) Impacts of sustainable land management programs on land management and poverty in Niger, World Bank country report 48230-NE. World Bank, Washington, DC
- Yatich T, Kalinganire A, Alinon K, Weber JC, Dakouo JM, Samaké O, Sangaré S (2008) Moving beyond forestry laws in Sahelian countries. Policy brief. World Agroforestry Center, Nairobi

Part IV
Experiencing Marginality
in Africa and Asia

Chapter 13

Tackling Social Exclusion and Marginality for Poverty Reduction: Indian Experiences

Sukhadeo Thorat

Abstract This chapter examines changes in poverty in combination with changes in income and the character of income growth for multiple socio-religious groups in India. The extent to which income growth has been pro-poor was also evaluated. Income growth was compared between agricultural and non-agricultural livelihoods, between rural and urban areas, and across ethnic, caste, and religious groups. The analysis found that poverty was reduced at a lower rate for Scheduled Tribes, Scheduled Castes, and Muslims, who suffer from social exclusion and discrimination, than for the rest of the society. These groups have a history of high levels of poverty in India, and compared to mainstream society members these groups typically own less agricultural land, have less access to private non-agricultural economic activities, and are more dependent on wage employment.

Keywords Poverty • Social exclusion • Marginality • Pro-poor growth • India

13.1 Introduction

Empirical evidence on changes in poverty has indicated that “poverty reduction has most benefitted people living close to the poverty line rather than those at the very bottom of income distribution” (von Braun et al. 2009, 5). The most extreme and persistently poor generally have common features, such as a lack of assets and education, but they also often belong to certain social groups—typically groups distinguished by race, color, social origin (caste), religion, or geographical location. They suffer from chronic poverty that is often passed on to consecutive generations.

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While poverty is closely associated with the economic condition of the poor, the persistence of poverty is a feature particularly linked with marginality.

We have a fairly good basis of understanding the economic factors associated with poverty and hunger (von Braun et al. 2009). Extreme poverty is caused in part by limited ownership or access to agricultural land or business opportunities, the potential to develop education and skills, and stable employment. Poverty is also caused by the lack of participation in governmental control over poverty alleviation efforts. Therefore, the poor are frequently landless or are small-producers or farmers in marginal areas for agriculture, or are wage-labor dependent, or have limited skills and education, or are unemployed or else are engaged in low-income occupations. Within the general category of the poor are people belonging to certain social groups that generally suffer more from intense poverty than their societal counterparts, indicating that in addition to economic factors there are often constraints associated with social or cultural identity that contribute to their condition (Thorat 2010).

Presumably there are specific reasons for higher rates of poverty among certain social groups. Although it may appear that the factors that cause poverty are similar for both the poor in general and certain social groups, the “channels of causation” that determine higher poverty rates for certain social groups are different in some respects. Studies have found that in these cases poverty is often closely linked with social exclusion—the social processes through which some groups are denied equal access to sources of income, employment, education, and participation in decision-making processes. Groups that are socially excluded are not like the rest of the poor. They are also disadvantaged by unavoidable circumstances and as a result are deprived of many of the benefits of socio-economic development. Social exclusion deprives people of choices and opportunities to escape from poverty and denies them a voice to claim their rights (Thorat et al. 2005). Poverty outcomes are greatly affected by the exclusion of women, ethnic, religious, indigenous, and caste groups based on social norms, and values and customs within families, communities, or markets. Sen (2000, 28–29) argued that “unfair exclusion and/or unfair inclusion” (access based on discriminatory terms and conditions) with respect to opportunities reduces entitlement and the capability to enhance personal well-being, thus aggravating poverty among the socially excluded groups.

Drawing from the Indian experience, in this chapter I discuss changes in poverty among multiple social groups. I have attempted to bring some insight on the possible linkages between social exclusion and marginalization among certain ethnicities, castes, and religious groups. India is in many ways a unique case with a high diversity of social groups identified by ethnicity, caste, or religion for which the government has developed specific policies, making it highly suitable for an analysis of social marginalization. I examined changes in poverty in combination with changes in income and the character of income growth for multiple socio-religious groups. Specifically, I examined to what extent income growth has been “pro-poor.” The degree of pro-poor income growth was compared between agricultural and non-agricultural livelihoods, between rural and urban areas, and across ethnic, caste, and religious groups.

13.2 Some Insights from Literature on Poverty, Social Exclusion, and Growth

13.2.1 *Growth, Inequality, and Poverty Linkages*

The first systematic treatment of the relationship between growth and poverty was made by Kuznets (1955), who argued that long-term secular behaviors of inequality follow an inverted U-shaped pattern, with inequality increasing during the early stages of growth in developing countries and then decreasing after some time. Empirical studies that followed Kuznets' pioneering work found evidence that in addition to growth in per capita income, income distributions are also determined by other socio-economic factors such as: population growth rates, income (or worker) shares in non-agricultural economic sectors, urbanization levels, education, and government interventions (Adelman and Morris 1973; Paukert 1973; Ahluwalia 1976a, b; Papanek 1978; Tsakloglou 1988). Tsakloglou (1988) found that the rate of population growth was positively related to income inequality, whereas educational levels, the extent of government activity, and rates of GDP growth per capita had negative relationships with inequality. Other studies have found that while the share of non-agricultural sectors in overall economies is important, increases in employment in more productive sectors and the productivity of traditional sectors are critical for reducing poverty (Paukert 1973; Ahluwalia 1976a, b; Kraay 2004; Hull 2009).

Research by Ravallion (2001, 2009; Ravallion and Datt 2002; Ravallion and Chen 2003) brought further insight into the relationships between economic growth, inequality, and poverty, but with distinct results. For 80 countries during most of the 1980–2000 period, Ravallion (2009) reported that there was little or no correlation between changes in inequality and rates of economic growth, and concluded that growth tended to be roughly distribution neutral. The authors also found that the rates of poverty decline tended to be less pro-poor in countries where initial inequality was higher compared to those where it was lower.

In Ravallion's view (2009), certain inequalities not only generate higher poverty in the immediate term, but also impede future growth and poverty reduction, including social exclusion, discrimination, travel restrictions, constraints on human development, lack of access to financial and insurance support, and corruption. All of these inequalities perpetuate poverty by limiting the prospects for economic advancement among certain segments of the population. "More rapid poverty reduction would require more growth, a more pro-poor pattern of growth, and success in reducing the antecedent inequalities that limit poor people's access to economic opportunities" (Ravallion and Chen 2003, 185). These insights indicate that participation in growth and poverty reduction are dependent on a number of factors that include not only growth in per capita income, but also a host of socio-economic inequalities that limit economic opportunities for the poor.

13.2.2 *Pro-poor Growth*

The concept of pro-poor growth has been a subject of discussion in the context of “inclusive growth.” Ravallion and Chen (2003, 94) argued that “pro-poor growth is any growth in the mean income that benefits poor.” Kakwani argued that pro-poor growth has limitations as “it would encompass the vast majority of growth episodes so long as poverty declines” (Kakwani 2000, 68). It is therefore argued that for growth to be pro-poor, it should benefit the poor proportionately more than the non-poor.

This brings the focus on the distribution of outcomes of growth among the poor and non-poor. In this context a distinction is often drawn between strongly pro-poor and weakly pro-poor impacts of growth, the former relates to situations in which incomes rise proportionally faster for the poor than for the non-poor, and the latter for a situation in which growth benefits the poor considerably less than the non-poor (Lipton 1991). Moreover, the tradeoffs between changes in absolute poverty and inequality between rich and poor are meaningful (Grinspun 2009). What happens to inequality in income distribution and the distribution of income around the poverty line in the process of economic growth are important determinants of the relative “pro-poor” qualities of growth (and not the distribution of income among the upper classes).

Osmani (2005) took the definition a step further. He argued that the true test of being pro-poor is the existence of policies biased in favor of the poor with reference to the country’s past record of poverty reduction, and defined pro-poor growth as growth processes that reduce poverty more than past policies. The benchmarks in this case will be country specific.

To overcome the limitation of Osmani’s criterion, three alternative criteria of “pro-poorness” have been proposed: (1) that the share of income growth for the poor exceeds their existing share, (2) that the poor’s share in incremental income surpasses their share in the population, and (3) that the share of the poor in incremental growth exceeds some international norm (Grinspun 2009). Thus, pro-poor growth is achieved when the poorest of the poor benefit from the growth and not just the poor nearer to established poverty lines. To the extent that the pro-poor qualities of growth involve not only the reduction of absolute poverty, but also its rate of change for poor and the share of the poor in incremental income gains, it really focuses on the tradeoffs between changes in poverty and inequality in income distribution in the process of growth. A set of comprehensive criteria for “pro-poor” growth include:

- achieves absolute reduction in poverty
- benefits the poor proportionately more than the non-poor
- raises income proportionally faster for the poor than the non-poor
- reduces poverty beyond some country specific benchmark
- benefits the poorest and not just the poor near poverty lines
- increases the income of the poor in excess of their share of the population
- increases the income of the poor beyond some international norm

13.2.3 Social Exclusion and Persistent Poverty

Literature on poverty and socially excluded groups has identified that factors such as social exclusion and discrimination perpetuate persistent poverty. There is extremely limited empirical work on how social exclusion and discrimination contribute to poverty among excluded groups. We have limited understanding about the processes involved in “exclusion induced poverty.” Social exclusion in general, and particularly socioeconomic exclusion, are the processes through which groups are denied access to rights or economic and social participation in society. Exclusion may occur directly (unfavorable exclusion), or through deliberate government policies (active exclusion), and through unintended circumstances (passive exclusion), or through the inability of some social groups to respect the rights of others (constitutive relevance) (Sen 2000, 28–29). Social exclusion aggravates poverty directly by denying access to opportunities channeled through market and non-market transactions, and indirectly by adversely affecting economic growth. In so far as exclusion and discrimination are involved in the denial of access to resources, employment, education, and common facilities certainly impoverish the lives of individuals belonging to excluded groups. Addressing “exclusion induced poverty” will require policies that provide safeguards against market and non-market discrimination of excluded groups. To base policies on empirical insights, it is necessary to better understand how market and non-market discrimination aggravate poverty both directly and indirectly.

13.3 Poverty Changes in India by Socio-religious Groups 1983–2005

The incidence of household poverty and changes therein between rural and urban areas were examined for multiple socio-religious groups during the period from 1983–1984 to 2004–2005 using a simple measure of poverty called the Head Count Ratio (HCR). For each group the poverty level was also examined by livelihood source. In rural areas these included: “self-employed in agriculture” (SEAG) or farmers, “self-employed in non-agriculture” (SENA), “agricultural wage labor” (AGLA), and “non-agricultural wage labor” (OTLA). For urban areas the livelihood groups included: “self-employed” (SEMP), “wage/salaried” (RWSE), “casual labor” (CALA), and “other” (OTHER).

The socio-religious groups in the analysis included four social groups: the “Scheduled Tribes” (ST), “Scheduled Castes” (SC), “Other Backward Classes” (OBC), and “other castes” (non-ST/SC/OBC), and three religious groups, the “Muslim minority” (MM), “Hindus,” and “other religious groups” (ORM). The ST are indigenous ethnic groups that are often physically and socially isolated. The SC traditionally suffered from social exclusion and discrimination associated with the caste system. The government treats Muslims as a targeted minority for

special policies. Data on the OBC were not separable from the “other castes” in the 1983–1984 database and therefore they were both included together with “other castes” for some analyses.

13.3.1 Socio-religious Groups

First, general changes in poverty were examined and afterwards the data were disaggregated by livelihood, socio-religious group, and between rural and urban areas. Between 1983 and 2005 overall rural poverty declined at an average rate of 1.9 % per annum, which was equivalent to an 18 % point decline over the entire period. Across social groups the average annual rate of decline in poverty was greatest for the non-ST/SC group (2.1 %), followed by the SC (1.8 %), and ST (1.4 %) groups. In regard to religious groups, rural poverty declined at a slightly higher average annual rate for the Hindus and ORM (both 1.9 %), than for the MM group (1.7 %), despite the fact that the latter group has been targeted by government poverty alleviation policies.

During 2004–2005 the HCR poverty levels were persistently higher among the ST households (47 %), followed by the SC (37 %), OBC (26 %), and non-ST/SC/OBC (17 %). Although the MM had a higher poverty level (33 %) than the Hindus and ORM groups, they had lower poverty levels than the SC and ST groups. This pattern prevailed during the mid-2000s.

13.3.2 Livelihood Categories and Socio-religious Groups

I examined the changes in poverty among livelihood categories by socio-religious group. Among rural livelihood categories the wage labor households were poorer than the self-employed. In 2004–2005 approximately 44 % of the AGLA livelihood households and 33 % of the OTLA households were poor. By comparison the poverty levels for both the SEAG and SENA livelihood households were about 20 %.

Rural poverty also declined at higher annual rates for the self-employed livelihoods (2.3 % for SEAG and 2.1 % for SENA) than for wage-labor (approximately 1.6 % for both AGLA and OTLA). The decline was slightly less for the AGLA livelihoods than for OTLA. The poverty rates among the SEAG livelihood households differed by socio-religious group. Poverty declined for the SEAG livelihood households among all groups over the study period, but at lower rates for the SC and ST households than the other social groups, and at a lower rate for the MM compared to the Hindus among the religious groups.

During the overall period the SENA livelihood households also experienced declines in poverty among all socio-religious groups, however, the ST and SC SENA households declined at lower average annual rates (about 1.9 %) compared to all other

groups (2.5 %). Among the religious groups the MM declined at a lower average annual rate (1.7 %) than the Hindus and ORM households (both about 3.6 %).

Among the socio-religious groups, poverty declined at the lowest rates for the ST and SC wage-labor livelihood households. In the case of AGLA livelihoods among social groups, poverty declined at an average annual rate of 1.1 % for the ST, 1.5 % for the SC, and 1.7 % for the non-ST/SC group. In the case of OTLA livelihoods among social groups, poverty declined at an average annual rate of 1.2 % for the ST and SC groups, compared to 2.0 % among non-ST/SC households. Thus, for both rural wage labor livelihood categories the ST and SC groups exhibited less poverty reduction than the other social group. In the case of religious groups there were no significant differences in the rates of poverty decline among rural wage labor livelihood households, however, the ORM OTLA households did slightly better than their Hindu and MM counterparts.

13.3.3 Changes in Income—Monthly Per Capita Expenditures as a Proxy Variable

I examined changes in household income using “monthly per-capita expenditures” (MPCE) as a proxy value. The National Sample Survey Organisation defines the means of livelihood on the basis of majority income contribution source at the household level. For example, a household is classified as an AGLA household if 50 % or more of its total annual income is derived from agricultural labor. By this criterion the OTHER category of household livelihoods are those whose income comes from two or more sources such that income from each source is less than 50 % of total household income. During the study period the overall MPCE increased at an average rate of 1.2 % per annum. The average per annum percentage increases were nearly the same for all socio-religious groups (1.1–1.3 %). The SENA livelihood households exhibited the highest average annual increases in MPCE (1.6 %) and the rest of the livelihood groups increased at lower rates (around 1.0 %). Urban OTHER livelihood households experienced the highest average per annum increase at 2.0 %.

Among the social groups the ST and non-ST/SC had relatively higher MPCE increases than the SC group. Among the religious groups the Hindus and ORM groups had relatively higher rates of MPCE increase than the MM. The SC and MM SENA households lagged behind all other socio-religious groups in the rates of MPCE increase.

There was not much difference in the rates of MPCE increase of SEAG livelihood households among the socio-religious groups. Among the rural wage labor livelihoods the AGLA households increased at an average per annum rate of 1.1 % compared to 0.8 % for OTLA households. With the exception of the MM households, whose MPCE increased at slightly higher rate (1.6 %), there were no substantial differences in the average annual MPCE rates among the socio-religious groups.

13.3.4 Changes in Poverty, Income, and the Elasticity of Poverty Reduction

During the 21-year period between 1983 and 2005, rural poverty declined at an average rate of 1.9 % per annum, while the MPCE grew by an average rate of 1.2 % per annum. This suggests that increases in consumption expenditures were correlated with reduced poverty. The growth in consumption expenditures was lower, just as poverty was reduced at a moderate rate. The overall elasticity value of poverty reduction with respect to MPCE growth was 2.3 in 2004–2005.

The fact that the average per annum growth in MPCE was more or less the same across socio-religious groups, and that the ST, SC, and MM groups that were initially the poorest also lagged behind to the other groups in poverty reduction, indicate that economic growth has not been pro-poor. This assertion was supported by the different elasticity values of poverty reduction with respect to MPCE during the 1983–2005 period. The growth elasticity with respect to poverty reduction values were 2.6 for the non-ST/SC group, 2.0 for SC, 1.6 for ST, and 1.7 for the MM group. Therefore, economic growth brought less reduction in poverty for groups suffering from greater poverty compared with those experiencing less poverty.

13.3.5 Livelihood by Socio-religious Groups

13.3.5.1 Rural Self-Employed Households

The results indicated that per unit growth in income among self-employed livelihoods brought greater declines in poverty for agricultural (SEAG) than non-agricultural (SENA) livelihoods. This was clearly supported by much higher growth reduction elasticity (3.4) for SEAG households compared to SENA (2.2) households. The differential decline also suggests that rural agricultural growth has been more pro-poor than non-agricultural growth. Given the facts that the bulk of the poor live in rural areas and that growth has the potential to benefit poor farmers, more rural agricultural investment with a clear focus on marginal and small scale farmers is likely to alleviate poverty. To improve the pro-poor performance of growth in the non-agricultural sector requires policy measures that will change policy orientation towards small producers and businesses in such a manner that future growth will increase the income of poor self-employed producers and business households.

13.3.5.2 Rural Wage-Labor Households

The patterns are somewhat different with respect to the pro-poor character of agriculture and non-agricultural sector growth for wage laborers, who constituted the

bulk of the poor in rural areas. The distributions of gains from increased farm income were not shared equally by SEAG and AGLA livelihood households. AGLA livelihoods experienced the lowest poverty decline, had the highest HCR poverty level, and the lowest rate of MPCE increase of any livelihood category. Although growth in small-scale agriculture is likely to reduce poverty for SEAG households, it may not perform for wage laborers as many SEAG households provide their own labor. The growth of labor intensive agriculture may result in greater employment or higher-wages and thus reduce poverty for wage laborers.

13.3.5.3 Socio-religious Groups

This pattern of greater improvement among self-employed versus wage-labor agricultural livelihoods was observed across all socio-religious groups. Despite similar increases in MPCE poverty declined at differential rates, indicating differential poverty reducing impacts of growth on MPCE across the various groups. Poverty among the ST, SC, and MM groups declined at lower per annum rates compared to the other groups. What explains this differential reduction in poverty? Increases in MPCE corresponded with lower declines in poverty for the ST, SC, and MM households compared to the other socio-religious groups. This was borne out by the lower poverty reduction elasticity with respect to MPCE for the ST, SC, and MM households, which were 1.6, 2.0, and 1.8 respectively. The elasticity values were 2.6 for the non-ST/SC group, 2.4 for Hindus, and 2.5 for ORM.

The pro-poor character of growth in MPCE also differed for self-employed and wage labor livelihoods across socio-religious groups. In the case of SEAG livelihoods, there was little difference in the rate of MPCE change across social groups. Therefore, the variable elasticity of poverty reduction was associated with unequal outcomes in poverty reduction across socio-religious groups. Growth elasticity values were lower for the ST and SC households among social groups, and for Hindus among religious groups. Similar to SEAG livelihoods, poverty among SENA livelihood households also declined at lower rates for the ST, SC, and MM socio-religious groups compared to the rest. Lower declines in poverty were closely associated with relatively lower increases in MPCE for these groups. The average per annum poverty decline was particularly lower for the SC group. The elasticity value of poverty reduction was also lower for the ST and MM groups. In the case of the SC group, although MPCE increased only marginally they seem to have gone in favor of the poor households in so far as the elasticity of poverty reduction value was the highest of any socio-religious group. This may also mean that the SC non-agricultural production and business activities have higher potential for poverty reduction in rural areas. In the case of the ST and MM groups, lower increases in MPCE as well as lower poverty reduction elasticity with respect to MPCE were linked to lower poverty declines among SENA livelihood households. In the case of the non-ST/SC, Hindus, and ORM groups, both higher average per annum increases and higher elasticity of the MPCE values were linked to higher poverty reduction among SENA livelihood households.

For wage labor livelihoods, poverty declined among AGLA households at a lower rate for the ST group, followed by the SC, MM, and non-ST/SC groups. Except for a somewhat higher increase for MM households, the per annum increase in MPCE was similar for all groups. Therefore, the lower poverty declines of the ST, SC, and MM AGLA livelihood households were likely linked to the lower poverty reduction elasticity values. The ST, SC, and MM groups seemed to face more constraints in AGLA livelihoods compared to the rest of the groups. The higher poverty declines among AGLA livelihoods for the ORMs and Hindus occurred along with greater increases in both MPCE and poverty reduction elasticity values. In the case of OTLA livelihoods, poverty declined at much lower rates for the ST and SC groups compared to the rest of the socio-religious groups. The lower poverty reduction rates for the ST and SC OTLA livelihoods were accompanied by lower increases in MPCE, as the poverty reduction elasticity values did not differ between them. In the cases of the other social groups, both increased MPCE and relatively higher elasticity values were accompanied by reductions in poverty. In the case of OTLA livelihood MM households the growth in MPCE was an important factor.

13.4 Urban Poverty

13.4.1 *Changes in Poverty by Social Groups*

The overall poverty level in urban areas was 26 % in 2004–2005, only about 2 % lower than in rural areas; however, there were notable differences among the socio-religious groups. Unlike in rural areas where poverty incidence was the highest among the ST group followed by the SC, MM, and OBC, in urban areas the SC and MM groups had the highest incidences of poverty. The ST and OBC groups had similar poverty levels, whereas non-ST/SC/OBC among the social groups and ORMs among religious groups had the lowest poverty incidences. For the ST, SC, and MM groups the highest poverty levels were for CALA livelihood households at 58 %. The groups with the highest poverty levels among CALA households were the ST and SC, with HCRs of 74 and 67 % respectively. Poverty was also high (40 %) among the SEMP (self-employed) livelihoods, particularly for the SC, ST, and MM groups. The poverty level was also high (34 %) among RWSE (wage/salaried) livelihood households of the MM group.

Several interesting features emerged regarding the direction of change across socio-religious groups. During the 1983–2005 period overall poverty levels declined at an average rate of 1.9 % per annum. For the overall period, the lowest average annual poverty reduction rates were observed among the ST (1.1 %) and the MM (1.4 %), and the highest among the non-ST/SC (2.4 %) and SC (2.0 %) groups. Among religious groups the highest rates of decline were for the ORM (3.1 %) group, followed by Hindus (2.1 %), and MM (1.4 %). With regard to poverty reduction rates in the urban sector by socio-religious group, the data were only comparable for the period from 1993–1994 to 2004–2005, because the group classification

in 1983 was different. Poverty among SEMP livelihood households declined at relatively lower rates for the SC and MM groups compared to the rest. In the case of RWSE livelihoods, poverty declined at much higher average annual rates for the ST (5.4 %) and ORM (4.1 %) groups, followed by the SC, non-ST/SC, and Hindus. The declines were lowest for the MM group (0.6 %). While the SC group performed badly in poverty reduction for SEMP livelihoods, the rates were better for RWSE livelihoods. The MM group exhibited low poverty reduction among both the SEMP and RWSE livelihood categories during the 1993–2005 period. In the case of CALA livelihood households, the SC and ST groups lagged behind the others. The MM and non-ST/SC groups experienced greater poverty reduction among CALA livelihood households than the rest.

Growth in urban income. During the entire 1983–2005 period urban MPCE grew by an average of 1.8 % per annum for all households, which was significantly higher than in rural areas. Among social groups the highest growth rate was experienced by the non-ST/SC group (1.9 %), while the SC group had the lowest (1.3 %). The ST group was closer to the non-ST/SC group with an average rate of 1.8 % per annum.

Growth, poverty, and elasticity linkages. The overall poverty reduction elasticity value was 1.5. Among socio-religious groups elasticity values were relatively higher for the ORM (2.04) group, non-ST/SC (1.64), and Hindus (1.61); and lowest for the MM (1.26), SC (1.31), and ST (1.48) groups. Thus, the urban economic growth was less pro-poor with respect to impacts on the MM, SC, and ST groups. The SEMP livelihoods for which comparable data were available exhibited similar patterns, except that the rank order was the ST, followed by MM and SC.

13.5 Implications for Socially Inclusive Policy

These results have implications for poverty reduction policies for all socio-religious groups. Before discussing policy issues in India, we need to examine insights from theoretical and empirical literature. In particular it is important to consider literature on the relationships between economic development, poverty, and inequality in income distribution, including recent discussions on inclusive growth and to what extent it addresses the issues of excluded groups.

13.5.1 Improving Pro-poor Performance of Agricultural and Non-agricultural Growth

In light of the changes in poverty among social groups during the 1983–2005 period and insights from earlier studies on pro-poor growth, I propose group-specific policy measures. The findings point towards strengthening some existing policies and also developing some new ones.

13.5.1.1 Agricultural Livelihoods

On the positive side, growth in agriculture has been far more pro-poor than non-agricultural growth. In fact among all livelihood categories the elasticity of poverty reduction with respect to MPCE was highest for SEAG livelihoods, implying that agricultural sector growth has been more effective at reducing poverty among small-scale and marginal producers. Since agricultural sector growth has poverty reducing potential, there is justification for strengthening the observed pattern of growth. There are, however, negative aspects of agricultural growth which would likely benefit from policy change. Agricultural growth did not reduce poverty among AGLA (wage labor) livelihoods in equal measure. The elasticity of poverty reduction with respect to MPCE was much less for AGLA (1.4) livelihoods compared to SEAG (2.3). This is consistent with the facts that AGLA livelihood poverty decreased at a lower rate than any other livelihood category, had the highest HCR value, and had the lowest increase in MPCE.

AGLA livelihood households will benefit more from growth in agriculture only if their employment opportunities or wages increase. Growth in labor intensive medium and large scale agriculture may result in greater wage employment and thus reduce poverty for AGLA livelihood households. Policies that encourage large- and medium-scale producers to cultivate labor-intensive crops and utilize labor-intensive practices have poverty reducing potential. Thus, an overall agricultural growth strategy that addresses both labor intensive production among large and medium-scale producers and continued improvements for small-scale and marginal producer will be more effective at reducing poverty.

Another negative feature of the observed agricultural growth was the limited poverty improvement among the ST, SC, and MM socio-religious groups. Growth elasticity values with respect to poverty were 2.5 for the non-ST/SC and Hindus, 2.0 for the SC and MM groups, and only 1.4 for the ST. Strengthening the position of small-scale producers in general, particularly among the ST, SC, and MM groups is a necessary element of inclusive agricultural sector growth. While employment-oriented policies are necessary for improving AGLA livelihoods in general, special efforts are necessary for the ST, SC, and MM groups, who often suffer from discrimination in rural labor markets (Thorat and Newman 2010).

Based on experiences since the early 1980s, inclusive policy for the agricultural sector would include:

- More labor-intensive agriculture among medium- and large-scale producers
- Focus on small-scale producers
- Special assistance for the ST, SC, and MM small-scale producers
- Special attention for the ST, SC, and MM, AGLA livelihoods

13.5.1.2 Rural Non-agricultural Livelihoods

During the 1983–2005 period rural non-agricultural growth was more pro-poor for wage labor than for self-employed livelihoods. The elasticity value of poverty

reduction for OTLA livelihoods was 2.0 as opposed to 1.4 for AGLA livelihoods. Limited poverty reduction for the ST and SC OTLA households was associated with lower increases in MPCE. In the case of the non-ST/SC group, increases in both MPCE and elasticity were relevant to poverty reduction.

The non-agricultural sector policy implications are clear. Since the elasticity of poverty reduction was positive and higher for wage labor, and the slow decline in poverty was linked to limited increases in MPCE, measures are necessary to increase rural non-agricultural sector growth. The pro-poor character of growth also needs to be strengthened, because elasticity began to decrease in the 1990s. The pro-poor character of production activities needs to be enhanced, particularly for self-employed livelihoods, through support and incentives for increasing the profitability of small producers and businesses.

13.5.2 Group-Specific Policy Measures

Poverty was reduced at a lower rate for the ST, SC, and MM socio-religious groups, which suffer from social exclusion and discrimination in India. Members of these groups typically own less agricultural land, have less access private non-agricultural economic activities, and are more dependent on wage employment. These groups have higher historical levels of poverty, which has been found to limit poverty reduction. The socio-religious groups with better access to assets and lower historical poverty have done better. This implies that the groups with higher poverty levels and less access to assets and sustainable livelihoods need specific and affirmative action policies.

Among the social groups the ST performed the worst in poverty reduction for both self-employed and wage labor households. The lack of access to agricultural land is generally less of a problem for the ST, about 40 % of ST households were farmers and approximately 40 % of these households were classified as poor. The poverty level among the ST AGLA households was formidably high at 56 % in 2005. Poverty levels associated with tribal agriculture are persistent and higher due to low productivity and income. How to make agriculture more productive in tribal areas is a challenge that has not been addressed effectively.

It appears that a core need is to develop appropriate crops and methods for tribal areas. This will require renewed research efforts on the special needs of agriculture in tribal areas, including the potential for developing tree, flower, fruit, and livestock or dairy production on grazing land. Tribal agriculture has pro-poor qualities, both for SEAG and AGLA livelihoods, as the elasticity values were positive and tended to be higher in good years.

Unlike the ST, the SC group has much less access to agricultural land, and as a result the bulk of the SC households (about 56 %) were wage labor reliant. Poverty reduction among the SC will depend on employment enhancement. Increased employment opportunities and improved skill and education development will raise employment rates households in both the agricultural and non-agricultural sectors (Dev 2005).

In the case of the MM group, access to income earning assets was better than for the SC group. More than half of the MM households were engaged in productive enterprises and/or businesses. Policy measures that focus on strengthening the incentives and supporting small-scale enterprises and businesses have potential to reduce poverty for this group.

13.5.3 Urban Development

In the case of SEMP livelihoods, all socio-religious groups except the ST exhibited poverty declines with moderate increases or stagnation in MPCE. In the case of the MM group, both income growth and elasticity with respect to poverty were quite low. Approximately 52 % of the urban MM households were engaged in SEMP livelihoods, but MPCE growth was lower and poverty was higher. Approximately one-third of the SC households were engaged in SEMP livelihoods, but this group's MPCE increase was the lowest and its poverty levels highest among the socio-religious groups. In order to accelerate poverty reduction, growth in urban SEMP livelihoods is necessary. A policy focus on small producers and businesses would make growth more pro-poor and inclusive. In the case of RWSE livelihoods, for which we only have data for the 1990s, poverty showed significant declines for the ST and ORM socio-religious groups, followed by the SC, Hindus, and MM. So while the expansion of employment opportunities in urban areas should continue, there is a need to make it more pro-poor, which requires enhancement in education and skill development opportunities among the SC and MM groups. Lastly, the CALA livelihoods, which were the poorest among the three urban livelihood categories, experienced the lowest poverty declines. This was particularly the case for the SC and ST CALA households. Increasing hands-on skill development and the expansion of employment opportunity are the only alternatives for this chronically poor livelihood category.

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References

- Adelman I, Morris CT (1973) Economic growth and social equity in developing countries. Stanford University Press, Stanford
- Ahluwalia MS (1976a) Income distribution and development: some stylized facts. *Am Econ Rev* 66(May):128–135
- Ahluwalia MS (1976b) Inequality, poverty and development. *J Dev Econ* 3:307–342
- Dev MS (2005) Pro-poor growth in India: what do we know about the employment effects of growth 1980–2000? Working paper no 161. Overseas Development Institute, London
- Grinspun A (2009) Pro-poor growth: finding the Holy Grail, IPC-IC collection of one pagers no 6. International Poverty Centre, United Nations Development Programme, Brasilia

- Hull K (2009) Understanding the relationship between economic growth, employment and poverty reduction. Organisation for Economic Co-operation and Development, Paris
- Kakwani N (2000) On measuring growth and inequality components of poverty with application to Thailand. *J Quant Econ* 16(1):67–79
- Kraay A (2004) When is growth pro-poor? Cross-country evidence, World Bank policy research working paper no 3225. World Bank, Washington, DC
- Kuznets S (1955) Economic growth and income inequality. *Am Econ Rev* 45(1):1–28
- Lipton M (1991) A note on poverty and sustainability. *IDS Bull* 22(4):12–16
- Osmani S (2005) Defining pro-poor growth. In: IPC-IC collection of one pagers no 9. International Poverty Centre, United Nations Development Programme, Brasilia
- Papanek G (1978) Economic growth, income distribution and political processes in LDCs. In: Griliches Z, Krelle W, Krupp H-J, Kyn O (eds) *Income distribution and in economic inequality*. Campus Verlag/Halstead Press, Frankfurt/New York
- Paukert F (1973) Income distribution at different levels of development. *Int Labour Rev* 108:97–125
- Ravallion M (2001) Growth, inequality and poverty: looking beyond averages. *World Dev* 29(11):1803–1815
- Ravallion M (2009) Economic growth and poverty reduction: do poor countries need to worry about inequality? In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 179–186
- Ravallion M, Chen S (2003) Measuring pro-poor growth. *Econ Lett* 78:93–99
- Ravallion M, Datt G (2002) Why has economic growth been more pro-poor in some states of India than others? *J Dev Econ* 68(2):381–400
- Sen A (2000) Social exclusion: concept, application and scrutiny, Social development paper no 1. Office of Environment and Social Development, Asian Development Bank, Manila
- Thorat A (2010) Ethnicity, caste, and religion—implications for poverty outcomes. *Econ Polit Wkly XLV*(52):18–24
- Thorat S, Newman K (eds) (2010) *Block by caste: economic discrimination modern India*. Oxford University Press, New Delhi
- Thorat S, Vanketsan S, Mahamallik M (2005) Human poverty, social exclusion and marginalized groups, Working paper. United Nations Development Programme, New York
- Tsakoglou P (1988) Development and inequality revisited. *Appl Econ* 20(4):509–531
- von Braun J, Hill RV, Pandya-Lorch R (eds) (2009) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC

Chapter 14

Consumption Behavior of the Poorest and Policy Implications in Indonesia

Evita Hanie Pangaribowo

Abstract Improving household food consumption involves a multitude of issues. The effort becomes more complicated when it addresses the poorest and most vulnerable. This chapter examines these issues and in particular the characteristics of the poorest households that are interconnected with their food consumption behavior. The responses of the poorest and forgotten households in Indonesia to changes fundamental economic variables, income and prices, were examined. It was found that aspects of the poorest households' consumption behavior would have impacts on the effectiveness of food subsidy efforts, and should therefore be taken into account when such programs are designed to avoid unintended or detrimental effects.

Keywords Consumption behavior • Poverty • Food subsidies • Indonesia

14.1 Introduction

Food is a basic and fundamental human need. Adequate access to food as a human right was established in the United Nations Universal Declaration of Human Rights, which states that “everyone has the rights to a standard of living adequate for the health and well-being of himself and his family, including food” (UN 1948). This concept was further codified by the UN in the assertion that “every man, woman, and child has the inalienable right to be free from hunger and malnutrition in order to develop fully and maintain their physical and mental faculties” (UN 1974). At the

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global level the first Millennium Development Goals to halve poverty and hunger parallel the mandate of the Universal Declaration of Human Rights. To assure the right to food for everyone, each country needs to achieve food security. Food security exists when all people have physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life at all times (FAO 1983, 2003; Timmer 2000). Accordingly, food security has become one of the main national agendas in most developing countries (Maxwell 1990, 1996; von Braun et al. 1992).

The behavior of poor households should be of policy interest for governments (von Braun et al. 2009), particularly when it comes to the basic need for food. In Indonesia, as in many other developing countries, food is considered one of the most important issues in the economy, as well as in socio-political debate. The national government of Indonesia has been devoted to large-scale endeavors to address food insecurity through the Food Security Council. The Indonesian government also provides food subsidies to poor households for the purpose of maintaining access to basic food items and to achieve a wide range of other socio-economic effects.

Improving household food consumption involves a multitude of issues (von Braun et al. 1992). The effort becomes more complicated when it addresses the poorest and most vulnerable. My aim in this study was to examine these issues and in particular to observe the behavioural characteristics of the poorest households that are interconnected with their food consumption behavior. I also analyzed the responses of the poorest households to changes in fundamental economic variables: income and price. Examining the impacts of current food policy and interventions for the poorest households is vital for understanding how effectively these policies are benefiting the poorest.

14.2 Characteristics of the Poorest

Understanding the characteristics of the poorest is an appropriate starting point for designing policies and programs that improve their welfare. Following Ahmed et al. (2007), the poorest households were defined as the bottom 20 % of the household income range, whose members were living on less than US\$0.50/day. I focused on the characteristics of the poorest households that highlight several aspects of the relationships between food policy and household food consumption behavior, including expenditure patterns of food consumption, geographical aspects, and social conditions. Understanding the diversity of food consumption is an important key for addressing the food and nutritional problems of the poor. The poorest households are often found in relatively remote locations that have the least access to public infrastructure and facilities such as roads and markets, which disadvantages them by limiting food variety and increasing food prices. This geographical association with poverty also hinders access to other basic needs, such as health care and education. With respect to human and social capital, members of the poorest households are less likely to be educated and more likely to be systematically excluded from certain opportunities.

14.2.1 To Eat: Spending on Food

Household consumption patterns are considered to be among the most reliable indicators of the economic development and public welfare of a country. As income rises households tend to diversify their diet and increase the consumption of foods with greater nutritional value. The Indonesian Bureau of Statistics (2009) reported changes in household consumption patterns over the last decade. In early 2000 the mean share of Indonesian household budgets spent on food was 58 %, which decreased to around 50 % in 2009. Nonfood consumption increased from 40 to 50 % during the same period. While these consumption changes have been evident at the national level, less change has occurred among the poorest households. The mean monthly income per capita of these households was around 120,000 rupiahs (US\$13). Based on data from the Indonesian Family Life Survey (IFLS),¹ the poorest households spent more than half of their budget on food (63 %) in 1997, and this figure changed only slightly in 2007 to 61 %, indicating that the poorest spent a relatively higher proportion of their household budget on food than the average household.

Within food expenditures, the “staple foods” category dominated the budgets of the poorest households (Fig. 14.1). The second greatest food expenditure share among the poorest households was for the “meat and fish” category. Dairy products and other foods from animal sources generally have higher nutrient content and better taste, but cost more than alternative foods, therefore poorer households are less likely to be able to afford them.

The expenditure share of the “alcohol and tobacco products” category was higher than for “dairy products” among the poorest households. The Indonesian Consumer Foundation estimated that 70 % of the smokers in Indonesia are poor, pointing out that the poor are the main contributors to government revenue from tobacco taxes (Suara Media 2010). While expenditures on the “vegetables and fruit,” “meat and fish,” and “dairy products” categories have remained stagnant, the increased consumption of “snack and dried foods” and “alcohol and tobacco products” categories indicates that the poorest households spend money on non-nutritious food and other unhealthy alternatives.

Dairy product consumption represented the smallest share of the budget among the poorest households. Dairy products are important sources of micronutrients, especially calcium, and regular consumption of dairy products reduces the risk of malnutrition. The low level of dairy product consumption is likely associated with the low purchasing power of the poorest households, and it is widely known that consumption choices of the poor are greatly influenced by price. The typically high prices for dairy products in Indonesia are associated with the need to import

¹IFLS is a longitudinal socioeconomic and health survey that has been conducted in 1993, 1997, 2000, and 2007 (RAND 2010). IFLS collects data on individual respondents, their families, their communities, and the health and education facilities they use. In 1997 the IFLS sample represented approximately 83 % of the Indonesian population living in 13 provinces.

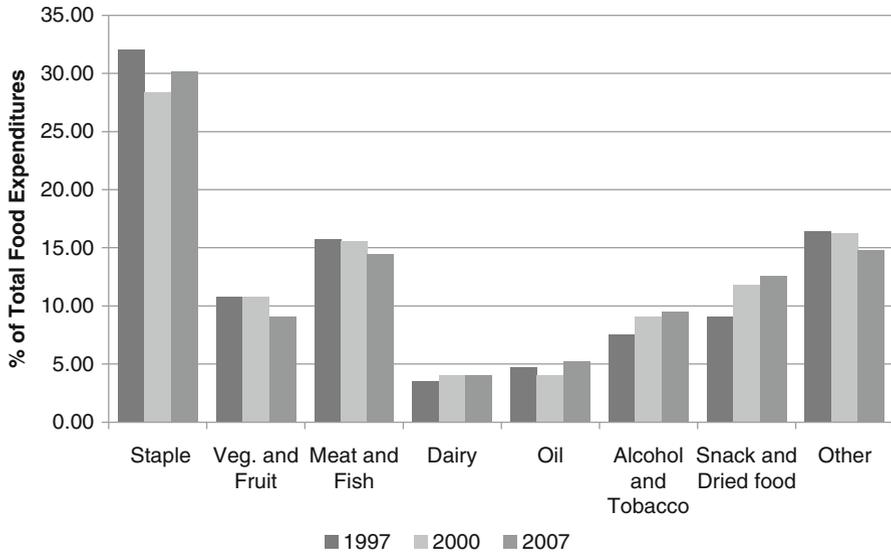


Fig. 14.1 Consumption by expenditure category among the poorest households in Indonesia (Based on IFLS data)

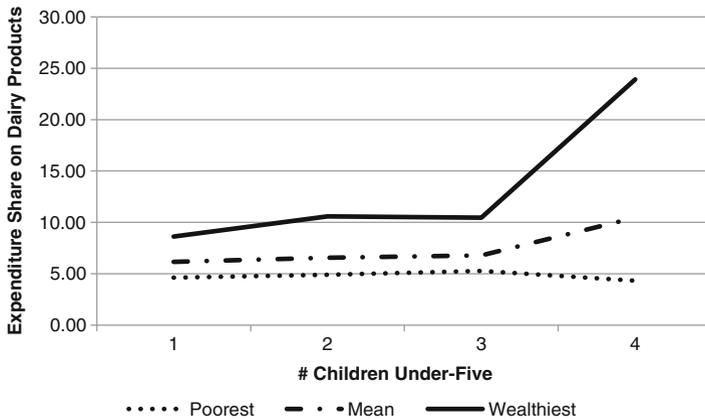


Fig. 14.2 Household expenditures on dairy products in relation to the number of children under the age of five among the highest and lowest household income groups in Indonesia (Based on IFLS data)

ingredients for their production. Figure 14.2 presents expenditures on dairy products in relation to the number of household children under the age of five. In contrast to wealthier and the middle-income households that consumed more dairy products as the number of young children increased, the poorest households exhibited the reverse pattern.

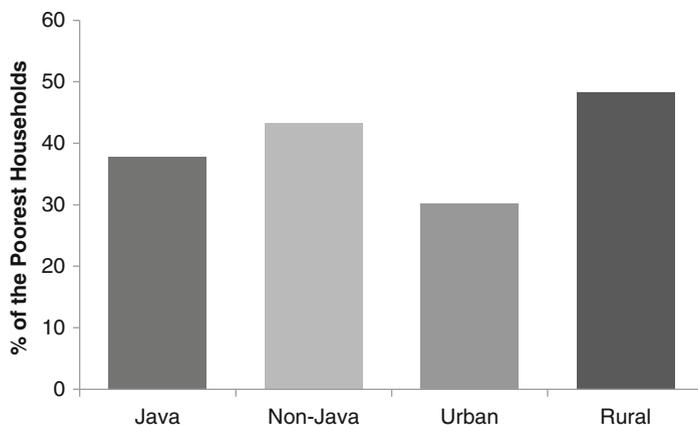


Fig. 14.3 Relative distributions of the poorest households in Indonesia: 2007 (Based on IFLS data)

14.2.2 *Where Do the Poorest Live?*

Similar to patterns of distribution in other developing countries, the majority of the poorest households in Indonesia are located in rural areas and on the outer islands (Fig. 14.3).² The rural poor households are typically dependent on agricultural livelihoods and have limited access to land. According to related studies the poorest households in urban areas are typically engaged in informal market sector livelihoods such as being self-employed or operating micro-businesses (Ahmed et al. 2009). The level of development in Indonesia is highly imbalanced, being particularly greater in urban relative to rural areas and concentrated on the island of Java relative to the rest of the country (Hill 1992; Akita 2003). Access to markets (products and labor) is also greater in urban areas and on Java. As the capital and government administration centers are located in Java, the distribution of social safety-net program activities are also frequently subject to spatial biases favoring Java relative to the rest of the country. For example the Rice for the Poor program was implemented first in Java and the program's distribution was imbalanced in favor of the island until the mid-2000s (Suryahadi and Sumarto 2003), although in that study it was recognized that the higher safety-net coverage might be associated with greater effects of the 1997 financial crisis in urban areas of Java relative to the rest of the country. Nevertheless the imbalanced execution of food security policies prevents benefits from reaching the nation's poorest households.

Household food insecurity and malnutrition are not only associated with food intake problems, but are also linked with environmental conditions. The quality of

²Java is one of the principal islands of Indonesia and the most densely populated. It is where the capital city is located and the economic and governmental center of the country.

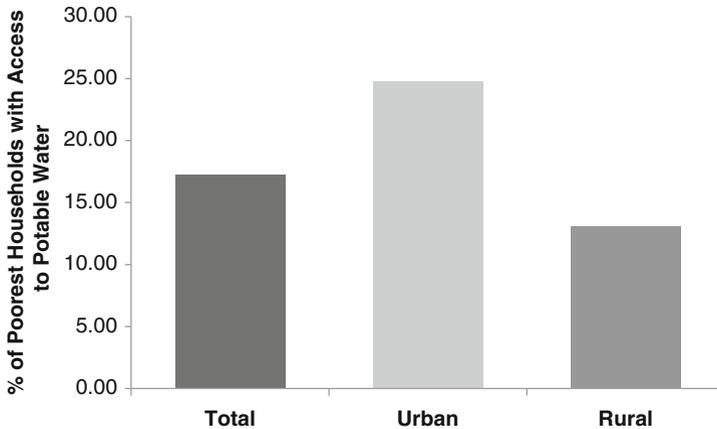


Fig. 14.4 Potable water access among the poorest households in Indonesia: 2007 (Based on IFLS data)

water and sanitation services can significantly affect household health. Sanitary environmental conditions are strongly associated with unhindered childhood growth and a lower prevalence of diarrhea (Packnawin-Mock et al. 2000; Cameron and Shah 2010). Figure 14.4 presents the percentages of the poorest households with direct access to drinking water. The poorest households have the least access to improved sanitation and drinking water (Cameron and Shah 2010). Urban poor households had better access to water and sanitation infrastructure relative to the rural poor.

14.2.3 Education

The education level of the household head had a positive and significant association with the consumption of “vegetables and fruit,” “meat and fish,” and “dairy products,” which implies that more education contributes to the consumption of more nutritious foods. In contrast household head education had a negative and significant association with the consumption of “staple foods” and “alcohol and tobacco products.” Based on the IFLS data, the heads of the poorest households were the least educated among all households, nearly all of them had not completed elementary education. Compared to the other households, the poorest and least educated households consumed greater shares of “staple foods,” “alcohol and tobacco products,” and “snack and dried foods” (the latter often with image-bearing packaging to enhance marketing), but consumed lesser shares of “dairy products.”

The fact that the poorest households were also the least educated may affect consumption behavior in several ways. Limited education may be associated with limited understanding of dietary nutrition. The poorest households also appear to be responsive to food marketing efforts, which tends to promote an idealized image of

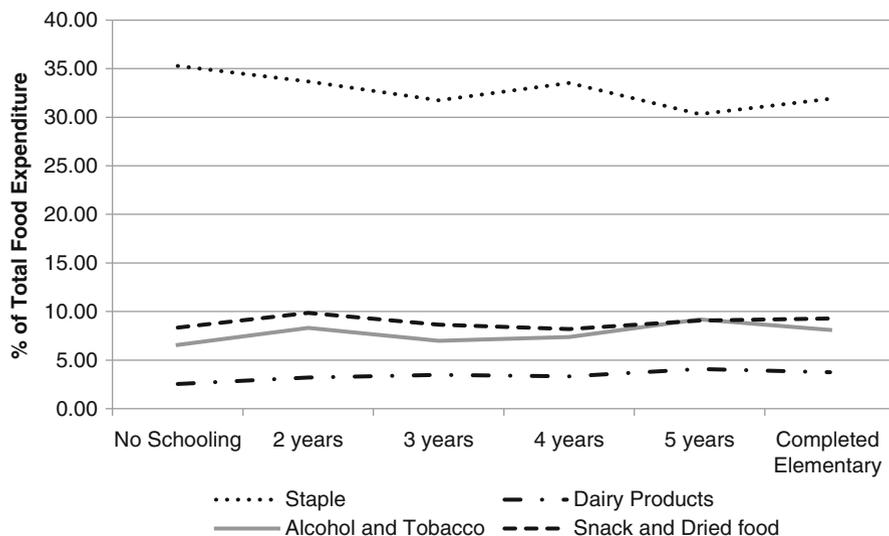


Fig. 14.5 Percentages of household expenditures among selected good categories by education level of the household head in Indonesia (Based on IFLS data)

consumers that is consistent with popular cultural fashion. As a result this group might be less attracted to alternative foods that may be superior in nutrient content. Anecdotally, the poorest and least educated households tend to be more culturally traditional, which might also favor consumption of staple foods (Fig. 14.5).

14.2.4 Social Networks: Participation in Community Activities

In many studies the poorest demographics are characterized as excluded from and less participative in society. Are the poorest households socially excluded in Indonesia? Community activities in Indonesia are an excellent laboratory to observe the social behavior of the poor. Previous studies in Indonesia have found that selectivity exists in community participation, and that that marital status and education were strong determinants of social engagement (Grootaert 1999; Beard 2003; Beard and Cartmill 2007). Another study found that participation at the community level increased the likelihood of receiving government aid during economic crises and of employment for the household head (Perdana 2006).

There are various types of community participation at the village level in Indonesia, many of which are specific to gender and age. Anti-poverty development programs such as the Social Safety Net Program, the Kecamatan Development Program, the Urban Poverty Program, the Rice for the Poor program, the unconditional cash transfer program, and other programs are discussed in community meetings. These meetings provide forums for the discussion of activities such as program

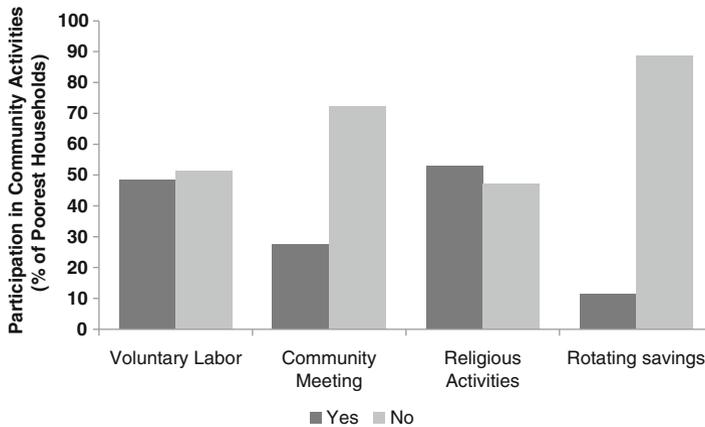


Fig. 14.6 Participation of the poorest households in community activities in Indonesia (Based on IFLS data)

socialization and planning, proposal preparation, funding decisions, and program implementation. Local meetings are attended by several elements of the communities, such as local legislative bodies, local government staff, and representatives of women and youth groups. Among the various community activities is a traditional reciprocal form of social capital known as *gotong royong* (voluntary labor) (Sullivan 1992; Beard 2005). This activity is originally from Java and originated from the cooperative action required for wet rice production (Beard 2005). Based on the IFLS data the poorest households were not entirely socially excluded (Fig. 14.6). About 50 % of poorest households participated in religious activities and *gotong royong* in their villages. Nevertheless when it came to monetary types of participation or more formal activities such as rotating savings and community meetings, the poorest households were less represented than households in the rest of the income range.

Given the fact that the poorest households participated in formal communal activities, socialization related to access to development programs and empowering the poorest could be facilitated by working through these types of community activities. Although relatively less formal, participation in religious and voluntary labor activities facilitates the sharing of information among villagers and thus creates social capital. This social capital in turn creates spillover benefits through improved access to nonfinancial resources for the poorest households.

14.3 The Responsiveness of the Poorest Households to Income and Price Changes

As reported above, the poorest households consumed greater shares of good from the “staple foods” and “tobacco or alcohol products” categories, and lesser shares of nutrient-rich foods from the “meat and fish” or “dairy products” categories than other

Table 14.1 Expenditure elasticity estimates for the poorest households across annual surveys in Indonesia (Based on IFLS data)

Expenditure categories	Total	1997	2000	2007
Staple foods	1.0152 (0.0424)	1.1232 (0.0601)	0.9129 (0.0714)	0.9677 (0.4189)
Vegetables and fruit	0.9967 (0.0639)	0.9089 (0.0983)	1.0640 (0.1061)	0.9804 (0.3990)
Meat and fish	1.0358 (0.0549)	0.9333 (0.0844)	1.1085 (0.0855)	1.2387 (0.6125)
Dairy products	1.2800 (0.1240)	1.4963 (0.2005)	1.0663 (0.1948)	1.2389 (0.2612)
Oils	0.7960 (0.0712)	0.7757 (0.1044)	0.8645 (0.1264)	0.7814 (0.1671)
Alcohol and tobacco products	1.3568 (0.1327)	1.1909 (0.2168)	1.5788 (0.1669)	1.4227 (1.2463)
Snack and dried foods	0.9091 (0.1021)	0.8115 (0.1743)	0.9752 (0.1595)	0.6652 (0.2463)
Other foods	0.9138 (0.0465)	0.9118 (0.0646)	0.8666 (0.0779)	1.0573 (0.2760)

Standard errors are shown in parentheses

households. An important aspect of understanding the behavior of the poorest households for policy making purposes is their responsiveness to changes in income and prices, which can be observed using empirical data from the surveys. How the poor respond to changes in prices and income should help direct food policy with respect to policy emphasis on either income or price, or on a combination of the two (Sadoulet and de Janvry 1995). Particularly when policies are needed to leverage nutrition and health, side interventions should be considered. Policy to improve household food consumption should therefore be grounded on sound knowledge of household responses to these key determinants of food consumption.

Changes in consumption among the poorest households in response to changes in income can be evaluated through expenditure elasticity. Elasticity estimates for expenditures of the poorest households on eight consumer goods categories are presented in Table 14.1. All of the expenditure elasticity estimates were calculated based on the IFLS data using the Quadratic Almost Ideal Demand System (QUAIDS), specific demand system model. For the “vegetables and fruit,” “oils,” and “snack and dried foods” categories, the expenditure elasticity estimates were close to unity and therefore these goods are deemed as necessities, whereas “staple foods,” “meat and fish,” “dairy products,” and “alcohol and tobacco products” categories were all classified as luxuries. Expenditure elasticity for the alcohol and tobacco products category was the highest. For this category the model indicated that a 10 % increase in total food expenditures would lead to a 13 % share increase in consumption. Comparing “staple foods” expenditures across annual surveys, these appeared to be elastic for the poorest households in 1997, but exhibited less elasticity in subsequent annual surveys. This finding was consistent with Bennet’s law, which states that households switch consumption from cheaper to more

Table 14.2 Own-price and cross-price elasticity value estimates for the poorest households in Indonesia by expenditure category (Based on IFLS data)

Expenditure categories	Staple foods	Vegetables and fruit	Meat and fish	Dairy products	Oils	Alcohol and tobacco products	Snack and dried foods
Staple foods	-0.9473 (0.1081)	-0.0641 (0.0344)	0.1013 (0.0554)	-0.0383 (0.0229)	-0.0126 (0.0269)	-0.0678 (0.0476)	-0.0061 (0.0419)
Vegetables and fruit	-0.1920 (0.1103)	-1.0703 (0.0654)	0.2446 (0.0703)	0.0324 (0.0293)	-0.0474 (0.0323)	-0.0586 (0.0571)	-0.0117 (0.0552)
Meat and fish	0.2344 (0.1294)	0.1731 (0.0536)	-1.1402 (0.1510)	-0.0286 (0.0495)	0.0017 (0.0530)	-0.0651 (0.0498)	-0.1367 (0.0538)
Dairy products	-0.5949 (0.3098)	0.0392 (0.1446)	-0.2008 (0.2825)	-1.2391 (0.1786)	0.2777 (0.1382)	0.1606 (0.1843)	-0.0153 (0.1234)
Oils	-0.0121 (0.1673)	-0.0213 (0.0868)	0.0408 (0.1385)	0.1399 (0.0636)	-0.7757 (0.0981)	-0.0878 (0.0917)	0.0348 (0.0634)
Alcohol and tobacco products	-0.2983 (0.2416)	-0.2327 (0.1323)	0.3988 (0.1724)	0.0608 (0.0748)	-0.1042 (0.0811)	-1.2450 (0.1868)	0.0135 (0.1094)
Snack and dried foods	0.0159 (0.1148)	0.0227 (0.0646)	-0.1317 (0.0619)	0.0057 (0.0241)	0.0094 (0.0279)	0.0300 (0.0523)	-0.7680 (0.0954)

Standard errors are shown in parentheses

expensive calorie sources as income rises (Timmer et al. 1983; Fuglie 2004). For the poorest households, the “dairy products” category remained expenditure elastic for over a decade. As expenditures on tobacco and alcohol products increased over the last decade and considering the elastic nature of expenditures in this category, caution should be taken before drawing conclusions due to the possible crowding-out effect of alcohol and tobacco product expenditures on the consumption of more nutritious food items.

Price elasticity estimates reflect the responsiveness of consumption to changes in prices. Table 14.2 presents the own- (with respect to changes in the price of goods within each category) and cross-price (with respect to changes in the prices of goods from other categories) elasticity estimates for the poorest households based on a QUAIDS analysis of the IFLS data. Similar to expenditure elasticity, price elasticity for the “alcohol and tobacco products” category showed the most substantial response to price changes. The model estimated an elasticity value of 1.25 in absolute magnitude, therefore predicting that if the prices for alcohol and tobacco products increase by 10 %, then consumption would fall by 12.5 %. The poorest households also exhibited price elasticity for the “dairy products” and “meat and fish” categories. The own-price elasticity of the dairy products category was similar to that for “alcohol and tobacco products,” indicating that price changes for “dairy products” affected consumption less substantially than price changes for “alcohol and tobacco products.” The price elasticity value for the “staple foods” category was nearly close to unity among the poorest households, indicating that the demand for staple foods is relatively responsive to price changes.

Examination of the relationships among these consumption categories through the cross-price elasticity estimates revealed a mixture of complementary and substitutive relationships. Cross-price elasticity values were generally much lower than own-price elasticity values, implying that consumption of each category among the poorest households was more responsive to changes in the price of goods within each category. Though all cross-price elasticity estimates were found to be inelastic, the notion of substitutes and complements plays a significant role in understanding consumption patterns. The poorest households somewhat freely substituted between the “meat and fish” and “vegetables and fruit” categories, suggesting that they seem to have similar roles in their diet. The comparison of the “vegetables and fruit” category prices to those of “meat and fish” yielded a demand elasticity value of 0.24, which predicts that a 10 % increase of vegetables and fruit prices would lead to a 2.4 % increase in the consumption of meat and fish.

A similar relationship was also found between the “meat and fish” and “staple foods” categories. The model predicted that the poorest would increase their staple foods consumption by 2.3 % if the price of meat and fish increased by 10 %. This finding suggests that poor households would cut expenditures on nutrient-rich foods such as green leafy vegetables or meat and fish, and shift to cheaper calorie goods such as staple foods. During the 1997 financial crisis there were dramatic price increases for most consumer goods, particularly for nutrient rich foods belonging to the “meats and fish,” “dairy products,” and “vegetables and fruits” categories, which had negative consequences on the nutritional welfare of Indonesian households.

Another striking substitutive effect, though inelastic, was found in the relationship between the demand for goods from the “alcohol and tobacco products” and “meat and fish” categories. The model predicted that if alcohol and tobacco product prices were to rise by 10 % then meat and fish demand would increase by 3.0 %. A substitutive relationship between “alcohol and tobacco products” with “meat and fish” is challenging for national food policy. What is important to poor households with respect to alcohol and tobacco products demand is the price. Only when the price of alcohol and tobacco products significantly increased, was a shift to greater meat and fish consumption among poor households predicted. Nevertheless given the large expenditure share of alcohol and tobacco consumption and its elasticity, it should be cautiously considered. The loss in terms of nutrition could be considerable due to the possible crowding-out effect of alcohol and tobacco products expenditures on those for nutrient rich foods such as eggs, meats, dairy products, and therefore household well-being would also likely be affected by decreases in nonfood expenditures such as education and medical expenses (BAPPENAS 2006; Mukherjee 2006).

14.4 The Poorest and the Food Subsidy Program

The Indonesian government provides food subsidies to poor households for the purpose of maintaining access to basic food items. Indonesia operates a food security program called RASKIN, which is an abbreviation of *beras miskin*, literally meaning

Table 14.3 Food security program targeting performance by income and region in Indonesia (Based on IFLS data)

Per capita expenditure quintiles	Percentage of households		
	Java	Outside Java	All
1st (lowest)	28.58	32.59	29.56
2nd	25.33	26.91	25.71
3rd	19.99	21.52	20.37
4th	16.55	12.56	15.57
5th (highest)	9.56	6.43	8.79
Total	100	100	100

“rice for the poor.” Historically the program was part of the Social Safety Net introduced by the government in 1998 just after the financial crisis hit Indonesia in mid-1997. The purpose of this program was to ensure that poor households (both the chronically poor and those newly poor due to the crisis) were able to access basic food at affordable prices (Sumarto 2006). Eligible households were selected by the National Family Planning Agency (*Badan Koordinasi Keluarga Berencana Nasional* [BKKBN]).

Tabor and Sawit (2001) pointed out that the program authorities were aware that the BKKBN welfare criteria were not designed to identify food insecure households. The BKKBN evaluated households based on the following indicators: whether all household members regularly consumed at least two meals a day, whether household members had different sets of clothes for different activities (home, work, school, and public), whether houses had dirt-floors, whether households were able to bring their children to health centers to receive medical treatment when they were sick, whether the households used family planning methods, and whether household members were able to practice their religious observances. The program provided highly subsidized rice at a price of Rp 1,000/kg, compared to average market prices of Rp 3,000/kg. The amount of rice that could be purchased by beneficiary households was originally 20 kg per month, but this was reduced to between 10 and 20 kg in 2000 (Tabor and Sawit 2005; SMERU 2008).

Since the program implementation was rushed and the eligibility criteria were not designed properly (Tabor and Sawit 2001), leakage has been a significant problem with the Rice for the Poor program. Table 14.3 presents indicators of the effectiveness of the food security program targeting. The percentage of households that received benefits from the program fell as household per capita expenditures rose in both Java and the rest of the country. Only about 30 % of the Rice for the Poor program beneficiary households were among the poorest 20 % of society. The targeting performance was slightly better outside of Java where almost 60 % of the program beneficiaries were among the poorest 40 % of households.

Strikingly almost 20 % of the program beneficiaries were from the highest income quintile households, even though the program was intended to help the poor. The misadministration of the program was also evident in Java, where almost 10 % of the wealthiest households benefitted from the program. This indicated a failure of the food security program operators to provide oversight of the selection of

beneficiaries. Improved targeting would be an effective means for the Indonesian government to improve program benefits for the poor, but the costs and feasibility of more narrow targeting need to be assessed in order to identify economically optimal targeting methods.

The results presented in Table 14.3 show that even a targeted social protection effort for the poor can be subject to errors of inclusion. The errors of inclusion in the implementation of the Rice for the Poor program have several implications. Based on the latest IFLS community data, the program was the most well-known among the poorest and was considered the most beneficial social protection program. However, it was also the second most criticized program due to the lack of program socialization and a suitable mechanism for filing complaints.³ There were other consequences related to the limited program impact on the poorest households. In a similar case of a conditional transfer program in Honduras, there was no positive impact on household nutritional status due to implementation problems (Adato and Hoddinott 2009). In the case of the Rice for the Poor program in Indonesia, targeting seems to be a bottleneck that limited the program's impacts.

The evidence that the Rice for the Poor program had limited impacts on the poorest is presented in Table 14.4. The program's impacts on food consumption were evaluated at the household level after program implementation and the resulting changes in consumption are presented. The program benefitted the poorest households by increasing meat consumption by 50 % at the time of post-exposure program disbursement. "Dairy products" category expenditures increased by about 90 % among the poorest households. Though animal source foods such as meat and dairy products contain more nutrients, the increased consumption of these categories by the poorest households was attributed to a shift to "better-tasting" food (Jensen and Miller 2008; Banerjee and Duflo 2011).

As previously mentioned, the food security program seems to have had many loopholes. By design the Rice for the Poor program provided generous support to the households that were suffering most from the crisis. Although it was found that the program reached the intended households, the mistargeting of households was also clear and lead to unintended program effects. Since the poorest households have limited understanding of dietary nutrition, accompaniment of the food subsidy intervention seems to be a prudent option. Changing food consumption behavior of the poor might require time and education rather than be an immediate response to improved food availability. In addition, the fact that extra resources from cash transfers are often used to purchase unhealthy goods that are consumed by adult males such as cigarettes is another indication that government intervention to improve household food consumption should consider an accompanying educational component.

³According to the IFLS community data from 2007 the unconditional cash transfer and the Rice for the Poor program received the most complaints from communities. Among 321 enumeration areas, complaints about the unconditional cash transfer and the Rice for the Poor programs were made by 69 and 16 % of the areas respectively. Despite this level of complaints, more than 60 % of the areas reported that the Rice for the Poor program was the most accepted program because it indeed helped the poor.

Table 14.4 Average treatment effects on food and nonfood consumption by the poorest households in Indonesia (Based on IFLS data)

Outcomes	Current consumption	Consumption change
Total food expenditures	0.008 (0.032)	0.029 (0.047)
Rice	0.181 (0.231)	0.055 (0.300)
Other staple foods	0.097 (0.167)	-0.198 (0.254)
Dairy products	0.283 (0.368)	0.889*** (0.388)
Meat	0.649*** (0.212)	0.278 (0.220)
Fish	0.298 (0.292)	0.228 (0.320)
Alcohol and tobacco products	0.475 (0.358)	0.204 (0.375)
Nonfood expenditures	-0.003 (0.037)	0.049 (0.055)
Medical	0.269 (0.281)	0.532 (0.362)
Education	-0.272 (0.372)	-0.025 (0.353)

Standard errors are shown in parentheses, ***denotes statistical significance at 1.0 % level

Although the Rice for the Poor program beneficiaries were mostly determined by BKKBN welfare criteria, local village authorities were responsible for the distribution of benefits at the village level. Addressing the political and bureaucratic causes of exclusion might be an important pathway towards more effective targeting (von Braun et al. 2009). The Rice for the Poor program had little bottom-up process in the implementation, particularly the involvement of households as the ultimate point of distribution. Analysis of the IFLS community data revealed that the village head and associated staff, along with the BKKBN cadre and the head of neighborhood associations determined which households were eligible for the Social Security Net programs, including Rice for the Poor. The data analysis results further revealed that only 50 % of the villages had mechanisms in which a household could have applied to be a program recipient if they felt that they qualified for receiving subsidized rice but were not selected. The long bureaucratic distribution process combined with local and cultural contexts might have restricted the eligibility of some community members, particularly the ones with the lowest local socioeconomic status, from being involved in determining the program's application.

Many studies have highlighted the occurrence of elite capture in development programs and have recommended community-based development program approaches to reduce this problem (Mansuri and Rao 2004; Beard and Dasgupta 2006; Fritzen 2007). This problem appears to have affected the Rice for the Poor program. Making the program more reflective of people's needs and involving bottom-up participation

are potential methods of improving the design of food security programs, just as they have benefitted other community-driven development programs (Rao and Ibanez 2005). An inclusive and transparent process of recipient eligibility identification is one of the operational aspects that would help mitigate this problem.

14.5 Conclusion

Understanding the food consumption behavior of the poorest and their responsiveness to price and income changes are vital for the improvement of their nutritional welfare. It was found that the poorest households' consumption behavior will have impacts on the effectiveness of food subsidy efforts, and should therefore be taken into account when such programs are designed to avoid unintended or detrimental effects. In order to maximize the nutritional benefits of food subsidy programs, side-interventions such as nutrition education should be considered. Food subsidy programs like Rice for the Poor might also benefit through a focus on gender dimensions. Some studies highlight the growing recognition that public welfare efforts that specifically target women are more likely to perform better in terms of household welfare outcomes (Quisumbing and de la Briere 2000; Doss 2005; Quisumbing and McClafferty 2006).

Food policies in Indonesia are still evolving as food issues respond to the complex dynamics and uncertainties of multiple factors, not only economic aspects, but also social and political dimensions. In terms of social inclusion of the poorest households, applying conditionality on food program recipients might be another effective policy approach to improve the performance of public assistance efforts. Understanding the fact the poorest households are involved in less formal communal activities, side interventions for the poorest household could consider a beneficiary selection approach featuring these activities. Target households of food assistance programs could be required to attend community-based nutritional education classes in order to receive assistance to broaden the welfare benefits of government interventions. Simultaneously, food policies that involve local-level participation and that accommodate local contexts might provide support not only in terms of monetary value, but also in non-monetary terms such as stimulating collective action and public empowerment.

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References

- Adato M, Hoddinott J (2009) Conditional cash transfer programs: a 'magic bullet' for reducing poverty? In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 299–306

- Ahmed AU, Hill RV, Smith LC, Wiesmann DM, Frankenberger T (2007) The world's most deprived: characteristics and causes of extreme poverty and hunger, 2020 discussion paper 43. International Food Policy Research Institute, Washington, DC
- Ahmed AU, Quisumbing AR, Nasreen M, Hoddinott J, Bryan E (2009) Comparing food and cash transfers to the ultra poor in Bangladesh, Research monograph no 163. International Food Policy Research Institute, Washington, DC
- Akita T (2003) Decomposing regional income inequality in China and Indonesia using two-stage nested Theil decomposition method. *Ann Reg Sci* 31(7):55–77
- Banerjee A, Duflo E (2011) Poor economics: a radical rethinking of the way to fight global poverty. Public Affairs, New York
- BAPPENAS (2006) Rancangan Pangan dan Gizi 2006–2011 (Food and nutrition platform 2006–2011). Badan Perencanaan Pembangunan Nasional (The National Development Planning Agency), Jakarta
- Beard VA (2003) Learning radical planning: the power of collective action. *Plan Theory* 2(1):13–35
- Beard VA (2005) Individual determinants of participation in community development in Indonesia. *Environ Plan C Gov Policy* 23(1):21–39
- Beard VA, Cartmill RS (2007) Gender, collective action and participatory development in Indonesia. *Int Dev Plan Rev* 29(2):185–213
- Beard VA, Dasgupta A (2006) Collective action and community-driven development in rural and urban Indonesia. *Urban Stud* 43(9):1451–1468
- Cameron L, Shah M (2010) Scaling up rural sanitation: findings from the impact evaluation baseline survey in Indonesia. Technical paper, water and sanitation program, World Bank, Washington, DC
- Doss C (2005) The effects of intrahousehold property ownership on expenditure patterns in Ghana. *J Afr Econ* 15(1):149–180
- FAO (1983) World food security: a reappraisal of the concepts and approaches. Food and Agriculture Organization of the United Nations, Rome
- FAO (2003) Trade reform and food security: conceptualizing the linkages. Food and Agriculture Organization of the United Nations, Rome. <ftp://ftp.fao.org/docrep/fao/005/y4671e/y4671e00.pdf>. Accessed 15 Feb 2012
- Fritzen SA (2007) Can the design of community-driven development reduce the risk of elite capture? Evidence from Indonesia. *World Dev* 35(8):1359–1375
- Fuglie KO (2004) Challenging Bennett's law: the new economics of starchy staples in Asia. *Food Policy* 29:187–202
- Grootaert C (1999) Social capital, household welfare and poverty in Indonesia, Policy research working paper no 2148. World Bank, Washington, DC
- Hill H (1992) Regional development in a boom and bust petroleum economy: Indonesia since 1970. *Econ Dev Cultur Change* 40(2):351–379
- Indonesian Bureau of Statistics (2009) Statistical year book of Indonesia 2009. Indonesian Bureau of Statistics, Jakarta
- Jensen RT, Miller NH (2008) Giffen behavior and subsistence consumption. *Am Econ Rev* 98(4):1553–1577
- Mansuri G, Rao V (2004) Community-based and driven development: a critical review. *World Bank Res Obs* 19(1):1–39
- Maxwell S (1990) Food security in developing countries: issues and options for the 1990s. *IDS Bull* 21(3):2–13
- Maxwell S (1996) Food security: a post-modern perspective. *Food Policy* 21(1):155–170
- Mukherjee N (2006) Voices of the poor: making the services work for the poor in Indonesia. World Bank, Washington, DC
- Packnawin-Mock J, Jarvis L, Jahari AB, Husaini MA, Pollit E (2000) Community-level determinants of child growth in an Indonesian tea plantation. *Eur J Clin Nutr* 54:28–42
- Perdana AA (2006) Better together or not? Community participation, consumption smoothing and household head employment in Indonesia, Development economics working paper no 777. East Asian Bureau Economic Research, Canberra

- Quisumbing AR, de la Briere B (2000) Women's assets and intrahousehold allocation in rural Bangladesh: testing measures of bargaining power, FCND discussion paper 86. International Food Policy Research Institute, Washington, DC
- Quisumbing AR, McClafferty B (2006) Food security in practice: using gender research in development. International Food Policy Research Institute, Washington, DC
- RAND (2010) The Indonesia Family Life Survey – IFLS4 public release. RAND Corporation, Santa Monica. <http://www.rand.org/labor/FLS/IFLS.html>. Accessed 22 Dec 2010
- Rao V, Ibanez AM (2005) The social impacts of social funds in Jamaica: a “participatory econometric” analysis of targeting, collective action, and participation in community-driven development. *J Dev Stud* 41(5):788–838
- Sadoulet E, de Janvry A (1995) Quantitative development policy analysis. John Hopkins University Press, Baltimore/London
- SMERU (2008) The effectiveness of the Raskin program. Social Monitoring and Early Response Unit, Jakarta. http://www.smeru.or.id/report/research/raskin2007/raskin2007_eng.pdf. Accessed 23 Mar 2008
- Suara Media (2010) Pengguna Rokok Mayoritas Orang Miskin – smokers are mostly the poor. Suara Media, Jakarta. <http://www.suaramedia.com/berita-nasional/19121-lm3-heran-pengguna-rokok-mayoritas-orang-miskin.html>. Accessed 10 Sept 2010
- Sullivan J (1992) Local government and community in Java: an urban case study. Oxford University Press, New York
- Sumarto S (2006) Social safety net: Indonesia. Policy brief 6, Overseas Development Institute, London. <http://www.odi.org.uk/resources/download/1071.pdf>. Accessed 23 Mar 2008
- Suryahadi A, Sumarto S (2003) Evolution of poverty during the crisis in Indonesia. *Asian Econ J* 17(3):221–241
- Tabor SR, Sawit MH (2001) Social protection via rice: the OPK rice subsidy program in Indonesia. *Dev Econ* XXXIX(3):267–294
- Tabor SR, Sawit MH (2005) RASKIN: a macro-program assessment. BULOG, Jakarta. http://www.bulog.co.id/old_website/data/doc/20070321RASKIN_Executive_Summary_for_Distribution.pdf. Accessed 15 Feb 2009
- Timmer PC (2000) The macro dimensions of food security: economic growth, equitable distribution, and food price stability. *Food Policy* 25:283–295
- Timmer PC, Falcon WP, Pearson SR (1983) Food policy analysis. John Hopkins University Press, Baltimore
- United Nations (1974) Universal declaration on the eradication of hunger and malnutrition. United Nations High Commissioner for Human Rights, Geneva. <http://www2.ohchr.org/english/law/malnutrition.htm>. Accessed 20 Jan 2012
- United Nations General Assembly (1948) Universal declaration of human rights. United Nations, New York. <http://www.unhcr.org/refworld/docid/3ae6b3712c.html>. Accessed 20 Jan 2012
- von Braun J, Bouis H, Kumar S, Pandya-Lorch R (1992) Improving food security of the poor: concept, policy, and programs. International Food Policy Research Institute, Washington, DC
- von Braun J, Hill RV, Pandya-Lorch R (2009) The poorest and the hungry: a synthesis of analyses and actions. In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 1–61

Chapter 15

Addressing Extreme Poverty and Marginality: Experiences in Rural China

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Abstract China's experiences with addressing extreme poverty and marginality are presented and analyzed. The evolution of effective and efficient policies, especially in rural areas is found closely connected to China's economic growth in the past three decades, as well as to regional inequality. The "Di Bao" (minimum livelihood guarantee system) in different areas is reviewed. In developed regions, the "Di Bao" social assistance program, social insurance and public services have effectively mitigated the difficulties of the extremely poor. In poor areas, however, addressing extreme poverty and marginality remains a challenge. Increasing the effectiveness of poverty reduction efforts in poor areas is, and will continue to be central to the eradication of extreme poverty in China.

Keywords Poverty • Marginality • Social protection • Social insurance • China

15.1 Introduction

In the past 30 years China has made significant progress in poverty reduction. According to the poverty line set by the World Bank (US\$1.25/day per capita consumption or income), China's urban poverty incidence dropped from 44.5 % in 1981 to 0.9 % in 2008, whereas the incidence of rural poverty dropped from 94.2 to 22.3 % during the same period (Chen 2010). According to China's official poverty line, rural poverty was reduced from 250 million people affected in 1978 to 26.88 million people affected in 2010, with the overall incidence of poverty dropping from 30.7 to 2.8 %. Though data vary considerably based on different poverty lines, they all reflect a trend of substantial declines in poverty in China.

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China's poverty line has remained lower than the international standard. For instance in 2010, the rural poverty line was defined in terms of per capita annual net income at 1,274 *yuan* (US\$193), which was equivalent to 21.5 % of the national average rural income of 5,919 *yuan* (US\$896.82) (NBS 2011a). If converted into \$US at the year-end exchange rate (US\$1.0=6.6 *yuan*), the amount was about US\$0.53/day per capita, which is equivalent to 42.3 % of the international poverty standard. The comparison shows that those rural residents who still live below China's poverty line fall within the category of the extremely poor. The previous antipoverty policies in China have always targeted absolute poverty.

During the period of the 12th 5-year national socioeconomic development plan (2011–2015) and over the next decade the Chinese government will continue prioritizing the elimination of absolute poverty in its antipoverty strategies. The extremely poor areas that are adjacent to each other (especially areas inhabited by ethnic minorities, border areas, and ecologically delicate areas) will be the key regions for carrying out China's antipoverty program through increasing poverty relief funds and gradually raising the poverty line (Fan 2011a). However, western China has experienced a slower pace in poverty reduction than eastern China, despite regional targeting antipoverty strategies that have been implemented since the 1980s. Among the current rural poor, nearly two-thirds are scattered across the western areas of the country (Fan 2011b), which indicates that in order to improve the effectiveness of antipoverty efforts the Chinese government should come up with more innovative poverty relief means and targeting mechanisms by taking into consideration the specific hardships faced by the extremely poor in western China.

In this paper, I focus on the following questions. First, in the last 30 years, especially during the period 2000–2010, what measures have been taken to alleviate poverty in rural China? Second, what new policies are being carried out in response to the most imperative living and development needs of extremely poor households and individuals? Third, what other crucial measures should be taken to help the extremely poor escape marginality and poverty? The main primary sources used in this chapter include policy documents from the central and local governments, rural poverty monitoring reports released by the National Bureau of Statistics (NBS) of China, existing research papers, and the results of field work that I conducted personally.

15.2 From Poverty Reduction Programs to Social Protection System

In its transition from a planned economy to a market economy, China has witnessed an accelerated process of industrialization and urbanization. In addition, due to the strict implementation of family planning (the one-child policy in particular), the problem of an aging population has come to the surface. Meanwhile the government and the public have developed a deepening understanding of the causes of poverty and adopted new ideas about social protection in the era of globalization (García

and Gruat 2003). The goal of antipoverty policies has extended from guaranteeing the basic livelihood of the poor to reducing causes of poverty, with an emphasis on helping the underprivileged achieve their potential and take advantage of opportunities for self advancement. Such changes have not only prompted the adjustment of antipoverty strategies and policies according to socioeconomic development, but also facilitated the establishment of a social security system.

In this period of transition and development, social relief has become the main source of assistance to the poorest households and individuals. Under the planned economy during the period of the 1950–1970s, rural society was segregated from the urban sphere and lacked a social security system. The major programs responsible for social protection were the “social and disaster relief” and “five-guarantee” policies, the former providing temporary resources for the poor and the latter providing long-term resources and services.

The target groups of the five-guarantee policy include: the elderly, the disabled, and rural residents under 16 years of age who have no ability to work, no income to support their livelihood, and no legal guardians to take care of them. So far the categorization has not changed substantially in amendment of the policy (SCC 2006). The “five guarantees” refer to the provision of food and fuels, clothing and daily necessities, housing, medical care, and burial services for the target groups (the policy also guarantees educational expenses for target group children). The resources of the five-guarantees program, provided by the People’s Commune and production teams, could only support the most basic needs of poor households when poverty prevailed in the communes. Since the abolition of the People’s Commune in 1985, local governments have become the main administrators of the resources provided through the five-guarantees program, whereas village committees have remained responsible for caring for the households that enjoy program benefits. In 2010 the number of rural residents who received relief from the five-guarantee program reached 5.549 million beneficiaries (NBS 2011a).

The rural economic reform during 1978–1985 strongly promoted agricultural growth and thus enabled a majority of rural households to attain food security. However, in areas with insufficient resources and weak infrastructure, a considerable number of rural households did not benefit fully from economic growth and nearly 102 million people suffered from food shortages. To address this problem the central government initiated a nationwide antipoverty strategy in 1986 and clearly defined the goal of providing food and clothing for the poor through promoting development in poor areas (SCC 1989). By 1994 the goal of food security was virtually achieved. In the subsequent antipoverty schemes the central goal has been the elimination of income poverty. The key targets have expanded gradually from poor counties to poor towns and villages, and the main antipoverty measures so far have been carrying out socioeconomic and human resource development projects (CDRF 2007). However, these projects are economic growth oriented and those who have priority in acquiring investment opportunities are mostly the residents of predominantly poor areas who are not poor or else belong to the borderline poor. Therefore those who are able to get out of poverty first are usually not the poorest.

For the extremely poor, even those who have the ability to work, it is difficult to be granted the opportunities of the commodity production projects in the antipoverty schemes. For example in 2009, less than 3.0 % of the poor households that had members capable of working were granted antipoverty funds (NBS 2011b). Two major reasons have contributed to this inequality. One has to do with the existing social exclusion, in that those who are not poor have a greater voice than the poor in the distribution of antipoverty resources. The other reason has to do with the expectations for the projects of the administrative institutions. Given that the extremely poor are in an unfavorable position with regard to aspects of their living locations, access to information, open mindedness, health conditions, education levels, working skills, and management abilities; even if they were granted market oriented investment projects, they would suffer a much higher risk of failure than other groups. Therefore the limited participation of the extremely poor in antipoverty projects actually reflects their marginalized position.

Though the extremely poor find it hard to benefit directly from antipoverty projects, they have enjoyed an increasing amount of social relief. By 2008 China's social relief system was made up of the following policy tools; "relief of basic living," "special relief," "preferential policies," and "temporary relief." "Relief of basic living" largely supports recipients with food and clothing. "Special relief" solves specific difficulties the recipients encounter in medical care, housing, education, and disasters. "Preferential policies" refer to the provision of public services free of charge or at reduced prices. "Temporary relief" is mainly responsible for hardships resulting from emergencies (MCA 2008). Among them the Minimum Livelihood Guarantee Scheme (*Di Bao* in Chinese) provides a social safety net for the extremely poor. A pilot program was launched in a few provinces and cities in 1996 and was later extended to rural areas nationwide in 2007. In principle the local governments provide subsidies with local funds for rural resident households whose per capita income is below the minimum living standard (the *Di Bao* line), in order to ensure that their basic needs are met (SCC 2007). In 2009 the *Di Bao* program beneficiaries received an average cash benefit of 816 *yuan* (US\$123.64) per person annually (Table 15.1). Since 2011 urban and rural *Di Bao* standards have been linked to a price index to reduce the impacts of inflation on extremely poor households (CN 2011).

Several major factors have contributed to the enhanced role of social relief. First, the risks of poverty are increasing in an era featuring a market economy, globalization, climate change, and the subsequent food, energy, and financial crises. As a result there has been an increase of newly impoverished residents in areas that have lagged behind in developed areas, even though aggregate poverty rates have exhibited a declining trend over time. Moreover the newly poor households are spatially scattered and it is hard for antipoverty projects to reach all of them. Second, there are increasingly diverse causes of poverty, such as unexpected disasters, severe illnesses, disabilities, and the deaths of household income earners, each of which could drive an entire household into poverty. When there was an absence of a social insurance system or low payment of insurance benefits, social assistance proved to be a timely means of protection to relieve income shock on households.

In fact, the Chinese government has actively promoted the establishment and extension of the "New Type of Rural Cooperative Medical System" and the "New

Table 15.1 A national statistical profile of the *Di Bao* program in China during the period 2001–2009 (NBS 2011c)

Year	Total number of rural people (millions)	Poverty line (<i>Yuan</i> /person/year)	Population in poverty (millions)	Average Di Bao line (<i>Yuan</i> /person/year)	Number of Di Bao participants (millions)	Di Bao participants/total rural population (%)	Average cash benefits (<i>Yuan</i> /person/year)
2001	933.829	869	90.30	–	3.05	0.33	–
2002	935.025	872	86.45	–	4.08	0.44	–
2003	937.506	882	85.17	–	3.67	0.39	–
2004	942.537	924	75.87	–	4.88	0.52	–
2005	949.075	944	64.32	–	8.25	0.87	–
2006	933.913	958	56.98	–	15.93	1.71	–
2007	939.130	1,067	43.20	840.0	35.66	3.80	465.6
2008*	954.048	1,196	40.07	987.6	43.06	4.51	588.0
2009*	946.579	1,196	35.97	1,209.6	47.60	5.03	816.0
2010*	960.000	1,247	26.88	1,316.4	52.28	5.45	–

*The total number of rural people refers to those with permanent rural residential registration. The totals in 2008, 2009, and 2010 were estimated based on the incidence of poverty. Data were unavailable for boxes without values

Type of Rural Old-age Security Scheme” initiatives during the 11th 5-year plan period (2006–2010) in order to address the problem of remarkable increases in poverty associated with illness and aging. By 2010 the Rural Cooperative Medical System covered 96.3 % of rural residents and in pilot regions (10 % of the counties nationwide) of the Rural Old-age Security Scheme the number of insured has reached 102.77 million. Among them, those over 60 years of age receive an allowance of 55 *yuan* (US\$8.3) per month allocated from specific funds. There is no doubt that both policies help to reduce the risks of poverty.

With regard to the vision for 2020, the Chinese government has developed a plan to build a social protection system that would cover both urban and rural residents, with emphasis on the basic pension program, basic medical care, and the *Di Bao* (CPC 2006, 2007). It can be expected that these three schemes and the ongoing antipoverty policies will provide more opportunities for the poor who currently have jobs, who are unable to work, and other vulnerable groups to escape poverty and marginality.

15.3 Coordination Among *Di Bao*, Public Services, and Social Insurance Policies: Institutional Innovations in Developed Areas

According to the *Di Bao* program “Notification on the Establishment of Nationwide Rural Minimum Livelihood Guarantee Scheme” enacted by the State Council in 2007, “the target group of the *Di Bao* program includes rural residents whose net annual household per capita income is below the local *Di Bao* line, mainly rural

residents who have been in poverty for many years due to illness, handicap, old age, physical weakness, the loss of working ability, and adverse living conditions.” This means that people covered by the *Di Bao* program are likely those living in extreme poverty. Thus it can be deduced that the *Di Bao* line should not be higher than the poverty line and that the number of *Di Bao* participants should be at most equivalent to size of the population living in poverty. However, Table 15.1 presents data that suggest that since 2008 the number of *Di Bao* participants has been larger than the size of the poor population. Since 2009 the *Di Bao* line has been higher than the official poverty line. In 2010 the number of *Di Bao* participants was larger than the population in poverty by 94.5 %, and the *Di Bao* line has been 5.6 % higher than the official poverty line. How can this puzzle be explained?

First, the statistics for each group come from different sources. The official poverty line is defined by China’s central government. Based on the official poverty line, the NBS estimates the size of the population living in poverty using a national rural survey sample. The *Di Bao* line is defined by local governments above the county-level, with a similar formula to the one used for the calculation of the official poverty line, but that can be adjusted to reflect local circumstances of socioeconomic development. According to the latest guidance from the Ministry of Civil Affairs (MCA), the *Di Bao* line should include essential food and nonfood spending of rural residents for subsistence purposes for a year (clothing, water, electricity, coal or gas, public transport, daily necessities, etc.) (MCA 2011). Due to significant regional disparities the *Di Bao* line is considerably higher in developed regions, so that the average level of regional *Di Bao* lines is leveraged over the national poverty line and the number of the *Di Bao* participants is larger than that of the poor.

Secondly, the formation of the *Di Bao* line and the implementation of the *Di Bao* policy are highly decentralized. Local governments, village committees, and villagers all have a certain level of discretion regarding the identification of recipients. As a result the actual coverage of the *Di Bao* program may not satisfy both conditions at the same time: family income lower than the *Di Bao* line and special personal difficulties. For instance, although for some families their income is higher than the national poverty line or the *Di Bao* line, their family financial status is insolvent due to spending on the costs of childhood education or serious illness. Commonly villagers and village committees decide that *Di Bao* benefits be granted to this type of family. Statistically, the increase of *Di Bao* participants outpaced the decrease of the poor.

In the actual implementation of the *Di Bao* policy, the various localities observe the same procedure defined by the State Council, particularly the requirement for village committees and villagers to take part in decision making. According to the procedure villagers first submit a *Di Bao* application to a village committee to organize either a villagers’ representative meeting or a formal meeting to assess the financial status of the applicant. After assessment the applications are submitted to the local township government. Township civil officers are responsible for verifying the household property, income, work ability, and the actual living conditions of the applicants, and then submit the results to county-level civil affairs bureaus for approval. In order to ensure a fair and transparent decision-making process, village

committees, township governments, and county civil affairs bureaus make the application, assessment, review, and approval information public through local media and community notice boards.

This decision-making process leaves room for local governments and village committees to engage in institutional innovation according to local conditions. In developed regions with rapid rates of industrialization and urbanization, local authorities developed an integrated urban and rural *Di Bao* system. Urban and rural residents must follow the same procedures to apply for and obtain *Di Bao* benefits, and the only difference lies in the *Di Bao* line and amount of the allowance. All families eligible for *Di Bao* benefits are covered by the *Di Bao* system. However, the *Di Bao* program targets individuals who are in the greatest difficulty, such as the aged, handicapped, and seriously ill. Recipients at different levels of poverty severity are entitled to different financial benefit amounts. In identifying the level of assistance according to the socioeconomic and demographic features of the beneficiaries, local governments do not have a standardized income threshold for *Di Bao*. Instead some parameters have been included in a threshold determination. For instance, the provincial government in Jiangsu has issued *Di Bao* guidance lines for the prefectures within that province with disparate levels of development. The provincial finance provides part of the *Di Bao* fund to the prefectures below the average level of provincial development. In practice, this adds a regional parameter to the *Di Bao* line.

In the implementation of assistance at the municipal and county government levels, other parameters related to household size and individual characteristics have been included. For instance, the Zhangjiagang municipal government delivers allowances that are equivalent to 140 % of the *Di Bao* line to the five-guarantee households (or “*Wu Bao Hu*,” the rural poor who are infirm, widowed, childless, orphaned, or have lost the capacity to work). An additional 10 % of the full *Di Bao* allowance will be delivered to the following four target groups: (1) the elderly aged 70 years or older, (2) the ill with malignant tumors, kidney transplants, uremia, and leukemia, (3) the handicapped with a certificate of disability, (4) the single member households. Moreover, an additional 20 % of the full *Di Bao* allowance will be delivered to the two types of target groups other than the five-guarantee households: recipients without any income source, work capacity, legal support, foster parent, or support provider, and the blind and/or seriously handicapped with a certificate of disability (Hong et al. 2006).

Since its inception the *Di Bao* system has been supported by public service and social insurance policies. Aside from monthly allowances, the target groups can also access related policy preferences. The allowances and other social benefits have been raised along with the increasing local finance revenue and average resident income. In January 2011 I visited a *Di Bao* recipient in the village of Xibang, in Tongxiang county of the province of Zhejiang. There were four members from three generations in the household. Mr. Jia, the household head, was deaf and his wife was congenitally retarded. Ten years ago Mr. Jia received a monthly allowance of 150 *yuan* (US\$22.72). Since 2009 his monthly allowance had been increased to 630 *yuan* (US\$95.45). Printed on his *Di Bao* certificate were other preferential treatments offered by the county government. Usually the cash value represented by

these assistance policies is far higher than the amount of *Di Bao* allowance received by target group recipients. Benefits received by Mr. Jia included:

- A monthly allowance
- Free access to 9-year compulsory education and entitlement to an educational coupon for high school and vocational school
- Free access to a cooperative medical program and exemption of hospital registration fees
- Access to financial assistance for those affected by serious illness
- Free access to vocational training and employment placement services
- Exemption of commercial administrative fees for a family-operated business
- Entitlement to legal assistance.

In order to prevent extreme poverty among households whose income is only slightly higher than *Di Bao* line, some local governments have identified a special group of “*Di Bao* fringe households” (the marginal poor), which includes households with per capita income of up to twice the level of the *Di Bao* line and that have seriously ill or handicapped family members. These households can also access social protection that combines relief with public services. In January 2010 I visited a *Di Bao* household in the town of Shajiabang near the city of Changshu in the Jiangsu province. Both daughters of the family were married. The parents had worked in a township enterprise and were both pension recipients. Ms. Xu (58 years old) suffered kidney disease and needed regular dialysis. Due to her serious illness she was identified as belonging to one of the marginal target groups of *Di Bao*. In 2008 she received a monthly allowance of 116.2 *yuan* (US\$17.61). In 2009 the allowance was increased by to 126.2 *yuan* (US\$19.12) per month. According to the medical bills shown by Ms. Xu, her dialysis treatments cost 1,600–2,000 *yuan* (US\$242.42–303.03) per visit. By the end of 2009 her cumulative annual medical bills amounted to 41,981.78 *yuan* (US\$6,360.76), of which 47.7 % (20,025.92 *yuan* or US\$3,034.23) were paid by a cooperative medical fund, and 31.2 % (13,111.29 *yuan* or US\$1,986.56) were paid by the medical relief fund for those affected by serious illness. These medical relief payments were equivalent to 8.6 times the total of her annual *Di Bao* allowances (1,514.4 *yuan* or US\$229.45). In 2009 the premium for participating in the cooperative medical care scheme in the city of Changshu amounted to 300 *yuan* (US\$45.45) per capita, of which 80 *yuan* (US\$12.12) comes from individual contributions, while the rest was divided among municipal/township and village finances. Under this funding level the average reimbursement ratio for the hospitalized was 45 %, but Ms. Xu’s actual reimbursement ratio was almost 80 %, reflecting the significant benefits from the social safety net.

Local governments conduct a re-identification of *Di Bao* recipients once a year. The purpose of this effort is to include newly impoverished households into protection, adjust assistance levels, and exclude those who have escaped poverty, although in reality very few people are excluded from protection. This suggests that the majority of those who are covered by the *Di Bao* program are chronically poor (Ravallion 2010). At the local level an assistance policy has been practiced to encourage recipients who are of working age and have the ability to work their way

out of poverty through increased employment. If a recipient declines a job introduction for public employment in a service institution three times, the amount of their allowance will be reduced and ultimately canceled. For households whose per capita income has stayed above the *Di Bao* line due to increased employment, a *Di Bao* allowance of 3–6 months will be retained before withdrawal from the program (Xinhuanet 2008).

At the county level or above, social relief, public service, and social insurance are the responsibilities of different governmental departments. Coordination of multiple programs for recipients is achieved through information sharing among the departments, the extension of financial services to townships and villages, and computer networks. After recipients are approved by the civil affairs bureau, the names and family information will be transmitted to the other civil affairs bureaus for finance, education, health care, employment, and social insurance. Benefits in cash or services that these departments are authorized to deliver will be allocated according to the names listed for each household. All cash transactions are supported by a banking service, permitting allowances to be distributed directly to the recipients account through monthly bank transfers. This has greatly benefited recipient families and made financial supervision easier.

It should be noted that the above mentioned institutional arrangements in the developed regions only target residents who have local permanent residential registration status (*hukou*). The nonlocal residents (such as rural migrant workers) and their families have not had the same access to public services and social protection as permanent local residents. This phenomenon of the social exclusion of migratory populations is a pressing problem of urbanization that needs to be resolved.

15.4 Linking *Di Bao* with Nongovernmental Assistance and Poverty Reduction Programs: Challenges in Poor Areas

After having been initially confined to a few developed regions, the rural *Di Bao* program was expanded throughout China in 2007. So far this program still faces great implementation challenges in poor areas of China's central and western regions. The biggest problems are the large size of the poor population and limited local finances. Despite special financial support from the central government, there is still a considerable part of the poor population that is not covered by the *Di Bao* program. In addition, *Di Bao* allowances are low and play a very limited role in improving the well-being and development of extremely poor recipients.

First, local financial capability has become the dominant criterion for initiating the *Di Bao* target identification process. According to the amount of available finances, provincial governments first identify the proportion of coverable *Di Bao* target group recipients of the total rural population (*Di Bao* ratio) and then break down the value of this indicator to different administrative areas. These breakdown quantities are further divided by county and township governments and are finally

converted to individual quotas for villages. In this respect *Di Bao* coverage is largely dependent on local government allocation of financial resources, rather than the actual scope of the population below the *Di Bao* line. For instance in 2007 the Qinghai provincial government identified a rural *Di Bao* ratio equivalent to 6–7 % of the population. In the Guoluo prefecture, which is located on a plateau at 4,200 m above sea level, poverty incidence was as high as 12.5 %, but the approved *Di Bao* ratio was only equivalent to 10 % of the population (Ding 2010).

Second, with given *Di Bao* quotas, village committees usually identify the poorest families based on their own ranking of poverty according to family property and labor status. Then they present a public notice with a list of *Di Bao* candidate's names, including the seriously ill, handicapped, or aged. This practice apparently departs from official protocol, but has been popular among villagers because the official *Di Bao* line is only based on per capita income at certain points in time. The villagers' perception of poverty is based on the long-term earning capacity of farm households. Moreover, for village committees the costs of conducting an income survey of all individual farm households precludes such an alternative. Taking advantage of societal familiarity and participatory appraisal is undoubtedly an option of socioeconomic rationality. When the number of local poor households exceeds *Di Bao* recipient quotas, village committees prefer to identify individuals that are the neediest rather than entire households. This actually increases *Di Bao* coverage at the village level by reducing household allowances. Moreover, evenly sharing resources is a tradition of rural grassroots society and therefore the determination of recipients through village committees is easily recognized and accepted among villagers.

Against this backdrop the assessment of *Di Bao* targeting accuracy based on the present sample survey statistics could deviate from reality, but this approach helps researchers assess the socioeconomic impacts of the program through understanding the characteristics of *Di Bao* recipients. The national rural poverty monitoring sample surveys conducted by the NBS are just such an authoritative avenue of procuring information. This long-term annual survey effort has been conducted in 592 key poor counties across central and western China. In 2009 the survey sample consisted of 5,400 villages, 53,270 farm households, and 225,298 people. Survey results indicated that 5.3 % of the total sample population had an income level below county level *Di Bao* lines, while 9.6 % received *Di Bao* allowances that year. It seems that the *Di Bao* program can cover all qualified candidates, but in reality only 12.2 % of the eligible candidates received *Di Bao* allowances. It should be noted that among sample households that had *Di Bao* recipients, about 7.5 % were households with relatively large businesses or farming operations and 5.9 % had family members that were village cadres (Wu 2011), indicating that even within the narrow coverage of *Di Bao* there was welfare leakage.

As for demographics, most *Di Bao* recipients are the aged, handicapped, or under-aged. Among *Di Bao* recipients in the key poor counties, the above-mentioned three groups accounted for a total of 55.6 % of the program beneficiaries. According to MCA statistics this ratio was 56.4 % for China's rural *Di Bao* recipients (Fig. 15.1). In 2011 a Beijing Normal University task force conducted a five-province rural

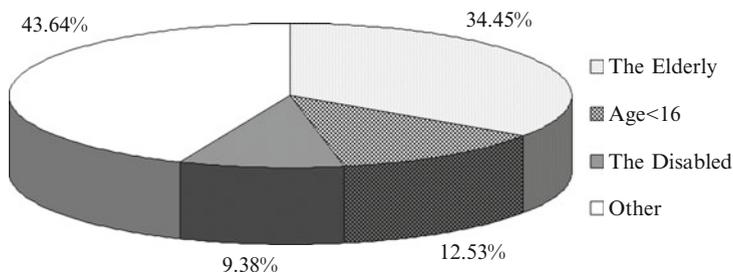


Fig. 15.1 Composition of *Di Bao* recipients in rural China at the end of 2009 (MCA 2010)

survey in Anhui, Fujian, Jiangxi, Henan, and Shaanxi that found that the disabled accounted for about 43.8 % of *Di Bao* recipients (Zhang 2011). Despite different standards and methods across regions regarding the selection of *Di Bao* recipients, the results were similar. This means that when village grassroots cadres and villagers made adjustments to the *Di Bao* poverty line, they focused on the causes of household and individual difficulty. Hence these adjustments are helpful for targeting those that face real need. In fact when local civil affairs bureaus approve a *Di Bao* recipient's eligibility the most common benchmark is justification due to poverty. In Suichuan county in the Jiangxi province (one of the key poor counties) natural disasters are also contributors to transient poverty (Fig. 15.2).

In 2009 the average annual net income of rural Chinese households reached 5,153 *yuan* (US\$780.76) per capita. With this reference the statistics presented in Table 15.2 can be explained as follows. First, the per capita net income of rural households in the key poor counties amounted to roughly 2,842 *yuan* (US\$430.61), which is not yet above the poverty line set by the World Bank, but represents 55.2 % of the national average income. The per capita income levels of registered poor, *Di Bao*, and lowest-income households were 50.5, 46.8, and 20.8 % of the national average respectively. Second, since 2004 public transfer funds for farmers have increased rapidly. In the calculations for the values presented in Table 15.2, ten types of public transfer funds were included, such as agricultural production subsidies, *Di Bao* allowance, subsidies for returning farmland to forest, the disaster relief and assistance fund, etc. For farm households in the key poor counties public transfer funds have become their third largest source of income. They account for 11.6–17.6 % of the net per capita income of low-income groups. Third, among all types of farm households *Di Bao* households get the largest share of public transfer funds. Public transfer funds for *Di Bao* households were equivalent to 1.77 times the average level of the total sample and 3.44 times the lowest income group. The reason for this is that both agricultural and rural development policies provide preferential treatments to *Di Bao* households. *Di Bao* eligibility has already become a symbol that attracts social attention and public support.

Public support for the extremely poor in poor areas is far from sufficient. The statistics presented in Table 15.2 indicate that farm households receive meager amounts of *Di Bao* funds. Even *Di Bao* households only receive a per capita monthly

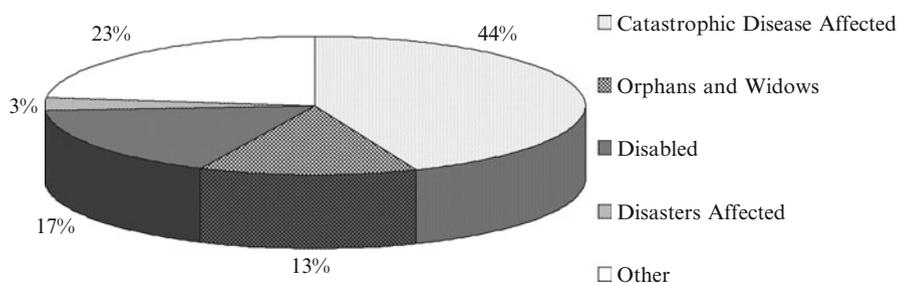


Fig. 15.2 Composition of *Di Bao* recipients in Suichuan County, Jiangxi Province of China in 2008 (Wu 2011)

Table 15.2 Composition of per capita annual net income of rural households in the state designated key poor counties in 2009 (aggregate data provided by the NBS rural poverty monitoring sample survey conducted in 2009)

Income source	Total sample		Registered poor households		<i>Di Bao</i> participating households		Bottom decile income group	
	n = 53,270		n = 10,015		n = 5,859		n = 5,327	
	Amount (Yuan)	Share (%)	Amount (Yuan)	Share (%)	Amount (Yuan)	Share (%)	Amount (Yuan)	Share (%)
Per capita annual net income	2,842.1	100	2,600.0	100	2,408.5	100	1,068.7	100
Wages	1,011.2	35.58	833.8	32.07	630.2	26.17	325.0	30.41
Family-run economy	1,522.4	53.57	1,392.2	53.55	1,291.9	53.64	602.0	56.33
Returns to assets	40.4	1.42	38.4	1.48	32.6	1.35	9.1	0.85
Private transfer	29.3	1.03	27.6	1.06	29.8	1.24	9.1	0.86
Reimburse to medical expense	10.5	0.37	11.8	0.45	10.7	0.44	1.5	0.14
<i>Di Bao</i> cash benefits	19.3	0.68	53.4	2.05	162.1	6.73	24.1	2.26
Other public transfer	209.0	7.35	242.8	9.34	251.2	10.43	97.9	9.15

The registered poor households accounted for 18.8 % of the total sample. Among the registered poor households *Di Bao* households made up 58.5 %, while the bottom decile income group made up 26.7 %. Moreover 8.0 % of the households in the bottom decile income group received *Di Bao* allowance. Possibly this group contains many transient poor

allowance of 13.5 yuan (US\$2.05). Private transfer income accounts for around 1.0 % of the net income of farm households. The relatives and friends of the poor are usually poor as well, and mutual cash donations and in-kind assistance are both limited, although labor assistance from relatives and neighbors are not included in the statistics. During the field work conducted in the Qinghai-Tibetan plateau in 2007, I observed that most of the *Di Bao* recipients spent their allowance on food. They relied partly upon medical assistance to resolve difficulties regarding access to

health care. Community members took part in assisting disabled *Di Bao* recipients (including five-guarantee households) to maintain daily activities and social interactions. Assistance from monasteries makes sure that the locally recognized poor not only receive material aid, but psychological comfort as well. Private assistance and social assistance went hand-in-hand for the same target groups; however, this type of private assistance is not an institutionalized and regular activity. Despite contributing to the subsistence of the poor, it cannot eliminate developmental barriers for the recipients and help them escape poverty and marginality.

China's poverty reduction policies have always featured poverty elimination through development. In key poor counties a special poverty reduction fund appropriated by the central government is a major source of income for county governments. Hence in the process of expanding the *Di Bao* program from the urban to the rural sector, the Chinese government has attempted to link *Di Bao* with poverty reduction policies. In 2008 and 2010 the State Council clearly identified the target groups of the *Di Bao* program and poverty reduction policies in the pilot work documents. The target group of the poverty reduction policies was defined as "rural residents whose annual per capita family net income is below the rural poverty line and who have working capacity or the willingness to work, including rural *Di Bao* recipients" (SCC 2010). The problem is that the combination of the two programs has not been achieved because there were no substantial changes to the regional targeting mechanisms of the poverty reduction program and the government departments in charge of the different programs do not use the same information platform. It does not matter whether beneficiaries are former *Di Bao* recipients who have the capacity to work or poor households that withdrew from the *Di Bao* program, neither have received the expected poverty reduction support (Wu 2011).

Drawing upon policy coordination experiences of developed regions, the following approaches can be attempted in poor areas:

- First, treat the extremely poor, general poor, and marginal poor people as an "axis" of connection among the various public support programs.
- Second, establish an information sharing system. In developed provinces the databases of poor households and individuals in the civil affairs bureaus system provide an information platform for all government departments and public service institutions. Using this platform various agencies exchange data and share information. This system certainly saves organizational costs and enhances poverty reduction intensity. In poor areas the existing database of registered poor households could be used as a foundation to further build an adequate information platform.
- Third, expand existing poverty reduction programs to individual households. For the extremely poor households and individuals, access to socioeconomic development is deprived due to difficulties with access to road networks, electrical power, telecommunications, drinking water, housing, sanitary equipment, education, medical care, technological extension, and financial and information services. There used to be poverty reduction projects in all of these sectors, but they often targeted service providers rather than households and individuals.

Even for programs that target households, most investment avenues require matching funds from the households. The extremely poor cannot provide matching funds and therefore they are usually excluded (Cao et al. 2011). These problems are not addressed in the implementation of the *Di Bao* program. Hence the key to improving the social benefits of poverty reduction programs and linking poverty reduction programs with the *Di Bao* system lies with changing the targeting mechanisms and investment approaches of poverty reduction programs.

- Fourth, expand the intervention areas of poverty reduction policies. The *Di Bao* program only provides subsistence guarantees to the extremely poor. The food security objective of poverty reduction policy emphasizes freeing the poor from hunger. In order to prevent the intergenerational transmission of poverty it is important to start with nutritional interventions for women during pregnancy and nursing infants, as well as for children. Some nongovernmental organizations have already achieved successful outcomes with childhood nutritional interventions (CDRF 2011). The government needs to establish long-term intervention programs in order to extend these experiences to all poor regions.
- Fifth, increase project management funding. China's central government has launched a series of new long-term programs for social relief, social insurance, public service, and poverty reduction. Project funds have also been allocated to key poor counties, however, these special transfer funds generally do not include any support for program management. The local budgets of all of the key poor counties run on deficits. In order to maintain project operations the managerial agencies either appropriate funds from other sources or charge the recipients for assistance rather than providing it for free. In addition, it is common to see inadequate project management because better management would cost more (Zhu 2006). Successful experiences in developed regions show that intensive management is needed for projects in order to target the specific difficulties of extremely poor households and individuals. In order to improve the efficiency of social assistance it is imperative for the central and provincial governments to allocate increased project management funds to the poor counties.

15.5 Summary

China has developed its rural social protection system during a process of socio-economic transformation. Relevant policies stress the following key points. First, they intend to ensure the subsistence of the poor. Second, they intend to mitigate poverty-inducing risks. Third, they intend to help poor households develop their own labor potential, take advantage of development opportunities, and get their families out of poverty.

In developed regions the *Di Bao* social assistance program, social insurance, and public services appear to have effectively mitigated the difficulties of the extremely poor. In relation to this, children from poor and marginal poor families have been guaranteed access to education and health care. Family members with the capacity

to work receive free vocational training and employment support. These comprehensive policy interventions and intensive social investment programs tend to help recipient families escape poverty traps and prevent intergenerational poverty transmission. Sound targeting mechanisms and delicate project management are prerequisites for the interventions to achieve significant effects. It should be noted that rural migrant workers and their families have failed to receive the same policy treatment as local permanent residents.

In poor areas there are significant difficulties in fighting extreme poverty and marginality. First, the size of the extremely poor population is large, but locally available financial resources are very limited, and as a result the intensity is inadequate despite the implementation of comprehensive poverty interventions. Second, the issue of linkage building between the *Di Bao* program and other poverty reduction programs has been put on the agenda, but this policy objective has not yet been achieved. The reason for this is the lack of coordination between program administration institutions, different targeting mechanisms, and different information platforms. Third, insufficient coverage and welfare leakage exist in both programs.

Increasing the effectiveness of poverty reduction efforts in poor areas is and will continue to be the key to the eradication of extreme poverty in China, but will require a number of changes. First, increasing the transfer of the *Di Bao* fund from the central government to local governments in poor areas would help provide subsistence security to all extremely poor households and individuals. Second, while implementing comprehensive interventions on economic risks encountered by the extremely poor, the government and public should also take actions to eliminate social exclusion. This may not bring any significant changes in poverty incidence in the short-term, but is an essential step to eradicate poverty and promote inclusive development over the long term. For this reason it is necessary to make adjustments to the indicators used to assess local government efforts. A shift should be made from over-attention on changes in the incidence of poverty to an increasing consideration of how much the poor are benefited from multi-dimensional intervention policies.

Acknowledgements I appreciate the commentary and information contributions from Zhongyi Jiang, Guobao Wu, and Xiulan Zhang, as well as for the illustrations by Chengwu Jin and Wei He.

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References

- Cao H, Wang X et al (2011) Multi-dimensional poverty measurement and intervention for special types of poor areas—case studies on Aba Tibetan and Qiang autonomous prefecture in Sichuan Province. Agricultural Press of China, Beijing
- CDRF (2007) China development report 2007: eliminating poverty through development. China Development Publishing House, Beijing

- CDRF (2011) Boarding primary school nutrition improvement plan. China Development Research Foundation, Beijing. <http://211.144.32.61/project/project.php?cid=18&subcid=869&aid=2299>. Accessed 12 June 2011
- Chen S (2010) Monitoring China's progress against poverty and evaluating its anti-poverty policies. Paper presented at the CASS Forum, Social Protection and Human Development in the Era of Post-Financial Crisis, Beijing, 22–24 October 2010
- China News (2011) China established dynamic urban and rural minimum livelihood guarantee scheme linked to price index. <http://www.chinanews.com/gn/2011/05-18/3049913.shtml>. Accessed 12 May 2011
- CPC (2006) Communiqué of the Sixth Plenum of the 16th CPC Central Committee. http://news.xinhuanet.com/politics/2006-10/11/content_5190605.htm. Accessed 12 May 2010
- CPC (2007) Report to the seventeenth National Congress of the Communist Party of China. http://news.xinhuanet.com/newscenter/2007-10/24/content_6938568_7.htm. Accessed 15 Oct 2007
- Ding S (2010) Social relief and non-governmental assistance in rural Tibetan inhabited areas. In: Wang L, Zhu L (eds) How to get out of the poverty trap. Economic Management Press, Beijing
- Fan X (2011a) China strives to eliminate absolute poverty in ten years. Hong Kong Commercial Daily. http://www.cpad.gov.cn/data/2011/0121/article_343820.htm. Accessed 13 Apr 2011
- Fan X (2011b) Make contiguous extremely poor areas the main battlefield of anti-poverty efforts. http://www.cpad.gov.cn/data/2011/0307/article_343991.htm. Accessed 13 Apr 2011
- García AB, Gruat JV (2003) Social protection: a life cycle continuum investment for social justice, poverty reduction and development. Social Protection Sector, International Labour Organization, Geneva. <http://www.ilo.org/public/english/protection/download/lifecycl/lifecycle.pdf>. Accessed 10 Nov 2009
- Hong D, Wang H, Li M, Wan H (2006) Guidance and establishment of rural Dibao program compatible with economic development level—report on rural Di Bao survey in Jiangsu Province. Minimum Livelihood Security Department, Ministry of Civil Affairs, Asia Development Bank, Beijing
- MCA (2008) General research report of social relief system. Department of Social Relief, Ministry of Civil Affairs, Beijing
- MCA (2010) The composition of Di Bao participants in rural China in December 2009. Ministry of Civil Affairs, Beijing. <http://files.mca.gov.cn/cws/201001/20100128094132409.htm>. Accessed 10 May 2011
- MCA (2011) Notification on further regulation of urban and rural minimum livelihood standards, MCA issue 80. Ministry of Civil Affairs, Beijing. <http://www.mca.gov.cn/article/zwgk/fvfg/zdshbz/201105/20110500154356.shtml>. Accessed May 2011
- NBS (2011a) Statistical Communiqué of the People's Republic of China on the 2010 national economic and social development. National Bureau of Statistics, Beijing. http://www.stats.gov.cn/tjgb/ndtjgb/qgndtjgb/t20110228_402705692.htm. Accessed 10 May 2011
- NBS (2011b) The poverty monitoring report of rural China 2010. NBS division of rural socio-economic survey. China Statistics Press, Beijing
- NBS (2011c) Unpublished data provided at a meeting about the poverty dynamics organized by the Poverty Reduction Office under the State Council, Beijing, 26 November 2010
- Ravallion M (2010) A guaranteed minimum income? Theory and evidence on China's Di Bao program. Paper presented at the CASS Forum, Social Protection and Human Development in the Era of Post-Financial Crisis, Beijing, 22–24 October 2010
- SCC (1989) Poverty reduction office under the state council, a compilation of documents on economic development in rural areas. State Council of China, Beijing
- SCC (2006) The regulations for rural five-guarantee work, order 456 of the State Council of the People's Republic of China. State Council of China, Beijing. http://www.gov.cn/zwgk/2006-01/26/content_172438.htm. Accessed 10 May 2011
- SCC (2007) Notification on the establishment of nationwide rural minimum livelihood guarantee scheme. State Council of China, Beijing. http://www.gov.cn/zwgk/2007-08/14/content_716621.htm. Accessed 10 May 2011

- SCC (2010) Notification on scaling-up the experiment on linking rural Di Bao program with poverty reduction developmental policies. State Council General Office issue 31, State Council of China, Beijing. http://www.gov.cn/zwgk/2010-05/11/content_1603979.htm. Accessed 10 May 2011
- Wu G (2011) A study on the linkage between rural Di Bao program and developmental poverty reduction policies, a research paper submitted for the State Council Poverty Reduction Office. State Council of China, Beijing (unpublished)
- Xinhuanet (2008) Xinhuanet.com Jiangsu channel: Suzhou's social relief expansion picks up speed, cancellation of assistance to those no longer in need. http://www.js.xinhuanet.com/suzhou/2008-04/17/content_13000765.htm. Accessed 12 June 2011
- Zhang X (2011) Strengthening the antipoverty effects of social assistance in China. Presentation prepared for Asian Development Bank (unpublished)
- Zhu L (2006) Management cost and efficiency of Rural Medical Assistance Program. *China Demogr Sci* 4:16–27

Chapter 16

Experiences in Targeting the Poorest: A Case Study from Bangladesh

Syed Masud Ahmed

Abstract This chapter examines the program “Challenging the Frontiers of Poverty Reduction” (CFPR) implemented by the Bangladeshi non-governmental organization BRAC. The program aimed to lift participants out of extreme poverty within 2 years and facilitate their entry into mainstream development programs. To achieve this, the program combined interventions specifically tailored for the ultra-poor with interventions to create an enabling environment for the ultra-poor. Experiences show that a participatory process involving the local community, and accommodating local knowledge and wisdom, is the most pragmatic way of identifying the poorest households in a community. However, meticulous implementation by a motivated workforce was also key to the success of the effort.

Keywords Bangladesh • Poverty reduction • Targeting • Ultra-poverty

16.1 Introduction

Bangladesh, born out of a devastating civil war and one of the world’s ugliest modern genocides in 1971, is a land of immense beauty and potential (Haq 1979). It is a densely populated country with more than 1,100 people per km². Despite the regular occurrence of disasters both natural (e.g., floods, cyclones, and tidal waves) and man-made (e.g., price hikes, food insecurity, political conflicts, military rule etc.), poor governance, and the limited quality of human capital, Bangladesh has succeeded in maintaining an annual economic growth rate of around 6 % in recent

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Table 16.1 Differences between poverty groups in Bangladesh with respect to key characteristics

Characteristics	Extremely poor ($<1,805$ kcal per capita/day)	Moderately poor ($1,805$ – $2,122$ kcal per capita/day)	Non-poor ($\geq 2,122$ kcal per capita/day)	Significance (%)
No land (% of households)	9.8	8.2	5.4	<1
10 decimals of land (1 acre = 100 decimals) (% of households)	50.3	45.0	33.3	<1
Average agricultural day labor in each household	0.5	0.3	0.1	<1
Average non-agricultural day labor in each household	0.4	0.4	0.2	<1
Female-headed households (%)	10.8	8.1	10.7	<1
Literate (% per household, ≥ 6 years)	29.7	39.4	60.4	<1

Adapted from BBS (2007)

years. The country has recorded a steady decline in poverty (corresponding to an upper poverty line of $<2,122$ kcal/person/day) from 53 % of the population in 1995 to 32 % in 2010, calculated on the basis of the “cost of basic needs” approach (BBS 2011).

One of the distinguishing features of the current poverty alleviation scenario in Bangladesh is the participation of nongovernmental organizations (NGOs) as partners in development—supplementing and complementing government efforts (Lovell 1992; Fernando and Meyer 2002; Mondal 2004; Grameen Bank 2005), and the use of microcredit as “a critical anti-poverty tool for the poorest, especially women” (Micro-credit Summit 1997). These latter programs extend small loans to poor people (mainly women) for income generating self-employment activities and thereby diminish seasonal vulnerability through diversification of income earning sources, building assets, and strengthening mechanisms for coping with crises (Rahman 1995; Mustafa et al. 1996; Hussain 1998; MKNelly and Dunford 1998; Panjaitan-Drioadisuriyo and Cloud 1999; Zaman 2000). Such efforts enhance women’s income earning potential, improve their role in nontraditional activities in the informal sector, and facilitate empowerment (Hashemi et al. 1996). Micro-credit programs have been associated with increased enrollment of poor children in schools who had either been drop-outs or had never enrolled (Khandker 1998; Barnes et al. 2001; Chowdhury et al. 2002). The importance of microcredit programs as a health intervention tool (Schuler and Hashemi 1994; Nanda 1999; Barnes et al. 2001; Pitt et al. 2003) and as an efficient and equitable tool for directing resources to women (Kabeer 2001) have also been emphasized in the literature.

The poor in Bangladesh are not homogeneous (Table 16.1). The proportion of the population falling below the lower poverty-line (corresponding to the consumption of $1,805$ kcal per capita/day or less) is variously termed the “extremely poor,” “hardcore poor,” or “ultra-poor,” and comprise around 25 % of the population

(BBS 2007). These households commonly have ≤ 10 decimals (0.04 ha) of land, no productive assets, no income-earning male household member, and depend upon earnings from the wage-labor of female household members for survival. This group is unable to participate fully in social and economic activities (including governmental decision making) that have an impact on their daily lives. This social exclusion denies them access to essential goods and services, such as health care, which are available to other segments of the population (Santana 2002; Nayar 2007). Experiences have shown that regular microcredit/microfinance programs are not suited to their livelihood styles for a number of structural reasons. Included among these are some supply-side factors such as the harsh discipline of microcredit/microfinance institutions, the absence of a safety net in case of default of loan payments, and demand-side factors such as aversion to risk-taking and fear of making cash transactions (Halder and Mosley 2004; Sulaiman and Gulesci 2008).

16.2 CFPR: The Customized Program for the Ultra-poor by BRAC

Given the fact that regular microcredit/microfinance programs were found unsuitable for addressing the needs of the ultra-poor, a number of options were attempted during the development of a program by BRAC. During the late 1980s BRAC collaborated with the United Nations World Food Programme to develop a program specifically for assisting destitute women. The program, named “Income Generation for Vulnerable Group Development” (IGVGD), successfully combined skills training and microcredit/microfinance with food aid to make participating women self-sustainable by the end of the 24-month aid cycle, and was later scaled up nationally. However, evidence showed that the program was unable to provide a sustainable livelihood for all participants (around 40 % of the women dropped out of each cycle) and that further re-designing was needed to be able to assist some households (Matin and Hulme 2003).

Experiences of the IGVGD program and BRAC’s own research (Halder and Mosley 2004) led to the design of a customized grants based, asset transfer and development program for the ultra-poor. This second program named “Challenging the Frontiers of Poverty Reduction” (CFPR), aimed to lift participants out of extreme poverty within a period of 24-months and to facilitate their entry into mainstream development programs. To achieve this, the program combined “pushing down” (interventions specifically tailored for the ultra-poor) and “pushing out” (interventions to create an enabling environment for the ultra-poor) strategies. The different components of the CFPR program with associated rationale are shown in Table 16.2. The particular nature of the asset transfers is decided through a consultative process between selected ultra-poor women and the local BRAC staff, and includes livestock, poultry, leased land, wage labor, street vending, etc. (Alarakhia and Barua 2005).

Table 16.2 The challenging the frontiers of poverty reduction/TUP program components and their rationale (Matin et al. 2008)

Component	Rationale
Integrated targeting methodologies	Effective targeting of the extremely poor
Income-generating asset transfer (Range: Tk 3,000–9,000 [US\$50–150])	Build an economic asset base
Income generation skill training and regular refreshers, e.g., poultry/livestock rearing, vegetable cultivation, shoe making etc.	Ensure a good return from asset transferred
Technical follow-up of enterprise operations	Ensure a good return from asset transferred
Provision of all support inputs for the enterprise	Ensure a good return from asset transferred
Monthly stipends for subsistence [Tk 10/day(US\$0.17/day) for 12–15 months]	Reduce opportunity cost of asset operations
Social development, e.g., social awareness and confidence building, legal awareness, social action on early marriage/dowry etc.	Knowledge and awareness of rights and justice
Mobilization of local elite for support (pro-poor advocacy through seminar, workshop, and popular theatre)	Create an enabling environment
Health support	Reduce costly morbidity

The health component of the program that was tailored specifically for the ultra-poor consisted of “essential health care” services (maternal health, family planning, communicable disease control, children’s health, home based TB treatment, and basic curative care); counseling and consumer information on health and health care services (to overcome information barriers); free installation of latrines and tube wells (to overcome disease transmission); identity cards for facilitated access to health care facilities (to overcome social exclusion); and financial assistance for diagnostics and hospitalization if needed (to overcome financial barriers). The health inputs served as a safety net against the income eroding effect of moderate to severe morbidity. The chronology of the execution of the program is shown in Fig. 16.1.

16.3 Targeting Process

The most critical step in the implementation of the CFPR program was the targeting process as selection of appropriate participants is key to the success of the program (Rahman and Ali 2006; Perkins 2008). A meticulous, evidence and experience based process with the active participation of villagers and the local BRAC staff was followed to accomplish this. The successive steps of the process are described below in Fig. 16.2.

Stage I: Geographical targeting. The districts and sub-districts for the CFPR program were identified using spatial poverty and vulnerability maps prepared by the

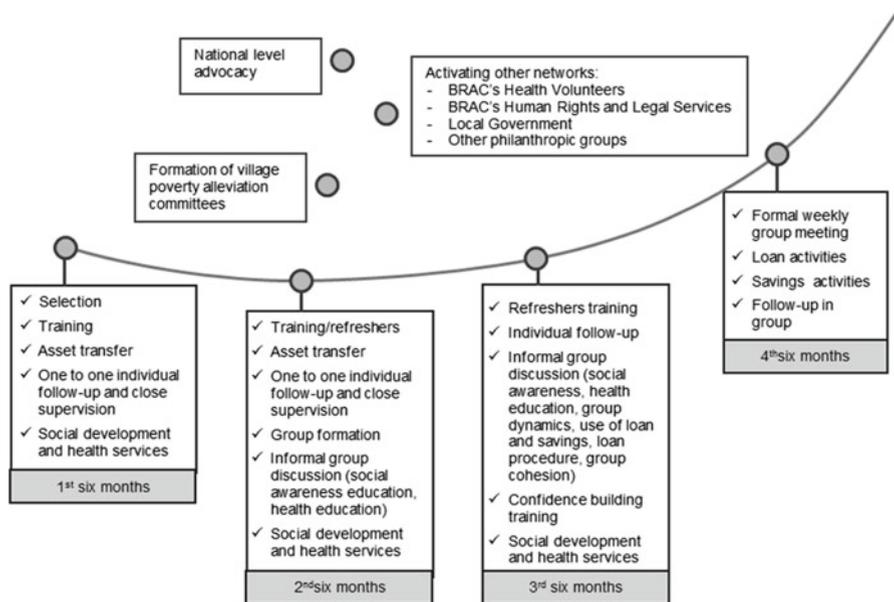


Fig. 16.1 The challenging the frontiers of poverty reduction program activities (Matin et al. 2008)

World Food Programme (Hollema and Begum 2002). Once these were selected, BRAC staff at the branch level¹ used their local knowledge and experience to select particular village communities with the highest concentration of poor people. Usually selected sites comprised of a cluster of approximately 100 households (demarcated by geographical landmarks) that in some cases extend into the neighboring villages when there are insufficient households in a particular village.

Stage II: Participatory Wealth Ranking (PWR). CFPR’s three member selection team formed at the branch level, comprised of a facilitator, a recorder, and an organizer, undertake the task of selecting the ultra-poor households at the site level. The organizer presents the program and invites the villagers to participate in the PWR meeting during a rapport building tour of the village. The team especially encourages women to participate in the PWR meeting. In consultation with villagers a neutral venue and a convenient time for holding the meeting are decided.

On the day of the meeting the villagers sit in a rectangle with the facilitator and recorder in the middle. The process begins with a social mapping of the site with the active participation of the villagers, to locate the households with reference to landmarks such as a ponds, bushes, mosques, schools etc. A map is drawn on the ground with a stick by the facilitator with the help of the villagers that is later transferred on

¹BRAC has a network of around 3,000 branch offices all over Bangladesh. A three member (facilitator, recorder and organizer) selection team formed at the branch level undertook the site-level tasks.

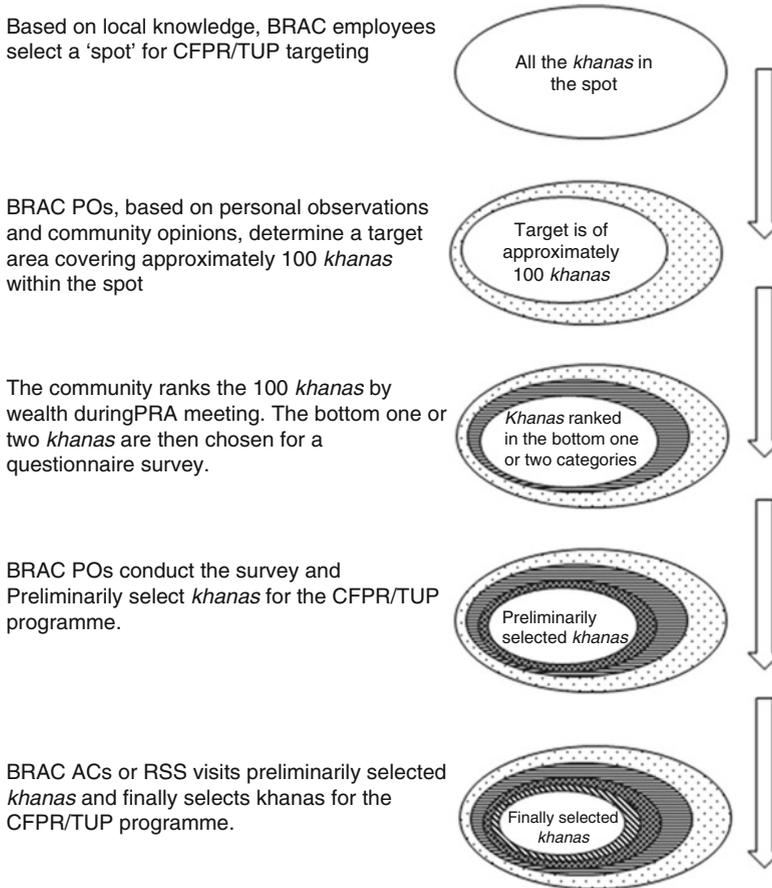


Fig. 16.2 The stages of the challenging the frontiers of poverty reduction program targeting process in Bangladesh (Rahman and Ali 2006)

paper by the recorder. Starting from one corner of the map, the villagers and BRAC staff identify houses serially. With the placement of each house marker, information on the name of household head, the name of the father of household head, and the profession of the household head are recorded in a large ledger and on a small card. Throughout this process the facilitators try their best to encourage participation of the assembled villagers, especially the women.

The villagers are then asked to rank the households according to their asset wealth. The facilitator holds up the cards with household information one by one and asks the assembled villagers to categorize the household according to the level of poverty among: rich, middle-class, lower-middle class, poor, and ultra-poor. Usually the participants rank these households into five economic categories, but sometimes six categories have been used. The bottom one or two are called the "community defined ultra-poor." This is a dynamic process and claims and

Table 16.3 Group differences: how well did the challenging the frontiers of poverty reduction program target? (Matin and Halder 2004)

Variables	Selected as beneficiary (A) (%)	Not selected as beneficiary (B) (%)
Marital status		
Widowed	30	16***
Divorced/abandoned	15	5***
Demographic resources		
HHs where husband present but FHHH	17	4***
HHs with physically able husbands	43	71***
HHs with no adult male	36	15***
HHs with working school aged children	18	10***
Assets—land		
HHs that do not own arable land	98	88***
HHs that do not own the land their house is located on	62	38***
Assets—non-land		
HHs with no other asset beside the home	56	43***

FHHH female-headed household, HH household

***Indicates significant differences between groups at the 1 % level

counter-claims, arguments, negotiations etc., occur before the villagers arrive at a consensus. The facilitator ensures that all the voices are heard.

Stage III: Mini survey to cross-check against program specified criteria. On the next day, the “community defined ultra-poor” households are visited by the BRAC staff to conduct an on-the-spot survey to verify findings from the PWR meeting and also to cross-check against some program-defined exclusion (all binding)² and inclusion (three out of five to be satisfied)³ criteria for entry into the programs. A preliminary list of selected households is then made for final verification.

Stage IV: Final verification and selection. The households in the preliminary list are then scrutinized by senior staff from either regional or the head offices and judged based on the facts on hand and their expert opinions to finalize the lists of “selected” households for asset transfer and other inputs. The effectiveness of the “targeting” process in identifying the extremely poor (ultra-poor) households is confirmed by empirical findings (Table 16.3) (Matin and Halder 2004).

A number of interesting issues emerged from the PWR exercises. It gave a chance to the BRAC staff to intimately interact with villagers, to explain the purpose of the PWR to them, and to understand how “poverty” is envisaged by them.

²Households were excluded if they were already borrowing from a NGO, a recipient of a main-stream government antipoverty program, or if there was no adult woman in the household.

³Five inclusion criteria are: (1) the total land owned by a household must be <10 decimals (0.04 ha) of land; (2) the household must have no productive assets; (3) there must not be an adult male income earner in the household; (4) adult women in the household are required to work outside the home; (5) school age children must work to help support household.

The very detailed knowledge of the poor households backed by community endorsement make their tasks easier for the subsequent steps. Thus the selection of households is evidence based and transparent, which facilitates a sense of proprietorship of the program by the community. It also kept the staff aware of societal gender biases, since BRAC staff had to work really hard to get the voices of the women properly heard and taken into account while the PWRs were in progress.

16.4 Lessons Learned

Much like the “inverse care law” in health care,⁴ experiences show that the poorest have the least chance to benefit from any poverty alleviation program unless they are specifically targeted (Morduch and Haley 2001). Even when targeted, there is a tendency to select the relatively better-off among the poor (Navajas et al. 2000). However, targeting is not an end in itself, it is just the beginning of a long process. There may be different methods of targeting the poorest, but evidence shows that for success, the intensity of implementation is often more important than methods (Coady et al. 2002). The CFPR method was particularly successful because the program put organization-wise emphasis on the rigorous implementation of each step of the process throughout the scaling-up phases from 2005 onward. The key to this was facilitating the active participation of villagers in the community mapping of households and the PWR process. In the mapping phase, disagreements and confusion can occur about the definition of a household and whom to include as members, which were ultimately resolved through transparent group discussions (Rahman and Ali 2006). This reduced the chance of missing any particular household, especially the (sometimes) invisible households of the ultra-poor.

Mapping is followed by a process of ranking the households according to wealth and livelihood condition. For enumerating the latter, direct knowledge of the participants is essential. Sometimes intense debates and quarrels occur about where to rank a particular household, but ultimately the villagers come to a consensus democratically (Rahman and Ali 2006). The facilitating BRAC staff questions the reasons behind the ranking before accepting them to ensure that the process is consistent. The process also helps make the “invisible” households (e.g., destitute households living at the fringes of the villages about whom most of the villagers are not well aware) more visible to their communities. The active participation of the villagers in the mapping and PWR stages makes the selection process transparent and allows the wisdom of the community to be taken into consideration, which greatly facilitates implementing the program at subsequent stages.

Another facilitating factor in the targeting process is the development of a dedicated workforce by BRAC. Acknowledging the fact that the CFPR program

⁴The “inverse care law” stipulates that availability of good health care services tends to vary inversely with the need for it (Hart 2001).

would require a different kind of worker than the microcredit/microfinance program, BRAC recruited a group of fresh graduates, trained them how to interact with the poorest with compassion and empathy, and managed them with supportive supervision to achieve desired results. All of these efforts are done to instill a “fresh perspective and a new work culture” among them, to help the staff view the discourse of poverty from an unbiased perspective, and to provide a real-life understanding of the stratification of poverty (Matin et al. 2008). A sense of pride and proprietorship develops, which motivates the staff’s work. Last but not the least, the objective verification of the information obtained from the PWR through the survey is absolutely necessary for both allaying any subjective biases or misinformation, and for matching with program-specific selection criteria. This effectively narrows down the range of potential beneficiaries and facilitates the selection of the correct persons/households for the appropriate type of intervention.

16.5 Conclusion

A participatory process that involves local communities and that accommodates local knowledge and wisdom is the most pragmatic way of identifying the poorest households in a community. However, for this process to be successful, meticulous implementation by a motivated workforce is also needed. The targeting process developed by the CFPR program and implemented by a cadre of motivated workers helped BRAC reach the poorest of the poor in a consistent and sustained manner.

Acknowledgements This paper is based on work done by researchers of the CFPR group at the BRAC Research and Evaluation Division as cited in the text. Any errors may be attributed to the author. Abdur Razzaque of BRAC RED is acknowledged for re-creating the figures.

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References

- Alarakhia S, Barua P (2005) Sector scan of TUP enterprises: identifying determinants of sustainability. RED reports. Research and Evaluation Division, Bangladesh Rural Advancement Committee, Dhaka. http://www.bracresearch.org/reports/sector_scan_report.pdf. Accessed 10 Feb 2013
- Barnes C, Gaile G, Kimbombo R (2001) Impact of three microfinance programs in Uganda USAID-AIMS paper. Management of Systems International, Washington, DC
- BBS (2007) Report of the household income and expenditure survey 2005. Bangladesh Bureau of Statistics, Planning Commission, Ministry of Planning, Government of Bangladesh, Dhaka
- BBS (2011) Preliminary report on household income and expenditure survey 2010. Bangladesh Bureau of Statistics, Planning Commission, Ministry of Planning, Government of Bangladesh, Dhaka

- Chowdhury AMR, Nath SR, Choudhury RK, Ahmed M (2002) Renewed hope daunting challenges: state of primary education in Bangladesh. University Press Limited, Dhaka
- Coady D, Grosh M, Hoddinott J (2002) Targeting outcomes redux. *World Bank Res Obs* 19(1):61–85
- Fernando NA, Meyer RL (2002) ASA: the Ford motor model of microfinance. *Q Newsl Focal Point Microfinanc* 3(2):1–4
- Grameen Bank (2005) Grameen: banking for the poor. Grameen Bank, Dhaka. <http://www.grameen-info.org>. Accessed 10 Feb 2013
- Halder SR, Mosley P (2004) Working with the ultra poor: learning from BRAC experiences. *J Int Dev* 16:387–406
- Haq E (ed) (1979) Meet Bangladesh, 1st edn. Department of Films and Publications, Ministry of Information, Government of Bangladesh, Dhaka
- Hart JT (2001) The inverse care law. *Lancet* i:405–412
- Hashemi S, Shuler S, Riley A (1996) Rural credit programs and women's empowerment in Bangladesh. *World Dev* 24:635–653
- Hollema S, Begum NN (2002) Food security assessment in Bangladesh: issues and implications for vulnerability analysis and mapping. Vulnerability Analysis and Mapping Unit, World Food Programme–Bangladesh, Dhaka
- Hussain AM (ed) (1998) Poverty alleviation and empowerment: the second impact assessment study of BRAC's rural development programme. BRAC, Dhaka
- Kabeer N (2001) Conflicts over credit: re-evaluating the empowerment potential of loans to women in rural Bangladesh. *World Dev* 29:63–84
- Khandker S (1998) Fighting poverty with microcredit: experience in Bangladesh. Oxford University Press, New York
- Lovell CH (1992) Breaking the cycle of poverty: the BRAC strategy. University Press Limited, Dhaka
- Matin I, Halder SR (2004) Combining methodologies for better targeting of the extreme poor: lessons from BRAC's CFPR/TUP program. CFPR working paper 2. Research and Evaluation Division, Bangladesh Rural Advancement Committee/Aga Khan Foundation Canada, Dhaka
- Matin I, Hulme D (2003) Programs for the poorest: learning from the IGVGD program in Bangladesh. *World Dev* 31:647–665
- Matin I, Sulaiman M, Rabbani M (2008) Crafting a graduation pathway for the ultra poor: lessons and evidence from a BRAC program, Working paper 109. Chronic Poverty Research Centre, University of Manchester, Manchester
- Micro-credit Summit (1997) The Micro-credit summit: declaration and plan of action. Micro-credit Summit Campaign, Washington, DC. <http://microcreditsummit.org/declaration.htm>. Accessed 10 Feb 2013
- MkNelly B, Dunford C (1998) Impact of credit with education on mothers and their young children's nutrition: Lower Pra rural bank credit with education programme in Ghana, Freedom from hunger research paper no 4. Freedom from Hunger, Davis
- Mondal SH (2004) Micro credit as an instrument for changing the household economy of the poor in Bangladesh: a case of PROSHIKA. Impact Monitoring and Evaluation Cell, PROSHIKA, Dhaka
- Morduch J, Haley B (2001) Analysis of the impact of microfinance on poverty reduction, Working paper series 1014. New York University, New York
- Mustafa S, Ara I, Banu D, Hossain A, Kabir A, Moshin M, Yusuf A, Jahan S (1996) Beacon of hope: an impact assessment study of BRAC's rural development programme. University Press Limited, Dhaka
- Nanda P (1999) Women's participation in rural credit programs in Bangladesh and their demand for formal health care: is there a positive impact? *Health Econ* 8:415–428
- Navajas S, Schreiner M, Meyer RL, Gonzalez-Vega C, Rodriguez-Meza J (2000) Microcredit and the poorest of the poor: theory and evidence from Bolivia. *World Dev* 28(2):333–346
- Nayar KR (2007) Social exclusion, caste and health: a review based on social determinants framework. *Indian J Med Res* 126:355–363

- Panjaitan-Drioadisuriyo RDM, Cloud K (1999) Gender, self-employment, and micro-credit programs: an Indonesian case study. *Q Rev Econ Financ* 39:769–779
- Perkins J (2008) Borlaug-Ruan intern report June 5–August 4 2008. http://www.worldfoodprize.org/documents/filelibrary/images/youth_programs/2008_interns/PerkinsJ_BR08Report_ICD331520CF13.pdf. Accessed 10 Feb 2013
- Pitt MM, Khandker SR, Chowdhury OH, DI M (2003) Credit program for the poor and the health status of children in rural Bangladesh. *Int Econ Rev* 44:87–118
- Rahman H (1995) Mora Kartik: seasonal deficits and the vulnerability of the rural poor. In: Rahman H, Hossain M (eds) *Rethinking rural poverty: Bangladesh as a case study*. University Press Limited, Dhaka, pp 234–253
- Rahman H, Ali TO (2006) Stories of targeting: process of documentation of selecting the ultra poor for CFPR/TUP program, CFPR working paper series 1. Research and Evaluation Division, Bangladesh Rural Advancement Committee and/Aga Khan Foundation Canada, Dhaka
- Santana P (2002) Poverty, social exclusion and health in Portugal. *Soc Sci Med* 55:33–45
- Schuler SR, Hashemi SM (1994) Credit programs, women's empowerment, and contraceptive use in rural Bangladesh. *Stud Fam Plan* 25:65–76
- Sulaiman M, Gulesci S (2008) Resource booklet: CFPR-II evaluation. Research and Evaluation Division, BRAC/London School of Economics, Dhaka
- Zaman H (2000) *Assessing the poverty and vulnerability impact of microcredit in Bangladesh: a case study of BRAC*. World Bank, Washington, DC

Chapter 17

Rural Poverty and Marginalization in Ethiopia: A Review of Development Interventions

Assefa Admassie and Degnet Abebaw

Abstract This chapter provides a comprehensive review of Ethiopia's policy interventions for poverty reduction and inclusion of marginal population groups, and discusses a number of indicators that point at significant improvements that have been achieved in the country. The sector specific policy measures to reduce poverty are assessed, and the measures targeted at vulnerable groups and in marginal areas are analysed. The impacts of economic growth on poverty reduction are traced. Development efforts such as regional development disparity and the persistence of severe poverty despite concerted anti-poverty efforts and a relatively high rate of economic growth are highlighted.

Keywords Poverty • Marginality • Economic growth • Vulnerability • Gender • Disabilities • Economic policy • Agricultural development

17.1 Introduction

Traditionally the Ethiopian economy has been characterized by subsistence farming that is highly dependent on rainfall and extremely vulnerable to all kinds of shocks. As a result, an overwhelming majority of the country's people have long suffered from extreme poverty and persistent food crises. Political instability, civil conflict, and misguided economic policies, particularly between 1974 and 1991, have all contributed to the country's low level of development.

Despite sustained growth in agricultural production over the last few years, poverty in rural areas is still severe and more pervasive than in urban areas (MoFED 2008).

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The combination of recurrent drought, the use of traditional agricultural practices, fluctuations in agricultural production, underdeveloped communication and road networks, and a correspondingly inefficient agricultural marketing system, make illiteracy and poor health characteristic features of rural Ethiopia. Well-being disparity among the rural population is also significant. Many households are trapped in persistent poverty and caught at the margins of cultural, social, economic, political, and environmental systems. For instance, in the current 5-year Productive Safety Net Program (PSNP) the national government intends to provide benefits to about 7.8 million people in order to help them cope with harsh economic conditions (MoFED 2010). In view of this situation, it is important to assess the policies that have been pursued by the Ethiopian government to improve the welfare of rural Ethiopians and how successful these have been at alleviating poverty.

Some of the underlying causes of living at the margins of basic needs are household specific, while others are external. Household specific problems include the lack of, or inadequacy of physical inputs (capital, labor, land, etc.), human capital (skills, innovation, and the ability to cope), and health. External causes include environmental and geographical settings, and the interrelationships among different social groups, which are characterized by natural, inherited, or acquired attributes such as religion, ethnicity, gender, or occupation.

Understanding the nature of marginality, or being highly disadvantaged in social, economic, and political terms, enables the design of more effective policy interventions and the identification of development opportunities that fit specific circumstances. To gain that understanding it is imperative to have a comprehensive overview of the policy environment and rural poverty. In this paper we used research outputs, published data, and government policy, strategy, and program documents to review the policy measures and program interventions that have been implemented to alleviate poverty in Ethiopia; the conditions of the people living at the margins of society; and in particular the general outcome of governmental interventions. The lack of disaggregated data for geographical, environmental, and demographic variables precludes a more detailed analysis of their effects.

17.2 Political and Economic Policy Environment in Ethiopia

The government that came to power in 1991 has taken a series of political and economic development measures that have had profound impacts on poverty. These measures focus largely on (a) stimulating economic growth to increase per capita income in order to reduce absolute poverty, (b) ensuring more equitable distribution of growth through broad-based growth strategies (addressing relative poverty or excessive inequality), and (c) ensuring that no section of society is left in persistent poverty without access to opportunities and resources on the basis of gender, age, ethnicity, culture, geography, or other factors that lead to marginalization. The federal government has tried to integrate the Millennium Development Goals (MDGs) with the country's overall development strategies.

17.2.1 The Political Setting: The 1995 Constitution

The overriding objective of the 1995 constitution is to establish the legal basis for economic, political, and social freedoms for all Ethiopians.¹ The constitution has fundamentally altered the political landscape of the country, including government structure, from a unitary state to a federal system encompassing various ethnic-based entities. The Federal Democratic Republic of Ethiopia now consists of nine regional states and two city administrations.² Recently attempts have been made to decentralize authority. According to Patterson (2007), decentralization brings development closer to the community level and could make public service delivery more efficient and effective.

The Constitution of Ethiopia (FDRE 1995) guarantees human and democratic rights to all individual citizens and social groups (Article 10). All persons have equal protection without discrimination on the grounds of color, gender, language, religion, political or other opinion, property, birth or other status, race, or any other factor (Article 25). Furthermore nations and nationalities have the right to speak, write, and develop their own languages; promote their own cultures; establish the institutions that govern them; and have equitable representation in state and federal governments (Article 39).

A major obstacle to individual initiatives for growth is the lack of clearly articulated property ownership rights. Article 40 of the constitution stipulates that every citizen has the right to own private property, however, the ownership of land and all natural resources is exclusively vested in the state. Ethiopians do have the right to acquire land without payment and are protected against eviction from these properties. Pastoralists have the right to use state land for grazing and cultivation without charge, as well as the right not to be displaced from these lands.

Every citizen has the constitutional right to engage freely in any legal economic activity and pursue the livelihood of their choice anywhere within national territory, and the right to equal access to publicly funded social services (Article 41). As social groups, every nation and nationality has the right to improve living standards and to sustainable development (Article 43). The constitution also establishes that the duty of the government to all citizens is to provide equal opportunities to improve their economic condition, to promote the equitable distribution of wealth, and to provide

¹There is no consensus with regard to some of the content of the constitution. For instance, it is unknown whether federated states based on ethnicity will ensure peoples' freedom or lead to separation and social conflict, or whether state ownership of land provides greater freedom than private ownership.

²Despite claims that regional states are formed based on settlement patterns, language, and cultural identity there are no strict criteria for statehood. In some cases language groups overlap and yet form a regional state [e.g., the Southern Nations, Nationalities, and People's Region (SNNPR) includes groups that speak more than half of the languages currently spoken in Ethiopia]. Some regions with ecologically diverse areas and people of different settlement patterns form a state (e.g., Oromiya, SNNPR).

special assistance to the most disadvantaged citizens in terms of economic and social development (Article 89).

These examples are some of the manifestations of the political good will of the government with respect to addressing sources of marginalization based on ethnicity, culture, gender, ecology, geographical location, or any other form. However, some of the rights enshrined in the constitution may not be fully considered when actually designing development policies and programs, and during their implementation and execution. Whether individual and group rights are respected in practice as per the constitution is an issue that requires empirical study.³

17.2.2 Social and Economic Policy Environment

The federal government formulated a broad-based development strategy to alleviate poverty, particularly rural poverty, known as the Agricultural Development Led Industrialization Strategy (ADLI). Based on this policy framework various economy-wide, sector-specific, and environmental or social group based development programs and plans have been drafted and implemented. The government has clearly indicated that “agriculture should be the starting point for initiating the structural transformation of the economy” (MoFED 1993).⁴ The ADLI is the overall economic development strategy for agricultural development.

Many argue that a global reduction in poverty in the form of a sharp rise in labor income could result from increased productivity of small-scale agriculture (Lipton 2005). The ADLI is justified on the basis that the vast majority of rural people suffer from abject poverty. According to the federal government, encouraging small-scale farmers and pastoralists to efficiently utilize relatively abundant labor and land resources is the most feasible way to both address food insecurity and ease the problems of poverty across the country in the short- to mid-term. Growth in the agricultural sector is also envisaged to create linkages to the rest of the economy through the creation of input and output markets.

Sustainable Development and Poverty Reduction Strategy Paper (SDPRP). The first comprehensive strategy for poverty reduction in Ethiopia was the SDPRP launched in 2001. The overarching goals of this strategy were to bring about faster and sustained economic growth, and to extend the benefits of that growth to the poor. The

³Some measures contradict the constitution and thus require investigation. One policy example is the Food Security Program (FSP), which facilitates resettlement as one of the ways of addressing food security through providing land to the landless or those living on degraded land who are willing to relocate. This program does not encourage movement across regions in contrast to Article 41 of the constitution (FDRE 1995). In a country-wide context, food insecure households in resource poor (land scarce) regions are relatively marginalized in terms of access to fertile soils and adequate sized parcels of land.

⁴In the process of development planning, issues such as whether agriculture or industry should lead, whether a balanced or focused growth strategy should be pursued, and whether markets or the government should arbitrate economic agents have been recurring controversies that are unresolved.

SDPRP considered nurturing small-scale agriculture to be essential for eliminating food aid dependency, reducing poverty, and boosting economic growth (MoFED 2002). The strategy primarily addressed critical challenges to small-scale agriculture through improved research and extension packages, and by expanding irrigation and training producers in agricultural technology (IMF 2006). The strategy also pursued decentralization of government and community empowerment activities (MoFED 2002).⁵

Plan for Accelerated and Sustained Development to End Poverty (PASDEP). The PASDEP was the second phase of SDPRP implemented between 2005–2006 and 2009–2010. PASDEP featured people-oriented development efforts to attain the MDGs by 2015 (MoFED 2006). PASDEP intended to expand education and health care services, and to continue food security, capacity building, and decentralization programs. It was also meant to improve subsistence agriculture by consolidating efforts started under the SDPRP, such as the development of agricultural input, output, and credit markets; the provision of specialized agricultural extension services; the establishment of a network of demonstration centers; the expansion of veterinary services; support for small-scale irrigation; the improvement of land tenure security; and the generation of off-farm income opportunities (MoFED 2006).

According to MoFED (2011), the PASDEP helped achieve average annual GDP growth of 11 % from 2005–2006 to 2009–2010, with a corresponding annual growth rate in per capita income of more than 8 %. Service sector growth contributed much of this growth, both in terms of the high rate of growth and in the percentage of the GDP. The agricultural sector grew by about 8 % per annum during the same period, accounting for about 5 % of the growth in per capita value-added income. Overall absolute poverty and food insecurity both declined by a margin of around 10 % during the plan period (MoFED 2010). Gross enrollment in the PASDEP increased by 94 %, health coverage rose by around 89 %, and clean water coverage by around 66 %. In general, the growth of PASDEP brought relatively fast and sustained growth with a reasonably tangible reduction in the percentage of people living below the poverty line. The period was also characterized by high levels of inflation and irregular rainfall in some parts of the country (MoFED 2011).

Growth and Transformation Plan (GTP). The GTP is the third, 5-year development plan in continuation of PASDEP that will be implemented from 2010–2011 until 2014–2015. The GTP will differ from previous programs in many contexts (MoFED 2010). Industrialization will be emphasized in addition to agriculture, and the plan intends to achieve the remaining MDGs. Improvement of the quality of education and health care services, and the expansion of health care services to include both prevention and treatment distinguish GTP from previous programs. The plan also

⁵Direct involvement of target groups is widely considered to be a precondition for successful identification of problems and for proper implementation and execution of intervention measures. Although it is claimed that the SDPRP was designed on the basis of consultation with the target groups, the contribution of the poor was little more than endorsing those policies (Amdissa 2006). Development partners, particularly NGOs, did not significantly influence the process of policy formulation (Bijlmakers 2003).

includes efforts to empower youths and women to improve the distribution of resources and opportunities.

The GTP will continue to support agriculture as a major contributor to economic growth, albeit conferring emphasis to the industrial sector at end of the plan period. A special emphasis will be given to areas with high agricultural potential. The intention of the program is to narrow the gap between low performing farmers and highly productive farmers through a scaling-up strategy. Development agents and the extension system will be used as conduits for the transfer of knowledge and good practices for both crop and livestock production.

Building upon the PASDEP experiences, the GTP will expand joint efforts between farmers and the government on natural resource conservation, the development of underground and surface water sources, and to increase irrigation coverage. Efforts will be made to enhance the capacity of development agents and farmers, and to facilitate the transfer of technologies and working practices. The GTP will improve agricultural marketing through the involvement of farmers' cooperatives, modern output market centers, and the private sector. In general the GTP is intended to improve the lives of the rural people and reduce inequality in all dimensions of well-being, including: consumption, education, and health. Although the program is ambitious with respect to its targets, the successful accomplishment of the program will greatly reduce well-being disparity among Ethiopians due to geographically, climatically, and culturally induced marginalization.

17.2.3 Sector-Specific Policies Addressing Poverty and Marginalization

Food Security Program (FSP). The economic situation in rural Ethiopia is diverse, due in part to a wide range of environmental conditions. In consideration of this situation the federal government has designed an agro-ecology based and environmentally specific Food Security Strategy based on three major agro-ecological zones: rainfall adequate areas, moisture stress areas, and pastoral areas. Launched in 2002, the Food Security Strategy addresses food security in four dimensions: (a) direct food production interventions, (b) a voluntary resettlement program, (c) an income diversification program, and (d) a safety net program (Workneh 2008).⁶ Because the majority of households in rainfall adequate areas produce sufficient food, these efforts target moisture stress and pastoral areas.

⁶Ethiopia has about 140 agro-ecological zones. This diversity of conditions has an immense bearing on the formulation and implementation of specific local strategies for farming and land management (MOA/FAO 1984). For instance, because the strategies were designed based on broad ecological zones, there are pockets of chronically food insecure places within adequate rainfall zones due to different site conditions that are not considered in the broader strategy (Workneh 2008).

Specific strategies have been used to address circumstances in moisture stressed and pastoral areas. The main objective is to help communities in these areas withstand harsh environmental conditions and resulting food production shortages. In the later stage, the FSP was redesigned structurally into four major components: (a) the PSNP component, (b) the Household Asset Building Component, (c) the Complementary Community Investment Component, and (d) the Resettlement Component.

The Productive Safety Net Program (PSNP). The PSNP was launched in 2005 to address food security, particularly chronically food insecure households, through facilitating the build-up of household assets, voluntary resettlement, and creating access to income from non-farming activities (MoFED 2006). These activities focus on resolving communal problems such as land degradation and the lack of water or infrastructure. The program provides income through direct public assistance and food-for-work programs. The PSNP follows two approaches. One approach focuses on households with physically capable members that receive transfers in return for labor on public works, including the development of water points, the reclamation and rehabilitation of grazing areas, and resource conservation or terracing. The second approach focuses on households with members that are unable to work because of age or other reasons that receive direct support (MoFED 2006). The program targeted 262 *woredas* (local administrative districts) to reach around five million beneficiaries.

With respect to the program's impacts, Gilligan et al. (2008) found tangible evidence that PSNP support payments have improved the well-being of beneficiaries based on data collected 18 months after the program became operational. Considering both the PSNP and other food security programs, beneficiaries were more likely to be food secure and to have improved their production levels and income generating capacity. These effects were due to the use of improved agricultural technologies and the performance of non-farming business activities. That study also found that participation in the program did not have crowding out effects on participation in the labor market or private transfers. Another evaluation of the PSNP performance found improved food security for 75 % of the beneficiaries in eight *woredas* from four regional states (Sharp et al. 2006). Approximately 62 % of the beneficiaries successfully protected their food assets from depletion and 46 % received greater access to public services.

Amdissa (2010) found that approximately 75 % of the beneficiary households reported consuming more or better quality food in 2006 relative to 2005, and that 94 % of these households attributed this change to the PSNP. This study also found nonparticipants whose well-being decreased during the same period and attributed this decline to their lack of access to the PSNP. It was found that around 60 % of beneficiary households avoided having to sell assets in order to buy sufficient food and that 33 % avoided having to use their savings to buy food. Most households (90 %) that avoided using assets or savings to purchase food attributed that ability to the PSNP. Almost half of the beneficiaries stated that they used health care facilities more in 2005–2006 than in 2004–2005. Half of the beneficiaries reported keeping their children in school rather than having to withdraw them due to cash or food shortages. Devereux and Sabates-Wheeler (2006) indicated that almost 25 % of the beneficiaries acquired additional assets or skills in 2005–2006, largely due to the PSNP.

The move from purely relief assistance to a mode of assistance that encourages productive investment helps avoid dependency among target groups and consolidates social capital (Workneh 2008).

Resettlement Component. This component of the FSP resettles households that suffer from food insecurity arising from land scarcity and insufficient moisture to areas with adequate land and water availability (MoARD 2009). The program resettled approximately 170,000 households by 2006 (World Bank 2006), and between 188,874 (World Bank 2009) and 205,000 households by 2009 (MoARD 2009). Resettled households were provided a package of incentives that included being a beneficiary of the PSNP. Settlers were offered 2 ha of fertile land, simple farm tools, credit for the purchase of oxen, food rations for 1 year, basic services such as clean water, health care, and education, and the option to return to their place of origin if they were unsatisfied with their new conditions (NCFSE 2003). The program has resettled less than 50 % of the projected number of households (Tewodaj et al. 2008).

*Population and Environmental Policies.*⁷ Traditional farming and land management methods, coupled with increased population pressure, have had destructive impacts on the environment such as deforestation and subsequent soil erosion. More than 80,000 ha are deforested every year in Ethiopia because of heavy reliance on fuel wood and clearing land for farming and grazing. In addition to high levels of degradation and deforestation, the stagnant economic conditions and high population pressure often reduce the amount of land per capita to far below the minimum required to support a family.⁸ According to Desalegn (2008), 87 % of land holders in the country had only 2 ha or less in 2003 and 37 % of farmers had half of a hectare or less. The severity of land scarcity varies significantly among regions. Around 62 % of farmers had only 1 ha or less in 2003 and this situation was more severe in the regional states of SNNPR and Tigray. Ethiopia and Kenya have the lowest average per capita land holding area among ten East African countries (Omamo et al. 2006). The fragmentation of land holdings continues and as a result it is not only the supplies of food, fodder, and fuel that are under threat, but also the very land resources and the livelihoods that depend upon them.

The National Environmental Policy was enacted in 1997 with the goal of preserving essential ecological processes and life support systems, maintaining biological diversity, ensuring the sustainable exploitation of natural resources, and improving public awareness about linkages and trade-offs between the environment and growth. Implementing the policy is primarily the responsibility of the Environmental

⁷The debate on the economic effects of high population pressure has not been resolved. Given the prevailing structure of the economy and fragmentation of agricultural land, population pressure is one of the factors contributing to the level of poverty in rural Ethiopia.

⁸According to Desalegn (2008), each household requires at least 2.5 ha to sustain the livelihood of its members with current technologies. It is difficult to determine the exact size of land required, however, because it depends on regional and site-specific conditions such as soil fertility and precipitation patterns, as well as household characteristics such as consumption habits and the crops or livestock produced. The scarcity of land among peasant farmers is reaching critical levels.

Protection Authority, but there has not been a specific program designed to address these daunting environmental problems. Many of the components of rural development and food security programs undertaken through the Ministry of Agricultural and Rural Development (MoARD), such as reforestation, erosion control measures, and the protection of community natural resource assets such as woodlots and common grazing areas are expected to have positive environmental impacts (Patterson 2007).

Education Sector Policy. The current Education and Training Policy begun in 1994 and the Education Sector Development Programs (I, II, and III) articulate the primary principles of educational development in Ethiopia promoting decentralization, the participation of people and communities, the equitable distribution of educational services, and development of the diverse cultures and languages of the people. The use of the local languages as the medium of instruction at the primary education level has been the motto of the Universal Primary Education and along with the expansion of schools into rural areas. The establishment of Farmer Training Centers (FTC) and Technical Vocational and Educational Training institutions is intended to provide equitable, relevant, and problem-solving educational services to the rural poor. These policy directions are also designed to narrow the disparity in education coverage between localities and genders.

Health Sector Policy (HSP). The first HSP of the current government enacted in 1993 emphasized preventive health care (MoH 2011). The government launched a 20-year, rolling Health Sector Development Program in 1997–1998 to be implemented in phases. This program focuses largely on communicable diseases, common nutritional disorders, environmental health, hygiene, reproductive health care, immunizations, the treatment and control of basic infectious diseases like upper respiratory tract infections, the control of preventable diseases like malaria, and the control of sexually transmitted diseases, especially HIV/AIDS. The first three phases of the program have already been completed in 2002, 2005, and 2010 respectively. In all phases, poverty related diseases such as malaria and tuberculosis were given due emphasis. Other efforts to improve public health and to meet MDG targets included improving access to primary health care services, increasing awareness about common diseases and their causes, decentralizing and equitably distributing health care services, and strengthening the collaborative abilities among the government, communities, and NGOs.

Cognizant of the high interrelation between poverty and health problems, the HSP has focused on preventative medicine and the decentralization of the health care services. Accordingly, the policy puts emphasis on the prevention of the most common poverty-related diseases including malaria, tuberculosis, childhood illnesses, and HIV/AIDS. The government launched the Health Extension Program that trained and dispatched health care extension workers to provide basic services to households without access to basic sanitation, immunization, and other services. The Health Sector Development Program introduced a 4-tier health care service system. The first tier consists of primary health care units that include one health center and five health posts, local hospitals at the second tier, regional hospitals in the third tier, and a fourth tier consisting of a referral hospital at the national level.

17.2.4 Policies for Disadvantaged Areas and Social Groups

In the context of Ethiopia, many citizens live under harsh environmental conditions and in geographically peripheral areas that are less developed than the rest of the country. Women, children, orphans, the elderly, and the disabled are expected to be relatively vulnerable segments of the society in terms of having limited access to resources and social services. A number of policy measures and programs were specifically designed to address the problems facing these marginalized sections of society.

17.2.4.1 Agro-ecologically Disadvantaged Areas

Moisture Stress Areas. Despite some geographical differences, shortages and irregularities of rainfall have been some of the most critical challenges to the agricultural sector. This variability causes unpredictable changes in harvest yields, has limited economic growth, and causes many to depend on food aid for survival. Despite yield gaps between irrigated and non-irrigated land approaching 40 % between 1997 and 2000, the extension of irrigation use has been limited to approximately 2.5 % of the country's potential coverage (MoFED 2010). In order to enhance the available water supply, the government adopted a strategy of facilitating the construction of micro- and medium-scale irrigation schemes, spring diversions, deep wells, and the construction of multi-purpose large-scale dams in both adequate rainfall and moisture stress areas (Ellis and Tassew 2005).

The government envisaged ensuring food security by reducing vulnerability to rainfall shortages using water harvesting technologies such as the construction of reservoirs, creating off-farm income generating opportunities, and the voluntary resettlement of people to more productive and less-populated areas within their regional states (FDRE 2002).

Pastoral Areas: Most of the residents of the dry lowland areas of the regional states of Afar, Somali, SNNPR, Oromiya, and some parts of Gambella depend on traditional livestock husbandry for their livelihoods. These pastoralists regularly move with their livestock in search of grazing areas and water because they live in environmentally hostile areas affected by social conflict and recurrent drought. Pastoralists typically benefit less than other citizens from development efforts because they are geographically isolated from infrastructure and facilities, and are poorly connected to urban markets. Poverty in pastoralist areas is generally worse than elsewhere in the country in terms of conventional human development indicators (MoFED 2006).

The government has demonstrated its political will to address the socio-economic problems of pastoralist areas. The social sector development programs tailored to pastoralists such as informal community-based schools, mobile outreach health care services, and improved veterinary services have been expanded. The government has established institutions at both the federal and regional levels in predominantly pastoralist states and other areas that host pastoralist populations.

A combination of strategies has been forwarded to address livelihood problems in pastoralist areas. These strategies involve activities such as providing animal health facilities to enhance the productivity and quality of livestock, breed improvement, the construction of surface water projects to improve water supplies, and improving road networks and other transportation infrastructure to create marketing networks. The encouragement of voluntary resettlement, sedentary farming along river basins, large-scale ranching, and similar activities have all been included in the FSP to redress the vulnerability of pastoralists (FDRE 2002).

A 15-year Pastoralist Community Development Project (PCDP) was launched in 2003. Local communities and the federal government contribute 14 % of the project budget, and the remaining 86 % has been financed by donors. Largely community-driven, the first phase of the PCDP from 2003 to 2008 was implemented in 30 pastoralist *woredas* in the regional states of Somali, Afar, Oromiya, and SNNPR. These efforts focused on community-level micro-projects to improve livelihoods. The second project phase (PCDP II), which was launched in March 2008 and operates until 2013, intends to enable pastoralists to better withstand external shocks and to improve their livelihoods. The PCDP II empowers local communities by involving them in decision making on developmental issues, improves pastoralist early warning systems, and provides disaster mitigation. Micro-projects focus largely on water supply improvement, expanding micro-scale irrigation, providing health care and educational services, rangeland management efforts, and the creation of income generating schemes through the formation of savings and credit associations.

During the GTP period the main focus in pastoralist areas will be on water resource development both for livestock and human use through a scaling up strategy that makes use of experiences gained in other parts of the country. The GTP will also include similar efforts to those of other programs such as voluntary resettlement, the expansion of animal and human health care and educational services, improvements to the livestock marketing system including the integration of pastoralists and domestic investors, and the development of pasture land irrigation schemes.

People at the Periphery: The regional states of Afar, Benishangul-Gumuz, Gambella, and Somali are designated as disadvantaged regions because of the prevalence of pastoralist livelihoods and their location at the geographical periphery of the country. Considering the fact that these areas are relatively marginalized compared to the rest of the country, the federal government has taken affirmative measures that are appropriate for the special circumstance of these areas. The federal government uses a budget subsidy allocation formula that is adjusted on an annual basis. For instance, in the 2007 fiscal year the size of population, the level of development, and revenue collection efforts in each region were given weights of 65, 25, and 10 % respectively in corresponding funding (FDRE 2007). The federal government also supports these regions through capacity building and advisory services on policy decisions, and on the planning and implementation of programs and projects. The various investment proclamations enacted since 1996 provide special privileges to those who are willing to invest in labor intensive agricultural and related sectors in these parts of the country. This measure provides opportunities for unskilled rural

residents in these areas, improves market access for their produce, and the expansion of infrastructure and facilities. The ultimate goal of these interventions is to reduce economic disparity by mitigating the geographic and environmental factors that contribute to marginality.

17.2.4.2 Policies for Vulnerable Social Groups

Vulnerable or marginalized groups often differ from one country to another due to unique historical, economic, political, and cultural situations. In most developing countries women, children, the elderly, and the disabled suffer disproportionately from hard work, disadvantages with respect to property rights, income inequality, limited access to education and health care services, limited political participation, and difficulties in other spheres of life. Because of cultural barriers and a widespread lack of knowledge of legal rights the situation is often more severe in rural communities.

Ethiopia is a signatory nation of most UN and African conventions on vulnerable social groups and is expected to incorporate these obligations into its domestic laws and regulations. The 1995 constitution, the 2002 revised family law, the National Women Policy, and the National Youth Policy are examples of legislative efforts that were designed in conformity with the major principles of international conventions as they apply to the country's specific circumstances. The various development programs discussed in this paper (SDPRP, PASDEP, GTP, PSNP, HSDP, etc.) also recognize the special circumstances of these vulnerable social groups. In addition to constitutional provisions that affirm the equality of all persons and the need to protect their rights from any unlawful circumstances, the federal government has attempted to mainstream the concerns of the different social groups into the different policies and programs.

Gender-Related Policies: Women are more likely to suffer from physical abuse, including rape and early marriage, in addition to being subject to hard work and problems associated with access to resources and property rights in many parts of the country. One persistent cultural problem imposed upon Ethiopian women in rural areas is forced marriage. Mainstreaming gender issues into socio-economic development plans has been the main strategy to address the concerns of women as a social group. Institutions have been put in place on the federal, sector, and local administrative (*kebele*) levels with different organizational structures to deal with gender issues. The Revised Family Code which begun to be implemented in 2000, protects women from forced marriages and imposed a lower age limit for marriage at 18 years of age in order to reduce health and psychological problems associated with early marriage. Article 35 of the constitution also included a clause specifically to remedy the cultural legacy of discrimination and inequality against women (FDRE 1995). This article stipulates the right of women to own property, including land, and to participate equally in policy decisions affecting the public and their personal well-being.

The National Policy for Women was launched in 1993 to combat all forms of discrimination, and to improve access and the involvement of women in all policy interventions and the activities of development institutions, programs, projects, and financial assistance of any sort (Demessie and Yitbark 2008). A concrete attempt to realize the goals of the National Policy for Women was the National Action Plan on Gender Equality, which was launched in 2001 and operated until 2006, and focused on poverty reduction, economic empowerment (including improving access to land), education, reproductive rights, women's health, the elimination of violence against females, and institutional mechanisms for the advancement of women in decision making at all levels. The National Action Plan on Gender Equality was not integrated with the poverty reduction program SDPRP at the time (Demessie and Yitbark 2008).

Many notable women-specific programs have been initiatives of the Ethiopian Women Development Fund and the Women's Development Initiatives Project. These programs helped women by creating gender specific income generating schemes. The Ethiopian Rehabilitation and Development Fund also invested in small-scale projects that had gender targets of a minimum of 50 % of women as beneficiaries during the late 1990s (MoFED 2002).

The massive land title registration program has enabled land ownership by female-headed households. This was a very tangible step to reduce marginality among women in terms of access to resources in rural areas. Access to land title certificates is no longer biased against the poor or females because of adequate planning, public participation, implementation, and dispute settlement mechanisms (Deininger et al. 2008).

Workneh (2008) argues that cultural and societal norms in rural areas often create considerable negative impacts on the nutritional status of women and children, making them vulnerable social groups. Attempts have been made in the various phases of the PSNP to consider the participation of women in public works and asset development efforts (MoFED 2010). Micro-finance institutions (MFIs) also support women through involvement in income generating activities.

The Health Sector Development Program and subsequent programs targeted rural households and particularly women through sanitation and disease prevention efforts for waterborne diseases, and services for reproductive health, family planning, and HIV/AIDS awareness. These efforts aimed to reduce maternal, infant, and child mortality, and the overall vulnerability of women and children. The federal government has also established affirmative action measures to improve women's access to education (Getachew 2008). All three phases of the Education Sector Development Program imposed targets to increase the enrollment percentage of female students. In the first phase of the program the target was an increase in female enrollment from 38 to 45 % between 1997 and 2001 (Amdissa 2008).

The PASDEP also envisaged addressing gender inequality through a holistic approach. More specifically the plan tried to narrow gender disparity in education and health by improving women's health through an extension program operated

by female health workers. In addition, it initiated the necessary legislative and institutional reforms to protect the rights of women. Reducing the domestic work burden of women by improving access to potable water was also another major emphasis area (MoFED 2006).

The GTP intends to ensure women's equal access to resources by building on previous experiences with land ownership, access to credit, the protection and promotion of reproductive rights, and abolishing harmful traditional cultural practices. The strategies to be pursued by this program include ensuring full participation in extension activities, promoting saving and credit services, and creating income generating activities. The GTP will also engage owners of very small land parcels, landless youth, and women in nonagricultural income generating activities, provide business management trainings and credit, and facilitate market access. The GTP also intends to ensure equitable access to quality primary education in order to narrow gender disparity.

Children and Orphans: Article 36 of the constitution stipulates that every child has the right to life, to the care of parents or legal guardians, and to be free from exploitative or harmful practices (FDRE 1995). The government also accords special protection to orphans by promoting opportunities for their adoption and education, and for the advancement of their welfare. The third Education Sector Program explicitly creates opportunities for disadvantaged children with special needs, or from pastoralist, semi-agricultural, and geographically isolated areas by building formal schools, alternative education centers, and building schools at the village level (Amdissa 2008).

The GTP will offer care and support to children, particularly orphans and other vulnerable children. The education strategy for children with special needs will be widely implemented along with adult literacy efforts to address socio-economic challenges within the context of communities. Ethiopia has a long cultural heritage of supporting vulnerable groups through extended family. Orphaned children are traditionally adopted by extended family members.

Disabilities: Physically handicapped or disabled people face diverse forms of discrimination. According to Handicap International/CBM (2006) the disabled often face cultural, environmental, and institutional discrimination. As a result of cultural attitudes the disabled are often feared or faced with societal biases. Physical inaccessibility and harsh working conditions, particularly in rural areas, as well as customary laws, prevent the disabled from participation in many economic and social activities.

In Ethiopia the constitution endows disabled people with equal rights and opportunities as the rest of society, except in the case of certain physical activities for which they may not be suited. Disability issues have not been explicitly dealt with in many development policies and programs (Seleshi 2010). In the PASDEP, disability was treated only in the context of gender, where it was included in the discussion on the participation of disabled women in the development process. In the GTP there is a policy direction that encourages participation of the disabled in political, economic, and social activities.

17.3 Progress in Poverty Reduction

From the material presented above it is clear that the government, the international community, and NGOs have been trying to help reduce poverty and disparity in the distribution of the benefits of economic growth across geographic areas and social groups. During the last 7 years there has been relatively tangible progress in overall economic performance and poverty alleviation efforts in the country. Unfortunately, there has not been complete and disaggregated information available to examine the extent to which these interventions have changed the welfare status of households in real terms.

17.3.1 *The Poverty Situation in Ethiopia*

Ethiopia is among the world's poorest countries. In 2010 it ranked 157th among 169 countries according to the global Human Development Index (HDI) and it continues to be one of the lowest economic development performers in Sub-Saharan Africa. Ethiopia has improved its relative position by around 7.4 % between 2000 and 2010 (Table 17.1), due to its relatively higher rate of economic growth over the last 7 years (UNDP 2010). In terms of parity dollars equivalent to purchasing power in 2008, the average per capita income in Sub-Saharan Africa and the rest of the world in 2010 have been double and 11-fold that of Ethiopia respectively. Because of relatively increased coverage of social services over the last few years, the non-income HDI values such as life expectancy at birth, maternal mortality, education, and others show a relatively better picture than the income HDI.

Average measures often conceal distributional disparities among populations. Poverty is multifaceted and thus quantifying it requires using measures that

Table 17.1 Development indicators from Ethiopia, the region, and the world

Indicators	Year	Sub-Saharan			World/	
		Ethiopia	Africa	World	Africa/Ethiopia	Ethiopia
Human development index	2000	0.25	0.315	0.570	1.26	2.28
	2005	0.287	0.366	0.598	1.28	2.08
	2010	0.324	0.389	0.624	1.20	1.93
Inequality adjusted HDI	2010	0.216	0.261	0.489	1.21	2.26
GNI per capita (PPP-2008\$)	2010	992	2,050	10,631	2.07	10.7
Non-income HDI value	2010	0.357	0.436	0.663	1.22	1.86
Life expectancy at birth	2010	56.1	52.7	69.3	0.94	1.24
Maternal mortality ratio	2003–2008	720	881	273	1.22	0.38
Mean years of schooling	2010	8.3	4.5	7.4	0.54	0.89

UNDP (2010)

Table 17.2 Multidimensional poverty among selected African countries

Country	Multi-dimensional poverty index ^a (2000–2008)	Population with multidimensional poverty		% Population with at least one deprivation (2000–2008)			Gini-co-efficient
		Headcount (%)	Intensity of deprivation (%)	Education	Health	Living standards	
Ethiopia	0.582	90	64.7	83.9	48.2	94.2	29.8
Kenya	0.302	60.4	50.0	21.9	41.4	86.2	47.7
Egypt	0.026	6.4	40.4	18.0	16.9	0.9	32.1
Nigeria	0.368	63.5	57.9	42.4	59.5	72.1	42.9

UNDP (2010)

^aThe MPI is a product of the multidimensional poverty head count (the share of people who are multi-dimensionally poor) and the average number of deprivations each multi-dimensionally poor household experiences (the intensity of their poverty). A household is considered multi-dimensionally poor if it is deprived in at least two to six of the ten indicators for health, education, and living standards (UNDP 2010)

reflect this multidimensionality. The Multidimensional Poverty Index (MPI) complements monetary based methods and also reveals the extent and distribution of deprivation. The MPI also captures the magnitude and degree of deprivation overlap (UNDP 2010).

About 90 % of the Ethiopian population was deprived access to two or more indicators related to education, health, and living standard between 2000 and 2008 (UNDP 2010). The scale of multidimensional deprivation was as high as 65 %. Of the three categories of human development measures, deprivation in living standards (food, clothing, housing, water, and sanitation) has been greatest. In terms of practically all MPI criteria, the situation of the Ethiopian people compares poorly to other populous countries of the region (Nigeria, Egypt, and neighboring Kenya) (Table 17.2).

The extent of income inequality among Ethiopians (Gini-coefficient) has not been substantial in comparison to the other three regional countries during the same period. This situation implies that deprivation and multidimensional poverty in Ethiopia are phenomena experienced by the majority, and are largely explained by the lack of economic capacity rather than skewed distribution of resources. This can largely be attributed to the excessive reliance of the majority of the people on traditional subsistence agriculture.

Ethiopia has the largest population of livestock and is the third largest contributor to agricultural production in Sub-Saharan Africa. Agriculture in Ethiopia is characterized by high labor and livestock intensity, and the use of traditional practices. Among the top five agricultural producers on the continent, it utilizes the least number of tractors and the application of chemical fertilizers is relatively modest. Overall labor productivity or output per farmer is extremely low. The average farmer in Ethiopia earns only around 13 % of the annual earnings of a farmer in Nigeria. Reliance on rainfall and low-technology methods contributes to the extreme poverty of farming households in rural Ethiopia (Table 17.3).

Table 17.3 Agricultural performance of selected Sub-Saharan African countries (Pratt and Yu 2008)

Performance indicators/country	Nigeria	Sudan	Ethiopia	Kenya	Ivory cost
\$US values of output share in %	27	6.6	6.1	4.9	4.7
Farmers per 1,000 ha	472	456	2,204	2,365	458
Tractors per 1,000 ha	0.9	0.7	0.3	2.5	0.6
Livestock per 1,000 ha	321	1,253	1,634	1,240	137
Fertilizer kg/ha	5.8	4.5	13.2	28.3	13
Output per farmer in \$US	1,405	676	186	321	1,193

17.3.2 Rural and Poverty Centered Economic Performance

There has been a positive trend in the Ethiopian economy over the last few years. The GDP declined by an average of 0.3 % per annum in 2001–2002 and 2002–2003, mainly because of a drop in agricultural output of 6.2 %. In the following year agricultural output recovered and the economy showed significant growth. According to official figures annual growth in GDP has been in double digits since 2003–2004. This sustained rate of GDP growth above the rate of population growth is expected to have improved the well-being of the population. Notable growth has been exhibited by all three major sectors of the economy: agriculture, industry, and service. In the last few years agriculture has become the driver of consistent economic growth (Table 17.4).

The growth in value-added agriculture has come as a result of both land expansion and increased productivity. Both the amount of land under cultivation and the volume of crop production increased consistently between 2003–2004 and 2009–2010. Except for 2007–2008, the rate of production growth was higher than the rate of expansion of cultivated land for seven consecutive years, indicating growth in the yield per hectare of land over the same period (Table 17.5).

Growth in the performance of agriculture in excess of the rate of population growth may be interpreted as a reduction in rural poverty for three reasons. First, this growth is primarily a result of improvements in the productivity of small-scale subsistence farmers, because large-scale commercial farming is not well-established in Ethiopia. Second, although this growth does not necessarily translate itself into proportional improvement in the well-being of all households, given that Gini coefficient is relatively lower in rural Ethiopia, (MoFED 2008), there is a high probability of corresponding improvement in the well-being of a large segment of the rural population. Third, according to the Lorenz curve (ECOSOC 2007), improved input supply among rural households (as a proxy for extension assistance) has been more or less balanced and thus it is likely that this growth corresponds to contributions from the majority of households.

The growth of the agricultural sector contributes to the growth of other sectors through trickle-down effects that are also likely to positively influence the lives of rural people. In an economy-wide model used to analyze growth and poverty reduction linkages in Ethiopia, Diao et al. (2007) showed that broad based growth in agriculture is likely to reduce poverty in the country. Growth in agriculture induces

Table 17.4 Recent Ethiopian economic indicators

Sector/year	Average									
	2001/2002– 2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average 2003/2004– 2009/2010	
Growth rates (percentages)										
GDP	-0.3	11.73	12.64	11.54	11.79	11.19	10.03	10.44	11.34	
Agriculture	-6.2	16.97	13.54	10.92	9.45	7.49	6.35	7.63	10.34	
Crop	-10.1	25.56	19.51	14.97	11.02	7.99	6.47	8.74	13.47	
Livestock	-1.7	8.02	5.94	4.90	7.88	7.32	7.05	6.19	6.75	
Share from GDP in %										
Agriculture	47	47.0	47.4	47.1	46.1	44.6	43.1	42.0	44.9	
Crop	29.6	27.6	29.3	30.2	30.0	29.2	28.2	27.8	28.9	
Livestock	15.1	14.3	13.5	12.7	12.2	11.8	11.5	11.0	12.2	
Growth contribution to GDP										
Agriculture	-	68.0	50.8	44.6	37.0	29.9	27.3	30.7	41.0	

Based on World Bank (2010) and MoFED (2010)

Table 17.5 Area under cultivation, production, and productivity of food grain in Ethiopia

Year	Cultivated land (millions of hectares)	Production (millions of quintals)	Yield (quintals/ hectare)	Growth rate (percentages)		
				Land	Production	Yield
2003–2004	8.7	103.6	11.9			
2004–2005	9.8	119.1	12.2	12.6	15	2.5
2005–2006	10.2	133.8	13.1	4.1	12.3	7.4
2006–2007	10.5	155	14.8	2.9	15.8	13
2007–2008	11	161.2	14.7	4.8	4	–0.7
2008–2009	11.2	171.1	15.3	1.8	6.1	4.1
2009–2010	11.5	180.8	15.7	2.7	5.7	2.6

Based on CSA (2006, 2007, and 2008)

higher overall growth than other sectors. Poverty growth elasticity is greater when additional income is driven by agriculture, which is the primary source of rural livelihoods relative to non-agricultural sectors of the economy.⁹

The cottage and handicraft industries sub-sector is a major source of income in rural areas after crop and livestock production, and hunting. Many rural people in both crop producing areas and pastoralist communities engage in this sub-sector either full time or as a secondary income generating activity. The value added by the small-scale cottage and handicraft sub-sector grew by about 7 % between 2003–2004 and 2009–2010. Given this overall growth, assuming that the increase in cottage and handicraft activities exceeds the rate of population growth, then it is likely that this sub-sector has also reduced poverty among the rural population that derives income from it. In addition to increased agricultural and nonagricultural activities, capital expenditures on poverty related sectors could also reduce poverty through the creation of job opportunities or other support. Rural antipoverty expenditures on agriculture, rehabilitation, construction, education, and health care have also expanded over this period (Fig. 17.1).

Expenditures on the construction of micro-irrigation schemes and micro-dams, the development of springs, and similar efforts are expected to reduce acute water shortages during droughts. Expansion of road networks and telecommunication services ease market access, reduce transaction costs, and diversify both farm and off-farm economic activities. Easier access to markets, the expansion of microfinance, productive safety net programs, and the formation of service cooperatives reduce the need for small-scale farmers to sell product when prices are low (MoFED 2008). Improvements in market access not only help reduce price margins and transaction costs between consumers and producers in a given area, but also reduce price variations at greater market scales. The implications of the various interventions by different stakeholders, including the government and donors, and the participation of the people in the improvement of their own lives, can be broadly assessed from the welfare indicators presented in Table 17.6.

⁹According to Diao et al. (2007) a 1 % annual increase in per capita GDP driven by agriculture led growth leads to a 1.9 % reduction in the poverty head count rate.

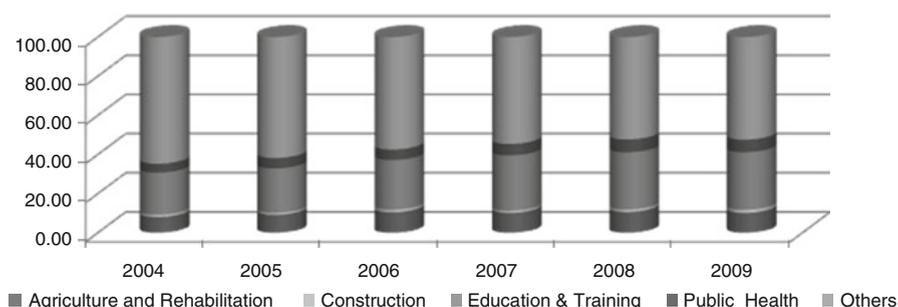


Fig. 17.1 Capital expenditures on “pro-poor” economic sectors in Ethiopia (Based on MoFED 2010)

Table 17.6 Living condition indicators in Ethiopia over time

Indicators	2004–2005	2009–2010	Indicators	2004–2005	2009–2010
Macroeconomy			Education		
Per capita income at current prices \$US		472	Gross primary education (1–8) coverage (percent)	79.8	94.2
Consumption/GDP ratio (percent)	96.3	90.6	Primary school girls to boys ratio	0.81	0.93
Investment/GDP ratio (percent)	21.6	23.7	Health		
Saving/GDP ratio (percent)	3.7	9.4	Primary health service coverage	70	89
Foreign aid/GDP ratio (percent)	4.0	3.9	Under-five mortality rate (per 1,000)	123	101
Poverty related government expenditure to GDP ratio (percent)	14.2	12.5	Rural potable water coverage (percent within 1.5 km)	35	65.8
People below absolute poverty line (percent)	39.0	29.2	People below food poverty line (percent)		
Households covered in the PSNP	4,800,000	7,800,000			

Based on MoFED (2006, 2010)

Per capita income in terms of current prices has reached US\$472 in 2010 with incremental growth for the last 7 years. There has been a corresponding decrease in the percentage of people living below absolute poverty from 39 to 29 %. Savings as a share of GDP have also risen by more than double, indicating country-wide improvements in living standards. As long as agriculture continues to grow at a meaningful rate, rural poverty will be reduced by some margin. Gross primary

Table 17.7 Education coverage in Ethiopia, 2004–2005 to 2008–2009

Access indicators	2004–2005			2008–2009		
	Total	Male	Female	Total	Male	Female
Grade 1: net intake rate	60.9	62.2	59.6	82.0	84.1	79.9
Net enrollment rate—primary 1–4	67.6	69.9	65.1	88.7	90.3	87.0
Net enrollment rate—primary 1–8	68.5	73.2	63.6	83.0	84.6	81.3
Gross enrollment secondary 9–10	27.3	36.6	21.6	38.1	43.7	32.4
Percentage of higher education enrollment		76.0	24.0		71.5	28.5
Primary 1–8 students/section	69			59		
Primary 1–4 (girls/boys)	0.87			0.90		
Primary 5–8 (girls/boys)	0.69			0.92		
Secondary 9–10 (girls/boys)	0.57			0.74		

Based on MoE (2010)

education and health coverage have also improved significantly. Child mortality has been reduced by 22 per 1,000 within 5 years. Rural water coverage has almost doubled within the last 5 years. The World Bank (2010) indicates that around 62 and 88 % of the Ethiopian people do not have access to improved water and sanitation services respectively. These changes have already been reflected in the HDI of the UNDP (Table 17.7).

The rates of enrollment for all education levels indicate expansion in education coverage. Within a period of 4 years, this achievement has been significant. This situation reveals the possibility of achieving universal primary education (UPE) by 2015. Despite the changes in overall primary enrollment, the rates for secondary education are quite low.

Within the health sector, the number of health facilities (health centers, health posts, and hospitals) has grown more than the rate of population growth as shown in Table 17.8. As a result, the ratio of people per health facility has declined by 8 % for hospitals and 16.5 % for health centers. Consequently, health care coverage rose at an annual rate of around 13 % over the period from 2005–2006 to 2008–2009. Consistent with the health policy emphasis on preventive health measures, the number of health extension workers has increased substantially over the same period. With respect to core health professionals, although the number of health officers has increased significantly the number of physicians and nurses has declined, leading to an increase in the number of people per health care professional. Despite the expansion of physical facilities, the shortage of health care professionals likely has negative impacts on the provision of health care services.

In general the indicators presented in Table 17.8 reflect improvements in public well-being. However, there is some debate on the effects of antipoverty interventions and expenditures on poverty. Tewodaj et al. (2008) argue that not all types of antipoverty expenditures improve income levels and income-based measures of well-being. Public expenditures on agriculture do not affect productivity as substantially as would be expected. Significant effects of expenditures on agriculture have only been observed among rural households residing near urban centers. Education spending has widespread and similar effects on welfare across different regions, whereas health spending does not seem to have similar effects on welfare.

Table 17.8 National level health care coverage in Ethiopia, 2005–2009

Health indicators	2005–2006	2006–2007	2007–2008	2008–2009	Annual growth rate ^a
Total population	72,045,327	73,918,505	75,840,386	77,812,236	2.7
Primary health service coverage	76.9	86.7	89.6	90	5.7
Number of hospitals	138	143	149	195	13.8
Number of health centers	635	690	732	1,362	38.2
Number of health stations and health centers	1,206	1,376	1,517	No data	12.9
Number of health officers	715	1,151	1,242	1,606	41.6
Number of nurses	17,845	18,146	16,765	No data	-3.09
Physicians	2,155	1,806	2,085	2,151	-0.1
Health extension workers	9,900	17,653	24,571	30,950	70.9
Population per hospital	522,068	516,913	508,996	399,037	-7.9
Population per health center	1134.57	107,128	103,607	57,131	-16.5
Population per health station	59,739	53,720	49,994	No data	-8.2
Population per physician	33,432	40,929	36,374	36,175	2.7
Population per nurse	4,037	4,074	4,524	No data	6

MoH (2010)

^aIn percentages

According to the World Bank (2010) around 40 % of Ethiopians still live on less than US\$1.25/day (in PPP terms), implying that the intensity of poverty is still substantial. Recurrent droughts and acute food shortages continue to be distinguishing features of the country. Widespread reliance on traditional subsistence farming practices has led to the degradation of agricultural land. Ethiopia ranked second in the world after Burkina Faso in the percentage (72 %) of its people that live on degraded land (World Bank 2010). That study also found that overall life self-satisfaction among Ethiopians was rated 4.2 out of ten, indicating that approximately 58 % of the people are not satisfied with their way of life. Only 33 % of Ethiopians felt that their standard of living is normal and the majority of the population had a negative opinion of their life experience. That study also found that 20, 32, and 39 % of the population were satisfied with the quality of health care, education, and water respectively (World Bank 2010).

17.4 Growth Divergence Across Geographical Areas

17.4.1 Growth Divergence in Income

Crop Producing Farmers. The main livelihood source in the rural highland and semi-highland populations of the country is crop production. Over the last 7 years crop production has exhibited a high rate of growth, exceeding that of the

livestock sector. According to official statistics the pace of crop production growth even exceeded the rate of GDP growth for three consecutive years until 2005–2006. This production growth is likely to have made some improvement in the welfare of the majority of residents in rural crop producing areas. Export crops include coffee, oilseeds, and pulse beans. Most export crops are produced by relatively well-off cash crop producers, so the growth in export crop production may not have directly improved rural poverty conditions. It is possible that conditions improved indirectly due to the boost to the overall economy from greater export crop production.

Food Insecurity in Highland and Semi-Highland Areas. Although the main source of livelihoods of people in these areas is farming, food shortages occur frequently because of the irregularity and inadequacy of rainfall. The PSNP focuses largely on these areas and has somewhat improved livelihoods in food insecure areas. There have been an estimated 7.8 million chronically food insecure beneficiaries of the government managed PSNP. This does not mean, however, that the contribution of the PSNP is sufficient to resolve the problem.

Only 18,538 households have graduated from the program in the three most populous regions states: Amhara, Oromiya, and SNNPR (Amdissa 2010). The program failed to reach approximately 70 % of the food insecure households in those regions (Sharp et al. 2006), leaving a high number of chronically food insecure households. Consecutive seasons of failed rainfall, a rapidly growing population, endemic poverty, and limited government capacity are still major causes of chronic food insecurity and water shortage in large parts of the country (USAID 2010). The federal government estimates that 4.8 million people were in need of emergency food assistance from January to June 2010, indicating that poverty and food insecurity are still very serious problems in the country.

Pastoral Areas. The number of pastoralists in Ethiopia was estimated at between 12 and 15 million people in 2004. The pastoralist populations consist of different ethnic groups and occupy 61 % of the nation's land area. Approximately 92 % live in Somali, Afar, and Oromiya (PFE 2004), the remaining 8 % are in parts of Oromiya, the South Omo area of SNNPR, Gambella, and other regions (Assefa 2008).

Pastoralist livelihoods rely on livestock production and hunting. Economic activities in pastoral communities contribute an estimated 12 % of the GDP (Assefa 2008). Pastoral areas account for approximately 42 % of the national livestock population (PFE 2004). Pastoral areas of Ethiopia typically have harsh climatic conditions featuring erratic and low average annual rainfall, high temperatures, and ecologically fragile environments with degraded soils (PFE 2004).

Livestock production is not only important to pastoralists, it is vital to the economy of many crop farmers as well. As with crop production, the performance of this sub-sector has been greatly hampered by recurrent drought and other supply-side problems. This sub-sector has grown faster over the last 7 years than the rate of population growth, therefore poverty in pastoralist areas is expected to have fallen as well. The growth rate of value-added complements to the livestock sub-sector has been relatively lower than for crop production. It has been argued that growth in the livestock sector could also have a significant effect on economic growth, but with a

relatively lesser effect on poverty alleviation because of the fact that this sub-sector engages fewer people than crop production.

Improving conditions for marginalized segments of the population has paramount social and political implications beyond mere economic importance. The PCDP is one of the mechanisms for applying interventions to address development inequality. A total of US\$60 million was allocated in phase one of the PCDP for 1,804 community initiated micro-projects in 32 (25 % of the total) pastoral *woredas* (Assefa 2008). These interventions included contributions to income generating activities, water projects for humans and livestock, and the construction of schools, health posts, veterinary clinics, small-scale irrigation projects, and roads. The total number of beneficiaries of these interventions was estimated to be one million pastoralists. These interventions indicate that there is social capital with huge development potential in terms of articulating problems, basic needs, and related solutions, and the commitment for the development of micro-projects (Assefa 2008).

Despite the various initiatives of the government, the international community, and NGOs, there are still very large imbalances, particularly between the highland and lowland parts of the country. Growth strategies and plans, including the Food Security Strategy, did not seriously consider the plight of pastoralists or draw lessons from past experiences and realities in pastoral areas (PFE 2004). Some argue that pastoralists are the most economically and politically marginalized social group in Ethiopia. In some cases pastoralist land was appropriated unlawfully and without the consent of pastoralist communities for purposes such as commercial farms and wildlife conservation areas. The absence of by-laws to apply the provisions of the constitution that protect communities from dispossession of their land is one of the manifestations of marginalization.

Despite some improvements over the years, health, education, and other services are still less available in pastoralist areas than the rest of the country. The effects of natural resource loss, recurrent drought, and the inadequacy of economic and social services, have exceeded the capacity of traditional pastoralist coping mechanisms and aggravate the problems associated with poverty (PFE 2004). Historic movements from the highlands to the lowlands, including both voluntary and involuntary government resettlement efforts to alleviate land scarcity, have increased social conflict due to competition for grazing land and water. As a result, life in the lowlands became harsher and more prone to conflict than before (Patterson 2007).

Aside from marginalization in terms of inadequate government attention, the interventions are often perceived as top-down approaches. Local and government perceptions and evaluations of risk differ significantly in the case of pastoralists in Afar (Rettberg 2010). The government considers the pastoralist way of life responsible for the pastoralist livelihood crisis in the state, whereas pastoralists blame the ignorance and policies of the government. For the pastoralists in Afar, drought, health risks, and shortages of food and water are risk factors. For instance, efforts by the government to settle pastoralists along river banks are perceived by some as a policy intended to end their traditional pastoralist lifestyle. If there is a lack of understanding of the root causes of impoverishment in pastoral areas, it may lead to policies that reinforce marginality by keeping communities in a poverty trap despite costly interventions.

Table 17.9 Primary education enrollment in Ethiopia by regional state (MoE 2010)

Regional state	Primary enrollment			Share of female to male		2008–2009 primary enrollments (1–8) (%)		
	2004–2005	2008–2009	Growth rate (%)	2004–2005	2008–2009	Male	Female	Total
Tigray	773,026	1,000,626	6.7	0.49	0.5	95.6	98.1	96.9
Afar	52,671	100,429	17.5	0.36	0.39	25.3	23.2	24.4
Amhara	2,798,860	4,156,399	10.4	0.48	0.49	101.4	103.1	102.2
Oromiya	4,561,378	5,570,628	5.1	0.42	0.46	80.9	74.8	77.9
Somali	192,914	358,224	16.7	0.36	0.38	33.3	29.4	31.6
Benishangul–Gumuz	131,672	171,170	6.8	0.4	0.43	97	80.1	88.6
SNNPR	2,304,980	3,505,713	11.1	0.42	0.46	94.3	84.5	89.4
Gambella	53,865	77,075	9.4	0.39	0.43	80.2	69.7	75.2
Harari	26,448	39,932	10.8	0.43	0.45	100.2	83.6	91.9
Total	11,448,641	15,553,142	8	0.44	0.47	84.6	81.3	83

17.4.2 Education and Health Coverage

Primary education enrollment increased from 2004–2005 to 2008–2009 in all regional states (Table 17.9). The rate of increase has not been uniform. Although this data includes both urban and rural areas, the rural population is relatively much larger, therefore these trends should reflect the situation in rural areas. In the relatively lagging regions of Afar, Gambella, Benishangul-Gumuz, and Somali, it is possible that enrollment has grown to compensate for a historic backlog.

The data presented in Table 17.9 clearly show that the enrollment ratio of girls to boys consistently favors boys with the exception of Tigray and Amhara. In predominantly pastoralist regional states like Afar and Somali, the enrollment rate is much lower than the national average and in other regions. The other two regional states with significant pastoralist populations (SNNPR and Oromiya) also have relatively lower enrollment rates than predominantly crop producing regional states like Tigray and Amhara. Despite the fact that Gambella and Benishangul-Gumuz are relatively undeveloped regions of the country their enrollment performance is relatively good (Table 17.10).

Great regional health care service coverage disparity is evident in Ethiopia. The immunization coverage was over 70 % in Tigray, Harari, and Addis Ababa, whereas the coverage in Somali, Gambella, and Dire Dawa was less than 40 %. In family planning coverage Dire Dawa, Amhara, and Tigray rank the highest, and Afar, Somali, Gambella, and Benishangul Gumuz were the lowest because population pressure has not been a serious problem in these areas. Gambella and Benishangul-Gumuz have relatively high numbers of health professionals, Afar and Somali have the least health professionals. There is a relatively high concentration of nurses, health officers, and physicians in Tigray, Addis Ababa, Dire

Table 17.10 Selected health service indicators in Ethiopia by regional state (MoH 2010)

Regional state	Immunization coverage (%)	Family planning coverage (%)	Access to potable water (%)	Number of nurses	Number of health officers	Total health workers (less HEW)	Health extension workers (HEW)
Tigray	77.8	67.8	80	2,332	289	5,339	1,259
Afar	44.1	12.8	58	185	44	723	375
Amhara	67.4	69.3	59.3	3,790	738	13,730	6,415
Oromiya	64.9	50.6	57.6	5,040	826	21,125	12,875
Somali	30.3	6.6	33.5	314	83	2,188	1,100
Benishangul-Gumuz	53.3	25.6	51.5	452	54	1,170	499
SNNPR	69.9	76	74.2	3,980	462	13,859	7,492
Gambella	35.9	20.3	44.6	91	26	618	457
Harari	74.4	35.6	56	276	51	555	32
Addis Ababa	77.6	32.8		3,377	1,104	6,386	0
Dire Dawa	39.8	83.8	75.8	272	72	621	74
National	65.5	56.2	61.5	20,109	3,758	66,314	30,578

Dawa, and Harari. Approximately 80 % of the residents of Tigray have access to potable water. Afar, Somali, and Gambella have the lowest percentage of residents with potable water access.

17.4.3 *Vulnerable Social Groups*

In policy terms, various measures have been taken to address cultural discrimination against women that limits access to resources and opportunities at both the household-level and beyond. The most important achievement in terms of reducing the vulnerability of women to marginalization in rural Ethiopia is the right to own land. Land registration procedures in many regions of the country require the name of the buyer's spouse to also be registered (Deininger et al. 2008). Widows are also given land titles. Having a registered land title increases confidence and empowers women to either invest in activities with long-term dividends (perennial crops or environmental protection activities) or rent land without fear of it being appropriated by tenant farmers.

Women's access to education, health care, as well as donor and government co-supported extension and relief activities, has improved. For instance, between 2004–2005 and 2009–2010, the ratio of girls to boys in primary school across the country improved from 0.81:1 to 0.93:1. The workloads of women at the household-level has also been reduced because of improvements in health services (which have reduced frequency of communicable diseases affecting children and overall households), and access to potable water (reduced the amount of time spent fetching water). The expansion of MFIs and gender oriented programs by the government, and both political party affiliated and independent NGOs, have provided many opportunities for creating income generating activities.

Table 17.11 Alternative rural basic education enrollment in Ethiopia by regional state: 2008–2009 (MoE 2010)

	Male	Female	Total	Female/ total (%)	Regional share (%)
Tigray	2,866	2,592	5,458	0.47	0.75
Afar	11,195	6,340	17,535	0.36	2.4
Amhara	207,749	177,882	385,631	0.46	52.8
Oromiya	103,100	81,397	184,497	0.44	25.3
Somali	0	0	0		0
Benishangul–Gumuz	13,241	10,044	23,285	0.43	3.2
SNNPR	57,402	48,993	106,395	0.46	14.6
Gambella	4,147	2,587	6,734	0.38	0.9
Total	400,056	330,223	730,279	0.45	100

There are criticisms of the effectiveness of gender oriented interventions. According to Demessie and Yitbark (2008), the lives of women have not changed significantly in the last few decades. Women have not benefitted much from extension services (only 9 %) because of the inability to make down payments of up to 25 % of the total input purchase. Credit services are mainly for agricultural resources linked with land and other resource endowments, and thus offer little to the marginalized poor, specifically women (Hareg Consult PLC 2005). One of the basic constitutional rights intended to support women is the right to own land. In the context of rural Ethiopia a land parcel is the most vital property a person or household may own, but women only own around 11 % of all agricultural land in the country (CSA 2006).

Despite several legal restrictions and measures enacted over the last decade, women still face widespread violations of their constitutional rights. Female students frequently confront problems such as early marriage, abduction and rape, unwanted pregnancy, heavy work-loads at home, and stigmas associated with gender parity (ADA 2011). In the area of education, enrollment growth has exceeded the rate of population growth. Both genders have been beneficiaries of this growth despite enrollment gender disparity in many of the regions. In addition to regular education, alternative basic education opportunities provide increased access to education for students above primary age (Table 17.11).

The total number of beneficiaries of the Alternative Basic Education program is estimated to be around 0.7 million people, and 53 and 25.3 % of the beneficiaries are from the regional states of Amhara and Oromiya respectively. The shares of beneficiaries from other regions are extremely low. Somali in particular, has not been benefiting from this program. In all regional states, the relative proportion of female beneficiaries has been low.

Many children are deprived of their right to education because either their families cannot afford education related costs or the opportunity cost of schooling is too high (ADA 2011). Koohi-Kamali (2008) found evidence of gender bias against girls in adult consumption patterns of Ethiopian households after controlling for the effects of number and age of children. This evidence supports the case for

empowering women, including enhancing their income to reduce intra-household inequality, partly through increased expenditure on goods that benefit the welfare of children.

Poverty in rural areas has the greatest effects on children. Poor farmers with small plots or degraded land, particularly from the highland parts of the country, have few options to putting their young children to work for meager income. Some are forced to migrate to urban areas to seek work so that they can help maintain their household. High population pressure, low agricultural productivity, drought, inability to afford the costs of agricultural inputs, and early marriage are some of the motivators of rural-to-urban migration (Girmachew 2009). Rural-to-urban migration arises from the intricate socio-economic problems in rural areas and often ultimately results in the marginalization of the migrants in urban areas.

Although not much is known about the extent of people living with physical disabilities in Ethiopia, its magnitude cannot be underestimated. UNICEF (2006) estimated that the disabled numbered between 5 and 7.7 million. Because of inherent discrimination and physical constraints, poverty among the disabled is expected to be greater than the rest of the population. Studies of other developing countries indicate that poverty among the disabled is harsher than for other poor (UNICEF 2006). In light of the scarcity of information available, it can be assumed that the situation is not any different in Ethiopia.

The extent of poverty and its underlying causes are expected to be more apparent in the case of the disabled for several reasons. First, a disability often does not allow one to work productively in typical activities requiring physical labor, such as the traditional agricultural livelihoods in Ethiopia. Second, access to social services such as education is generally limited for the disabled in Ethiopia and more so in rural communities due to the lack of appropriate facilities, the distance between schools and villages, and limited transportation options. Some families do not send their disabled children to school because of the negative attitudes of other parents and the community (Seleshi 2010). Recently, the attitudes of parents have begun to change and the number of parents taking their disabled children to school has increased.

17.5 Conclusions

The general objective of this research effort was to assess the policies and programs of the federal government of Ethiopia, and also the interventions of other stakeholders that address rural poverty and particularly ultra-poverty and their overall effects. Civil conflict and misguided economic policies during the 1970s and 1980s, widespread reliance on rainfall dependent subsistence farming and recurrent drought have condemned a significant percentage of the Ethiopian people to extreme poverty. Since 1991 relative peace and stability have prevailed in the country. Within the general policy framework of the ADLI development strategy, various economic

policy measures have been taken to mitigate poverty and the inequitable delivery of public services.

More specifically the federal government launched three consecutive medium-term development programs that feature rural development and poverty reduction as core objectives. The various rural development programs, such as the current Growth and Transformation Plan, the frequently expanded coverage of the Food Security Program, the education and health sector programs, and special policies and programs designed to address the problems of vulnerable areas and social groups, are some of the measures intended to alleviate rural poverty and inequality. In addition to the expanded government expenditures on pro-poor sectors of the economy, donor organizations such as local and international NGOs, civil society organizations, and MFIs have been offering technical and financial support for these endeavors.

Between 1991–1992 and 2002–2003 the economy improved considerably, with sustained and reasonably high growth. In particular, the agriculture sector has shown a notable rate of growth, unlike during the 1970s and 1980s. As a result, per capita income has generally increased, particularly in rural areas. As documented in reports by the federal government and international organizations such as the UNDP, there have also been relatively meaningful changes in non-income dimensions of well-being, such as access to education and health care services, and other human development parameters of the rural population.

Although the effects of increased income and the expansion of social services are expected to traverse the rural population in different regions, poverty is still severe and pervasive in rural areas (MoFED 2010). Approximately 30 % of Ethiopians live below the absolute poverty line. Through the PSNP component of the GTP, the government intends to benefit about 7.8 million people, implying that around 10 % of the country's population requires government support to cope up with their current economic conditions (MoFED 2010). Despite consistent double-digit economic growth for over 5 years, the country still needs committed efforts to fully feed its people. Although compensating for the shortfalls accumulated over the years, some regions remain less served than others, regardless of efforts to expand social services throughout the country. Less developed and pastoralist regional states such as Afar, Somali, Benishangul-Gumuz, and Gambella still need greater improvement in the delivery of health and education services.

There have been considerable achievements by some of the efforts to improve access to economic opportunities and social services regardless of gender. Among other measures, the land policy, the family code, and the affirmative action policies in education have improved the socio-economic position of women. However, growth has not corrected gender inequality and the disparities are evident across the country. Given this overall background, there continue to be development issues to address such as regional development disparity and the persistence of severe poverty despite a relatively high rate of economic growth and significant efforts to increase the equitable distribution of economic opportunities and services.

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References

- ADA (2011) Annual performance report. Amhara Development Association, Amharic. <http://www.amhara.org>. Accessed 14 Feb 2011
- Amdissa T (2006) Agriculture, growth and poverty reduction in Ethiopia: policy processes around the new PRSP (PASDEP). Paper prepared at the Future Agriculture Consortium workshop, Institute of Development Studies, Hawassa, 20–22 March 2006
- Amdissa T (2008) A review of education policy, strategies and programs. In: Assefa T (ed) Digest of Ethiopia's national policies, strategies and programs. Forum for Social Studies, Addis Ababa
- Amdissa T (2010) The road for long-term social protection: the case of Amhara region productive safety net programme. In: Alemu G, Getachew D (eds) Proceedings of the first regional conference of the Amhara regional state economic development. Ethiopian Economic Association, Addis Ababa, pp 1–26
- Assefa T (2008) Overview of achievements and challenges in implementing CDD projects. Pastoral communities: the case of pastoral community development project. African Development Bank, Tunis
- Bijlmakers L (2003) Process and impact of the PRSP in Ethiopia. Wemos Foundation, Amsterdam
- CSA (2006) Agricultural sample survey (2005–2006), vol 1, Statistical bulletin 361. Central Statistics Agency, Addis Ababa
- CSA (2007) Agricultural sample survey (2007–2008), vol iv, Statistical bulletin 388. Central Statistics Agency, Addis Ababa
- CSA (2008) Agricultural sample survey (2008–2009), vol iv, Statistical bulletin 417. Central Statistics Agency, Addis Ababa
- Deininger K, Ali DA, Tekie A (2008) Impacts of land certification on tenure security, investment, and land markets: evidence from Ethiopia, Policy research working paper 4764. World Bank, Washington, DC
- Demessie S, Yitbark T (2008) A review of national policy on Ethiopian women. In: Assefa T (ed) Digest of Ethiopia's national policies, strategies and programs. Forum for Social Studies, Addis Ababa, pp 93–126
- Desalegn R (2008) Ethiopia: agricultural policy review. In: Assefa T (ed) Digest of Ethiopia's national policies, strategies and programs. Forum for Social Studies, Addis Ababa, pp 129–151
- Devereux S, Sabates-Wheeler R (2006) Ethiopia's productive safety net programme (PSNP): trends in PSNP transfers within targeted households. Institute of Development Studies, Addis Ababa
- Diao X, Fekadu B, Haggblade S, Seyoum TA, Wamisho K, Yu B (2007) Agricultural growth linkages in Ethiopia: estimates using fixed and flexible price models, Discussion paper no 00695. International Food Policy Research Institute, Washington, DC
- ECOSOC (2007) Emerging Ethiopia: strengthening efforts to eradicate poverty and hunger, including through the global partnership for development. Annual ministerial level substantive review of the Economic and Social Council, voluntary national report 2007. Economic and Social Council, Addis Ababa
- Ellis F, Tassew W (2005) Ethiopia participatory poverty assessment. Ministry of Finance and Economic Development, Addis Ababa
- FDRE (1995) The constitution of the Federal Democratic Republic of Ethiopia. In: Federal Negarit Gazette. 1st year no 1, 21st August 1995, Proclamation no 1, Federal Democratic Republic of Ethiopia, Addis Abeba

- FDRE (2002) Food security strategy. Federal Democratic Republic of Ethiopia, Addis Ababa
- FDRE (2007) The New federal budget grant distribution formula. Federal Democratic Republic of Ethiopia, Addis Ababa
- Getachew M (2008) A review of national policy of Ethiopia. In: Assefa T (ed) Digest of Ethiopia's national policies, strategies and programs. Forum for Social Studies, Addis Ababa, pp 23–45
- Gilligan DO, Hoddinott J, Seyoum AT (2008) The impact of Ethiopia's productive safety net programme and its linkages, Discussion paper no 00839. International Food Policy Research Institute, Washington, DC
- Girmachew A (2009) Church as a refuge for marginalized children in urban Ethiopia. In: Ege S, Aspen H, Berhanu T, Shiferaw B (eds) Proceedings of the 16th international conference of Ethiopian studies. Norwegian University of Science and Technology, Trondheim, pp 1025–1032
- Handicap International and CBM Christoffel-Blindenmission (2006) Making PRSP inclusive. http://www.making-prsp-inclusive.org/uploads/media/Making_PRSP_Inclusive_311008_E.pdf. Accessed Nov 2009
- Hareg Consult PLC (2005) Gender situation analysis in Ethiopia, Draft paper. Hareg Consult PLC, Addis Ababa
- IMF (2006) The federal democratic republic of Ethiopia: poverty reduction strategy paper – 2003/04 annual progress report, IMF Country report 06/27. International Monetary Fund, Washington, DC
- Koohi-Kamali F (2008) Intra-household inequality and child gender bias in Ethiopia, Policy research working paper no 4755. World Bank, Washington, DC
- Lipton M (2005) Can small farms survive, prosper, or be the key channel to cut mass poverty? Paper presented at the Food and Agriculture Organization's symposium on agricultural commercialization and the small farmer, Rome, 4–5 May 2005
- MOA/FAO (1984) Ethiopian highland reclamation studies. The degradation of resources and an evaluation of action to combat it, Working paper 19. Ministry of Agriculture/Food and Agriculture Organization of the United Nations, Addis Ababa
- MoARD (2009) Food security program 2010–2015. Ministry of Agricultural and Rural Development, Addis Ababa
- MoE (2010) National report on the development and state of the art of adult learning and education. Ministry of Education, Addis Ababa
- MoFED (1993) An economic development strategy for Ethiopia: a comprehensive guidance and a development strategy for the future. Ministry of Finances and Economic Development, Addis Ababa
- MoFED (2002) Strategy paper for promoting development and poverty reduction. Ministry of Finance and Economic Development, Addis Ababa
- MoFED (2006) Ethiopia: building on progress a plan for accelerated and sustained development to end poverty (PASDEP). Ministry of Finance and Economic Development, Addis Ababa
- MoFED (2008) Dynamics of growth and poverty in Ethiopia (1995/96–2004/05). Ministry of Finance and Economic Development, Addis Ababa
- MoFED (2010) Five years (2010/11–2014/15) growth and transformation plan, Amharic version. Ministry of Finance and Economic Development, Addis Ababa
- MoFED (2011) Growth and transformation plan (GTP): 2010/11–2014/15. Ministry of Finance and Economic Development, Addis Ababa. <http://et.mofcom.gov.cn/accessory/201101/1296371918402.pdf>. Accessed 10 Jan 2011
- MoH (2010) Health and health related indicators. Ministry of Health, Addis Ababa
- MoH (2011) Health sector development program. Ministry of Health, Addis Ababa
- NCFSE (2003) Food security programme, vols 1 and II. New Coalition for Food Security in Ethiopia, Addis Ababa
- Omamo SW, Diao X, Wood S, Chamberlin J, You L, Benin L, Wood-Sichra U, Taywangire A (2006) Strategic priorities for agricultural development in Eastern and Central Africa, IFPRI-ASARECA research report 150. International Food Policy Research Institute, Washington, DC

- Patterson KP (2007) Integrating population, health, and environment in Ethiopia. Population Reference Bureau, Washington, DC
- PFE (2004) Pastoralist Forum Ethiopia strategic plan: 2004–2008. Pastoralist Forum Ethiopia, Addis Ababa
- Pratt AN, Yu B (2008) An updated look at the recovery of agricultural productivity in Sub-Saharan Africa, IFPRI discussion paper no 00787. International Food Policy Research Institute, Washington, DC
- Rettberg S (2010) Contested narratives of pastoral vulnerability and risk in Ethiopia's Afar region. Practical Action Publishing, Rugby
- Seleshi Z (2010) Disability and development: the need to develop disability-inclusive PASDEP in Ethiopia. Poverty Action Network, Addis Ababa
- Sharp K, Brown T, Teshome A (2006) Targeting Ethiopia's productive safety net program (PSNP). Overseas Development Institute/The IDL Group, London
- Tewodaj M, Gezahegn A, Zelekawork P (2008) The bang for the birr: public expenditures and rural welfare in Ethiopia, Research report 160. International Food Policy Research Institute, Washington, DC
- UNDP (2010) Human development report 2010: the real wealth of nations: pathways to human development. United Nations Development Programme, New York
- UNICEF United Nations Children's Fund (2006) UNICEF Ethiopia disability program: key child disability facts. United Nations Children's Fund, New York
- USAID (2010) Ethiopia-complex emergency, situation report 3, fiscal year (FY) 2010. United States Agency for International Development, Washington, DC
- Workneh N (2008) Food security and productive safety net program in Ethiopia. In: Assefa T (ed) Digest of Ethiopia's national policies, strategies and programs. Forum for Social Studies, Addis Ababa, pp 1–22
- World Bank (2006) Productive safety net APL II project in support of the second phase of the productive safety net program, Report 37224-ET. World Bank, Washington, DC
- World Bank (2009) Productive safety net APL III project in support of the third phase of the productive safety net program, Report 48633-ET. World Bank, Washington, DC
- World Bank (2010) World development report 2010: development and climate change. World Bank, Washington, DC

Part V
Responses to Marginality at Different
Levels: State, Business, and Community

Chapter 18

Macro, Fiscal and Decentralization

Options to Address Marginality and Reach the Extremely Poor

S. Ehtisham Ahmad

Abstract Reaching the extremely poor and marginal groups in countries where local politicians and officials have little incentive to provide for them is a challenge to addressing marginality in many countries. Financial and taxation arrangements, information constraints, and institutional aspects between central and local governments to address these challenges are identified in this chapter. The instruments that might be involved include a range of options, from transfers or assistance from higher levels of government (donors), cash support, or the provision of public services (particularly health care and education), other forms of income or employment support, to assistance for small-scale enterprises. In this chapter the author concludes that in the absence of genuine local interest in providing for the marginalized and extremely poor, direct provision of funding by central governments and aid agencies appears to be the main feasible option.

Keywords Fiscal policy • Marginality • Poverty • Transfers • Decentralization

18.1 Introduction

How does one reach the extremely poor and marginal groups in countries where local politicians and officials may have little incentive to provide for them? This lack of incentive may be because these groups are minorities in these areas, either due to ethnicity, language, or caste. In other cases these groups may be predominantly women and/or children who are not be able to vote and thus exert political pressure on local politicians (e.g., in some very traditional societies).

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The difficulty for a central government in reaching the extremely poor may be that it may not have adequate information on the relevant groups, and/or may have limited ability to provide benefits directly. Providing assistance through tied transfers to local governments may incur the risk that there could be a diversion of resources to other interests by local officials or politicians. In other cases, even the central government may not have the best interests of the extremely poor in mind, and external aid from foreign governments or altruistic foundations may be subject to capture and diversion at both the national and local levels of government.

Even in some of the more advanced developing countries, with the possible exception of Brazil, weak institutional arrangements and inadequate public financial management systems limit information flows regarding what is spent, by which level of government, and what the results were. Another aspect contributing to weak governance arises when local governments do not have access to adequate “own-source revenues.”¹ Under such circumstances incentives to divert resources are magnified if the implementation of benefit programs for the extremely poor is handled by local governments, but higher levels of government, or donors, provide the financing.

A typical problem is when there is an altruistic benefactor, whether a central government or an external agency, that lacks adequate information on the target beneficiaries. Examples of such groups could include the Baka and other indigenous tribes of the West African rainforest, or girls and women in the northwestern regions of Pakistan. The relevant information on the target groups may be more easily available at local levels, where government officials do not necessarily assign particular importance to the marginalized or extremely poor groups. The problem can be mitigated, although not eliminated, when the vulnerable groups have a tradition of political action, or have existing legal or constitutional protection such as with the scheduled castes and scheduled tribes in India (Gajwani and Zhang 2008; Palaniswamy and Krishnan 2008).

The extremely poor or marginal groups typically do not qualify for categorical insurance-type benefits, including pensions or unemployment insurance, if they have not participated in the formal labor force. Their marginality may also constrain their ability to participate in adequately remunerated informal activities, or to have equal access to local public services, including basic health care and education. Marginalized groups often live in remote areas and/or have little education or assets (von Braun et al. 2009), which is clearly the case with the Baka tribes (World Bank 2011).

Given the importance of institutional structures and associated influence on incentives to divert resources, I focused here on a typology of options. This highlights some of the preconditions that are needed in order to provide effectively for the most marginal groups. The instruments that might be involved include a range

¹This is defined as some control over revenues at the margin (more likely with respect to the rate structure than the base). It does not follow that the need for local own-revenues implies that there should be local administration, indeed even for local property taxes. The cadastre may have to be kept at higher levels to minimize the incentives to discriminate against the local authorities opponents.

of options, from transfers or assistance from higher levels of government (donors) translated into cash support, or the provision of public services (particularly health care and education), forms of income or employment support, to assistance for small-scale enterprises.

The alternative delivery mechanisms examined here include a spectrum ranging from:

- Direct provisions by local governments with their own resources—this generally works best if the local governments are interested in the welfare of the marginal groups, which may not be the case
- Provisions by local governments with earmarked financing from higher levels of government or donors—this may involve more or less conditionality on the processes and procedures to reach the target groups
- Direct provision by the central government and parallel provision by donors/NGOs

18.2 Better Governance and Incentive Structures—Hard Budget Constraints

Well-meaning assistance for the marginalized groups, either from a central government or external donors, without proper attention to the overall institutional framework and fiscal instruments may reduce incentives for efficient provision and worsen existing governance structures. It may also reduce the political discipline that comes through operating under hard budget constraints. In this section I focus on the overall institutional and fiscal framework. I also address the interactions between instruments, particularly social provision and financing mechanisms. The overall effectiveness relies on complete and accurate information, effective governance, and accountability.

18.2.1 Fiscal Instruments and Preferences

Donors, including international agencies and political activists, are increasingly trying to hold local or subnational governments accountable for the effective delivery of public services—be those basic health care or primary education of marginalized groups, or the effective implementation of targeted public works programs [like the Indian National Rural Employment Guarantee (NREGA)]. The difficulty in many cases is that it is not clear which level of government holds the functional responsibility and whether this level has control over all the needed economic inputs (e.g., employees, wages, operations, maintenance, capital spending) that translate into programs or sub-programs that can be assessed, such that the cost-effectiveness of the performance might be measured. Focusing solely on outcomes is not sufficient in terms of assigning responsibility and achieving cost-effective operations.

Table 18.1 Typical sub-national spending assignments by functions and economic categories as well as administrative arrangements

Functions	Economic classification				Administrative classification
	Wages	Other current	Capital	Other economic categories	Central departments/ municipal
Education					
Primary	CCCC	CCCCC	CCCC M	CCCCC	CCCCC M
Secondary	CCCC	CCCCC	CCCC	CCCCC	CCCCC
Health care					
Basic care clinics	CCCC	CCCCC	CCCC M	CCCC	CCCCCC M
Water	CCCC	CCCCC	CCCC M	CCCC	CCCCCC M
Sanitation	CCCC	CCCCC	CCCC M	CCCC	CCCCCC M

Within each broad economic, functional, and administrative grouping, there are several additional functions that are represented by the full economic classification (see IMF 2001, Government Financial Statistics Manual), or the UN Classification of the Functions of Government (COFOG). For instance, we only identify basic preventive health care as a typical local function in advanced countries, but here it is split as in most developing countries

C represents a central assignment and M represents a municipal assignment

Typically, as in countries as diverse as Bolivia and Cameroon, or even in Pakistan,² local governments do not have full responsibility over program functions or sub-functions. This translates into inadequate control over the economic categories—wages and salaries, hiring and firing decisions—related to the devolved functional responsibilities (e.g., basic education). Yet specific health programs or activities such as building schools are often assigned to local governments that do not have the full associated economic or functional responsibility. For example in Cameroon (World Bank 2011) recent attempts to make municipal governments responsible for the construction of additional schools or clinics, without the corresponding responsibility for providing primary education or basic health care services, make it easy for the local government to evade responsibility or accountability for outcomes. It is quite easy to blame another level of government for the lack of teachers or health care personnel. A system of overlapping responsibilities cannot be easily overcome through social action or political sanctions for nonperformance.

The linkages between functions and how these might be implemented are seen in representations of the typical classification of the budget process (see Table 18.1), depicting the intersection between functions and sub-functions (rows), and the inputs classified by economic categories and administrative arrangements (columns). The responsibilities of lower levels of government appear in designated cells, but not along the rows (functions) or the columns (economic or administrative categories). With this pattern of responsibility, it is hard for an electorate to hold government

²During the 2001–2007 period devolution to districts was attempted by the Musharraf administration in Pakistan, but central control was strengthened by a weakening of political parties at the provincial level.

responsible for the provision of basic health care, primary education, or even potable water and sanitation services.³ In the cases presented in Table 18.1, the municipal government would be responsible for the construction of a school or clinic without having full responsibility for providing the primary education or basic preventive care function or sub-function. This makes it easy for the local government to evade responsibility or accountability for outcomes—as it is quite easy to blame another level of government for the lack of teachers or health care personnel.

18.2.2 *Financing*

At the margin, financing mechanisms also matter—both regarding bases over which the local government has some control (the own-source revenues mentioned below), the design of transfers from higher levels of government, as well as access to credit. Poor design in one or more of the dimensions can override any clarification of spending responsibilities, underlining the importance of interactions across instruments. The lack of accountability at subnational levels often mirrors that found at the national level (e.g., for countries such as Pakistan). Jurisdictions can become accustomed to relying on transfers and capital inflows, with little incentive to use the tax handles that may be available to meet their responsibilities and particularly to deal with deficits.

18.2.2.1 **Own Taxes**

From a political economy perspective, the use of own taxes at the margin is critical for ensuring that the electorates of a locality, region, or country hold governments responsible for their spending. It is through the need to raise additional revenues to meet spending needs that there is a clearer political linkage between spending and financing. This is clearest in the case of debt incurred. Without the ability to raise additional revenues in order to meet future repayments and liabilities, a local government is able to pass liability on to the central or other government levels and related sanctions are just not credible (Ambrosiano and Bordignon 2006). In such cases there are no hard budget constraints or accountability for spending.

Typically in developing countries there has been relatively little focus on designing adequate sources of subnational own-source revenues (see Ahmad and Brosio 2006, 2009 for a discussion of developing countries). Split bases, such as the Goods and Services Tax on services in Pakistan are not generally workable, as the crediting and refunding mechanisms are difficult to handle by subnational governments

³For a description of the internationally accepted standard for the full structure of the economic classification system, see IMF (2001) and the UN's COFOG for the functional classification. The latter tends to correspond to functions or sub-functions for health care or basic education.

without central coordination and multiple rates make the system even more complex and open up the possibility of tax wars (Ahmad 2010). Alternatives include dual Value Added Taxes⁴ (Bird 2010)—without the establishment of complex administrations—giving some control to local authorities.

At the local or municipal level, property or land taxes are suitable handles to generate accountability, but the implementation is patchy (see Ahmad and Brosio 2009 for a review in Latin America). It should be stressed that control over tax rates or bases does not require that each level of government establish its own tax administration. All that is required is that the local jurisdiction be able principally to set its own tax rates.⁵

Another alternative is to consider piggybacked income taxes that would also operate with a single administration. However, this will tend to provide more revenues to the richest localities, and needs to be supplemented by equalization mechanisms to permit local governments to be able to provide similar levels of public services at similar levels of tax effort.

18.2.2.2 Shared Taxes

Tax sharing is quite common and often helps with overall financing needs. Tax sharing may also be needed for political economy purposes, especially in natural resource sectors, to prevent centrifugal forces and to help pacify separatist tendencies—as in the case of the sharing of forestry revenues in Cameroon (Morrison et al. 2009; Oyono et al. 2009; Cerutti et al. 2010; Pye-Smith 2010). However, such tax sharing does not constitute own-source revenues, as additional revenues cannot be generated independently if needed and it does not promote more efficient governance. Further, tax sharing does little to support incentives to provide for minorities, such as the Baka. In this regard tax-sharing revenues are very much like untied transfers, which are described below.

18.2.2.3 Transfer Design—Gap Filling Fiscal Dentistry?

Deficit-filling transfers negate a recipient jurisdiction's incentives to use own-source revenue handles. If deficits are automatically met from higher levels or donors, as was widespread in the Indian subcontinent (see Rao 1998, who referred to this phenomenon as fiscal dentistry), there can be little accountability or efficiency in spending on or targeting vulnerable groups. It can be dangerous when central

⁴Typically these involve joint occupancy of the same base, with separate tax rate setting powers. This does not always involve separate administrations.

⁵In unitary states this may involve setting rates within a band legislated at a higher level. In Mexico, although the constitution is federal with respect to the federal government and the states; the states and local municipal governments have limited jurisdictional authority and intrastate operations are effectively unitary.

governments play this game, as has been the case in Pakistan over the past couple of decades, given its periodic strategic importance. This has led to psychological dependency, poor governance, and aversion to paying taxes (Ahmad 2010). External assistance, including for humanitarian purposes, has reinforced these tendencies.

18.2.2.4 Equalization Transfers

Equalization or untied transfers help to meet local government preferences, without discriminating against regions with low revenue potential or distorting incentives. Such transfers are desirable in order to supplement own-source revenues, which may be largely concentrated in the richer areas with more significant revenue bases and are generally quite disequalizing. But will the local politicians have the incentive to provide for the marginal groups in the presence of equalization transfers? The short answer is that local governments will probably not provide for such groups out of untied resources, and that is one of the contributing factors to marginality problems.

18.2.2.5 Earmarked Transfers

Earmarked transfers are often recommended to meet the objectives of donors or the central government, specifying conditions that must be fulfilled in order to benefit from the funds. In some cases, co-financing requirements are also specified. However, this discriminates against the poorest regions that may not be able to collect the transfers due to lower than average tax-raising capacity.

With poor information flows on how funds are allocated or accounted for and the more complex requirements on the outcomes of the spending, the possibility for a diversion of resources is higher. In the absence of proper benchmarks on spending and costs across regions and local governments, even social action and the mobilization of public opinion (as is being attempted in relation to the Indian public works program NREGA in several states) may not be sufficient.

Given that results-based budgeting is an advanced institutional arrangement that operates mainly in developed countries, withholding funds until the results are demonstrated—the approach now being tried by development partners such as the UK's DFID in some countries—may be quite unrealistic. The sanction of withholding funds in future years may work for investment spending in a repeated games context—if there is both horizontal and inter-temporal competition for funds (Ahmad 2009). However, for basic health care or education services for the most vulnerable the sanction of withholding funds in future years may not be credible.

18.2.2.6 Tracking the Funds and Establishing Hard Budget Constraints

The effectiveness of provision depends crucially on incentives that the providers may or may not have to actually spend the funding efficiently and towards the desired

objectives. This depends, as argued above, on some clarity in terms of what these objectives and responsibilities might be—especially the functional responsibilities and associated economic components. Tracking these systematically is critical and a weakness of governance in many countries. The IMF's Government Financial Statistics Manual 2001 and the UN's Classification of the Functions of Government (COFOG) are essential standards in terms of budgeting, charting of accounts, and tracking spending.

Tracking funds is also critical, and a typical mechanism used for this purpose is a Treasury Single Account (TSA)—which consolidates all the government's cash and provides a trail of how the funds are disbursed and to whom. If there are lots of pots of funds in different bank accounts of various agencies, or donor tracking becomes too difficult, the government loses sight of what is being spent for which public objective.

Donors frequently do not trust national government budgeting systems and prefer to establish their own fund allocation mechanisms, as well as associated bank accounts. This situation has been particularly chaotic in Afghanistan, and has led to difficulties in other countries as distinct as Bolivia and Timor-Leste. The absence of complete information on the funds available also makes it very difficult to initiate social action on the use of funds or to allow the operation of the discipline of yardstick competition.

It is possible to use a modified TSA concept for improving the tracking of spending, especially for lower levels of government and donor agencies. This involves funds flowing into special “correspondent accounts” within the TSA for local governments and specific donors. The treasury then stipulates spending limits for zero-balance accounts in the name of the donor or local government—these accounts continue to operate such as before—but the funds only flow overnight and there are no outstanding balances in these accounts. This provides the government with complete information on spending, as well as more efficient financial management. The donors and local governments operate with their own procedures and safeguards. Figure 18.1 illustrates a simple correspondent account system within a national TSA, serving both a hypothetical local government (LG1) and donor agency (TDA).

The main advantage of the modified TSA arrangement for local governments is the timely and verified generation of complete information on spending for each local government entity on a consistent basis, facilitating effective cash management and creating an electronic trail of payments made. Often as in Cameroon and indeed Mexico (which also does not use a TSA—see Ahmad [in process](#)), and with disparate and varying standards for budget classification and reporting in different jurisdictions, the consolidated accounts of local governments are only available with a considerable lag time of 3 years or more, and are generally not comparable across local governments.

Without basic information on economic and functional classifications as well as the TSA, it is very difficult to generate accurate and standardized information on who spends what amount and for what purpose or when. The question of what actually happens to the money and how effectively it results in improvements in living standards or health outcomes is a subsequent and more difficult stage that presupposes that information on the basic inputs and outputs is available and that

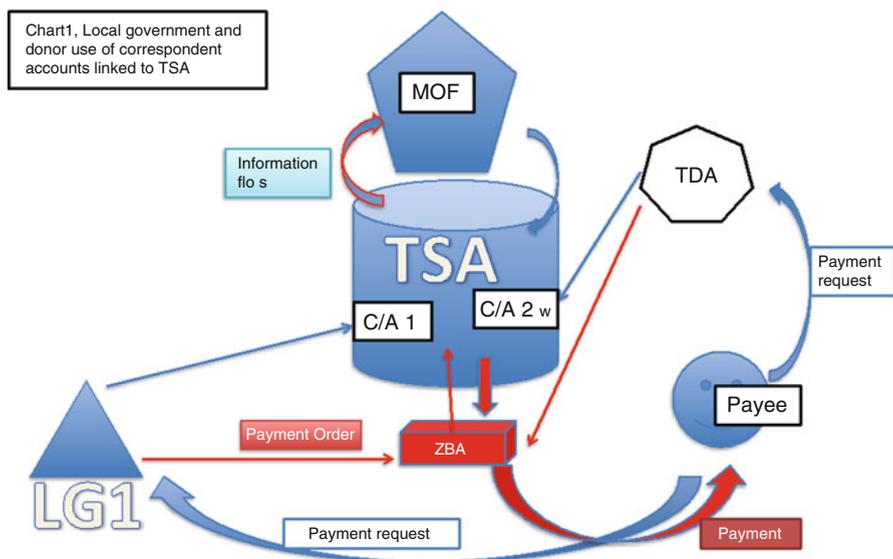


Fig. 18.1 Local government and donor use of correspondent accounts linked to a Treasury Single Account. LG1 is a local government, TDA is a typical donor agency, C/A is a correspondent account within the TSA, and ZBA is a zero-balance account in a commercial bank, which can be operated by either the local government or donor. The ministry of finance (MOF) or treasury establishes spending limits for the ZBA as a function of local government revenues received, or funds provided by the donor, permitting the local government or TDA to draw from the ZBA up to this amount. All information for spending is transmitted through the TSA to the MOF, which is able to produce timely reports on what has actually been spent and for what purpose (Provided that standard formats and classifications are followed)

standard cost-effectiveness assessments are possible. For social action in the manner being attempted for NREGA, or yardstick competition, both sets of information are needed. Reliance by donors solely on evaluation of outcomes is likely to be unrealistic when basic spending information is not available.

Arrears and the buildup of debt liabilities are also mechanisms that are guaranteed to lead to inefficient outcomes at the local level. In this manner the local administrations are able to shift their liabilities on to future generations, the central government, donors, or to other jurisdictions. The inter-linkages between policy instruments are most clearly defined in this case. Without clarity on spending responsibilities, as well as access to own-source revenues, sanctions on local governments for non-performance or breach of debt limits are not likely to be credible.

18.3 Decentralized Provision and Political Economy

If the transfer or funds made available for a particular purpose are of a “one-time” nature, the possibility of capture by local vested interests becomes quite acute, especially if there are broad disbursements and influence, and the intended marginalized beneficiaries have relatively little voice in local government operations (Bardhan

2006). Repeated targeted transfers also run the risk of being either being appropriated by local officials or used by donor governments for political purposes, resulting in what is now being increasingly recognized as “clientelism,” especially if the information on who spends what and for what purpose is hard to attain.

The design of some recent social protection schemes in Latin America originated in categorical targeting requiring minimal information—attendance in schools and maternity clinics. This was part of the original design of Mexico’s *Progresal Oportunidades* program that is considered to be the prototype of successful conditional cash transfers (Coady and Harris 2001).⁶ Applications elsewhere have begun to focus on asset and income tests that are harder to combine, and that may generate additional disincentives.

In a multi-year context, a repeated-games framework would permit the operation of competition for funds across local governments, especially for physical investments and where the sanction to withhold future funds is credible (Ahmad 2009). This form of clientelism may occur with the more complex and information intensive conditional cash transfers, as seen in the Indian subcontinent. In principle, reaching the poor by offering limited financial incentives and requiring a person’s time are better categorical targeting mechanisms. However, financing from higher levels together with poor information flows may contribute to the difficulties of effective targeting with the Indian NREGA and the social action campaigns being launched may lack the informational basis to be truly effective.

18.4 Concluding Remarks

In the absence of genuine local interest in providing for the marginalized and extremely poor, direct provision of funding by central governments and aid agencies appears to be the only feasible option, which may be reflected by the increasing popularity of centrally sourced conditional cash transfers, such as the *Oportunidades* program in Mexico or the *Bolsa* project in Brazil. In the Brazilian case, there is adequate generation of basic information on a standardized basis, but that is not the case in Mexico (or Pakistan for that matter, see Ahmad *in process*). In such cases using simple categorical targeting mechanisms, women through clinics or girls’ through schools, as vehicles for targeting may be more effective. Similarly public works with limited financial incentives (based on the 1970s Maharashtra model, see Agarwal 1991) could be an alternative, especially if the community and the targeted marginalized groups are able to identify the areas where public works may be most useful.

In the final analysis the difficulty lies with incomplete information on need and on the actual spending that is available to central governments and donors.

⁶However, financing mechanisms for *Oportunidades* relied on payroll taxes, which in the presence of labor market informality and evasion, may accentuate disincentives and lower growth potential (Levy 2008).

Local governments may have better knowledge about need, but may lack the incentives to provide for the marginalized or extremely poor, and indeed may use the lack of basic information to divert resources. While much depends on individual circumstances and institutional arrangements available, in all cases the incentive structures are important and the interplay between policy instruments needs to be kept in mind. Above all the basic building blocks for good governance, the ability to track the funds, and the outcomes of public spending remain as important as individual interventions.

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References

- Agarwal B (1991) Social security and the family: coping with seasonality and calamity in rural India. In: Ahmad E, Drèze J, Hills J, Sen A (eds) *Social security in developing countries*. Clarendon, Oxford, pp 171–246
- Ahmad E (2009) The political economy of designing programs to reach the poorest. In: von Braun J, Hill RV, Pandya-Lorch R (eds) *The poorest and hungry: assessments, analyses, and actions*. International Food Policy Research Institute, Washington, DC, pp 237–252
- Ahmad E (2010) The political economy of tax reforms in Pakistan, ZEF discussion paper 142. Center for Development Research, University of Bonn, Bonn
- Ahmad E (in process) Governance and institutions. In: Ahmad E, Brosio G (eds) *Handbook of fiscal federalism II*. Edward Elgar, Cheltenham
- Ahmad E, Brosio G (eds) (2006) *Handbook of fiscal federalism*. Edward Elgar, Cheltenham
- Ahmad E, Brosio G (2009) The political economy of multi-level tax assignments in Latin America. National Tax Association, Columbus, pp 191–215
- Ambrosiano F, Bordignon M (2006) Positive and normative theories of revenue assignments. In: Ahmad E, Brosio G (eds) *Handbook of fiscal federalism*. Edward Elgar, Cheltenham, pp 306–338
- Bardhan P (2006) Decentralization and development. In: Ahmad E, Brosio G (eds) *Handbook of fiscal federalism*. Edward Elgar, Cheltenham, pp 201–223
- Bird R (2010) Central and subnational VATs in federal countries. In: Ahmad E, Al Faris A (eds) *Fiscal reforms in the Middle East*. Edward Elgar, Cheltenham, pp 38–75
- Cerutti P, Lescuyer G, Assembe-Mvondo S, Tacconi L (2010) The challenges of redistributing forest-related monetary benefits to local governments: a decade of logging area fees in Cameroon. *Int For Rev* 12(2):130–138
- Coady DP, Harris RL (2001) A regional general-equilibrium analysis of the welfare impact of cash transfers: an analysis of Progresá in Mexico. International Food Policy Research Institute, Washington, DC
- Gajwani K, Zhang X (2008) Gender, caste, and public goods provision in Indian village governments, IFPRI discussion paper no 807. International Food Policy Research Institute, Washington, DC
- IMF (2001) *Government fiscal statistics manual 2001*. International Monetary Fund, Washington, DC
- Levy S (2008) *Good intentions, bad outcomes*. Brookings Institution, Washington, DC
- Morrison K, Cerruti PO, Oyono PR, Stiel M (2009) Broken promises: forestry revenue-sharing in Cameroon. World Resources Institute, Washington, DC
- Oyono PR, Cerutti PO, Morrison K (2009) *Forest information and governance in Central Africa*. Center for International Forestry Research and World Resources Institute, Washington, DC

- Palaniswamy N, Krishnan N (2008) Local politics, political institutions and public resource allocation, IFPRI discussion paper no 834. International Food Policy Research Institute, Washington, DC
- Pye-Smith C (2010) Cameroon's hidden harvest. Center for International Forestry Research, Bogor
- Rao G (1998) Intergovernmental transfers in India. In: Ahmad E (ed) Financing decentralized expenditures. Edward Elgar, Cheltenham, pp 234–266
- von Braun J, Hill RV, Pandya-Lorch R (2009) The poorest and the hungry: a synthesis of analyses and actions. In: von Braun J, Hill RV, Pandya-Lorch R (eds) The poorest and hungry: assessments, analyses, and actions. International Food Policy Research Institute, Washington, DC, pp 1–61
- World Bank (2011) Cameroon: the path to decentralization, democracy, development and good governance, Report no 63369-CM. World Bank, Washington, DC

Chapter 19

Social Protection, Marginality, and Extreme Poverty: Just Give Money to the Poor?

David Hulme, Joseph Hanlon, and Armando Barrientos

Abstract Social protection programs, especially cash transfer programs, have spread across low- and middle-income countries since the beginning of the millennium, and are increasingly part of national development strategies to assist the poor and particularly the poorest. This chapter lays out a wide range of debates about the specific goals, targets, and conditions of social protection and cash transfers. While there is no single best program option, the authors identified five overriding principles for effective efforts. Thus social protection programs and cash transfers work best when they are: fair, assured, practical, large enough to impact household income, and popular. These principles need interpretation at the national level, because no model can be automatically transferred from one country to another.

Keywords Unconditional cash transfers • Trust • Empowerment • Poverty

19.1 Introduction

Social protection programs, especially cash transfer programs, have spread across low-income and middle-income countries since the beginning of the millennium and are increasingly part of national development strategies (Hanlon et al. 2010).¹

¹This chapter builds on and updates Chapter 10 of Hanlon et al. (2010).

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When the Millennium Development Goals (MDGs) were being set in 2000–2001 social protection was barely mentioned. Ten years later in 2010 at the United Nations “MDGs + 10 Summit,” sessions on every one of the eight goals referenced social protection programs as a means of achieving poverty reduction targets.²

In the short term, well-designed social protection programs reduce poverty levels and ameliorate related suffering, particularly among the poorest (Barrientos and Hulme 2008). In the mid-term they allow many poor people to exercise their agency and pursue micro-level plans to increase their productivity and income. In the longer term, they create a generation of healthier and better educated people who can seize economic opportunities and contribute to broad-based economic growth. Additionally, when sudden crises spread across the world—as with the 2008 triple whammy of global food, fuel and financial crises—these programs help poor families cope with the unpredicted consequences of globalization.

Expanding across the Global South is a heterodox analysis that sees well-designed social protection schemes as contributing to several goals at the same time. Brazil, Mexico, South Africa, India, Indonesia, and China are paving the way, but the idea is spreading via a genuinely southern revolution.³ The focus is on trusting the poor to use money wisely and to pursue objectives that poor people already want to do—send their children to school, improve their diet, and make small investments to increase their income. Cash transfers work especially well when money is targeted at a relatively large group of people and is perceived as social assistance.

Aid donors from developed nations, now calling themselves development partners, have responded after seeing that cash transfers have become an important part of social protection and increasingly recognize them as a legitimate development strategy. Aid donors and some elites in developing countries (especially ministers of finance and business elites), however, have much less trust in the poor. They tend to use terms like “safety nets,” “handouts,” and “doles” derogatorily, and to view transfers as temporary or short-term solutions, rather than strategic elements that can help raise agricultural productivity, support micro-enterprise, and foster economic activity in marginalized regions. From the USA, where the poor are often blamed for their poverty, the tendency is to emphasize the centrality of conditions—such as school attendance for recipients’ children or engaging in public service—rather than to recognize conditionality as one design element of a program. Some programs work better with conditionality while others do not. Schady, one of the authors of the World Bank report *Conditional Cash Transfers* (CCTs) is a strong advocate of conditions because he is convinced that the problem is the “persistently misguided beliefs” of the poor (Fizbein and Schady 2009, 9).⁴ Indeed in the USA, many specialists are not aware that unconditional cash transfers are a major element of social

²Hulme attended the MDGs + 10 Summit and witnessed this by agencies keen to incorporate social protection, social floors, and conditional cash transfers into future strategies.

³During the preparation of this manuscript Hulme was working with the government of Bangladesh on a national social protection strategy and the Asian Development Bank reviewing the “silent revolution” of social protection policy that has swept across Asia.

⁴Speaking at a meeting in London on May 26, 2009.

protection strategies across Asia and Africa: they talk only of CCTs because in the USA the general assumption is that all transfers must be conditional.

From Europe and especially from European donors, there is less suspicion of the poor and greater support for social protection and unconditional cash transfers, but also a tendency to view cash transfers as welfare or antipoverty measures, rather than as an essential component of national developmental strategies. The emphasis of European development efforts is on targeting to minimize expenditures and to ensure that the ultra-poor are the main (or only) beneficiaries, because poverty reduction rather than national development is often the goal.

These three tendencies (Global South, USA, and European) reflect different responses, both to recent economic crises and to the centrality of market-led development. Back in 1944 the renowned economic historian Polanyi outlined what he called the “double movement” in the development of modern capitalism. The “self-regulating market” was promoted by governments with a host of special legislation and it did bring growth, but this free market could not work for labor and the environment. Low wages and unemployment created poverty and misery on a large scale, leading to the counter movement for “social protection,” which was increasingly supported in society, forcing governments to intervene in markets (Polanyi 2001; Putzel 2002). The failure of structural adjustments made in the 1980s and early 1990s to promote economic growth in low-income countries, and of “social funds” to protect the poor and newly poor from capability depleting vulnerabilities, showed that palliative approaches to social protection were ineffective. The lack of development and the growth of poverty outside of China and India, culminating in the 1997 Asian financial crisis, demonstrated the failures of neo-liberalism and the “Washington Consensus,” and brought the second part of the double movement—the push for social protection. The northern response, epitomized by the MDGs, provides a real increase in social spending and strict social targets for health and education, but also kept governments at arm’s length from the economy. The southern response, with Brazil’s *Bolsa família* as a classic example, has been cash transfers that shift the emphasis to providing poor people with the money necessary for them to take actions to end their own poverty and make greater use of economic opportunities.⁵

Mexico, Brazil, and South Africa introduced large-scale social protection programs in the late 1990s in a Polanyian response to the harm being done by a sole focus on the market as the answer to all development problems. This was a challenge to the Washington Consensus, because the programs were (and are) redistributive and involve governments reallocating resources within countries. The initial response from the North was criticism and the commissioning of studies (Barrientos and Hulme 2008). These studies found that social protection programs worked and that cash transfer programs (with and without conditions) performed particularly well. They reduce both immediate and intergenerational poverty, stimulate the economy, and promote development—especially in marginal rural areas as shown in South Africa (Samson et al. 2004).

⁵Brazil, *Bolsa Família*, see “A Biblioteca Virtual do Bolsa Família,” at <http://www.ipc-undp.org/mds.do>

Word of the success of the three trailblazers has spread across the Global South.⁶ At least 45 countries now have cash transfer programs, providing financial support to more than 110 million families (Barrientos and Hulme 2010). Immediate poverty is being reduced by these efforts. Hundreds of thousands of children are now in school because their families can afford to buy them shoes and school clothes, and can get by without the few pennies the children could earn if kept out of school. Families are also investing small amounts to raise their own income with, for example, cash transfers in rural Africa frequently being used to purchase fertilizer. These programs are still young and this is a global learning exercise. Experiences are being shared among continents; research and experimentation are leading to rapid modifications and improvements in similar programs. Serious analysts also recognize that this is not a quest for the “optimal program,” but a contribution to the evolution of national social protection systems that need to be able to improve their performance, maintain political support, and adapt over time in response to changes in national problems and the international context.

The influence of the USA and European tendencies on the development of southern programs varies from country to country, but key patterns can be recognized. In middle-income and larger countries domestic policy makers can “listen” to the USA conditionality and European targeting tendencies, and then decide how best to deal with these from a position of relative autonomy. In lower-income countries and in particular those that are smaller and aid dependent, the degree of autonomy is restricted and there is a real danger that the policies selected derive from external debates rather than being part of a nationally-owned policy discussion. The danger of aid donors dominating national policy formulation about social protection becomes a real prospect in such cases. Where there is a national political consensus on an action, however, it can be pushed through despite donor concerns.

19.2 Building Local Support

Building the required local political consensus for change is critical, but can be complex and will surely be different in each country. Political elites need to champion the role that effective social protection can play in national development, and the economic and business elites at least need to recognize the legitimacy of social protection and cash transfers. Debates at the global level are also reflected nationally. The wealthier in poor countries often hold the attitudes of Victorian Britain, blaming the undeserving poor for their poverty. These attitudes have been reinforced by three decades of neoliberalism, which promoted the idea that it was “good” to get rich. A study of economic elites in five southern countries found a consensus that “trickle

⁶The achievements of programs in Mexico, Brazil, and South Africa were rapidly and widely disseminated. Other successful programs such as Bangladesh’s Secondary School Stipend for Girls (basically a conditional cash transfer to increase female participation in secondary education), were not so well “marketed” and other Asian successes are much less reported.

down” growth—growth in the economy as a whole working its way down to the poorest—would eventually end poverty and that education was the most important means for improving the welfare of the poor (Reis and Moore 2005).

In a study of economic elites in Malawi, some admitted that they actually benefit from poverty (Kalebe-Nyamongo 2009). The poor provide cheap labor and votes, as well as jobs in the aid industry. However, there was not a perception among the elite in Malawi that the poor are lazy, and thus there was not a distinction between “deserving” and “undeserving” poor. Nevertheless the elites believed that poverty will never be reduced and that the poor were responsible for their own poverty—that the poor do not work hard because they are resigned to poverty as a normal way of life—and thus the elites worried that cash transfers create dependency. This may be reflective of Malawi’s experience with a very narrow cash transfer program that only targeted the labor constrained ultra-poor. In the mid-2000s the government’s preference for a fertilizer subsidy program for small farmers, rather than a cash transfer program for the poor, reflected the elitist view that people should be encouraged to work (to its credit, the subsidy did raise productivity and improve household food security very quickly).

By contrast in Brazil only 1 % of a sample of 311 members of the economic elite blamed poverty on a lack of effort by the poor (Reis 2005, 2009). Nearly half blamed a lack of state efforts or the lack of political will, and most elites believed that the state has a responsibility to provide for the poor. Brazilian elites view poverty and inequality as problems, and are particularly concerned about their relationships with criminal violence. Perhaps it is not surprising in a country where the poor are not blamed and the state is given responsibility, that Brazil has taken a global lead in designing innovative social protection programs (including the systems that allow them to work well, such as unique identification and national-level data coordination) and in financing cash transfers.

Politics are important, and effective social protection programs can only be introduced when a critical mass of support can be created. Hickey (2006) makes the point that civil society does not seem to play an important role in the introduction of cash transfer programs in Africa because the old, the poor, and the weak do not constitute politically active pressure groups. Thus it becomes essential to mobilize support within government, parliament, and political parties, and to use the electoral process. It is necessary to tap into the social responsibility attitudes of the business and social elites, and to convince both the elites and the middle classes that social protection programs are in their best interest—they will help create the conditions that the elites want, i.e., growing economies and more cohesive societies. The general shift from a narrow welfare approach targeting only the poorest to a broader developmental approach that views social protection, not as poverty reduction but as national development, seems likely to make it easier to gain support.

Within governments, transfers (whether cash or in-kind) are often the responsibility of administratively and politically weaker ministries that deal with social welfare or support for women and children. Finance and economic development ministries, which typically have more political and intellectual clout inside governments, need to address social protection as an essential component of social

development programs. That in turn means making the case that cash transfers are not just instruments for mitigating current poverty, but are profitable investments in long-term development that are as effective as roads and dams (indeed more effective than many dam projects that are often completed vastly over budget and under capacity).

Why do low-income governments often prefer fertilizer subsidies to social welfare programs? Why do donors appear to prefer welfare programs to fertilizer subsidies? Governments tend to view enhanced access to agricultural inputs as an investment in production, food security, and economic growth. Conversely they often regard welfare handouts to widows and orphans as an unaffordable luxury that generates apathy and dependency among the poor. A great deal of effort has been expended trying to convince skeptical governments (especially among finance ministries) that they are wrong about cash transfers, which can achieve poverty reduction and generate economic growth, but do not necessarily generate dependency. This argument, however, is not yet won according to Devereux (2009).

Making the case for social protection in low-income countries requires making it look politically attractive as well as fiscally affordable, to stakeholders who have to commit to it and will eventually have to pay for it. Politicians are more interested in evidence that social protection will win votes than in evidence that it reduces poverty

This point is underlined in a study of drought relief efforts in Africa by Munemo (2008), who examined why some governments have preferred universal food aid while others—or the same governments at different times—have opted for work-based relief schemes. Munemo finds, not surprisingly, that incumbent governments that are vulnerable to the loss of political power tend to prefer measures with immediate benefits for a broader base of voters. Political groups that are more secure in their position can afford to opt for programs that are more targeted on smaller groups and that are developmental with longer temporal horizons.

Political and even patronage power need to be mobilized in support of social protection programs. This will vary radically among countries. For example both China and Brazil have decentralized their cash transfer programs to municipalities, which allows local elected officials to take the political credit. By contrast, in Bangladesh political parties and politicians are loath to provide social protection programs in urban areas where they do not convey influence over voting behaviors in the ways that social protection efforts in rural areas do.

Public attitudes are important and the media affect the way that people think. The prevalence of articles about “welfare scroungers” contributes to a climate that stresses the “undeserving poor,” while articles about rising school attendance and new businesses begun on a shoestring—although less common—support approaches designed to give people the economic security they need to take the risks and make the micro-investments that lift them out of household poverty traps. There is also a mutually reinforcing relationship between political leadership and media coverage.

In Ghana the Ministry of Manpower did not wait for media coverage, but instead launched a strong advocacy media campaign to explain to the public that giving money to poor people is not about “handouts,” but rather about support for children,

the elderly, and those who are not able to work (Sultan and Schrofer 2008). In a study of non-contributory pensions for the Chronic Poverty Research Centre in Lesotho, Namibia, and South Africa, Pelham (2007) concluded that successful programs built a bond between citizens and the state based on three factors—social solidarity linked to the value and contribution of the elderly in the household, the understanding that pensions are a permanent program that can be depended on, and acknowledgment of the role of the state in securing the welfare of its citizens. Local and global events can play important roles in creating change and openings for the introduction of social protection policies. The Zapatista rebellion in Mexico, the end of apartheid in South Africa, and the end of the military dictatorship in Brazil all created space for policy changes. Hickey (2006, 25) points to the way social protection policies come to the fore “when the social impacts of liberalized capitalist economies become too great to be borne in political terms,” which was happening in Brazil and Mexico—the other half of Polanyi’s double movement.

Hickey’s research underlines the importance of electoral politics. Political parties attempting to stay in power or win power can use cash transfers to win new constituencies or to strengthen existing ones. The balance can be quite complex. Middle class support is essential, and Hickey points to the need to include not just the very poorest. Programs which benefit the middle class are more likely to win support. Fairness, justice, and social responsibility seem to be important, but are often relatively intangible elements of such political processes.

Brazil provides a particular example of the political dynamics at work. Brazil had come out of the 1964–1988 period of military dictatorship and the 1988 constitution stipulated poverty alleviation as a role of the state. The idea of a child benefit as a first step toward a basic income was proposed by the Workers Party [*Partido dos Trabalhadores* (PT)] and entered public debate. Because of decentralization in Brazil, the idea was first picked up by municipalities and by 1998, 60 municipalities and four states had introduced a variety of child benefit programs. Fernando Henrique Cardoso was running for re-election as national president in 1998 against the PT’s Luiz Inácio Lula da Silva (“Lula”), so he adopted the child benefit (as the *Bolsa Escola* school grant) as a national program. Cardoso won a second term and *Bolsa Escola* was scaled up. Lula subsequently won the presidential election in 2002 and expanded the program as the Family Grant (*Bolsa Família*) (Melo 2007).

Expanding the program increased Lula’s popularity and he was re-elected in 2006. “I like Lula a lot—he gave us *Bolsa Família*. Many people today have a better life,” Selma Aguiar who runs a luncheonette in Vale do Mearim in the state of Maranhão later told BBC Brazil (Corrêa 2009). “He has improved our life, and that of many families, a lot. I receive R\$122 [US\$67] per month. I voted for Lula and I will vote for him again,” added Eliene da Silva Brito, a farmer with five children.

In Lesotho the government was re-elected in 2008, in part because of the popularity of the pension introduced in 2004. In Mexico the cash transfer not only survived the historic change in the government of Mexico in the 2000 elections, but the new administration of President Vicente Fox expanded its coverage from rural to

urban poor areas of the country, renaming it from *Progresa* to *Oportunidades*.⁷ The program was politically popular because of the overwhelming and unprecedented evidence that it was alleviating poverty and encouraging the rural poor to send their children to school (Skoufias 2005). In an opinion survey conducted in South Africa, exactly two-thirds of the population agreed with the statement “the government should spend more money on social grants for the poor, even if it means higher taxes” (Noble et al. 2008). Perhaps more importantly taxpayers also agreed—the statement had the support of 59 % of the poor and 63 % of paid workers. So in South Africa social grants also win votes. In Bangladesh the incoming *Awami* League government of 2009 cancelled the predecessor government’s “100 days work” cash-transfer scheme, but immediately launched a new but similar scheme so as not to lose political popularity.

Globally, social pensions seem to be the most popular programs for national governments: they are inclusive, satisfy instinctive desire to support the elderly, are good value, and are perceived as fair. For purely selfish reasons voters are attracted to the idea of universal pensions because it provides some peace of mind regarding one’s own fate, or that of a grandparent, aunt, friend, or neighbor, during old age. Finance and social welfare ministries also recognize that older people spend a significant part of their pension on children and others in the household, so pensions have a broader demographic impact. Child benefit programs, as in the case of South Africa, have similar broad appeal.

It appears that social protection programs, and especially cash transfers, can start small. Successful programs, however, are not narrowly targeted at specific groups with whom most voters cannot identify. They are established in a way that makes expansion obvious and possible—targeted on the poorest districts or individual municipalities which makes expansion to other districts a political goal, or targeted at poor children which makes expansion to a comprehensive child benefit seem reasonable.

Nicaragua’s donor financed “Social Protection Network” [*Red de Protección Social* (RPS)] showed what can happen to a program without broad support. Its first phase from 2000 to 2002 was spectacularly successful, improving nutrition, health, and school attendance rates (Moore 2009). For its second phase during 2002–2005, however, cash payments were cut from US\$19 per family a month to US\$12. Although the second phase was also successful, the program was abandoned in 2005 by the government, even though continued funding was available. It was a textbook case of how not to design a popular program. First, in order to ensure that the program was not seen as “welfare,” it never mentioned poverty reduction as one of its goals. Instead the cash was presented purely as a way of buying behavioral change of the poor in order to build human capital and thus had no buy-in from the vast majority of people, who felt they already knew how to look after their children

⁷See Mexico—*Oportunidades* external evaluations in English at <http://evaluacion.oportunidades.gob.mx:8010/en/index.php> and in Spanish at <http://evaluacion.oportunidades.gob.mx:8010/es/index.php>

and thus would never benefit. Second, the program was almost entirely driven by the Inter-American Development Bank (IDB) and by a small group of key civil servants with experience in World Bank and IDB programs within the Emergency Social Investment Fund [*Fondo de Inversión Social de Emergencia* (FISE)].

Program administrators were under a large amount of pressure from the IDB to implement the RPS quickly, so they did not have time to build political support in congress with then President Enrique Bolaños and his Constitutional Liberal Party (PLC) or with the opposition party (*Frente Sandinista de Liberación Nacional*) and their leader Daniel Ortega who was subsequently elected president in 2006 and was openly opposed to the RPS. Although there was international praise for the program, there was little domestic publicity for its success. Finally RPS proponents even failed to build support within the civil service. In 2002 it was moved from the FISE to the weaker Family Ministry, where there was discontent about the higher, donor funded salaries of the RPS staff. It was the family minister who decided in 2005 not to continue the RPS despite continued availability of the IDB funds.

Honduras provides another example of the dangers of a small and politicized program. Honduras has been experimenting with its family grant program [*Programa de Asignación Familiar* (PRAF)] for more than a decade. It was too small, however, to gain widespread support and created competition between the IDB and the government. Beneficiaries were often chosen on political grounds rather than on need. Newly elected presidents in both 2002 and 2006 dismissed the entire PRAF staff and appointed new people. Not surprisingly PRAF became identified as a political project of the governing party (Moore 2008; Osório 2008). Nicaragua and Honduras are, however, exceptions to a broader pattern. Where Southern governments have been able to take the lead and build a political consensus reflecting local conditions and history, programs are generally proving popular, effective, and durable.

19.3 Cash Transfers Work

Cash transfers can provide the essential boost necessary to lift people out of the poverty trap—they can be the proverbial boots that allow people to pull themselves up by their bootstraps. Virtually all evidence supports the conclusions that people typically spend the assistance money in meaningful ways and that the grants do not encourage people to be lazy or avoid work (Hanlon et al. 2010). For most poor people a lack of money is their biggest problem. Small farmers in Malawi do not need agricultural extension workers to tell them to use fertilizer on their maize, they need US\$3.50 to buy half a bag of subsidized fertilizer. The *Oportunidades* program recipients in Mexico have convinced even policy makers that they already knew how to make profitable investments and that all they needed was the money. Giving people money is proving to be amongst the best ways to stimulate local economic development in low-income countries. Social protection and cash transfers are not social programs that can wait until after economic growth has been achieved, instead they are an essential precursor to growth and a driver of development.

Vuyiswa Magadla lived in a tiny house at the end of an alley in the Khayelitsha township of Cape Town, South Africa. She had diabetes and could not walk much or see well, and received a disability grant. She continued to work selling fruit and vegetables, and used money from her grant to buy fresh vegetables. She may not have been healthy, but she was a good trader and traveled quite far to a place in Nyanga East to buy produce, rather than from Mabhela's wholesale closer to her home where vegetables were not as fresh. Fortunately the minibus driver did not charge her extra for her box of vegetables because she carried it on her lap (du Toit and Neves 2006).

For the poorest, the elderly, and the disabled, cash transfers are essential social welfare that can lift people out of destitution and allow them to buy food for a second meal a day, but the importance of cash transfers is much broader. A key benefit is enabling children to be better off as adults than their parents. This starts with more and better food when they are young, which prevents malnutrition, which is critical because the stunting caused by malnutrition is a mental as well as physical phenomenon, and children who do not develop properly never recapture that lost physical and mental development. Cash also allows children to attend school—they do not have to work to help support their family and money is available for clothes and books. Children who finish secondary school are much less likely to be poor as adults than those who do not. Cash transfers can be a critical investment in the next generation and in the long-term elimination of poverty (Hanlon et al. 2010).

19.4 The Southern Alternative

Over the past decade social protection programs and particularly cash transfers have emerged as the response of the Global South to economic development and poverty reduction needs. The Washington Consensus free-market model of the 1980s and 1990s did not bring economic growth and development to most developing countries, but rather often lead to increased poverty and inequality. In the industrialized North, social protection and cash-benefit schemes expanded rapidly in the second half of the twentieth century, but these were largely insurance-based schemes that depended on a household breadwinner with a steady job. In the South, however, most people are small farmers, landless laborers, or are working in informal market sectors and cannot qualify for insurance coverage. The USA variant of the northern model is also built on an inherent distrust of poor people and on the assumption that the poor are a relatively small group—an assumption that is getting harder to support considering that 15 % of USA families required federal food assistance in 2011 (Izzo 2011).

The Global South has been rethinking the problem from the bottom up. Poor people who have struggled to survive on tiny amounts of cash are good economists who use additional money efficiently. Giving money directly to poor people is proving to solve three problems at once. First it alleviates immediate problems associated with poverty; much of the money is spent on more and better food. Second it

allows poor people to invest small amounts in their farms and small businesses, and all evidence supports the conclusion that ordinary people know how to make profitable investments. Furthermore money is spent locally, which stimulates local economies, increasing local demand and creating an upward economic spiral. Third, poor families can send their better fed children to school, creating a healthier and better educated next generation that will be more able to play an active role in development. The key is to trust the judgment of poor people and to prioritize directly giving them cash—rather than projects, temporary welfare or vouchers (unless there is evidence from experimental schemes that vouchers work better)—money they can invest, use, and rely on. Cash transfers can be a key part of the ladder that lets people climb out of poverty traps. Letting people make their own choices about how to spend money is also empowering.

The late twentieth century was a very conservative period. The North, as well as economic elites in many countries of the South, tended to blame the poor for their poverty, and some still do not believe that poor people are able to act in the best interests of their children. The first southern cash transfer programs began in middle-income countries, which could fund them with their own tax revenue and that were under increasing domestic political pressure to deal with worsening poverty associated with structural adjustment policies. The high degree of distrust meant that these programs have been extensively studied—all the more so when “experts” simply did not believe the initial results showing how well cash transfers were working.

The whole exercise began experimentally, but these programs were big, giving money to millions of families—not just the poorest of the poor, but also to larger groups who were below the poverty line. Each country started its programs differently. Programs were modified in response to initial research, and the ideas and experiences spread as more countries introduced cash transfer programs. Research continued and there was increased sharing of information, experience, and ideas.

One lesson was that cash transfers are not a magic bullet; they do not work on their own. There must be schools and health posts that poor people have access to, as well as to land, improved agricultural technologies, and jobs. The biggest lesson, however, has been that people must have the minimum amount of money necessary to take advantage of schools, health facilities, and land. If they do have sufficient money, they can take the lead in their own development.

19.5 Northern Responses and Opportunities

Middle-income countries, particularly Mexico, Brazil, and South Africa pioneered the development of cash transfers, and their early success led many low-income countries to start programs that attracted donors and international development banks. This increased tensions, because aid donors and international agencies with headquarters in the North worried that simply giving money to the poor would waste their financial aid and for some, reduce their power. Some of the Washington, DC-based institutions, particularly the International Monetary Fund (IMF), refuse to

trust the judgment of the poor and have tried to retain power by imposing expenditure ceilings and harsh conditions. Some of the European donors find it hard to accept that cash transfers can contribute to development and thus might replace some of their traditional development programs, and therefore tend to support cash transfers only as social welfare.

Northern institutions are trying to catch up, but the initiative and the action remains in the South. The southern model of cash transfers is new, and in a learning culture it is evolving rapidly and it is not just about poverty and welfare. This movement has been conceptualized in the south and has driven a rethinking of development models—give money to the poor because they can be trusted to make better use of it than aid industry project officers and social workers. Lessons are being learned and experiences exchanged. New York is drawing on the experiences of both South Africa and Mexico. Indonesia is also drawing on the experiences of Mexico and Ghana on Brazil's. Pensions have spread from South Africa to neighboring states. South-South cooperation is challenging the established wisdom of Washington and London as ideas diffuse from Brazil, India, Mexico, and elsewhere.

Just as cash transfers in the South have been mold-breaking, however, the most interesting responses in the North have come from outside the normal aid and development network. US President Barak Obama specifically invited Indonesian President Susilo Bambang Yudhoyono to speak at the G20 meeting in Pittsburgh in September of 2009 to promote his policy of phasing out fuel subsidies and giving the money to the poor via cash transfers instead. It was an unexpected convergence of several policy lines. From a climate change perspective Obama was promoting an end to fossil fuel subsidies. Just 2 months beforehand Yudhoyono had been re-elected president with more than 60 % of the vote, and his landslide victory was credited in part to increased support from the poor through cash transfers (Harvey and Luce 2009; Perry 2009). Thus climate change, democracy, and cash transfers to help the poor are coming together in a new way.

One question often raised is how social assistance transfers can be delivered. Cash transfers provide an obvious solution. The most important point is that successful cash transfers are both locally designed and transparent—local people make the choices about targeting and whether or not to impose conditions, but the distribution of funds is much easier to audit than conventional aid funded development projects. Thus northern taxpayers and donors could be more adequately assured that their money was being distributed to children or poor families or the elderly.

Although the poorest countries, particularly in Africa, can afford limited cash transfer programs with their own resources, these programs will need outside financial support for years to come in order to be effective. The shift in thinking, away from conventional aid projects toward budget support and block grants, points to cash transfers as the most effective way to distribute social assistance money—reducing poverty while promoting development, and (if skillfully designed) slowing climate change and reducing the likelihood of another financial crisis.

19.6 Five Principles

This chapter (and our book *Just Give Money to the Poor*) has laid out a wide range of debates about the specific goals, targets, and conditions of social protection and cash transfers.⁸ Each country is developing its own model that reflects its own needs, history, and politics. There is no single “best” program option, but we can outline five overriding principles. Social protection programs and cash transfers work best when they are: fair, assured, practical, large enough to impact household income, and popular.

Fair. Transfers and grants must be perceived as fair, in that most citizens agree on the choice of who receives money and who does not. Categorical grants—giving to all or nearly all children or elderly—are usually seen as fair, but may not always target the neediest. A strategy of excluding the better off, as used in Brazil and South Africa, is sometimes seen as fairer than trying to distinguish between shades of poverty. Targeting the poorest or the ultra-poor requires much more care, because it can be divisive and create conflict between neighbors when some receive support grants and others do not. Proxy means tests may be relatively accurate, but they are not easily understood by beneficiaries. There is also the problem of poverty dynamics. A household identified as poor 3 months ago (when the household head was sick and unable to work) may not be poor today. The household next door, identified as not being poor 3 months ago may now be facing destitution after recent floods washed away its property.

Assured. Recipients must be certain that every month the money will arrive and that families can depend on it. Only then will families be able to make long-term plans like investments in education and income generation. The insurance function of grants is important because people know that if their crop fails or they fall ill, they will continue to receive some income—and this security allows people to take risks, such as experiment with new crops or travel farther to look for work.

Practical. Directly related to the previous two principles, there must be a system to fairly identify recipients and ensure they regularly receive their grant. This requires sufficient trained civil servants to oversee and audit the system, and a reliable, secure banking or cash distribution system to deliver payments. Sophisticated proxy means tests and complex conditions are of little use if they cannot be applied correctly and consistently. Some countries have much more experienced civil services than others

⁸Other useful websites include: the United Nations Development Programme (UNDP) International Policy Centre for Inclusive Growth (IPC-IG), formerly the International Poverty Centre, in Brazil has an excellent Cash Transfers and Social Protection archive at <http://www.ipc-undp.org/cct.do>; the Social Assistance in developing countries database 2007 at http://www.chronicpoverty.org/pubfiles/socialassistancedatabase_version4_august2008.pdf version 4.0; the Brooks World Poverty Institute, University of Manchester working papers on social protection at <http://www.bwpi.manchester.ac.uk/>; and the Chronic Poverty Research Centre, University of Manchester research on Insecurity, Risk and Vulnerability at <http://www.chronicpoverty.org/research-themes-vulnerability.php>

and some countries, particularly in Africa, may be forced to adopt simpler systems because of a lack of capacity. There are a growing number of effective innovations for transferring cash where civil services are weak: through post offices, lottery agents, and even mobile phones.

Not Pennies. Grants must be large enough to cause a real change in behavior, such as growing new crops or sending children to school. For example, if the amount of money is only enough to let one extra child in the family go to school it may be insufficient. In rural African communities where cash incomes are very low and people produce a significant amount of their own food, even a few dollars a month makes a huge difference in the choices they can make. In more industrialized countries where the cash poverty line and cost of living are higher, it requires more money to make a meaningful difference. Indications are that grants should ideally be not less than 20 % of household consumption and where this level is not met the grants are unlikely to have the desired effect.

Popular. Any social protection or grant program must be politically acceptable and hopefully are popular enough to win votes. Cash transfers are an important step on the road towards achieving social contracts in developing countries, towards replacing conflict and corruption with solidarity and social bonds. Donor initiated and driven programs are less likely to win approval than ones that have indigenous roots, even if they have an “optimal” design they will not have local ownership.

These principles need interpretation at the national level, because no models can be automatically transferred from one country to another. High quality technical analysis is needed alongside the recognition that effective programs need to be based on local political support. Each government will juggle goals and competing demands for resources, and develop its own approach. A decade of experience, however, shows that cash transfers work. To reduce poverty and promote development, just give money to the poor.

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References

- Barrientos A, Hulme D (2008) Social protection for the poor and poorest: concepts, policies and politics. Routledge, London
- Barrientos A, Hulme D (2010) Social protection for the poor and poorest in developing countries: reflections on a quiet revolution. *Oxford Dev Stud* 38(1):439–456
- Corrêa A (2009) Desabrigados ainda Reverenciam Lula, mas Ignoram Dilma. *BBC Brasil*, 29 May
- Devereux S (2009) Social protection and the global crisis. Regional Hunger and Vulnerability Programme, Johannesburg
- du Toit A, Neves D (2006) Vulnerability and social protection at the margins of the formal economy—case studies from Khyelitsha and the Eastern Cape. United States Agency for International Development and Programme for Land and Agrarian Studies, Cape Town

- Fizbein A, Schady N (2009) Conditional cash transfers. World Bank, Washington, DC
- Hanlon J, Barrientos A, Hulme D (2010) Just give money to the poor. Kumarian Press, West Hartford
- Harvey F, Luce E (2009) US backs ending of fossil fuel subsidies. *Financial Times*, 24 September
- Hickey S (2006) The politics of what works in reducing chronic poverty, Chronic poverty research centre working paper 91. Chronic Poverty Research Centre, Manchester
- Izzo P (2011) Some 15 % of US uses food stamps. *The Wall Street Journal*, 1 November
- Kalebe-Nyamongo C (2009) Elite perceptions of poverty in Malawi. Paper presented at the roles of elites in economic development conference, Helsinki, 12–13 June 2009
- Melo M (2007) Political competition can be positive: embedding cash transfer programmes in Brazil. In: Bebbington A, McCourt W (eds) *Development success: statecraft in the south*. Palgrave Macmillan, Basingstoke
- Moore C (2008) Assessing Honduras' CCT Programme PRAF, Programa de Asignación Familiar: Expected and Unexpected Results, Country study 15. International Poverty Centre, United Nations Development Programme, Brasilia
- Moore C (2009) Nicaragua's Red de Protección Social: An Exemplary but Short-Lived Conditional Cash Transfer Programme, Country study 17. International Poverty Centre, United Nations Development Programme, Brasilia
- Munemo N (2008) Political incumbency and drought relief in Africa. In: Barrientos A, Hulme D (eds) *Social protection for the poor and the poorest*. Palgrave Macmillan, Basingstoke
- Noble M, Ntshongwana P, Surender R (2008) Attitudes to work and social security in South Africa. Human Science Research Council, Capetown. Available at www.hsrcpress.ac.za
- Osório R (2008) The recent impact of government transfers on poverty in Honduras and alternatives to enhance their effects, Working paper 47. International Poverty Centre, United Nations Development Programme, Brasilia
- Pelham L (2007) The politics behind the non-contributory old age social pensions in Lesotho, Namibia, and South Africa, Working paper 83. Chronic Poverty Research Centre, University of Manchester, Manchester
- Perry N (2009) Indonesians choose reformist Yudhoyono. *UPI-Asia*, 13 July
- Polanyi K (2001) *The great transformation: the political and economic origins of our time*, 3rd edn. Beacon, Boston
- Putzel J (2002) Politics, the state and the impulse for social protection: the implications of Karl Polanyi's ideas for understanding development and crisis, Crisis states working paper 1. London School of Economics, London
- Reis E (2005) Perceptions of poverty and inequality among Brazilian elites. In: Reis E, Moore M (eds) *Elite perceptions of poverty and inequality*. Zed Books, London
- Reis E (2009) Poverty and inequality in the eyes of the elites. Paper presented at the roles of elites in economic development conference, Helsinki, 12–13 June 2009
- Reis EP, Moore M (2005) Elite perceptions of poverty and inequality. Zed Books, London
- Samson M, Lee U, Ndlebe A, MacWuene K, van Niekerk I, Gandhi I, Harigaya T, Abrahams C (2004) Final report. The social and economic impact of South Africa's social security system, EPRI research paper 37. Economic Policy Research Institute, Cape Town
- Skoufias E (2005) PROGRESA and its impacts on the welfare of rural households in Mexico. International Food Policy Research Institute, Washington, DC
- Sultan S, Schrofer T (2008) Building support to have targeted social protection interventions for the poorest—the case of Ghana. Paper presented at the social protection for the poorest in Africa: learning from experience conference, Kampala, 8–10 September 2008

Chapter 20

Innovative Business Approaches for the Reduction of Extreme Poverty and Marginality?

Heike Baumüller, Christine Husmann, and Joachim von Braun

Abstract The potential of innovative business approaches to target the poor is increasingly being recognized. This chapter outlines the evolution of thinking in the business world and explores in detail some of the relatively new business approaches that have emerged for addressing societal problems. The authors also examine whether and how these approaches can support not only those living close to the poverty line, but also help engage the marginalized at the lowest end of the income scale. While it may be unrealistic to expect businesses to be able to reach all of the extremely poor and marginalized, the authors suggest that the boundaries of innovative business operations can be pushed much further to include a far larger number of the marginalized and extremely poor.

Keywords Corporate social responsibility • Social entrepreneurship • Bottom of the pyramid • Ultra-poverty

20.1 Introduction

Extreme poverty is an immense political and market failure, wasting the potential of hundreds of millions of people (von Braun 2010). Investing in the creation of markets that include the extremely poor and marginalized should thus not only be considered as a charitable activity, but also has the potential to provide high returns on investments—in both financial and humanitarian terms. Various new business approaches have begun to fill these investment gaps, some led by well-known figures such as Muhammed Yunus, Michael Porter, Mark Kramer, and C. K. Prahalad

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on the one hand, and innumerable individual social entrepreneurs on the other, who together have brought the creation of social value into mainstream business thinking.

While the potential of these approaches for targeting the poor that are close to poverty lines is increasingly being recognized, the question remains: to what extent can business also help the extremely poor? In his influential book, *The Fortune at the Bottom of the Pyramid*, Prahalad (2010, 8) acknowledges that “[t]here is a segment of the 4 billion who are so destitute, so deprived, and so consumed by war and disease that they need other forms of help,” such as government subsidies, multilateral aid, or philanthropy. How far can business approaches push the margin to also include those who are extremely poor? How can those who are currently excluded from development opportunities be brought into and benefit from market-based systems to improve the quality of their lives? These are the questions that we examined in this chapter.¹

What characterizes the extremely poor from the perspective of business? In some respects their situation is similar to that of the general poor, albeit more severe. As consumers their purchasing power is extremely low and they often struggle to follow regular payment schedules due to income fluctuations. While many may already operate in commercial markets, for instance by selling their time or engaging in small-scale trading, returns tend to be low due to limited skills and assets. These constraints, along with the lack of access to credit and additional barriers that may result from discrimination or spatial remoteness, also restrict their ability to expand their business activities.

In other respects extreme poverty has particular characteristics, as highlighted by the extensive work undertaken by BRAC in Bangladesh to engage the ultra-poor. BRAC notes that the extremely poor are often subject to overlapping sets of constraints and deprivations that make them “structurally different from other categories of the poor; they are not only poorer than others, but differently so” (Matin et al. 2008, 5). Their main priority is survival, with little time or extra resources to invest in long-term strategies. As a result they get caught in “[a] below-subsistence trap from which it is difficult for them to break free using available resources and mechanisms” (Matin et al. 2008, 2).

The extremely poor are often marginalized, which also prevents them from realizing their potential (for an overview on marginality and extreme poverty issues see Gatzweiler et al. 2011). We define marginality according to Gatzweiler et al. (2011, 3) as:

an involuntary position and condition of an individual or group at the margins of social, political, economic, ecological and biophysical systems, preventing them from access to resources, assets, services, restraining freedom of choice, preventing the development of capabilities, and eventually causing extreme poverty.

¹This study was part of a research project on marginality and extreme poverty at the Center for Development Research (ZEF). Support by the Bill & Melinda Gates Foundation for this research is gratefully acknowledged. For further information see www.zef.de/margip.html

As we know that the large majorities of the marginalized and extremely poor live in rural areas of the developing world and typically depend directly or indirectly on agricultural, forestry, and fishery based livelihoods, any commercial efforts to address extreme poverty must consider these circumstances. Other cross-cutting aspects of marginality are the adverse health and nutritional conditions of the extremely poor, as well as their lack of access to education and information.

The increasing interest in business approaches to combat poverty stems from a long history of debate on the role of businesses in society, some of which traces as far back as India's Kautilya in the fourth century BC, and also nearly 200 years later to Cicero in Rome (Blowfield and Frynas 2005). During the Industrial Revolution entrepreneurs like John Cadbury, Robert Owen, and Léon Harmel took measures towards solving the problems of feeding, clothing, and employing a great number of people, trying to improve the working and living conditions of workers and their families (Boddice 2009). Over the past four decades the business world has evolved from "command and control" approaches to addressing environmental and social issues, towards the pro-active application of business strategies to pursue social goals.

Especially in recent years the proposition has been gaining ground that firms and investments can be profitable and possibly even improve the competitive position of companies when the creation of social value is integrated as a core business activity (Porter and Kramer 2011). This marks an important step on the path of the private sector from "being less bad" towards "being more good" (McDonough and Braungart 2002). In the meantime the recognition that governments and traditional development assistance mechanisms have still not solved the alarming problems of poverty has also been growing. Indeed, much criticism has been leveled at the perceived failures and inefficiency of many governmental and non-governmental development programs and official development aid in recent years.

In this chapter we outline this evolution of thinking in the business world and explore in detail some of the relatively new business approaches that have emerged for addressing societal problems. Furthermore we specifically examine whether and how these approaches can support not only the lower-income and near poverty line classes, but also help bring the marginalized at the lowest end of the income scale into market-based systems in meaningful ways.

20.2 Business and Social Values

In the past public discourse and research agendas on the social roles of business have been largely dominated by North American and European perspectives, in particular through the concept of corporate social responsibility (CSR). However, the underlying idea of CSR (i.e., that companies have responsibilities towards society), is not a "northern" phenomenon, even if the terminology is (Frynas 2005).

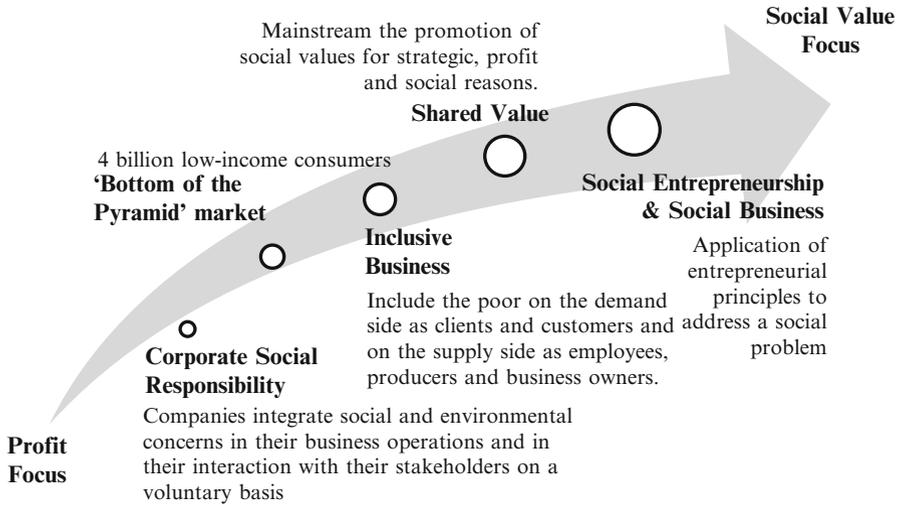


Fig. 20.1 Business approaches to poverty reduction

Indeed, examples from Africa show that businesses are often expected to assist the communities in which they operate and that they are perceived to be part of (Frynas 2005; Idemudia 2010).

Recently leading business thinkers have stressed the benefits to companies of integrating social considerations into core business strategies rather than treating them as external add-ons, as is common in CSR. For instance, this can be done by targeting low-income consumers (“bottom of the pyramid” markets) or strengthening supply and distribution chains through the involvement of local communities as part of inclusive business strategies. Others—most notably Muhammed Yunus and other social entrepreneurs who seek to launch new enterprises that directly address problems of poverty and sustainability—are taking this argument one step further, advocating the use of business strategies as a primary means to address social goals, rather than simply for financial gain. Thus in discussions on the role of business in society, profit maximization as the primary objective of business operations is increasingly making way for business initiatives that are guided by social objectives, whether or not they make a profit (see Fig. 20.1 for a summary of business approaches presented in this section).

Moreover debates on the role of business in society are moving out of “Western-dominated” circles to the global level, exemplified by the emergence of new propositions from leading thinkers in the developing world and growing hubs of social business activity in low-income countries such as India and Bangladesh. This shift has helped stimulate a more constructive and practical approach to private sector engagement in development, which remains colored by skepticism about businesses’ motives and commitments to social goals.

20.2.1 Corporate Social Responsibility

The term “corporate social responsibility” began to be widely used in the 1960s and 1970s, coinciding with the rise of multinational companies. There is no standard definition of CSR. One of the most commonly cited definitions comes from the European Commission (EC), which refers to CSR as “a concept whereby companies integrate social and environmental concerns into their business operations and in their interaction with their stakeholders on a voluntary basis” (EC 2011, 6).

More generally Blowfield and Frynas (2005, 503) regard CSR as:

an umbrella term for a variety of theories and practices, all of which recognize the following:

- (a) that companies have a responsibility for their impacts on society and the natural environment, sometimes beyond legal compliance and the liability of individuals;
- (b) that companies have a responsibility for the behavior of others with whom they do business (e.g., within supply chains); and
- (c) that businesses need to manage their relationships with broader society, whether for reasons of commercial viability or to add value to society.

The terminology and publicized approaches to CSR are largely shaped by Anglo-Saxon tradition, with its differentiation between economic and social affairs, focus on individualistic rather than community values, and the limited role of government in regulating markets (Blowfield and Frynas 2005; Sadler and Lloyd 2009). Proponents of CSR tend to emphasize the benefits of volunteerism and self-regulation as more effective means to promote socially responsible corporate activities. For instance, the Department for International Development (DFID) in the UK (2003, 9) warns that “international legally-binding frameworks for multinational companies may divert attention and energy away from encouraging corporate social responsibility and towards legal processes.”

The “northern-centered” view of CSR has driven research agendas over recent decades, which has largely concentrated on firms in high-income countries, notably in North America and Europe, and the adoption of universal norms such as workers’ rights. These approaches have also shaped the way that CSR is being applied in developing countries. As Blowfield and Frynas (2005, 504) note, “by the time empirical studies started to be commissioned to investigate whether CSR could benefit the poor and marginalized, certain conventions and orthodoxies had already been established.” Thus development related CSR emerged largely as a response to growing criticism of multinational companies from activists, consumers, and shareholders about poor labor and environmental standards, and associated impacts on local communities. An initial focus on codes of conduct and voluntary company-level standards has expanded to include ethical sourcing, certifications, community development, and stakeholder engagement.

While NGOs were a key driving force behind promoting CSR in the 1990s, they have become increasingly critical, accusing some companies of using CSR as “green wash” for unsustainable business practices and/or to avoid regulations. For instance the UK-based NGO Christian Aid (2004, 14) acknowledges that civil society groups, through their support for CSR, “have unwittingly enhanced company

images and market profiles.” They suggest that instead, “NGOs may be more effective by throwing their collective weight behind the drive for international regulation than by tying up their scant resources in bilateral dialogues.”

Critics also point to the gap between CSR rhetoric and practice, exacerbated by the lack of measurement approaches to assess impacts (Utting 2007). CSR activities are often seen as cosmetic rather than operational or strategic, summarized in reports that “aggregate anecdotes about uncoordinated initiatives to demonstrate a company’s social sensitivity” (Porter and Kramer 2006, 79). The focus, it is claimed, is on mitigating tensions between companies and society rather than on recognizing their interdependence and working for their mutual benefit. As a result the “potential of companies to take actions that would support both their communities and their business goals” is lost (Porter and Kramer 2006, 81).

The promotion of CSR as a development tool has also attracted criticism. Specifically it is argued that CSR neglects issues related to the power dynamics and political economy of the contexts in which the companies operate. In particular marginalized groups are often left out of CSR activities, thus they are unable to engage in stakeholder dialogue or express their concerns when their interests do not coincide with NGO, donor, or company priorities. This can be particularly problematic where the choice of CSR activities is primarily driven by business considerations. As Blowfield and Frynas (2005, 508) point out:

[s]ince inclusion in or exclusion from stakeholder status is not based on either legal rights or moral obligations, a stakeholder’s recognition is contingent upon the business case for that recognition. Consequently, the well-being of some groups in developing countries may be jeopardized by the very pursuit of CSR.

Similarly, lacking contextual analysis can result in projects that may promote business interests rather than social development priorities. For instance Idemudia (2010, 841) concludes that basing choices of CSR projects on business logic rather than on local needs has “contributed to the breakdown of traditional institutions and the proliferation of failed development projects in the Niger Delta.” At the same time it is argued that CSR may reinforce corporate power by offering companies an excuse to avoid regulations and strengthening their influence by providing them the space to lead and shape the CSR movement (Utting 2007). The economic roles and political influence of multinational corporations, however, is not fundamentally questioned in the CSR agenda. Critics also note that CSR only addresses some of the symptoms of poverty, but ignores underlying development challenges. Utting (2003, 7) stresses that:

if large corporations are to contribute in a meaningful way to social and sustainable development, the CSR agenda needs to address the central question of the structural and policy determinants of underdevelopment, inequality and poverty, and the relationship of [multinational corporations] to these determinants.

Even companies that are implementing CSR activities ostensibly for development reasons may at the same time lobby for tax reductions, outsource parts of the value chain to avoid compliance with labor or environmental standards, or destroy local livelihoods through their business activities (Utting 2007; Idemudia 2010).

More recently the rhetoric in the CSR debate—and in broader discussions on the role of business in society—has shifted from mitigating the negative impacts of business towards the positive role that business can play in advancing development and poverty reduction. This shift is also being promoted by leading international development organizations such as the DFID, the Netherlands Development Organisation (SNV), the World Bank, and the UNDP (Prieto-Carrón et al. 2006). It is acknowledged that it may be unrealistic to expect too much of CSR. Indeed CSR “was never conceived as a tool to tackle poverty” (Newell and Frynas 2007, 678). Rather, recent debates on how to strengthen the role of business in development have focused on the need for new business strategies where social objectives are a core element or even the primary goal of business operations.

20.2.2 “Bottom of the Pyramid” Market

The introduction of the “bottom of the pyramid” (BOP) concept by Prahalad and Hart in 2002 marked a milestone in the debate surrounding the role of business in promoting social goals and poverty reduction. By highlighting the “fortune” that lies at the four billion strong bottom of the income pyramid, they succeeded in attracting the attention of the business world to recognize and investigate the market opportunities offered by the “billions of aspiring poor who are joining the market economy for the first time” (Pralhad and Hart 2002, 1). The BOP argument thereby places the complementarities of social and corporate objectives at the heart of business strategy.

While the proponents of the BOP market highlight the potential of this group as both producers and consumers, the business case initially focused largely on the poor as consumers (Pralhad and Hart 2002; Hammond et al. 2007; Prahalad 2010). The BOP market is usually defined by income, with an annual per capita income limit ranging from US\$1,500 to 3,260 (Table 20.1).

Hammond et al. (2007) characterize what they refer to as the BOP as people with significant unmet needs, including access to finance, housing, water, sanitation, electricity, and health services. BOP populations are largely dependent on informal

Table 20.1 Delineation of the bottom/base of the pyramid market—in US\$, income in purchasing power parity (ppp)

	Annual per capita income			Number of people		
	1	2	3	1	2	3
High income	>\$20,000	>\$20,000	>\$20,000 (\$21,731)	75–100 million	100 million	No data
Middle income	\$1,500– 20,000	\$2,000– 20,000	\$3,000– 20,000	1,500–1,750 million	2 billion	1.4 billion
BOP	<\$1,500	<\$2,000	<\$3,000 (<\$3,260)	4 billion	4 billion	4 billion

1: Prahalad and Hart (2002); 2: Prahalad and Hammond (2002); 3: Hammond et al. (2007)

or subsistence livelihoods with limited access to markets, and in rural areas are highly vulnerable to the destruction of natural resources that their livelihoods depend upon. They are often subject to a “BOP penalty” in the form of higher prices and lower quality of goods and services than more affluent consumers due to living in remote areas and limited purchasing power (see also Gradl and Knobloch 2010). Elaborating on the nature and potential of the BOP market, Prahalad (2010) argues that although individual consumers may have low purchasing power, the market is nevertheless lucrative due to its sheer scale. Contrary to widespread assumptions, BOP customers are ready to adopt new technologies and are brand conscious—and thus are also potentially attractive to multinational companies. The use of local distribution systems and modern communication technologies has greatly facilitated access to BOP customers. Capitalizing on this market will require companies to adapt their business strategies to the needs of BOP customers, for instance by creating the capacity to consume (e.g., through changes in packaging, pricing, or payment schedules) and by developing new goods and services.

Assessments of the size of the BOP market vary. Prahalad (2010) estimated the global BOP purchasing power to amount to as much as US\$13 trillion annually. A detailed assessment carried out by the International Finance Corporation (IFC) and the World Resources Institute (WRI) valued the global BOP market at US\$5 trillion annually (Hammond et al. 2007). The World Economic Forum put the annual income of the BOP population at US\$2.3 trillion, and predicted that this income could increase to US\$4 trillion by 2015 (WEF 2009). Among the four billion, the largest segment (1.6 billion) was found to be located in the middle tier, earning around US\$1.00–2.50/day, while one billion people earned less than US\$1/day, and 1.1 billion earned US\$2–8/day (WEF 2009). In comparison the 1.4 billion strong mid-level income market is estimated to be worth US\$12.5 trillion (Hammond et al. 2007).

Hammond et al. (2007) break down the BOP market geographically and by sector. They concluded that the largest segment of the market is found in Asia with 2.86 billion people and an income of US\$3.47 trillion, representing 82 % of the region’s population and 42 % of the purchasing power. The region with the highest share of the general population in the BOP market is Africa, where 95 % of the people (486 million) have an estimated combined income of US\$429 million. In Latin America the BOP market consists of 360 million people with an income of US\$509 billion, representing less than a third of the regional household income (28 %).

In terms of sectors, Hammond et al. (2007) identify food as the largest market by far, valued at US\$2.9 trillion. Also important are energy (US\$433 billion), housing (US\$332 billion), transportation (US\$179 billion), and health care (US\$158 billion). The information and communication technologies sector were estimated at around US\$51 billion, which the authors acknowledge could in reality be as much as twice that amount given rapid growth. The water market sector is estimated at US\$20 billion. BOP markets for water, information and communication technologies, and housing are predominantly urban in all regions, while food and health care markets are predominantly rural in most Asian and African countries. In Asia the dominant rural market sectors were energy and transportation.

Karnani (2009) on the other hand, contends that claims about the BOP market are wildly exaggerated. He maintains that most of the successful examples of selling to the BOP market are in fact targeting the middle class rather than the poor. He argues that the size of the market is overestimated because of the high per capita income cut-off of US\$3,000/year (US\$8/day) used by the IFC/WRI study, which is considerably higher than the commonly used poverty line. He notes that “[a]ccording to this report, 98.6 % of the population in India is in the bottom of the pyramid,” (Karnani 2009, 7). Using US\$1,000 annually per capita as the poverty threshold, he estimates the BOP market to amount to US\$1.2 trillion at purchasing power parity (PPP), and just US\$0.36 trillion at market exchange rates.

For Prahalad (2010) the exact delineation of the BOP market and even the terminology used to describe it—be it “base of the pyramid,” the “next billion,” or the “bottom billion”—are secondary. Reflecting on the debates sparked by the introduction of the concept, he acknowledges that “there is no single universal definition of the Bottom of the Pyramid that can be useful.” The fact remains that it is widely recognized that “four billion micro consumers and micro producers constitute a significant market and represent an engine of innovation, vitality, and growth,” and companies can choose to serve any segment of this market (Prahalad 2010, 7).

A more fundamental criticism of the BOP approach, however, is whether access to consumer goods and services will necessarily bring developmental benefits. Karnani (2009) argues that it is empirically false to view of the poor as “resilient and creative entrepreneurs and value-conscious consumers” (Prahalad 2010, 25). Karnani cites research by Banerjee and Duflo (2007) showing that the poor, just like any consumer, do not necessarily make purchasing decisions that are most beneficial for the health and food security of the individual or household. He points out the case of Unilever’s Fair and Lovely skin-whitening cream—an example cited to highlight the success in servicing BOP markets (Prahalad 2010)—as a product of dubious value to the well-being of poor consumers and which he claims in fact further sustains racist and sexist prejudices. Thus Karnani (2009, 4) concludes that “there is a need to impose some limits on free markets to prevent exploitation of the poor.”

In response Prahalad (2006, 2) maintains that “consumption can and does increase income.” He also notes that it is ultimately up to the poor to choose what to spend their money on. As already noted above, he does acknowledge that access to markets will not provide a solution for all, and that the poorest will continue to rely on outside help from governments and donors. Even for this segment though, the goal would be to “build capacity for people to escape poverty and deprivation through self-sustaining market-based systems” (Prahalad 2010, 8).

20.2.3 Inclusive Business

Another recent incarnation of the BOP approach is “inclusive business,” or “inclusive markets,” that emphasize the benefits of engaging the poor along the entire supply chain. Inclusive business models can include the poor on the demand side as clients

and customers, and also on the supply side as employees, producers, and business owners.² Among the main advocates of this approach is the UNDP, which—as a follow up to the 2004 report of the Commission on the Private Sector and Development—set up the *Growing Inclusive Markets Initiative* in 2006 with the aim of better understanding, “how the private sector can contribute to human development and to the Millennium Development Goals” (UNDP 2008, v).

The UNDP argues that engaging the poor can be beneficial for both businesses and poverty alleviation. Business can profit through (potentially) high rates of return, opening up new markets, innovation driven by the challenges of developing inclusive markets, expanding labor pools, and strengthening supply chains through local sourcing. The poor in turn will benefit through greater access to essential goods and services, income generation, and empowerment. The UNDP acknowledges that inclusive markets also pose serious challenges that need to be addressed, such as limited market information, ineffective regulatory environments, inadequate physical infrastructure, a general lack of knowledge and skills, and restricted access to financial products and services.

Inclusive business has also found strong support in the business community and among some donors. The World Business Council on Sustainable Development (WBCSD), in an alliance with the SNV, is promoting inclusive business models that are both profitable and that have a clear development benefit for the low-income segment of the population (SNV/WBCSD 2008). The IFC, which explicitly links the BOP and inclusive business approaches, committed US\$780 million to more than 35 clients with inclusive business models in 2009, while more than 150 active clients were in its portfolio (Jenkins et al. 2010).

An assessment of 14 inclusive business models published by the IFC and Harvard University’s Kennedy School of Government highlights a number of common themes (Jenkins and Ishikawa 2010). This study found that expected growth was the main driver for businesses to develop such models. The most common outcome for businesses has been revenue growth, while the main development outcomes for the poor have been expanded economic opportunities (as suppliers, distributors, or retailers), and improved access to goods and services. Factors contributing to their success have included: network and technology platforms that reach low-income consumers; financing schedules that match the cash flows of poor individuals and households; capacity building among suppliers, consumers, and distributors; and partnerships with other companies, governments, or finance institutions.

20.2.4 *Creating Shared Value*

In their discussion of the concept of “Shared Value,” Porter and Kramer (2006, 2011) take the argument for the private sector’s role in advancing human development and

²See UNDP (2008, 2), SNV/WBCSD (2008), Gradl and Knobloch (2010), Jenkins et al. (2010, 2), and also <http://www.inclusivebusiness.org> for definitions of inclusive business/markets.

poverty alleviation one step further by arguing that it is in fact in the interest of all businesses to be promoting social values—for strategic, economic, and social reasons. Thus rather than creating special “social” entities that address issues such as poverty or environmental damage, they call on companies to bring business and society back together by addressing societal and environmental concerns related to their products, and designing production processes that benefit workers and their families. They argue that it is not a matter of altruism to commit to this change, but a strategic advantage that pays off in the mid- to long-term.

The idea of factoring social and environmental objectives into business strategies for commercial reasons—to increase labor productivity, to ensure the stability and quality of production inputs, or to respond to consumer demand—is not new. As far back as the eighteenth century some of the early industrial entrepreneurs promoted improved working conditions to enhance labor productivity. More recent examples include company programs to address HIV/AIDS awareness and health care, improve smallholder productivity, or sell ethics-based certified products to affluent markets. What sets Porter and Kramer’s approach aside from these initiatives is the call for a fundamental rethinking of business strategy, rather than piecemeal activities for a limited part of business operations or public relations purposes.

“Creating Shared Value” has been most publicly embraced by Nestlé (2012; Christiansen, Chap. 21 this volume), recognizing that “in order to be successful, a company must create value for its shareholders and at the same time for the communities where it operates and for society at large.” Nestlé notes that this approach goes beyond ensuring compliance and sustainability to consider how sound business principles can create value for both shareholders and for society in the long-term. In 2009 the company set up a high-level Nestlé Creating Shared Value Advisory Board to increase the company’s positive impact on society. The company recognizes that implementation of the approach is bound to face challenges including: how to put the concept into practice, how to measure environmental and social impacts, and how to positively influence the value chain.

20.2.5 Social Entrepreneurship

While Porter and Kramer stress the complementarity of social and corporate objectives, profit making remains the primary goal of business, which can support the pursuit of social objectives. In contrast a social entrepreneur uses entrepreneurial principles to organize, create, and manage a venture with the primary aim of bringing about social change. Unlike a business entrepreneur who typically measures performance in terms of (long-term) profit and returns, a social entrepreneur measures success in terms of progress made towards the creation of social value (Dees 1998; Thompson 2002; Haugh 2006; Nicholls 2006).

While the language of social entrepreneurship may be new, the phenomenon is not, dating back to the eighteenth and nineteenth centuries (Dees 1998; Boddice 2009). According to Nicholls (2006, 7) the term “social entrepreneur” was coined

by Banks in 1972 in reference to Robert Owen. While there is no commonly agreed upon definition of social entrepreneurship, most authors agree that the three defining features of social entrepreneurship are sociality, innovation, and market orientation (Nicholls 2006). The explicit and central social mission of social entrepreneurs is reflected in the special emphasis on projects designed to improve the quality of life of humans: health, nutrition, education, training, and the creation of stable and productive jobs (Bornstein 2007).

Opinions differ, however, as to what extent social entrepreneurs are necessarily engaged in business activities. For instance Ashoka founder Bill Drayton contends that social entrepreneurs are “change makers,” but not necessarily business people. According to Drayton people like Florence Nightingale, who revolutionized health care, are good historical examples of social entrepreneurs. They were committed to creating change in their societies and employed entrepreneurial principles, but they did not see themselves as business operators (Lamb 2011).

Observers also disagree over whether social entrepreneurship refers only to non-profit or also to profit-seeking enterprises. While some authors require the primacy of social targets over all other objectives, many so-called hybrid organizations also exist that operate with a double or triple bottom line (i.e., aiming at social, financial, and environmental returns on investment) (Dees 1998; Guclu et al. 2002; Mair and Martí 2006; Nicholls 2006; Bornstein 2007; Seelos and Mair 2007; Certo and Miller 2008). The idea of a triple bottom line was introduced by Spreckley (1981), who proposed to add criteria other than financial performance to measure the success of enterprises. The term was then promoted by John Elkington (1997) in his book *Cannibals with Forks*.

In the absence of a common definition, an exact number of existing social enterprises is difficult to find. A recent report counted 55,000 social enterprises in the UK alone in 2006 (Brown and Campanale 2006). Ashoka, one of the pioneers in supporting social entrepreneurs, has 2,500 “fellows” worldwide.³ The organization, which was set up in 1980 by Bill Drayton, brings communities of social entrepreneurs together to help leverage their impacts, to broaden the scale of their ideas, and to capture and disseminate examples of best practices. To this end Ashoka selects social entrepreneurs as “Ashoka Fellows” and provides them with living stipends for an average of three years, professional support, and access to a global network of peers in 70 countries. The organization started with an annual budget of US\$50,000 and grew to nearly US\$35 million by 2008, and is now active in 60 countries.

Several organizations have followed the approach pioneered by Ashoka. Two well-known examples are the Schwab Foundation for Social Entrepreneurship and the Skoll Foundation. Launched in 1998 by Klaus Schwab, founder of the World Economic Forum, and his wife Hilde, the Schwab Foundation promotes “entrepreneurial solutions and social commitment with a clear impact at the grassroots level.”⁴ The foundation’s activities focus on supporting social entrepreneurs strategically by

³ www.ashoka.org

⁴ www.schwabfound.org

providing 20–25 “Social Entrepreneur of the Year” awards to recipients who benefit from networking within and outside the foundation. Through the “Schwab Foundation community” the organization fosters exchange among social entrepreneurs and supports the replication of their methods among one another. The foundation does not provide grants or other financial support to the organizations of its selected social entrepreneurs.

In addition to providing financing to social funds, the Skoll foundation founded the Skoll Centre for Social Entrepreneurship at the Saïd Business School of Oxford University in 2003. The foundation sponsors the Skoll Award for Social Entrepreneurship, which includes monetary and other elements. The foundation also hosts the annual Skoll World Forum on Social Entrepreneurship, an international high-level platform created to accelerate “entrepreneurial approaches and innovative solutions to the world’s most pressing social issues” (Skoll World Forum 2012).

20.2.6 Social Business

The recent interest in social businesses can in part be attributed to the great success of microfinance operations in the last decades. The concept was mainly pioneered by Muhammed Yunus, the founder of Grameen Bank in Bangladesh. According to Yunus (2007) the creation of social value is the main purpose of business activities for a “social business,” not just a complement to profit creation. The distinction between social entrepreneurship and social business is not entirely clear. Connotations tend toward calling non-profit enterprises “social enterprises” and for-profit enterprises “social businesses,” however, there is no agreement on this distinction in the literature.

According to Yunus’ seven principles of social business (Grameen Creative Lab 2012), the business objective is to “overcome poverty, or one or more problems, which threaten people and society; not profit maximization.” Social businesses operate on a “no loss, no dividend” basis, (i.e., they need to be financially sustainable and investors only recuperate their initial investment). All financial surpluses after breaking even are used for the expansion and improvement of the company’s activities.

These principles are the outcome of a long history of experimentation and improvement. Starting in the 1970s making small loans to poor borrowers, Yunus has launched various businesses that provide goods and services that he considered useful for improving the lives of the poor at prices they could afford. Today the “Grameen family” consists of 14 social businesses including telecommunications, education, and garment production through joint ventures with big companies such as Nestlé, the chemical company BASF, and Telenor.⁵

⁵See www.grameen-info.org

Operating a business for social objectives rather than monetary returns appears to fly in the face of conventional capitalistic assumptions that humans by and large are rational and self-interested individuals (*Homo oeconomicus*). Yunus (2007, 18) argues that capitalism's assumption that people act so as to maximize profit fails "to capture the essence of what it is to be human." He contends that it is the multidimensional nature of people that motivates some to pursue social goals rather than only to maximize personal gain.

Yunus identifies two types of social business (although they may overlap within a single business operation). One focuses on providing a product and/or service with a specific social, ethical, or environmental goal. An example of this type is Grameen Danone, which produces a special yoghurt product with high nutritional value for children in Bangladesh. The other type is a profit-oriented business that is owned by the poor or other underprivileged parts of society. The Grameen Bank is owned by the poor, however, through its activities it also classifies as an example of the former "specific goal" type of social business (Yunus 2007).

Despite certain challenges, social entrepreneurship and social business show promising features for reducing extreme poverty and marginality. Since the social mission is the central task of such ventures, going the extra mile to serve the most deprived might be more appealing for such entrepreneurs, since the social returns on their investments are especially high among those people. On the other hand social enterprises face other constraints when trying to reach out to the extremely poor and marginalized, such as difficulties with accessing capital.

20.3 Potentials and Constraints of Innovative Business Approaches in Addressing Extreme Poverty and Marginality

New and evolving business approaches have shown significant promise in reaching people with low incomes. How suitable are these different approaches for engaging the extremely poor and marginalized? The answer depends in part on: (1) the extent to which the different approaches are able to involve the extremely poor, (2) their flexibility in directing business objectives towards the reduction of extreme poverty and marginality, and (3) their ability to successfully operate with non-commercial public and civil society partners, and in sectors of particular interest to the extremely poor (see Table 20.2).

20.3.1 Willingness to Include the Extremely Poor as Producers, Employees, and Consumers

The extremely poor and marginalized are by definition, excluded from many economic and social activities. Access to land and natural resources is a case in point.

Table 20.2 Suitability of different business approaches for engaging the extremely poor

	Corporate social responsibility	Bottom of the pyramid/ inclusive business	Social entrepreneurs
Inclusion of the extremely poor	Low	Medium	High
Ability to mobilize capital for social goals	Low	High	Medium to high
Organizational flexibility	Low	Varied	High
Engagement in sectors that matter most to the poorest	Low	Medium	High

Thus unless businesses make a dedicated effort to engage them, the extremely poor are unlikely to benefit from corporate activities. A precondition of successful engagement is a deep knowledge of the contextual situation in which the extremely poor and marginalized live and operate. In rural areas this must often include detailed knowledge about local agricultural operations.

In many cases businesses cannot rely on governments to facilitate the participation of the poorest, as the marginalized may be actively discriminated against by their national or local governments (e.g., for ethnic or religious reasons), or may simply not have been recognized as needing special attention. As the United Nations Children's Fund (UNICEF 2010, 5) notes:

The poorest and most marginalized communities are not systematically assessed and are often forgotten when national development plans are laid and resources allocated. They are also the least likely to have a voice in global and national decision-making forums. Disaggregating national data to identify these groups and assess the factors that exclude them is fundamental to designing equitable solutions.

As already noted above, CSR activities often fail to include the extremely poor and marginalized, unless designed as charitable side activities. Moreover CSR is likely to favor small-scale projects with high visibility and short-term impacts, rather than the kinds of long-term projects that are necessary to reduce extreme poverty and marginality. Scaling-up has rarely been an objective in CSR activities.

In the case of inclusive business approaches (or BOP markets), companies may prefer to target those living on US\$3–4/day as producers and consumers. As Gradl and Knobloch (2010, 15) point out, “[i]t is often easier to concentrate on groups that have capital; be it knowledge, land or social inclusion, but that are unable to benefit from it because of inadequate market access.” For instance, in the case of contract farming companies, they tend to prefer working with large-scale farmers to reduce transaction costs and because they expect higher outputs (Fullbrook 2007). The willingness of inclusive business operations to invest in bringing the extremely poor into supply chains is likely to be shaped by their business interests, such as the need to expand the supply base beyond poor farmers or to engage the extremely poor in distribution networks in areas or for population segments that would otherwise be difficult to reach.

Among social entrepreneurs for whom social value creation is the main objective, engaging the very poorest is more attractive, as it is likely to generate the

greatest social impact returns. A recent study by the UNICEF (2010, 1) concluded that reaching the most deprived “will be [a] considerably more cost-effective and sustainable” means of reducing child mortality and improving maternal health. The study estimated that such an “equity-focused” approach targeting those most in need—and thereby closing existing health gaps—could avert 60 % more deaths for every additional US\$1 million invested. To maximize social returns, social businesses may therefore be more likely to actively seek out the extremely poor and support their participation through communication tools and capacity building activities.

20.3.2 Flexibility to Engage in Socially-Oriented Business Activities

The suitability of the different business approaches to pursue activities that aim at engaging those at the lowest end of the income scale will depend on their ability to mobilize capital for social activities and the flexibility of organizational structures to adapt to the particular needs of the extremely poor. In the case of CSR, the primacy of corporate objectives tends to restrict companies’ financial flexibility to divert internal resources away from competing priorities. Also, the organizational set-up of established companies is generally rigid, with little openness towards experimentation and adaptation to meet the needs of the extremely poor.

In contrast, inclusive businesses are in a comparatively good position to mobilize capital, as their dual objectives open up a wider range of potential funding sources, including traditional investors as well as impact investors and social funds. The organizational forms of inclusive businesses can differ widely, with some being more flexible than others. Inclusive businesses can range from large multinationals like the Coca-Cola Company or Unilever, that apply such models to some parts of their operations (e.g., to ensure stable supplies or to access new markets), to smaller-scale enterprises specifically set up as inclusive businesses. Given the evolving nature of inclusive business models, there is still considerable room for experimentation and lesson-learning to identify models that could best reach the extremely poor and marginalized.

In terms of financial capital, social entrepreneurs mainly rely on funding sources that are willing to invest in relatively risky enterprises with little or no assurance of financial profit. While access to capital remains a constraint for social entrepreneurs, the current expansion in social funds, a growing interest in market-based approaches among some donors, and ongoing efforts to link social businesses and investors (e.g., through social stock exchanges) are likely to open up additional financial resources. Social businesses also tend to be smaller and have more institutional flexibility than conventional businesses, and are able to set up organizational structures that are specifically designed for engaging target populations.

20.3.3 Focusing on Sectors That Matter Most for the Poorest

Businesses have the greatest potential to benefit the extremely poor if they get involved in sectors that matter most to the poorest, such as food, health, education, and low-cost infrastructure, including information and communication services. These sectors, however, often do not yield high returns, particularly if the aim is to extend coverage into remote areas and/or to customers with very little purchasing power. Thus commercial approaches where social returns have an equal or higher weight than financial profit, as in the case of social entrepreneurs and certain inclusive businesses models, may be better suited to serve the poorest consumers in these sectors.

Greater involvement of enterprises in these sectors may require a shift in the respective roles of private and public investors. Businesses may take over the provision of certain goods and services that have traditionally been the domain of governments or development organizations, while the public sector focuses on facilitating business activities to reach the poorest through financial incentives, streamlined administration, market guarantees or transportation infrastructure, etc. Governments would need to ensure that private investments do not entirely crowd out public investments, and thereby incur the risk that some sectors become neglected or that the associated goods and services remain out of the reach of the extremely poor due to high prices or spatial distribution limitations. To minimize these risks, governments may need to consider regulatory measures or implement complementary activities to engage those businesses that are currently out of reach.

20.4 Conclusions for the Research and Action Agenda

A major challenge in assessing the suitability of business approaches for the reduction of extreme poverty and marginality, and for adapting them where needed, is the lack of standardized and generally accepted methods for measuring social value creation. Unlike monetary returns, “social value” cannot easily be reduced into a single or easily quantifiable measure. Various proposals have been made, but a unified framework is lacking. A key question is how to measure not only outputs (such as micro-credit volumes or the number of products sold to the poor), but also whether these outputs have indeed translated into real and sustainable poverty reduction. Thus further research is needed to identify outcome-focused indicators of social value impacts and to develop suitable measurement tools to provide comparable assessments of the effectiveness of businesses in reducing extreme poverty and marginality.

While the need for government support to facilitate business solutions to address extreme poverty and marginality is clear, the forms that this support should take and the actual benefits of various support measures remain poorly understood. At times governments may provide support measures that could in fact reduce social welfare

overall. The example of fiscal incentives is a case in point; while tax breaks are a popular tool used by governments to try to attract foreign direct investments into certain areas or sectors, studies in several countries have shown that these incentives had little influence on investors' decisions, while governments lost important revenue that could have been invested elsewhere (Thomas 2007; Baumüller 2009). Thus research should explore options for government measures to support business activities for social development and assess their potential impacts in the different contexts in which they are applied.

Further research investment is also warranted to address opportunities for scaling-up, which is apparently promising for small-scale projects. Given the fact that households and communities of marginalized and extremely poor people are often spatially scattered, this is a particular challenge. A framework for scaling-up initiatives that target the extremely poor should not just start with a service or product, but from case-specific situations themselves.

In this context indirect approaches for inclusive business and shared value generation that reach the extremely poor may be of particular significance, such as infrastructure investments in marginal areas, access to improved seeds, health services, and nutritionally enhanced foods that have elements of comprehensive coverage and do not exclude the poor. Tracing the results and impacts of such investments on the extremely poor should, however, be part of such initiatives.

It is important to note that the distinction between the different business approaches is not as clear-cut as this analysis suggests. While our review has pointed out the basic pros and cons of the different approaches from a perspective of their potential contributions to the extremely poor and marginalized, new business approaches to include the poor may also be viewed along a continuum. The scope of the continuum and overlap between these approaches can extend their reach and effectiveness through collaborative efforts among different approaches and the formation of hybrid models that combine different elements. For instance, business activities targeting the extremely poor may start as CSR projects or pilot business models by existing companies, and be subsequently scaled-up or outsourced through dedicated inclusive or social businesses.

We recognize that it is unrealistic to expect businesses to be able to reach all of the extremely poor and marginalized. There are limits on what any individual or type of business can achieve to overcome extreme poverty and marginality, however, these limits are often context specific and should not be viewed as categorically prohibitive. The entrepreneurial capacities of the marginalized and extremely poor tend to be underestimated. Most of the approaches reviewed here are relatively new and still need to be evaluated in terms of how they could best help reduce extreme poverty and whether they are replicable or can be scaled-up. Moreover none of the presented business approaches will succeed by themselves, but will require equally innovative cooperation with public authorities, development organizations, and above all, the extremely poor themselves.

In summary it seems that the boundaries of innovative business operations can be pushed much further to include a far larger number of the marginalized and extremely poor. The corporate sector should be encouraged to look into these

opportunities as potentially low risk/high return ventures and continue experimenting. Development partner communities may best serve these initiatives by providing their own insights gained and co-funding. The research community may best serve these efforts by considering innovative ideas that foster institutional arrangements that bring together unusual alliances, by accompanying solid impact studies, and with insights from comparative assessments of cases of scaling-up.

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References

- Banerjee B, Duflo E (2007) The economic lives of the poor. *J Econ Perspect* 21(1):141–167
- Baumüller H (2009) Competing for business: sustainable development impacts of investment incentives in Southeast Asia. International Institute for Sustainable Development, Winnipeg
- Blowfield M, Frynas JG (2005) Setting new agendas: critical perspectives on corporate social responsibility in the developing world. *Int Aff* 81(3):499–513
- Boddice R (2009) Forgotten antecedents: entrepreneurship, ideology and history. In: Ziegler R (ed) *An introduction to social entrepreneurship: voices, preconditions, contexts*. Edward Elgar Publishing, Cheltenham/Northampton, pp 133–153
- Bornstein D (2007) *How to change the world: social entrepreneurs and the power of new ideas*. Oxford University Press, New York
- Brown J, Campanale M (2006) *Developing a social equity capital market*. New Economics Foundation and Committed to Effective Giving, London
- Certo ST, Miller T (2008) Social entrepreneurship: key issues and concepts. *Bus Horiz* 51(4):267–271
- Christian Aid (2004) *Behind the mask: the real face of corporate social responsibility*. Christian Aid, London
- Dees JG (1998) The meaning of ‘social entrepreneurship’—comments and suggestions contributed from the Social Entrepreneurship Funders Working Group. The Fuqua School of Business, Duke University, Durham
- DFID (2003) *DFID and corporate social responsibility*. Department for International Development, London
- EC (2011) *Green paper on promoting a European framework for corporate social responsibility*. European Commission, Brussels
- Elkington J (1997) *Cannibals with forks: triple bottom line of 21st century business*. Capstone Publishing, Mankato
- Frynas JG (2005) The false developmental promise of corporate social responsibility: evidence from multinational oil companies. *Int Aff* 81(3):581–598
- Fullbrook D (2007) *Contract farming in Lao PDR: cases and questions*. Laos Extension for Agriculture Project, Vientiane
- Gatzweiler F, Baumüller H, von Braun J, Ladenburger C (2011) *Marginality: addressing the root causes of extreme poverty*, ZEF working paper no 77. Center for Development Research, University of Bonn, Bonn
- Gradl C, Knobloch C (2010) *Inclusive business guide: how to develop business and fight poverty*. Endeava, Berlin
- Grameen Creative Lab (2012) *The 7 principles of social business*. <http://www.grameencreativelab.com/a-concept-to-eradicate-poverty/7-principles.html>. Accessed 12 Aug 2012

- Guclu A, Dees JG, Anderson BB (2002) The process of social entrepreneurship: creating opportunities worthy of serious pursuit. Center for Advancement of Social Entrepreneurship, The Fuqua School of Business, Duke University, Durham
- Hammond AL, Kramer WJ, Tran J, Katz R, Walker C (2007) The next 4 billion: market size and business size at the base of the pyramid. World Resources Institute and International Finance Corporation, Washington, DC
- Haugh H (2006) Social enterprise: beyond economic outcomes and individual returns. In: Mair J, Robinson J, Hockerts K (eds) *Social entrepreneurship*. Palgrave Macmillan, New York, pp 180–205
- Idemudia U (2010) Rethinking the role of corporate social responsibility in the Nigerian oil conflict: the limits of CSR. *J Int Dev* 22(7):833–845
- Jenkins B, Ishikawa E (2010) Scaling up inclusive business: advancing the knowledge and action agenda. International Finance Corporation/Harvard John F. Kennedy School of Government, Cambridge/Washington, DC
- Jenkins B, Ishikawa E, Geaneotes A, Paul J (2010) Inclusive business solutions: expanding opportunity and access at the base of the pyramid. International Finance Corporation, Washington, DC
- Karnani A (2009) The bottom of the pyramid strategy for reducing poverty: a failed promise. United Nations Department of Economic and Social Affairs, New York
- Lamb GM (2011) Bill Drayton sees a world where ‘everyone is a changemaker.’ *Christian Science Monitor*, 16 May 2011
- Mair J, Martí I (2006) Social entrepreneurship research: a source of explanation, prediction, and delight. *J World Bus* 41(1):36–44
- Matin I, Sulaiman M, Rabbani M (2008) Crafting a graduation pathway for the ultra poor: lessons and evidence from a BRAC programme. Bangladesh Rural Advancement Committee, Dhaka
- McDonough W, Braungart M (2002) *Cradle to cradle: remaking the way we make things*, 1st edn. North Point Press, New York
- Nestlé (2012) A message from our Chairman and CEO. <http://www.nestle.com/csv/Nestle/messagechairman/Pages/messageChairman.aspx>. Accessed 12 Aug 2012
- Newell P, Frynas JG (2007) Beyond CSR? Business, poverty and social justice: an introduction. *Third World Q* 28(4):669
- Nicholls A (2006) *Social entrepreneurship: new models of sustainable social change*. Oxford University Press, Oxford
- Porter ME, Kramer MR (2006) Strategy and society: the link between competitive advantage and corporate social responsibility. *Harv Bus Rev* 84(2):78–92
- Porter ME, Kramer MR (2011) The big idea: creating shared value. *Harvard Business Review*, January/February, pp 62–77
- Prahalad CK (2006) C. K. Prahalad responds to ‘mirage at the bottom of the pyramid.’ <http://www.nextbillion.net/archive/multimedia/2006/08/31/c-k-prahalad-responds-to-mirage-at-the-bottom-of-the-pyramid>. Accessed 19 May 2011
- Prahalad CK (2010) *The fortune at the bottom of the pyramid: eradicating poverty through profits* (revised and updated 5th anniversary edition). Wharton School Publishing, Upper Saddle River
- Prahalad CK, Hammond A (2002) Serving the world’s poor, profitably. *Harv Bus Rev* 80(9):48–59
- Prahalad CK, Hart SL (2002) The fortune at the bottom of the pyramid. *Strategy + Bus* 26:54–67
- Prieto-Carrón M, Lund-Thomsen P, Chan A, Muro A, Bhushan C (2006) Critical perspectives on CSR and development: what we know, what we don’t know, and what we need to know. *Int Aff* 82(5):977–987
- Sadler D, Lloyd S (2009) Neo-liberalising corporate social responsibility: a political economy of corporate citizenship. *Geoforum* 40(4):613–622
- Seelos C, Mair J (2007) Profitable business models and market creation in the context of deep poverty: a strategy view. *Acad Manag Perspect* 21(4):49–63
- Skoll World Forum (2012) About the Forum. <http://skollworldforum.org/about>. Accessed 11 Aug 2012

- SNV/WBCSD (2008) Inclusive business: profitable business for successful development. The Netherlands Development Organisation and World Business Council on Sustainable Development, The Hague/Geneva
- Spreckley F (1981) Social audit. A management tool for co-operative working. Beechwood College, Leeds
- Thomas KP (2007) Investment incentives: growing use, uncertain benefits, uneven controls. Global Subsidies Initiative, International Institute for Sustainable Development, Winnipeg
- Thompson J (2002) The world of the social entrepreneur. *Int J Public Sect Manag* 15(5):412–431
- UNDP United Nations Development Programme (2008) Creating value for all—growing inclusive markets. United Nations Development Programme, New York
- UNICEF (2010) Narrowing the gaps to meet the goals: an equity-focused approach to child survival and development. United Nations Children’s Fund, New York
- Utting P (2003) CSR and development: is a new agenda needed? In: Summaries of presentations made at the UNRISD conference on ‘corporate social responsibility and development: towards a new agenda?’ Geneva, Switzerland, 17–18 November 2003. United Nations Research Institute for Social Development, Geneva, pp 6–9
- Utting P (2007) CSR and equality. *Third World Q* 28(4):697–712
- von Braun J (2010) Extreme Armut—eine Investitionschance, KfW Meinungsforum Entwicklungspolitik. kfw Entwicklungsbank, Frankfurt
- WEF (2009) The next billions: unleashing business potential in untapped markets. World Economic Forum, Geneva
- Yunus M (2007) Creating a world without poverty: social business and the future of capitalism. Public Affairs, New York

Chapter 21

Business Initiatives That Overcome Rural Poverty and Marginality Through Creating Shared Value

Niels Christiansen

Abstract This chapter examines the Creating Shared Value (CSV) approach to reach the poor through integrated social and business goals. CSV simply means that when making business decisions on future plans and investments, companies simultaneously consider what long-term value can be created both for society and for shareholders. The chapter describes how the approach has been applied in Nestlé's international dairy programs and identifies three major results: including more small farmers in supply chains, reducing their poverty, and increasing the local availability of dietary calories, protein, calcium, and various micronutrients.

Keywords Private sector • Shared value • Poverty reduction • Dairy sector

21.1 Introduction

Addressing world poverty and hunger must begin with world's 1.2 billion subsistence farmers, many of whom are economically, socially, and/or geographically marginalized. Unfortunately global economic winds are blowing against this imperative for poverty reduction, resulting from the world-wide financial turmoil that began in 2008, the continued global economic problems, and increasing food prices. It is estimated that in 2011, 64 million additional persons were added to the ranks of extreme poverty, defined as living daily on US\$1.25 or less per capita. While much progress has been made in recent years in reducing both urban and rural poverty, particularly in India, China, and other key countries, at this point in time the world faces a reversal of the progress that has been made over the past two decades in reducing poverty and malnutrition.

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In this economic context and after disappointing results from many well-intentioned but unsuccessful development projects based on donations, leaders are searching for new models of development that are economically sustainable, have sufficient scale to make a difference for large numbers of people, and that are based on economic foundations that are both self-sustaining and allow growth. One approach that is gaining interest involving business is called “Creating Shared Value” (CSV). CSV simply means that in making business decisions on future plans and investments, companies simultaneously consider what long-term value can be created both for society and for shareholders. This requires a long-term business perspective and is based on the assumption that chances for sustainable business success are increased when a company, as appropriate within the business strategy, invests in social aspects that improve business conditions. CSV also implies a process wherein a company assesses its value chain and identifies those primary points of intersection between the company and society where social investments can improve the chances of business success.

I coined and defined the term CSV in 2005 while serving as vice-president of public affairs at Nestlé and it was shortly thereafter approved by the Nestlé Executive Committee to describe the Nestlé approach (Nestlé 2009; Bockstette and Stamp 2011). It has since been adopted by other authors and by other companies and organizations (Porter and Kramer 2011). While the term is relatively new, the general idea is not, and many companies began with a single person identifying a societal need and fulfilling it with a very long-term vision. However, as these companies have grown, the long-term vision of the corporation’s social function has often been lost due to the day-to-day competitive pressures for survival in the marketplace, and investor markets that disproportionately reward high short-term rates of return. Other related terms which carry a meaning similar to CSV include: “Creative Capitalism” (Bill Gates), “Business with a Purpose” (Pepsico), and “Ecoimagination” (General Electric). What these terms share is the idea of building societal goals into the core business strategies and operations of a company. The shared aim of these approaches is to leverage the power of a company’s core business for health, social and economic progress, and to do so with a very long-term perspective.

21.2 Contrasts with Other Business Models

The CSV approach contrasts with alternative business strategies focused on minimizing current costs and maximizing short-term profit. Buying raw materials on an opportunistic basis by jumping in and out of the market, development of low-cost production facilities or outsourcing manufacturing to low-cost suppliers, and offering the lowest cost products with minimal value-added features characterize these latter business approaches. CSV companies, which also have short-term profit goals, require a much longer term perspective and definition of success, with the aim of establishing a strong market position in the long term. Among consumer goods companies the aims are to secure a trusted brand reputation

among consumers for high-quality products, to build a reputation of trust with suppliers by helping them become successful, and to secure a highly competent and loyal work force by investing in long-term relationships with employees and suppliers through training and advancement incentives. As a consequence those companies that follow a CSV strategy generally have greater potential for positive impact on society than those companies tied to a short-term view, and have higher potential for consistent and reliable creation of long-term shareholder value and rates of return to their investors.

Taking this approach requires four things. First, it requires a willingness to assume long-term risk and strong financial management to permit making major investments that may not pay off for 10 years. This is particularly true when entering areas that are populated by the marginalized poor and that lack the basic infrastructure, educated work force, communications, and reliable business suppliers necessary to serve the company's manufacturing or raw material needs. Second, it requires an understanding of what will benefit society in the long term, and where those potential benefits intersect with a company's business interests. Third, it requires a planning process and mindset that translates the interests of shareholders and the interests of society into concrete business plans. Fourth, this approach requires patience and persistence aligned to a common value set and continuity in personnel, as well as not being dependent on that significant segment of the investor community that only pursues short-term results (for example Nestlé S. A. refuses to be listed on any stock exchange that requires reporting of quarterly results).

21.3 What CSV Is Not

CSV means creating profit for shareholders and improvement in the standard of living or the quality of life of suppliers, employees, and/or customers. It is profit based and thus does not include social enterprises that do not have profit built into their model and that are dependent on financial support from free capital or other sources. These activities may be laudable and can be appropriate for some enterprises, but generally lack the potential for large-scale expansion of profit-based models. Nor does CSV signify investing in activities that are not related to the company's value chain or that do not have a business rationale. Such activities have a lower chance of long-term sustainability, as the fundamental reason for a company to engage in them can be lost. CSV also does not mean philanthropy, although companies may decide to make philanthropic contributions to outside organizations as a part of being an active participant in the community and/or for maintaining a license to operate. The impacts of a company's donations to social enterprises or philanthropic activities, even if substantial, pale in comparison with the positive impacts of a company's basic business investments if those are made properly through the CSV approach.

CSV is also not simply business as usual or identifying customer needs and trying to fulfill them. It implies a much longer business perspective, analyzing value chains

and developing a focus on where societal needs and a company's business needs and abilities to make a difference intersect. CSV means going beyond business as usual. In summary, by building societal goals into the basic business strategy and operations, the potential for long-term sustainability is greatly enhanced. If an action is part of a business plan and is tied to the long-term enhancement of corporate profit, it will endure over time because its financial support is not tied to the largesse of the company, but to a self-sustaining financial model. The potential for impact on a massive scale is therefore also greatly enhanced because it is a part of core business activities rather than something that is an additional activity to the main business.

21.4 Marginalized Rural Poor—Five Ways to Escape Poverty

Reaching the marginalized rural poor is particularly difficult where the lack of agricultural knowledge, infrastructure to reach markets, reliable access to water, and access to credit and alternative work opportunities all present major obstacles and result in low agricultural productivity and poverty. Robert Thompson (2011), has laid out the following five primary ways for subsistence farmers to escape poverty:

1. To increase productivity of current crops
2. To change to (or add) higher value crops
3. To gain ownership or access to more land or livestock
4. To obtain farm income through home manufacture of products or part-time work in nonagricultural employment
5. To change to nonagricultural employment locally if opportunities exist, or by moving to other (primarily urban) areas

In spite of the obstacles that face rural development among marginalized rural people, some far-sighted organizations are having significant success in the reduction of poverty and malnutrition through investments that help increase food production and allow farmers to climb out of poverty through one or more of these five ways, without the necessity of migrating to urban areas. These organizations include private businesses, cooperatives, foundations, and intergovernmental agencies. They are working separately and/or jointly to make long-term investments in remote rural areas including: manufacturing facilities, infrastructure development, education of farmers for improved productivity, training of local suppliers, creation of a skilled industrial labor force, and investments in the health of the population in a way that has a dramatic impact on the poor, including the most marginalized. For food companies, progress is being made through developing local production and manufacturing of food products in remote rural areas to meet the rising demand in emerging markets. Pioneering examples of this include the efforts of Nestlé in the

area of dairy product manufacturing (Goldberg and Herman 2006), as well as in coffee, cocoa, grain, rice, legume, vegetable, nut, and spice farming.

21.5 The CSV Approach: The Nestlé Dairy Case

Nestlé currently operates about 450 food processing factories globally, of which about 200 are in the developing world. About 150 of these are located in rural areas. Nestlé first began its manufacturing operations in a developing country in 1920 in Brazil, where it started its long history of going to remote rural areas in Latin America, Asia, and some parts of Africa, and investing in poor marginalized farmers in order to create a local dairy industry. These investments in farmers were made in order to build a reliable source of high quality milk to supply new, large scale milk-processing and manufacturing facilities that were built in these rural areas. Initially Latin America (including Brazil, Mexico, Colombia, Chile, Venezuela, Argentina, and parts of Central America) was the focus of these activities in the early decades, but in the latter part of the twentieth century investment in rural development in Asia became widespread, including parts of India, Pakistan, Sri Lanka, China, and Indonesia. Investments in the dairy industry in rural areas extend today to over 30 countries (Nestlé 2010).

This approach has yielded three major results. First, Nestlé has become the world's largest manufacturer of dairy products (in terms of sales). Second, millions of farmers have climbed out of poverty in the process. Third, the availability of calories, protein, calcium, and various micronutrients has increased significantly in these countries as the result of increased food production and availability.

21.5.1 The Dairy Farmer Development Process

Taking a system of organization and management of milk districts that was first developed in Switzerland in the late 1800s and adapting it to each specific country in emerging markets, potential dairy farmers are contacted among existing subsistence crop farmers or farmers who already have one or two dairy cows for household needs. They are offered free education on raising dairy cattle, including how to feed them for higher productivity and nutritional value, and how to maintain hygiene standards necessary to maintain bacterial levels within safe levels. The productivity of local dairy cattle is improved through free artificial insemination from modern dairy breeds and free veterinary services are provided to help keep animals healthy. Financial aid is provided at no cost to farmers that want to increase their herds and/or improve their production facilities. Lastly Nestlé agrees to buy all of the milk they can produce even though the farmers are free to sell their milk to whomever they want.

21.5.2 Impact of Rural Factories in Marginalized Areas

The factories themselves have a major impact on poverty reduction, above and beyond providing a guaranteed market for local dairy farmers. First, unskilled rural workers are trained and transformed into skilled industrial workers with higher paying jobs. Second, local industrial suppliers are educated in how to provide needed goods and services to the factory that meet high standards of quality and hygiene brought from Switzerland, as well as given training on small business management. Third, a skilled local factory management is developed and most expatriates initially brought in for training and start up purposes are replaced with local hires as quickly as is feasible. Fourth, the region acquires a new tax base from the factory, leading to local improvements in infrastructure, schools, and medical facilities. Fifth, new standards of doing business are introduced, including environmental standards regarding maintaining the water, land, and air, along with honest business practices that help build trust in the brand.

As a result of the establishment of these new industrial complexes in rural areas, towns grow into cities. This creates new employment opportunities for those who have no future on the land and reduces the need to migrate to distant urban areas to find acceptable work. In this way entire regions begin to rise out of poverty, including the marginalized poor residents.

21.5.3 Nestlé Milk Districts in the Punjab: India and Pakistan

One example of the CSV approach is the Nestlé milk district network in the Punjab region of India and Pakistan. While Nestlé started its milk district approach in Brazil in the 1920s, work in India started much later with the building of the Nestlé Moga milk factory in the Punjab region in 1961. While the Punjab traditionally has been a major agricultural area, the production of milk products on an industrial scale was not present in this region before the Moga factory was built. Today Moga is a huge factory complex, employing 1,400 full-time staff and supporting jobs for over 5,000 people who work for suppliers.

21.5.3.1 Sourcing Milk in the Moga Region

In 1961 there were virtually no commercial dairy farmers in the Moga region. Nestlé started the Moga factory with 180 farmers who produced 511 kg of milk per day. Today about 85,000 farmers sell an average total of 837 tons of milk to the Nestlé Moga factory every day, primarily in quantities of 5–10 l each. One of the first obstacles to creating a dairy industry in the Moga was that the idea of producing milk for sale was not in the local farming culture. Locals typically kept one or two cows in the yard of their village home for household dairy needs, but the idea of selling milk from a cow or buffalo was initially met with suspicion. However,

the pragmatic farmers of Moga, nearly all of whom are Sikhs, soon realized the advantages of diversifying their farm income and having a cash income every day of the year rather than only when cash field crops could be harvested and sold.

The next obstacle was the bacteriological quality of the milk. For most farmers two or three additional cows were added to their herds and kept in paddocks next to the family home in the village. New practices of keeping the environment around the cows clean, milking the cows in a hygienic way, and keeping the cows healthy were all necessary to produce milk that is bacteriologically acceptable. Regular visits by the Nestlé veterinary staff to offer free animal husbandry advice helped solve this problem.

The milk needed to be received from the farmers in an accessible place where it could be tested and stored until it could be taken to the Moga factory for processing into milk products. For this purpose village cooling stations were set up in store fronts with refrigerated tanks, and provided with a scale to weigh the milk and testing equipment for purity. The staff at cooling stations also provides simple advice to the farmers, who typically bring their milk can to the cooling station by donkey cart or bicycle.

Increasing productivity per cow was also a necessity. Nestlé provided free artificial insemination of cows using superior dairy breeds to improve the milk producing capability of local cattle breeds and also provided access to financing a no cost for the acquisition of additional cows. Cost-effective feeding to produce higher quality milk was also necessary, so instruction was provided on what feed crops to grow and low-cost chopping machines to convert crops into animal feed were sold to the farmers. Those farmers who preferred to buy feed were offered commercial feed at reduced costs.

As the men spend most of their time during the day tending field crops, it is the women who take primary responsibility for care of the cows, and thus the women from participating families suddenly became cash income earners. This new found earning capacity helped to improve the social status of women across the Moga region. Farmers were paid in cash every day for the milk they brought to the cooling stations. Today with the advent of cell phones, cash payments are deposited directly into family bank accounts electronically.

Appropriate disposal of manure is also an environmental necessity for maintaining milk quality. Participating farmers were taught how to build brick-lined cisterns that function as biogas digesters, where manure is digested and the methane gas collected through the top of the structure. A pipe runs from the methane gas collector to the house to provide fuel for both cooking and heating the household.

Given the importance of the Moga village farmers as stable suppliers of high-quality milk for the Nestlé Moga milk factory, discussions were held between the Nestlé agricultural extension workers and village elders about what was most needed in the villages. Clean water was identified as a top priority. Drinking water wells and pumps were installed next to the school in each village, and the villagers and students were taught how to maintain the wells and pumps.

It was also discovered that attendance at schools by girls was low and that the underlying problem was a lack of private sanitary facilities for girls. In response,

toilets that assured privacy were installed next to the village schools. Furthermore, while the Punjab region is highly suited for agriculture, local nutritional knowledge was limited, particularly what should be fed to children, therefore nutritional education programs were introduced in the milk district villages. It was decided that educational efforts should focus on adolescent girls, as they are approaching the age at which they will marry and begin raising families. Thus they would learn about nutritional and dietary needs before and during pregnancy, and became better prepared to properly feed their children from their first days of life.

The benefits to the farm families from this system are clear. Farm incomes climbed significantly, women achieved a higher social status, households were more able to afford education costs, and conditions in the villages improved, especially for the children. The significance of these improvements to the villagers becomes evident when new drinking water sources are inaugurated and entire villages come together for a large celebration involving prayers, dancing, speeches, and a feast.

The benefit of these efforts for Nestlé is a large number of loyal and reliable providers of milk, who can be trusted to produce an expanding quantity of high-quality milk over the long term. The farmers are free to sell their milk to whomever they want, but they continue to sell to Nestlé as their preferred client because Nestlé is a reliable customer who will buy every day at stable prices. Even in times of milk scarcity when farmers could get more money selling to other buyers they continue to sell to Nestlé because of the bonds of trust that have been established.

21.5.3.2 Impacts of the Moga Factory on Job Training, Nonagricultural Employment, and Urban Development

When the Moga factory was started in 1961 there was no skilled factory work force available in Moga, so all of the current 1,400 factory employees had to be trained to perform the operations of each factory department. To accomplish this, an apprentice system developed in Switzerland and used in other countries where Nestlé operates was translated and adapted to the local setting. Thus a skilled workforce was developed in food processing technology that requires extremely high standards of hygiene and food safety. Trucks are not allowed onto the factory grounds, but must discharge milk and goods at loading docks at the exterior of the factory. Employees must put on laboratory coats, bonnets that cover their hair, and covers over their shoes. Hands must be washed at designated stations when entering each separate section of the factory. The grounds of the factory are kept in strict order to reduce the possibility of contamination from foreign objects. This not only has had an impact on the employees and their work standards, but also on the community as a whole. In one case a development minister of the Punjab told the author that she took hospital managers on tours of the Nestlé Moga factory so that they could better understand what measures a hospital should take to operate with proper regard to hygiene.

Local suppliers needed to be developed for the various needs of the factory, including such mundane operations as laundering the hygienic factory uniforms.

Classes in entrepreneurship were held to help develop successful local businessmen and women, as well as literacy classes as needed. It is estimated that four jobs are generated in the community outside the factory for every job in Nestlé's factory. This has led to the urban growth of Moga and to the availability of trained local business people capable of operating their own businesses. While the marginalized poor were not the only ones helped by this process of economic development, they have benefitted greatly through increased work opportunities both outside and inside the factory.

21.5.3.3 Environmental Impacts

In addition to teaching farmers how to collect biogas (methane) through home-collection systems, which reduces wood fuel consumption and greenhouse gas emissions, water management is a major focus of Nestlé's education efforts. Besides teaching farmers how to keep their sources of water clean, Nestlé has sponsored a major study to determine means of stopping the depletion of water resources in the Punjab. The repeated planting of water-intensive crops and virtually free electricity to run irrigation pumps on a continuous basis have seriously lowered water tables in the Punjab. Together with the International Water Management Institute, Nestlé undertook a study of the water intensities of millet, wheat, and rice production in the region. The result was a plan for a comprehensive response using best farming practices to make water sources more reliable and to ensure the future of farming in the region. Rice, which requires 1,034 m³ of water per ton to produce, is the most widely produced crop, whereas milk requires only 565 m³ of water per ton to produce. It was thus recommended that fodder area for dairy cattle be increased at the expense of rice cultivation areas, as well as the number of cows and the productivity of dairy cows. Research findings also suggested that improvements in rice cultivation using technologies developed in other regions could lead to lower demand on the water supply.

21.5.3.4 Development of the Dairy Industry in Pakistan

While Nestlé has been a supplier of milk products in Pakistan for many years, in 2007 Nestlé inaugurated its largest dairy product factory in the world in Kabirwala, Punjab, Pakistan. This large investment was made based on the belief that the production of milk by Pakistani farmers could be greatly increased. Approximately seven million of Pakistan's ten million farm families live in the Punjab, many of which are landless. A number of collaborative efforts were begun to convert marginalized subsistence farmers into successful dairy farmers.

Nestlé had previously adapted its milk district system to the Pakistani Punjab on a smaller scale and in 2006 joined forces with the United Nations Development Programme (UNDP) and Engro Foods to create the "Community Empowerment Through Livestock Development Program." Nestlé had developed a program to

train female livestock workers, and together with the UNDP, this program was adapted and expanded on a larger scale. The aim of the 3-year program was to develop women entrepreneurs who possessed skills in animal husbandry and dairy farming, and who could return to their villages and share their expertise with other local women. They are provided basic training in livestock management and also serve as a conduit for microfinance efforts.

So far over 4,000 women have successfully completed the program and returned to their villages. Once trained, they are provided with instructional materials and a veterinary kit to use in their villages that includes medical instruments, medicines, and vaccines. These livestock workers provide a vital service. While it is almost always the women that take care of the dairy cattle, they do not have access to knowledge about animal husbandry due to cultural barriers, as nearly all of the veterinarians are men. A woman veterinarian heads this training program and her knowledge about animal care is transferred first to the trainees in the program, and then to the village women who receive (and pay a nominal fee for) the advice given by the trainees.

A second partnership in Pakistan involving the Swiss Agency for Development and Cooperation is called “The Small Entrepreneur Development Project.” Livestock and dairy farmers who are already productive are given training to both enhance their skills as small business managers and to develop links to markets to improve milk and meat sales. To have appropriate facilities to instruct the farmers Nestlé is building two demonstration farms, the first to be completed being the 103 acre (41.7 ha) Sarsabz Demonstration and Training Farm. The Sarsabz farm houses about 250 cattle and includes animal sheds, milking machines, other necessary farm equipment, classrooms, and lodging facilities for visiting farmers. The instructors at the facility are drawn from the 75 professionals who make up the Nestlé Pakistan Agricultural Services division, and both basic and advanced farm management courses are offered. Selected farmers are given training kits and accessories for promoting good dairy farming practices and serving as trainers in their villages. Approximately 30,000 farmers per year receive training through this program in Pakistan. Of course the benefit of these activities for Nestlé is a reliable source of quality milk for the Kabirwala factory, while the farmers simultaneously emerge from poverty using the skills they have learned and the assistance they have received.

21.5.3.5 Impacts on Food Availability and Consumers

Milk is a particularly good source of protein and calcium, and can be an excellent carrier of micronutrients (vitamins, zinc, iron) when those are added through fortification. Milk and dairy products are important traditional sources of food in India and Pakistan, and there is a large-scale shortage of milk, particularly of milk of known nutritional value and safety. Most of the milk consumed locally is raw, unpasteurized milk that can pose significant health risks when transported or stored improperly, and liquid milk purchased through traditional channels is often adulterated in ways that decrease quality.

Nestlé has developed milk products that are particularly affordable to lower income groups using food technology to replace butter fat with lower cost fats and that are fortified with iron, zinc, and essential vitamins. The broad impacts of this fortification are only possible because milk processing has been introduced on a large industrial scale and because dairy farming has greatly increased production through the milk district system. Millions of tons of milk and milk products are added annually to Indian and Pakistani diets as a result of these investments and efforts. Virtually all of the milk products have been nutritionally enhanced through the addition of iron, vitamins, minerals, as well as prebiotics and probiotics aimed at improving resistance to infection.

21.6 Targeted Versus Community-Based Solutions to Lift the Rural, Marginalized Poor Out of Poverty

This CSV approach to poverty reduction is obviously a community-based approach and doesn't begin by exclusively targeting the marginalized poor. To make this development approach work, various levels of the community have to be involved and those who are helped economically aren't just the marginalized poor, but a broad spectrum of the population that makes up the community. The overall impacts on rural development include the construction of factories, the training of farmers, and the creation of new clusters of collaborating sectors that benefit the community as a whole, as does the local tax revenue and urban growth associated with this approach to business and development. Helping the marginalized poor is possible because of massive investments to produce products that are distributed to large urban markets through the distribution system of the company involved.

There are certainly other instances where the rural poor are too segregated for this approach to work, such as in refugee camps or areas where the geographic and climatic prerequisites for increased food production do not exist. The CSV approach does require preconditions that provide the potential for business creation. In the case of dairy products this potential requires adequate conditions for cattle raising such as water and grazing lands.

21.7 Conclusion

It is clear that substantial underinvestment in agriculture has been a major factor in maintaining the current states of poverty among the rural, marginalized poor. The CSV approach as illustrated by the Nestlé business model illustrates one seemingly important part of the solution to this problem, but each situation has its own characteristics and solutions. Significantly increased investment in agriculture from the public as well as the private sector, the application of modern science and technologies, the transfer of knowledge and skills, access to credit and markets, as well as a better

understanding of how the private and public sectors can work together, will be necessary if we are to significantly reduce the levels poverty and malnutrition currently experienced by over one billion people on our planet.

Acknowledgements The author thanks Hans Joehr, Head of the Nestlé Agriculture Department, and his staff, for reviewing and providing data and comments to drafts of this chapter.

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References

- Bockstette V, Stamp M (2011) Creating shared value: how-to guide for the new corporate (R)evolution. Foundation Strategy Group, Geneva
- Goldberg R, Herman K (2006) Nestlé's milk district model: economic development for a value-added food chain and improved nutrition, Harvard business school case study. Harvard Business Publishing, Boston
- Nestlé (2009) Creating shared value report, pp 2–3
- Nestlé (2010) Rural development report. Nestlé SA, Geneva
- Porter ME, Kramer MR (2011) Creating shared value, pp 62–77. Harvard Business Review, January 2011
- Thompson R (2011) Food security and the future of farmers: 2020 and toward 2050. J Swed R Acad For Agric 1:43

Chapter 22

The Marginalized and Poorest in Different Communities and Settings of Ethiopia

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Abstract This chapter describes how the extent of poverty and the causes and nature of marginality vary from place to place, depending on the natural resource, livelihood strategy, climatic, agro-ecological, and socio-cultural conditions. Local attributes of marginality were assessed in four different districts of rural Ethiopia. Extreme land degradation was a key force in one district, lack of credit in another, competitive commercial pressure in another district, and resource management practices according to cultural values in the remaining district. There was always a complex interplay of various factors that exclude some people from the benefits of economic growth that others enjoy. Independently from the different features of marginality, this interplay was found to be a root cause of poverty in all of the districts studied.

Keywords Ethiopia • Marginality • Poverty • Agro-ecology • Local narratives

22.1 Introduction

Poverty is widespread in developing countries like Ethiopia. There are both global initiatives and national poverty reduction programs, like the United Nations' Millennium Development Goals (MDG) and domestic efforts such as the Poverty Reduction Strategy Papers and the Productive Safety Net Programs (Admassie and Abebaw Chap. 17 this volume). The national government, NGOs, and bilateral and multilateral organizations are all making concerted efforts to meet the MDGs and to implement national poverty reduction efforts. However, poverty seems to persist

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everywhere in Ethiopia. The severity of poverty and the proportions of the poor vary from place to place, depending on various factors. Marginality is often found to be a root cause of poverty (von Braun and Gatzweiler Chap. 1 this volume). Socio-economic development efforts may not equally reach all of the poor because the barriers that marginalize some segments of society prevent policies and development efforts from comprehensively incorporating the poor.

Marginality has different meanings depending on context. In this chapter, we consider marginality as Gatzweiler et al. (2011; see Chap. 2 this volume) define it. This study was conducted as part of a pilot research project on marginality and extreme poverty in Ethiopia led by the Environment and Coffee Forest Forum in Ethiopia. We conducted a field investigation in four communities located in separate districts of the regional state Oromiya with distinct environmental, social, and cultural circumstances. The districts (locally called *woredas*) are: Jida in North Shoa, Yayu in Ilubabor, Adami-Tullu Jiddo Kombolcha in East Shoa, and Arero in Borana. The case study sites were selected in order to capture some of the diverse aspects of marginality by considering the differences in agro-ecological contexts, livelihood strategies, cultural practices, and natural resource endowments. The objectives of the study were:

- to assess the diverse factors that contribute to marginality and poverty across gradients of agro-ecological and climatic conditions and livelihood strategies in selected parts of Ethiopia
- to better understand the perceptions of poverty among the rural marginalized poor communities

22.1.1 *Agro-ecological Characteristics of the Study Sites*

Jida district—Central Highlands:

- cool humid or semi-humid climate
- highly degraded land, steep slopes, and seasonally flooded plains at the base of slopes
- local livelihoods are primarily based on cereal production and mixed-agricultural systems
- annual precipitation is highly variable (635–1,350 mm)
- mean annual temperature is 15 °C
- the primary sources of livelihood are food crops and livestock production

Yayu district—Southwestern Highlands:

- area is well endowed with natural resources, over 50 % forest cover remaining, fertile soils, and streams and rivers flow throughout the year
- this area is relatively far from major markets
- local livelihoods are primarily based on food crops and coffee production. Coffee alone was the source of around 75 % of the cash income for the study community or *kebele* (Ethiopia's smallest geopolitical unit) of Wabo near the town of Yayu

- mean annual precipitation is about 1,850 mm, with annual variation ranging 1,600–2,600 mm
- mean annual temperature is 20 °C

Adami-Tullu Jiddo Kombolcha district—Central Rift Valley:

- arid to semiarid climate with topography ranging from lowlands to mid-altitude highlands
- annual precipitation is between 600 and 800 mm
- mean annual temperature is 20 °C
- area has fertile, young, volcanic soils and extensive surface and groundwater resources
- water for irrigation is available (Lake Ziway and its tributaries)
- livelihoods are primarily based on the production of food crops such as fruit and vegetables supplemented by livestock production
- relatively close proximity to major domestic markets
- this is a major vegetable producing area of the country, both by commercial and small-scale producers (commercial farms also produce flowers for export, and grapes and other fruits for local markets and industries)

Arero district—Southern Lowlands:

- arid climate
- predominantly covered by *Acacia* spp. woodlands and dry forests that are managed as rangeland for livestock production
- mean annual precipitation is about 600 mm with a bimodal distribution pattern
- mean annual temperature is 20 °C (Halake 2010)
- local livelihoods primarily depend on nomadic livestock production, although a minority has adopted cultivating maize on small parcels close to permanent settlements
- rangelands are highly degraded with exposed soils that are nearly devoid of vegetation in most areas

22.1.2 *Methods*

The four districts were systematically selected based on their distinct climatic, physical, and agro-ecological conditions. In each district, consultations were held with administrators and senior agricultural development officers in order to select each case-study community. At the selected study *kebeles*, discussions were held with local experts and key local informants such as development agents and extension workers to select the specific case study community within each *kebele*. In the selected communities, group discussions were held with representatives of different demographic groups (youths, women, elders) and community representatives. Interviews with key local informants were held with two or three individual household heads from each of three locally determined relative wealth categories: poor, middle-income, and wealthy households.

Semi-structured interviews were used to consult administrators, agricultural development officers, extension workers, and development agents at the district and *kebele* levels. The local farming community consultations were held in two stages, first with a group of key informants and community representatives, and later with individual household heads from each wealth category. Participatory Rural Appraisal (PRA) tools such as group discussions, transect walks, participatory mapping, and wealth-ranking exercises were conducted with the community representatives. At this stage the key local informants defined and characterized the three household wealth categories and identified two or three household heads from each wealth category for further individual discussions. Afterwards, semi-structured interviews were conducted using checklists of discussion points to obtain life history and other household data. Guided walks with the key informants were undertaken to observe local biophysical conditions and the status of natural resources.

22.2 Findings

The marginalized poor identified in the study sites included individuals of all ages, although the perceived root causes of poverty differed among social and demographic groups. Perceptions of poverty and wealth also varied by location. The major emphasis of our investigations was to characterize natural resource bases, economic and livelihood conditions, infrastructure, and other legal and human rights related issues that we expected to have an impact on marginality and poverty. The importance of these factors differed among locations and hence emphasis was placed on factors that appeared to be more relevant to specific case study sites.

Jida. This district is located 70 km northeast of Addis Ababa. Despite its vicinity to the capital city it has suffered from a lack of basic infrastructure like electrical power, telecommunications, and environmental related investments. Climatically the area is classified as temperate and there are three distinct seasons locally known as the *Bega* (a dry season from October to January), the *Belg* (a brief rainy season from February to May), and the *Kiremt* (a longer rainy season from June to September). The greatest amount of annual precipitation occurs during the *Kiremt*. The major land cover types are cropland and rangeland, with remaining areas covered by forest and scrub. The total human population of the case study *kebele* in 2007 was 8,329, with nearly equal numbers of male (4,129) and female (4,200) residents (CSA 2007). The local livestock population was approximately 18,310 head, dominated by sheep, followed by cattle, donkeys, horses, goats, and mules.

Jida is a typical example of the highly degraded conditions found in much of the Central Highlands of Ethiopia. Erosion has led to low infiltration capacity and high runoff on upper slopes, resulting in seasonal flooding and gully formation in the valley bottoms. The short rainy season (*Belg*) is the best season for crop production because the higher rainfall during the *Kiremt* causes flooding and water-logged soils that damage crops. Some informants mentioned that the *Belg* rains only come at the

Table 22.1 Locally determined attributes of wealth in the community of Gango, Jida district, some indicators apply to more than one wealth category, distinctions were made using a combination of indicators

Rich	Middle-income	Poor
Owens a house with a corrugated steel roof with separate rooms for family, guests, kitchen, livestock, and storage	Owens one or two pairs of oxen	Does not own oxen or sheep
Owens more than two pairs of oxen	Owens two head of cattle	Does not own land or provides land to share croppers
Owens more than three head of cattle	Owens around ten sheep	Owens a simple house with a grass roof
Owens more than ten sheep	Generally food self sufficient	Unable to send children to school
Food self-sufficient even in unproductive years	Capable of sending children to school	Unable to provide appropriate clothing for family
Capable of lending money to others	Capable of going to health center without support	Unable to go to health center in case of sickness and at risk of death as a result of serious illness
Owens a horse, mule, or donkey	Capable of supporting family for 1 year in case of crop failure	
Capable of sending children to school up to the secondary-level (which requires renting a room in a nearby town)	Owens a horse, mule or donkey	

appropriate time and amounts for crop production once every 3 years, leaving the population in a perpetual food deficit for two out of every 3 years. As a coping mechanism most young male household heads migrate to Addis Ababa to work in the construction sector as unskilled day laborers. Elderly people, women, and other residents who are incapable of migratory labor have only one choice to deal with adversity, to take out loans from illegal money lenders.

Livestock production seemed to be a stable livelihood option in the area due to its proximity to Addis Ababa, where there is a very high demand for sheep. The main constraints for livestock production were water shortages during the dry season and disease. Based on their own economic status and perspectives, local participants in the focus group discussion in the community of Gango helped to characterize the local attributes of the three wealth categories (Table 22.1). Local representatives of each of the wealth categories were interviewed to better understand their perceptions of poverty and associated causes.

Mr. Hailu Gurmu was a 72 year-old household head identified as poor. His household had seven members. Mr. Gurmu was frustrated during the study year because his barley crop failed due to meager *Belg* rainfall. To survive the subsequent food shortage, he needed to either sell one of his sheep or else borrow money at a high interest rate from a rich man in the village. His son had to migrate to Addis Ababa to work as a day laborer. This case revealed that even for households with some assets (land), productivity depends exclusively on environmental/climatic factors like rainfall. Although Mr. Gurmu was losing hope on the prospects of crop production, he viewed raising sheep as a good livelihood opportunity; however, he did not have the financial resources to buy more sheep.

Box 22.1 Narrative of Mr. Tadesse Teshome

Tadesse Teshome was a 69 year-old male household head responsible for a family of eight. Most of his children were married and he lived with his wife and some of his grandchildren. He owned two houses with corrugated steel roofs, one for his family and the other for livestock. There was a third grass thatch roofed house used to shelter horses and as a cooking area. He owned 2.5 ha of land and also cultivated another 2.5 ha as a share cropper. He owned 2 pairs of oxen, 4 head of cattle, 15 sheep, 2 chickens (others had died from disease), 3 donkeys, 2 horses, and a mule. At the time of the interview he was cultivating eucalyptus plantations and was planning to plant more. He sold sheep and sometimes oxen to generate income. When rainfall was good, he sold surplus crops (barley, wheat, beans). He mentioned the erratic nature of rainfall as the major challenge for both crop and livestock production in the *kebele*. He credited hard work as a reason for his success. As a well-off person in the village, he claimed to support other people by providing interest-free loans (a matter later disputed by poor local residents who claimed to have taken out loans from him with interest) although he admitted that loan recipients sometimes provided labor. He saved money through *Iqub*. When asked what he did with his money, he mentioned that he had bought a grinding mill. He also mentioned that he used to be a tailor and that his business had been inherited by his son. Mr. Teshome was planning to purchase another grinding mill in the near future.

Mrs. Ilfe Badho was a 55 year-old female household head identified as belonging to the middle-income category. In addition to agriculture she diversified her sources of income by preparing drinks and selling them locally, and was able to save money through local institutions such as *Iqub*. She also took advantage of access to micro-finance loans. Mrs. Badho claimed that her self-motivation, hardworking nature, and support from her children also contributed to her economic status.

Mr. Tadesse Teshome belongs to the rich local wealth category. Income diversification was one of the primary reasons for his economic success. He receives income from share cropping, livestock husbandry, a grain grinding mill, money-lending to poor households, tree plantations, and a home garden. Details from the interview with Mr. Teshome are summarized in Box 22.1.

Yayu. This district is located in the Illubabor Zone of the regional state of Oromiya, approximately 550 km west of Addis Ababa on the major highway to Metu. The district is composed of 18 *kebeles*, of which 17 are rural and one is urban. Five land-cover types were observed in the district, which was dominated by forest and agricultural crops, and included smaller areas of rangelands, wetlands, and settlements.

Yayu district has the highest percentage of forest cover in Ethiopia. Most forested areas and the surrounding landscape are managed as the UNESCO (2010) designated “Yayu Coffee Forest Biosphere Reserve.” The local communities depend heavily on the forest, mainly for coffee, spices, and honey. The main local food crops were maize, sorghum, and teff. Coffee was the major cash crop in the area (although it is also consumed locally), followed by chat, which is a leaf chewed as a stimulant by many people in urban areas (Gole 2003; Gole et al. 2009; Fite 2008). According to the most recent census data available the human population of the district was 52,829, of which 26,720 were male and 26,109 were female (CSA 2007). There were 9,917 households, out of which 1,348 were female-headed. Around 4,103 (41 %) of the household heads were unemployed at the time of our interviews.

The district is characterized by the high amount of forest cover, high rainfall, high suitability for coffee and honey production, and considerable potential for the production of food crops like maize, sorghum, teff, and others. Local communities considered the undulating terrain, soil erosion, and low productivity as major challenges to crop agriculture. Many areas have steep slopes and require soil conservation measures to avoid degradation and severe soil erosion. Most high slope areas, however, are forests managed for coffee production with minimal risk of erosion. For croplands on slopes, NGOs like Menschen für Menschen, Ethio-Wetlands, and the Natural Resources Association have introduced “bund” terraces that are planted with vetiver grass to prevent erosion.

The area is accessible via a highway that connects Addis Ababa to Metu, Gambella, and South Sudan. However, the local road network connecting the *kebele* to the highway and local towns was not well developed. Given the steep slopes and difficult terrain, transporting products to markets was a major challenge in the area. Telecommunications infrastructure and access to electricity, clean water, and health services were at rudimentary stages of development. Most farmers find it difficult to transport their harvests (especially coffee) to market during the rainy season. As a result, a few wealthy merchants from local towns built warehouses in rural areas where they purchase coffee at low prices directly from producers and store the product until they can sell it for a higher price. Poor farmers who cannot process their own product or keep their product until the dry season (when prices are better) have no choice but to sell their coffee at very low prices. There are few secondary schools and health centers accessible to most rural residents, in some *kebeles* people must walk up to 3 or 4 h in order to reach the closest health centers.

Coffee production was the major source of income (over 70 %) for most households in Yayu. Honey and spices were other important sources of income. Recently some households also started growing fruits, vegetables, and chat. Most of these livelihood options were linked to the ownership or access to land. In the absence of land markets, the typical size of inherited land parcels has gotten smaller over time due to population growth. As a result, harvest yields (especially of food crops) were getting smaller and in many cases could no longer support household consumption, making most small-producers reliant on food purchased from markets.

Coffee prices are influenced by the global market and vary considerably. The productivity of coffee plantations depends on the intensity of management, which requires labor that the poor may not be able to afford or provide, thereby reducing available income. This situation prevented most households from being able to support their family year-round based on coffee income, making it necessary to find other sources of income. Some farmers also worked as day laborers on larger coffee plantations or in nearby towns. Elderly and female landowners often had to offer their land to others for share cropping. In the case of shortages of food and other consumables for the family, households occasionally have to borrow money from local lenders at high interest rates.

Share cropping is a common practice in many parts of rural Ethiopia. It is an option for households that own land but cannot afford the production inputs such as oxen for plowing or the required labor. In such cases landowners look for a share cropper who can provide the inputs and labor required to cultivate the land in return for half of the harvest. This is an attractive opportunity, especially for households headed by women or elderly people who cannot manage farmland themselves. In the case of crop production, the share cropper provides seed, fertilizer, labor, and oxen for plowing. In the case of coffee production the share cropper employs labor for weeding (which is carried out at least three times per year) and harvesting.

A problem with share cropping is the lack of regulatory oversight or legal mechanisms for ensuring compliance with agreements made between land owners and share croppers. As a result, the share croppers sometimes refuse to provide the appropriate harvest share to the land owner or else find ways to claim legal rights to the use of the land under false pretenses without the assent of the owner. During the community consultations respondents mentioned that there were many households that had lost their land in this way and afterwards remained landless.

In the Yayu district the poor often receive money from the rich under an agreement to repay the debt with coffee. Agreements are often made when coffee prices are very low (mainly in the rainy season), with loan payments fixed at the current price of coffee. Payments are then made later in the year, when the coffee prices increase (reaching double or over three times the price when loan agreements were made). Such contracts reduce the earning capacity of small-producers, helping to keep them in a state of poverty (Table 22.2).

One of the poor household heads identified by the community and interviewed was Mrs. Alemi Kumsa, a single woman over 60 years of age who lived alone. She owned a 0.5 ha coffee plantation that she contracted to share croppers and 0.5 ha of cropland, which was rarely cultivated due to lack of labor. She claimed that share croppers often cheated her and rarely provided the proper harvest shares. The tragic loss of her husband and sons significantly impacted her life. Share cropping agreements were made through the mediation of brokers with no legal backgrounds. Due to illiteracy, people like Ms. Kumsa are not able to verify the terms of written agreements and are required to believe what they are told by mediators, which in some cases is not consistent with the signed agreement.

Table 22.2 Locally determined attributes of wealth in the *kebele* of Wabo, Yayu district

Rich	Middle-income	Poor
Owens a house with a corrugated steel roof and full furnishings, including a sofa, TV, and shelf	Owens a house with either a corrugated steel or grass thatch roof	Cannot provide adequate food for family
Owens more than one pair oxen	Owens 0.5–1.0 ha of coffee plantation with moderate management	Works as day laborer or sells fuel wood for income
Owens more than 1 ha of well-managed coffee plantation	Owens 0.5 ha of cropland	May own a coffee plantation but must allow another person as share cropper or in exchange for loan and may work on own land as laborer
Owens more than 0.5 ha of cropland	Owens a single ox	If they possess a coffee plantation, it is less productive because of poor management
Food self sufficient	Co-owner of a cow (shared among households)	Unable to send children to school, who must either live with others or work
Capable of sending children to school	Owens two or three sheep	Does not own livestock of any type
Capable of providing decent clothing for family	Food self sufficient	Depends completely on labor for income
Capable of storing maize	Unable to withstand poor growing conditions	Needs support for minor health services
Capable of supporting family for more than a year in case of production failure	Capable of sending children to school	
Owens one donkey	May own a television set and sofa	
Owens more than five sheep		
Owens more than five goats		

In contrast to Alemi Kumsa's situation, middle-income household head Sukare Firisa's (Box 22.2) educational status enabled her to avoid similar problems. Her children were highly educated, which seemed to have contributed to her ability to defend her rights with respect to her share of harvests from sharecroppers and the ability to manage her own coffee plantation. Apart from her education, she was relatively young and healthy and therefore had the physical strength to work. She also earned income by brewing drinks that she sold locally. She did not have savings of any type, which might have enabled her to improve her economic status.

Similar to the other sites, diversification of livelihood means was common among households identified as belonging to the rich wealth category in the community of Wabo. Mr. Fikadu Hailu, a Wabo household head belonging to the rich category, was engaged in coffee, food crops, chat, and sugarcane production. He also owned eucalyptus plantations. Some households identified as rich in this area had also expanded into providing specialized services and opening consumable goods shops.

Adami-Tullu Jiddo Kombolcha. This district is in the East Shoa Zone of Oromiya and had a total population of 142,861 at the most recent census (CSA 2007). The case study was conducted in the *kebele* of Bochessa, which is located 6 km east of the town of Ziway. Bochessa had a total of 480 households and 2,855 people. The area is well endowed with natural resources. It has fertile, relatively young, volcanic ash soils and abundant surface and groundwater resources. The area is suitable for

Box 22.2 Narrative of Ms. Sukare Firisa

Sukare Firisa is a female household head identified as belonging to the middle-income wealth category. She was 45 years old and had five children, only three of which lived in her home, which had a corrugated steel roof. The house had three rooms for the kitchen, a bedroom, and a salon furnished with a sofa, television set, and a shelf. Two of her children lived with her ex-husband. Her son was a university student and her daughter had graduated with a nursing degree and was looking for a job. Ms. Firisa was a ninth grade dropout and reliant on agriculture for her livelihood. She owned a 0.75 ha coffee plantation and 0.4 ha of cropland. She also owned a shared ox, a cow, three calves, and shared a fourth calf. She provided her cropland to share croppers due to her inability to cover labor and input costs, for which she obtained 600 kg of maize each harvest. With part of the maize harvest she prepared a local alcoholic drink called *arak* that she sold locally. Income from *arak* sales enabled her to buy teff to add to the remaining maize for the household food supply. She would have inherited a larger coffee plantation, but her late step-mother made a share-cropping agreement on part of the land to someone who later claimed it after the death of the step-mother. Firisa was capable of defending her rights with respect to the share croppers. She managed the coffee plantation by herself. When coffee income declines, she increases *arak* production and sales. She did not participate in the *Iqub* saving system or save by other means. She claimed that her reluctance to save stemmed from her mistrust in others, based on prior experiences with people who did not return money she had given them.

all kinds of agriculture using irrigation, including high-value fruits and vegetables, oil seeds, flowers, other food crops, and livestock production. This has attracted considerable investment in floriculture, large and small-scale irrigated agriculture, agro-industries, and recreation. The most fertile and accessible areas were allocated to such investments, reducing the availability of irrigable land for the local community and causing high rates of landlessness.

Rain-fed agriculture is not promising in the area due to the relatively low amount of rainfall. Therefore access to irrigable land was the most critical factor determining the wealth status of households in the area. The soils in the area have salinity problems, which further reduce productivity. The interplay of these three factors (low land ownership, erratic rainfall, and saline soils) greatly diminishes production, leading to a widespread lack of household self-sufficiency in food production.

The district is relatively well developed compared to other parts of Ethiopia. The major highway connecting Addis Ababa to the southern part of the country and Kenya crosses the district and good feeder roads connect the *kebeles* to major towns and the highway. Schools, mobile phone services, clinics, and health posts are available in most areas. All towns and major rural settlements have electricity.

Table 22.3 Locally determined attributes of wealth in the *kebele* of Bochessa, Adami-Tullu Jiddo Kombolcha district

Rich	Middle-income	Poor
Owens more than 5 ha of fertile land out of which at least 2 ha are irrigable	Owens 4–5 ha of fertile land of which a minimum of 1 ha is irrigable	Lack grain storage capacity near home
Owens more than four pair of oxen	Owens 2–3 pairs of oxen	Owens almost no land except home/garden plot
Owens a good house, with a corrugated steel roof	Owens 10–15 head of cattle and 8–10 goats	Does not own oxen and other livestock
Produces sufficient yield to secure household nutrition needs	Four or more family members capable of working on farm	Owens few home utensils
Capable of providing loans and accessing credit	Sufficient financial resources or access to credit to buy agricultural inputs to boost yields	Is in poor health
Capable of sending children to school		Physically incapable of work on farm or as day laborer
Physically capable of working	Recipients of government agricultural extension services, input supplies, and asset protection during poor harvests	
Large family labor force to work on farm		
Household heads' ideas/opinions are accepted by many and well respected by most community members	Capable of storing sufficient seed for planting next crop and enough pasture for livestock	

Transportation is not a problem in the area due to the good road networks and common use of carts in both rural and urban areas. The town of Ziway is the commercial center of the area, connecting the larger markets in Addis Ababa, Adama, Shashamanne, and Hawassa.

Mixed agriculture (crop and livestock production) is the major livelihood activity in the area. The major staple food crops produced in the *kebele* are maize, teff, wheat, and barley. Local farmers also produced Haricot bean, tomato, and onion as cash crops. The typical size of land holdings per household range from 0.75 to 3.0 ha. About 46 % of the rural population is landless, 27 % owned 1–2 ha, and 22 % owned less than 1 ha. Share cropping and land leasing for periods of up to a few years are common practices in the area, by both local subsistence farmers and commercial producers from urban areas.

With increased urbanization and commercial agriculture around Lake Ziway, employment as day laborers and petty tradesmen is increasingly becoming an alternative or complementary source of income for local residents. Other livelihood sources included fishing, livestock production, livestock finishing (pre-slaughter), and poultry production. The results of the local wealth ranking exercise in Bochessa are presented in Table 22.3.

As the representative head of a poor household, Mr. Wario Dinko, a 60 year-old, physically disabled man with a family of three owned 0.75 ha of non-irrigated land. He did not own oxen, but did own three chickens. Because of his inferior economic status, Mr. Wario felt marginalized. He believed that the voices of the poor like himself are not heard or are not taken seriously by the community, and that their

Box 22.3 Narrative of Mr. Kumbi Ababa Tufa

Kumbi Ababa Tufa was an illiterate 65 year-old man and the head of a family of 11. He was able to send all of his children to school at the appropriate age. He owned 1.5 ha cropland (of which 1 ha was irrigated), 2 oxen, 2 dairy cows and 4 other cattle, 2 sheep, and 2 donkeys. In addition, Mr. Tufa had one house in the town of Batu where he rented three rooms and earned 500 birr (US\$30) per month. In his home he had a television set and a tape recorder. He also had a bicycle for transportation and a motorized pump for irrigation. In 2010–2011 he harvested 4,000 kg of maize and 100 kg of teff. He attributed his success to hard work. He earned enough money to pay for most of his assets from fishing on Lake Ziway for many years. He was convinced that hard work and saving money can change the life of any person.

problems are not known to development agencies or policy makers. From his perspective, many policies and development activities fail to include the priorities of the marginalized poor. Similar poor households encountered in the area had very little land, none of which was irrigable. Groundwater is available but requires investment to access, which poor households could not afford. Most poor households are unable to support their families and depend on direct government aid through social safety-net programs.

On the other side of the spectrum, Mr. Kumbi Ababa Tufa was identified as a rich household head in the community (Box 22.3). The amount of land owned by Mr. Tufa was not much more than typical members of the middle-income category. However, he managed the land on his own, was able to irrigate, and produced high-value vegetables. In addition, his life story demonstrates the potential of fishing as a livelihood option that landless farmers could take advantage of.

Arero. This district is located in the Borana Zone of Oromiya, the district capital Mata Gafarsa is located 675 km south of Addis Ababa. The district has a total area of 957,639 ha, of which only 5 % is cultivated land. The greatest land cover in the area was rangeland, followed by a lesser amount of forest and settlements. There are 21 *kebeles* in the district, of which 20 are rural and one is urban. The case study *kebele*, Alona, is a rural *kebele* with the same land cover pattern that is typical for the whole district. Rainfall during both rainy seasons is erratic. In 2010–2011 there was no rain at all during the shorter rainy season. The district is an important watershed of the Dawa River, one of the major tributaries of the Juba River in Somalia. The total population of Arero district was estimated to be 73,500 in 2007 (CSA 2007). The number of households in the district was 12,487, of which 6,722 (53.8 %) were female-headed. In Alona female-headed households constituted only 36 % of the total. The principal reasons for the exceptionally high percentage of female-headed households in the district were polygamy and a high divorce rate, and violent conflict among ethnic groups. About 95 % of the

rural population belonged to the Oromo ethnic group, others included Somali, Konso, Gari, Burji, and other ethnicities.

Natural resources in Arero include high altitude dry forests, lowland woodlands, diverse and unique species of wild animals and mineral resources. Dry Afro-montane forests cover highland areas above 1,500 m. The lowland woodlands were rich in various useful species of acacia, gums, and incense-bearing species. The district is rich in mineral resources like gold, platinum, tantalum, and precious stones. Most of the natural resources are not being exploited by local communities.

The communities in the area are predominantly pastoralists and the major economic activity is livestock production. Over time the pastoralists of this area have developed unique breeds of cattle, camel, goat, and sheep. The local Borana livestock breeds are known in Ethiopia for the quality of their dairy and meat, which are also exported. Livestock resources are threatened by frequent drought, shortages of animal feed, and the encroachment of invasive woody plants on pasture lands.

The road connecting the district to major administrative towns and markets is in very poor condition, making traveling and transporting goods in the area very difficult. Most rural villages are not connected to the road network and residents had difficulty accessing health care services and markets. The major local commercial center is the town Mata Gafarsa. The nearest livestock markets are in the Yabello and Mega districts that require 2 or 3 days to reach on foot. Telecommunications, drinking water distribution, and electricity infrastructure were not available in the area. The district residents fetch water from rivers or streams during the rainy season and from springs, deep wells, ponds, and even from areas as far as 100 km away like the town of Yabello during the dry season. Generally, water was a scarce resource in this district.

On the other hand, human and veterinary health posts and schools are available in many *kebeles*, including the case study site. There were also three health centers in the district. Yet, the health posts, clinics, and health centers lacked qualified staff and medical supplies to provide their intended services. For proper medical services, people had to travel over 100 km to reach Yabello. There was one lower primary school (1–4th grade) in each *kebele*, and upper primary schools (1–8th grade) in some *kebeles*. Alona had schools of both kinds.

Livestock production contributed over 90 % of the total household income. In the entire district there were 157,000 cattle, 58,462 sheep, 80,252 goats, 35,165 camels, 18 horses, 1,403 mules, 5,742 donkeys and 11,980 chickens (CSA 2007). In Alona there were about 11,754 head of cattle, 4,900 sheep, 5,220 goats, 4,251 camels, 98 mules, 314 donkeys, and 135 chickens. The major constraints on livestock production are drought, feed shortages, diseases, and market access. In spite of all the problems livestock population has grown beyond the carrying capacity of the area, leading to land degradation and deterioration of critical resources like pasture and water.

Some households supplement income through crop production (maize), trade, mining, and employment as day laborers, especially among the poor. According to Boku (2008), 75 % of the households that engaged in crop cultivation belonged to

Table 22.4 Locally determined attributes of wealth in the *kebele* of Alona, Arero district, counting the total number of cattle is culturally taboo in the Borana communities, where only the number of dairy cows is counted

Rich	Middle-income	Poor
Owns a house with a corrugated steel roof in town	May or may not own a house with a corrugated steel roof in town	Owns one small house with a grass roof in a rural village
Food self-sufficient	Food self-sufficient	Not food self-sufficient
Owns more than 50 dairy cows	Owns 30–50 dairy cows	Owns 5–30 dairy cows
Capable of sending children to school and covering all costs	Capable of sending children to school covering some costs	(someone who does not own cows is referred to as “ <i>Qollee</i> ,” meaning absolutely or extremely poor)
Capable of saving money at credit and saving institutions	Capable of saving to some extent, and also of helping other households that suffer shocks or deaths	Unable to send children to school
Able to cover health care costs	Capable of saving to some extent, and also of helping other households that suffer shocks or deaths	Unable to save money, either assisted by clan or aid
Owns a mix of livestock (cattle, oxen, goats, sheep, camels, donkeys, horses, and mules)	Owns a mix of livestock (cattle, oxen, goats, sheep, camels, and donkeys)	May own a mix of livestock
Capable of helping poor neighbors and other households in all aspects (providing money, milk, materials, and grain) in case of funeral or food shortages	Self-sufficient in every aspect	Dependent on support of others, aid, or work as a day laborer

the customary economic category of “self-reliant.” Trade mainly involved livestock, livestock products, consumable goods, and grain. Small-scale mining of gold and other minerals by otherwise unemployed youths also occurs locally, a livelihood that is being learned from immigrant miners. There is significant variability in the wealth status among community members. A traditional local indicator of wealth is the number of livestock. A few individuals had large herds of cattle, but the majority of local residents had few or none.

The stories of some of the poor households illustrate how drought has the ability to impoverish people in Borana. In 2010–2011, many households lost all of their livestock due to 10 months of drought. It was evident from the stories of the “rich” and “middle-income” category household heads that income diversification helped them cope with vulnerability in a marginal environment. In addition to traditional livelihoods based on livestock production, the creation of alternative businesses or employment opportunities could contribute to poverty reduction.

Aside from the naturally marginal environmental conditions, culture also played an important role in asset accumulation of individuals in Borana. The strong cultural value attached to livestock ownership and the reluctance to sell livestock when the animals are in good condition during the season when prices are highest was the main barrier to reducing herds to more sustainable levels. Food shortages for people coincided with the dry season, when there were also feed and water shortages for livestock. This means that the physical condition of livestock suffers during the dry season, reducing their market value (Table 22.4).

Box 22.4 Narrative of Mr. Doyo Guyo

Doyo Guyo was an 85 year-old man with 17 children from 3 wives, of which 11 were married, and 6 were living with the family. At the time of the interview he was the head of a household of ten living in a multiple-room house. He was also the head of his community. Mr. Guyo owned more than 50 dairy cows, 21 goats, 10 sheep, a donkey, 10 chickens, and a mule. In addition Mr. Guyo owned a home with a corrugated steel roof in Alona and 0.5 ha of cropland for maize production. He harvested around 1,000 kg of grain for food and the cornstalks served as animal feed. The household did not produce enough food for the family and Mr. Guyo augmented his income by selling livestock. He was not receiving any aid from the government or NGOs. He had lost his parents and all of his livestock to a drought long time ago and afterwards had to take care of his brothers and sisters. He claimed to have earned his assets through hard work. Most of his cattle were taken by members of the Guji and Garba clans during a conflict in 1992. At that point he received support from his clan through the traditional *Buusaa-Gonofaa* mutual support system of the Borana Oromo. He also earned additional income working as a day laborer, selling fuel wood, and locally trading tobacco, cattle, and consumable goods. He was not saving money since there was no culture of saving like the *Iqub* in the area. He started cultivating land to reduce his dependency on livestock. As a future strategy, he planned to cultivate more land for subsistence using improved agricultural techniques to increase production, to reduce the number of livestock he owned, to open a savings account at a bank, to purchase a house with a corrugated steel roof in Yabello, to harvest and store hay for the dry season, and to seek other means to diversify his income.

The entrenched cultural practice in Borana of providing help to the poor by rich individuals, as well as a collective self-help system called “*Buusa-Gonofaa*” are excellent concepts for reducing abject poverty. In most of the areas studied in Ethiopia, the “rich” community members sometimes took advantage of (and were partly responsible for) the poverty of others. In Borana, however, the wealthier families help the poor without charging interest or seeking other economic gain. Similarly, social-oriented businesses could help the poor to build assets based on locally available resources and opportunities. The story of Mr. Guyo (Box 22.4) provides evidence of how the community-based coping systems like *Buusaa-Gonofaa* and individual efforts help residents recover from natural and human-induced shocks.

22.3 Conclusion

We found that poverty continues to be widespread in Ethiopia, even in areas endowed with a broad range of natural resources and where the cultivation of cash crops is possible. The extent of poverty and the causes and nature of marginality of the poor vary from place to place, depending on the resource base, livelihood strategies, and the climatic, agro-ecological, and socio-cultural conditions. In the Jida district in the central highlands, extreme land degradation on slopes, erratic rainfall, and unsustainable forestry practices on the valley plains have contributed to the marginality of local households. Environmental degradation was often partially caused by over-exploitation of resources. As a consequence, people suffer from frequent crop failures, poverty, and hunger. Exploitation of the poor by wealthier individuals through money lending at high interest rates worsens the situation of many of the poor. As a result, they need to migrate seasonally to urban areas in search of employment opportunities. Marginalization here seems to be predominantly caused by anthropogenic environmental factors.

Contrary to Jida, the Yayu district is endowed with plentiful natural resources. The region offers immense agricultural potential, which has attracted immigrants from other parts of the country. The lack of formal credit facilities, the practice of providing high-interest personal loans, shortages of family labor, and the limited size of coffee plantations all contributed to the poverty of some community members. In addition, the lack of regulatory institutions for enforcing compliance with share cropping agreements exposed the poor and elderly to exploitation. Thus, marginalization here seemed to be mainly rooted in institutional factors.

In the Adami Tullu Jiddo Kombolcha district the potential for income generation depends on the possession of land with potential for irrigated agriculture and livestock production. The proximity of the district to major domestic markets has attracted investment in commercial agriculture, displacing local residents and leaving them with only marginal production areas. The proportion of landless households in the district is very high compared to other rural areas in Ethiopia. Here, economic factors in the form of agricultural investments and related factors such as access to irrigation water are the main causes for marginality.

On the other hand, degraded rangeland and water resources, cultural values attached to livestock, poor range management and livestock production practices, and marginal environmental conditions were all factors contributing to poverty in the pastoralist community of Borana. Although drought is a natural calamity, the high social value given to cattle has inhibited the practice of accumulating financial savings, which would help households cope with adverse conditions during seasonal droughts and reduce pressure on grazing areas and surface water resources. The traditional self-help community institution of *Buusaa-Gonofa* among the Borana pastoralists was an important coping mechanism for incidences of drought and human-induced disasters. As a result, ecological and spatial factors are the main causes for marginality experienced by people in this area.

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References

- Boku TD (2008) Pastoralism under stress: resources, institutions and poverty among the Borana Oromo in Southern Ethiopia. Dissertation, Norwegian University of Life Sciences, Aas
- CSA (2007) Summary and statistical report of the 2007 population and housing census results. Central Statistical Agency of Ethiopia, Addis Ababa. http://www.csa.gov.et/pdf/Cen2007_preliminera.pdf. Accessed 20 Sept 2012
- Fite GI (2008) Remote sensing and GIS assisted participatory biosphere reserve zoning for wild coffee conservation; case of Yayu forest. Thesis, Addis Ababa University, Addis Ababa
- Gatzweiler F, Baumüller H, von Braun J, Ladenburger C (2011) Marginality: addressing the root causes of extreme poverty. ZEF working paper no. 77, Center for Development Research, University of Bonn, Bonn
- Gole TW (2003) Vegetation of the Yayu forest in SW Ethiopia: impacts of human use and implications for in situ conservation of wild *Coffea arabica* L. populations. Cuvillier Verlag, Göttingen
- Gole TW, Feyera S, Kassahun T, Fite G (2009) Yayu coffee forest biosphere reserve nomination form. Ethiopian MAB National Committee, Addis Ababa
- Halake D (2010) The impacts of development interventions on customary institutions of forest resource management among the Borana Oromo Of southern Ethiopia. Thesis, Addis Ababa University, Addis Ababa
- UNESCO (2010) World Network of Biosphere Reserves 2010: sites for sustainable development. United Nations Education, Science, and Cultural Organization, Paris

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