

WORLD DEVELOPMENT REPORT 2008

Agriculture for Development

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Introduction and Overview

1. Agriculture's power to transform economies and improve well-being has been convincingly demonstrated in the course of history. Agricultural revolutions were the precursors of the industrial revolutions that spread across the temperate world from England in the mid-18th century to Japan in the late 19th century. By the middle of the 20th century, Asia's Green Revolutions showed that agricultural technology could catalyze comparable changes in developing countries. Agriculture's power to transform these economies has been due to its strong pro-poor growth linkages to other sectors of the economy, resulting in large employment effects and reduced price of food staples consumed by the poor.

2. Yet this pattern of development is far from universal. Worldwide, 70 percent of the poor live in rural areas and most of them depend on agriculture. Many countries and extensive areas within countries have yet to experience sustained agricultural growth and continue to suffer from mass poverty and hunger. In other countries with rapid growth in nonagricultural sectors, the reallocation of labor from agriculture to other sectors has often lagged, leaving large numbers of poor people in rural areas. Indeed, over the coming decades, the developing world will have to manage a rural-urban population transition that is larger and more rapid than at any other time in history. While agricultural growth has led to massive reductions in poverty, significant changes in the world of agriculture, spurred by globalization, have raised questions about the future poverty impacts of agricultural growth, particularly in the context of meeting the Millennium Development Goal of halving poverty and hunger by 2015.

3. This 2008 World Development Report (WDR 2008), *Agriculture for Development*, reviews these challenges by addressing a number of critical questions: when is agriculture a central instrument for development; how can agricultural growth be increased; how can that growth be made more pro-poor; how can massive population transitions out of agriculture be effectively managed; and what can be done to reduce vulnerability and extreme poverty for those left behind? Throughout the Report, agriculture in its narrow definition includes crops, livestock, agroforestry, and aquaculture (but not forests and fisheries more generally). In its broader definition, it covers the food, feed, and fiber system, spanning the range from input provision to agroprocessing and retailing.

A new world of agriculture

4. Twenty-five years ago, the *1982 World Development Report* examined the role of agriculture in development. It concluded that impressive progress had been made in developing countries as a consequence of the Green Revolution but that this progress had bypassed many parts of the world, particularly Sub-Saharan Africa. The WDR 1982 proposed two main policy recommendations for agriculture in the development agenda: (1) remove pervasive distortions in price incentives (such as overvalued real exchange rates and taxation of exports) and thereby induce a supply response, because even small-scale farmers would respond to improved prices; and (2) increase public and international investments in agricultural research, rural infrastructure, irrigation, and education. Distortions in trade and price incentives were further analyzed in the WDR 1986, which emphasized their negative consequences for agricultural growth and poverty reduction.

5. Although the WDR 1982 development agenda for agriculture was partially successfully implemented, it was also partially frustrated by macroeconomic and policy

shocks, by conflicts in many countries that diverted attention to other priorities, and by dramatic changes in the world of agriculture. These changes call for a markedly different perspective to be used in assessing the role of agriculture for development. One major change is **globalization**, spurred by rapid growth in demand for agricultural exports, massive expansion in international capital movements, and sharp declines in international transport costs. A second change is the emergence of tightly coordinated **supply chains**, now operating on a far larger scale, which have unleashed a massive transformation in the organization of agricultural markets. A third is the rise of new **technologies** developed through advanced informatics and biology, as well as heightened interest in nontraditional applications of agriculture such as the production of biofuels and the mitigation of climate change. A fourth change involves the evolution in **institutions**, with major innovations in governance, civil society organizations, and services affecting agricultural productivity, such as finance, insurance, and information services. Together these changes imply a greatly increased role of the private sector, a reduced presence of the state in markets, and an increased need for developing countries to comply with sanitary and phytosanitary standards for exports if they are to tap market opportunities flowing from globalization.

6. Some of these changes are favorable for a pro-poor agriculture. Globalization expands markets for labor-intensive, nontraditional exports. It creates opportunities for agriculture in the form of new sources of demand from affluent urban populations across the world for such products as fresh fruits, vegetables, and cut flowers. But other changes make a pro-poor agenda more difficult to implement. The competitiveness of less advanced agriculture—typically in the poorest countries—and the viability of the family farm are called into question by falling international commodity prices (driven by new technology and protectionism in OECD countries), restricted access to proprietary technological innovations, and economies of scale in provisioning more demanding supply chains.

7. Finally the design of a pro-poor development agenda must recognize that agriculture has several features that strongly distinguish it from other sectors (box 1).

Box 1 Why is agriculture unlike other productive sectors?

The fact that agriculture has several characteristics that distinguish it from other productive sectors will affect how the development agenda for agriculture is defined. Agriculture is a private activity implemented at the local level on a largely individualistic basis, but:

- It is characterized by **material determinants** of production that are unique: high dependency on nature, spatial dispersion, seasonality of production, high asymmetry in information, high risks, and difficulty in sustaining the productivity of natural resources.
- It is exceptionally **integrated** into a world agri-food system whereby market developments, technological progress, institutional changes, and policy interventions in one part of the system have far-reaching implications, even for distant actors in other parts of the system.
- It is unusually subject to market failures that call for **public sector interventions**. For this reason, agriculture is also highly vulnerable to policies that are extractive, such as cheap food policies, land grabbing, regressive subsidies, and exposure to corrupt local officials.
- It is unusually linked to **social issues** because of the close correspondence between agriculture as a productive activity and “ruralness” as a way of life. Social relations in rural society are consequently important determinants of growth and poverty outcomes in agriculture, including gender asymmetries in power, access to resources, and services.

- It is unusually *dualistic*, and increasingly so. Some actors can take advantage of new technological, market, and institutional opportunities, while many cannot. Large segments of the population remain trapped in subsistence-oriented activities and rely on agriculture as a safety net of last resort.
 - It is unusually linked to *collective action* due to economies of scale (as in water management, marketing, and local clusters of economic activity), the internalization of positive and negative externalities (water resources, agrochemical pollution), and the management of common property resources.
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Agriculture has diverse roles as an instrument for development

8. The WDR 2008 views agriculture's contribution to development from three perspectives which imply different rationales for emphasizing agriculture in development strategies.

(1) Agriculture provides an engine of pro-poor growth. In this traditional role, the food production sector is largely non-tradable as a consequence of locally specific foods, incomplete trade liberalization, or high internal transactions costs. Under these conditions, agricultural growth spurs growth in nonagricultural sectors through lower food prices and by providing effective demand for locally produced industrial goods and services. If productivity growth in agriculture is sufficiently high, the nonagricultural sectors grow even more rapidly than the agricultural sector, leading to a structural transformation of the economy in which agriculture has a declining share in GDP. *This pattern of growth is also very effective for overall poverty reduction, particularly when the share of agriculture in GDP is high at the outset and where agricultural growth is broad based.* This role of agriculture is dominant in African countries.

(2) Agriculture provides a critical instrument for poverty reduction even as dynamic nonagricultural sectors emerge. In this role, rapid growth in industry and services leads economy-wide growth but *agricultural growth remains essential for reducing poverty and improving equity.* In the short run, while large numbers of poor rural people have not yet adjusted to the opportunities emerging in nonagricultural sectors of the economy, it is critical to invest in agriculture as an effective instrument to reduce poverty and to manage the rural-urban income divide. Rapid nonagricultural growth provides an important source for this agriculture growth through the dynamics of consumer demand for high-value products, such as fruits, vegetables, animal products, and health foods. By reducing inequality, efforts to address rural poverty can also provide a source of long-term growth (see World Development Report 2006), based on greater entrepreneurship of the poor and the expanding domestic markets that arise through more widely shared prosperity. This role of agriculture is dominant in Asian and Middle Eastern countries.

(3) Agriculture acts like other tradable sectors. In this role, particular subsectors of agriculture have a comparative advantage, especially if this advantage is driven by dynamic markets and supported by appropriate public investments, particularly in R&D and infrastructure. The poverty reduction value of this kind of agricultural growth depends on (1) participation of a competitive smallholder sector and (2) opportunities for remunerative employment in rural labor markets, in part driven by agricultural growth. This role of agriculture is dominant in many Latin American countries.

Given the heterogeneity within many countries, these various contributions can apply simultaneously in the same country, depending on factors such as infrastructure.

Five messages to be conveyed by this World Development Report

9. The extent to which agriculture can continue to have large impacts on growth and poverty reduction through these various roles varies considerably by product type, country context and local agro-climatic and socio-economic conditions within countries. This WDR will provide an in-depth analysis of these relationships, centered around five major policy messages.

10. **Message 1. Reverse under-investment in agriculture and increase its efficiency to capture its diverse roles as an instrument for growth and poverty reduction.** The three roles of agriculture for development have been underutilized because of a well-documented historical urban bias in public policies, a frequent misallocation of public expenditures in agriculture toward inefficient subsidies as opposed to public goods, and a private investment climate often hampered by insecurity of property rights, inadequate infrastructure, and lack of financial services. Removal of these biases offers major opportunities to place agriculture back on the development agenda as a unique instrument for growth and poverty reduction.

11. **Message 2: Exploit new sources of agricultural growth in the context of globalization, integrated supply chains, technological progress, and institutional innovations.** These new sources of growth include new technologies and institutional innovations to reduce transactions costs and risks on the supply side, and dynamic markets and improved incentives on the demand side. The importance of these sources of growth varies across countries. In Africa, better policy contexts offer the promise of broadly improving agricultural productivity with initial priority on staple foods according to agriculture's traditional role in development. Significant sectors with comparative advantage in cash crops, livestock, and nontraditional exports are also important as sources of growth. *The central role that agriculture can play in development in Africa requires urgent attention.* In rapidly growing economies, transitions to high-value activities driven by rapidly expanding urban and global markets provide major new sources of growth. These dynamic sources of effective demand can be captured by major reforms in trade, structural changes in markets, institutional innovations, technological progress, and improved natural resource management.

12. **Message 3: Make agricultural and rural growth more pro-poor and sustainable.** The appropriate instruments to achieve this goal depend considerably on country context, but they fall into four categories.

(1) ***Interventions to increase access to assets for the rural poor.*** The most important assets are land, water, and human capital. Targeting by gender, age, and ethnicity is important to maximize poverty reduction effects.

(2) ***Interventions to improve productivity and profitability of smallholder farming.*** These include a widely shared smallholder-based "green evolution" for rainfed areas, particularly in Sub-Saharan Africa, competitive smallholder participation in emerging high value product markets and supply chains, and better management of scarce natural resources, especially land and water.

(3) Interventions to improve employment and wages in agriculture and rural non-farm activities. In most developing economies, nonagricultural employment is largely linked to agricultural growth, either upstream or downstream. Interventions to promote local economic development provide opportunities for income diversification in rural areas and more integrated labor markets.

(4) Interventions to improve migration and effective use of remittances. Many countries will have to manage massive population transitions out of agriculture in the coming decades. This effort requires major investments in human capital, as well as investments in the social functions of agriculture to pace the displacement of the family farm, and productive use of remittances.

13. Growing *regional differences within countries* mean that public policies must be adjusted to differential conditions in agricultural potential and access to markets. Infrastructure is critical to connect regions with favorable agricultural potential to markets, especially in Africa and lagging regions elsewhere. Rising regional disparities require targeted interventions to induce more rapid growth in lagging regions or to facilitate out-migration.

14. **Message 4: Reduce vulnerability to shocks and assist those left behind.** Exposure to risk is particularly high in agriculture, with the rural poor especially vulnerable to resulting shocks. Ex ante risk management is costly to the poor and irreversibilities in coping with shocks via asset decapitalization are sources of new poor. Reducing risk and vulnerability is a key mechanism for rural poverty reduction that has received insufficient attention. In addition, out-migration leaves a *higher proportion of those remaining reliant on subsistence agriculture and unskilled farm work*, and consequently increasingly vulnerable to shocks. The challenge for poverty reduction is to design a policy set which provides social assistance, where appropriate, and productive safety nets and income generation opportunities to catalyze sustainable livelihoods for poor people.

15. **Message 5: Address the global agenda.** Successful agriculture-for-development strategies depends on tackling an increasingly complex global agenda that includes trade agreements; global climate change; pandemic diseases for humans, animals, and plants; intellectual property rights; and the delivery of international public goods. Delivering on this global agenda will require better coordination among the players and greater commitment to the world development challenge, in particular regarding the role of agriculture.

16. Many additional pressing questions surround the consideration of agriculture's role for development. Box 2 presents a selection of these questions to be addressed in the WDR 2008.

Box 2 Ten pressing questions addressed in this WDR

1. Where is agricultural growth still a cost-effective way of achieving aggregate growth and poverty reduction, given the opportunities and threats posed by globalization and the integration of food systems?
2. Will growing populations and incomes, higher energy costs, rapidly emerging demand for biofuels, rising resource scarcity, and global warming put new pressures on food supplies, globally or regionally?

3. How is the character of rural poverty changing, both qualitatively, including the gender dynamics, and in geographical location?
 4. Will global agricultural trade liberalization continue, and who will it benefit?
 5. Will the surge in consumer demand in favor of food safety, quality, and standardization push smallholders into shrinking low-return markets?
 6. Will genetically modified organisms benefit developing country agriculture and at what risk?
 7. Can the use of water in agriculture be made more efficient and equitable to deal with acute water shortages and conflicts over access to water?
 8. Should public investments be biased toward rural areas to manage population transitions out of agriculture?
 9. How should food aid mechanisms be designed to provide not only relief but also pro-poor growth?
 10. Is there a new chance for smallholder-based sustained productivity gains in Africa?
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Structure of the Report

17. The WDR 2008 is divided into three parts. Part I analyzes the conditions under which agricultural growth can be cost effective as an instrument for aggregate growth and poverty reduction. Part II considers instruments to make agricultural and rural growth more pro-poor and more sustainable. It also considers ways to reduce vulnerability and assist those left behind. Part III integrates these instruments as components of broad strategies at local, national, and global levels to maximize the development role of agriculture in providing pathways out of poverty.

18. Part I begins by quantifying the aggregate growth and poverty reduction value of agriculture with progress in globalization, tightly coordinated food supply chains, new technologies, and institutional innovations. Poverty reduction is occurring both through agriculture's direct addition to growth (that is, through a sectoral route to poverty reduction) and through spillover effects on other sectors (a macro route to poverty reduction) (chapter 1). Evidence is provided on the huge and widening discrepancies that characterize the dynamics of food and agricultural systems across and within countries—and the sources of growth associated with these discrepancies (chapter 2).

19. Part II opens with an assessment of the pronounced changes that have occurred in the social and economic conditions of agricultural and rural populations in the last 25 years. Change occurred in some cases because population growth eroded asset positions, but also because of extensive migration (chapter 3). These changes have impacted gender roles within agriculture. They have major implications for access to assets for the rural poor, and for the definition of pathways out of poverty that can be activated by pro-poor agricultural growth.

20. Chapters 4 through 10 analyze a set of public policy interventions that can increase the productivity of asset use by the rural poor in their three main sources of income: (1) agriculture, (2) the labor market and nonagricultural activities in rural areas, and (3) migration. These sources combine in livelihood strategies that can provide three main pathways out of poverty: one where agriculture is the main source of gains in expected levels and stability of income, a second where labor and rural nonagricultural activities related to agriculture are the main sources of gains, and a third where migration pulled by nonagricultural growth is the main source of gains. Income can also be enhanced by social assistance programs to reduce chronic poverty and vulnerability.

21. The returns to *assets used in agriculture* can be enhanced by improved incentives derived from trade and domestic policy reforms and by more efficient allocation of public

expenditures with fewer leakages to inefficient and socially regressive subsidies (chapter 4). As noted, major changes in the organization of agricultural markets open new growth opportunities for agriculture but present new challenges to smallholders' participation. These challenges primarily relate to the large economies of scale in provisioning food processors and supermarkets, and to increasingly stringent sanitary and phytosanitary requirements (chapter 5).

22. Innovations in institutions offer the prospect of major gains in productivity and profitability for agriculture. They include innovations in financial services, access to land, access to inputs, and the empowerment of rural producers, all of which are fundamental for smallholders to access new opportunities, but whose design must be especially sensitive to inclusion of women (chapter 6). Innovations in science and technology also offer the prospect of large productivity gains based on bio-technology and applications of information and communication technology to agriculture. Yet these same innovations could widen disparities in access to science between the poorer and smaller countries and several large developing economies that are powerhouses of agricultural science and technology, particularly Brazil, China, and India (chapter 7).

23. While agricultural growth has been extraordinarily successful in meeting rising effective demand globally, this growth was achieved at the cost of significant resource depletion and environmental degradation, which are typically more detrimental to the poor. Most notable are water scarcity, deforestation to gain arable land and pastures, climate change, and animal diseases and waste. New approaches are explored to make agriculture more sustainable and to introduce payments for environmental services that could reward the poor for effective resource management (chapter 8).

24. Returns to *assets used in off-farm activities* can also be enhanced, including employment in agriculture and in rural nonfarm activities largely linked to agriculture. Agricultural labor markets can, however, act as poverty traps. Access to remunerative rural nonagricultural employment requires skills and social capital that can easily exclude the poor. Employment and investment opportunities can be enhanced by local economic development centered on agriculture and agricultural processing, which presents exciting new perspectives based on decentralization, cluster economies, and civil society participation (chapter 9).

25. Large population transitions out of agriculture offer an opportunity to enhance the returns to *assets used in migration*. The pace of population displacement must be managed to meet the absorptive capacity of other economic sectors (raising the issue of the social function of the family farm), and future migrants must be prepared to enter urban and international labor markets (chapter 9). Beyond enhancing well-being, social assistance programs, such as food aid and cash transfers, can also be socially efficient in reducing the costs of risk management and irreversible asset decapitalization that may occur in responding to uninsured shocks (chapter 10).

26. The effectiveness of agriculture-for-development can be enhanced by the design of prototype strategies based on the appropriate model of agriculture for development (Part III, chapter 11). The urgency of getting agriculture moving in Sub-Saharan Africa is addressed throughout the WDR 2008, but the many aspects of this discussion are united here in key elements of a strategy. These build on the improved enabling environment for agriculture to achieve more rapid and sustained progress in growth and poverty reduction now being observed in Africa. In other regions, strategies need to focus on smallholder agriculture, rural labor markets, and migration as pathways out of poverty, and on the sustainable use of natural resources.

27. Success with national strategies depends on managing a complex global agenda dealing with trade reforms, the provision of international public goods, equitable use of intellectual property rights, management of human and animal pandemics (such as HIV/AIDS and avian flu), climate change, and international donor cooperation. The question of how global agendas complement national agendas in determining the success of pathways out of poverty is discussed, along with the implications for international governance and donors.

28. Cutting across these strategies are six major issues, highlighted here as conditions for success.

(1) *Complete the agenda from WDR 1982.* For example, constraints to market access and OECD farm policies still circumscribe agricultural growth in developing countries, as seen in the suspension of the Doha development round of trade talks. Completing this agenda should be a priority.

(2) *Proceed not by agriculture alone: Pursue multisectoral approaches.* Getting agriculture moving is a complex, multidimensional agenda that is highly conditional on successful complementarities across many types of policies and investments. Such multisectoral approaches require expertise and coordination at the local, national, and donor levels that is strikingly incomplete.

(3) *Recognize the central role of institutions in furthering the development agenda for agriculture.* In moving forward with the new agenda, major emphasis needs to be given to experimenting with and scaling up institutional innovations, especially in finance, insurance, rural producer organizations, and contracting.

(4) *Redefine the role of the state in agriculture.* The changing public and private roles in agriculture must be more clearly delineated, particularly in African countries where the private sector is poorly developed. An associated need is to improve capacity in the public sector so that it may effectively assume its new roles.

(5) *Recognize the special importance of women as key players in the sector.* Although women dominate the workforce in some subsectors, they have less access to assets such as land, resources such as financial services, knowledge such as agricultural extension, and to markets. Therefore, special attention is given throughout the Report to the design of policies that facilitate women's inclusion.

(6) *Pay attention to the political economy of policy reforms.* The WDR 1982 agenda remained incomplete largely because of political economy forces. Any new agenda for agriculture will suffer the same fate if it does not address the politics of agricultural reform.

Chapters at a Glance

Chapter 1 Agricultural growth, sectoral spillovers, and routes to poverty reduction

Introduction

This chapter develops a simple conceptual framework that identifies the various roles of agriculture in development: (i) its historic role as an engine of pro-poor growth, (ii) its role for poverty reduction and equity, when labor re-allocation to nonfarm sectors lags, and (iii) its role in exploiting available comparative advantages in an open economy. The chapter also specifies the linkages between agricultural growth, non-agricultural growth, and poverty reduction.

The chapter then empirically quantifies the strength of the growth poverty reduction linkages and conceptualizes and estimates where possible, how globalization, supply chains, technology and institutional innovations (GSTI) affect these relationships. Countries are also classified according to the contributions of agricultural growth to aggregate growth and to poverty reduction.

Chapter structure

- 1.1 Routes from agricultural growth to poverty reduction: A conceptual framework
- 1.2 Agriculture's potential to reduce poverty in the new global environment: Changing concepts and empirical estimates
- 1.3 Cross-sectoral priorities in public investment

Expected messages

- In agriculture-based economies, mainly in Africa, promoting agriculture is critical to overall growth and poverty reduction, even though capturing this win-win is harder to achieve now in the emerging GSTI context than it was for the Green Revolution in Asia. In these economies, there is an urgency to accelerate the growth of agriculture while also supporting income diversification.
- In rapidly growing economies, mainly in Asia, agriculture is no longer the key driver of growth, but the large share of rural poverty in total poverty justifies sustaining investments in agriculture as a major instrument for poverty reduction.
- In many middle-income economies, smallholder farmers may be threatened in their ability to compete due to increasing economies of scale in industrialized food chains, requiring attention to their competitiveness, to income diversification, and to assisting population transitions out of agriculture.

Chapter 2 A global view of agricultural performance: contrasts and opportunities

Introduction

This chapter documents the wide divergence among countries in agricultural growth performance and develops the evidence on bifurcations and heterogeneity by providing a deeper analysis of sectoral performance. The chapter will review production performance, trends in use of land and water resources, changing market demands for food and feed, and emerging patterns of agriculture trade. It analyzes sources of growth for agriculture and notes the elements of recent promising trends in the growth performance in Africa. The analysis will be based on national and global statistics from the United Nations Food and Agriculture Organization, and others.

Chapter structure

- 2.1. Global agricultural performance
- 2.2. Heterogeneity in performance across regions and countries
- 2.3. Understanding the sources of agricultural growth
- 2.4. Exploring scenarios to 2030

Expected messages

- Over the past four decades agriculture has been enormously successful at a global level in meeting the effective demand for food and nonfood products. Steady growth in agricultural output and the long-term decline in commodity prices attest to this success.
- Success has not been shared uniformly across regions and countries. Many of the least developed countries, particularly in Sub-Saharan Africa, and marginal production environments across the developing world continue to experience low or stagnant agricultural productivity, rising food deficits, and high levels of hunger and poverty.
- A large share of agricultural productivity growth has been explained by investments in agricultural research, infrastructure, and human capital, with wide variations in investment intensities across countries.
- Recent improvements in the enabling environment (both incentives and governance) for agriculture in many of the least developed countries have increased agricultural growth and improved the environment for future investments in agricultural productivity.

Chapter 3 The changing socioeconomic characteristics of farm and rural populations

Introduction

The characteristics, activities, and conditions of the farm and rural populations change rapidly with economic development, implying that a traditional vision of “peasants” and “dedicated family farmers” can be quite misleading. This has deep implications in understanding the role of agriculture for poverty reduction and in identifying instruments that can be used to make it more effective. This chapter will utilize population census, household survey, and agricultural census data to document emerging social trends in the rural population, recognizing contrasts among countries and among regions within countries. It presents a framework for household decision making to identify entry points for policies and programs to improve household well-being and guide the structure of the rest of the Report. Finally, it recognizes intra-household dynamics in terms of changing gender roles and responsibilities.

Chapter structure

- 3.1. Rural population dynamics
- 3.2. The changing demographic characteristics of rural households
- 3.3. The evolution of rural poverty and its geography
- 3.4. Changes in the distribution of land and access to land
- 3.5. Household income strategies in intra-household dynamics
- 3.6. A conceptual framework for pathways out of poverty

Expected messages

- Selective migration leaves behind a population of poor that is increasingly aged, female, and with low marketable skills, a phenomenon more acute in the middle-income countries and in the marginal areas of all countries.
- Poverty will remain predominantly rural in most countries for the next 25 years, with most of the poor in favorable areas, and more pervasive and severe poverty in marginal areas.
- The vast majority of agricultural households participate in nonagricultural income-generating activities, which account for a rising share of household income as per capita incomes rises.
- Rural populations are becoming more heterogeneous, with rising differences between successful farmers and farm populations left behind.
- There are major differences in the division of assets and decision making between male and female members of households that are important to recognize for realizing equitable growth.

Chapter 4 Trade, incentives, and public expenditures for pro-poor growth

Introduction

Earnings from farming have been depressed in low-income countries partly because policies have had a pro-urban, anti-agricultural and anti-trade bias, and partly because Organization for Economic Cooperation and Development (OECD) countries protect and assist their farmers with import barriers and subsidies. OECD policies continue to lower international prices for many developing country exports that are not benefiting from nonreciprocal preferential arrangements, while developing country policy reforms have generally improved farmer incentives by reducing the gap between farm-gate and international prices. This chapter provides new evidence on the scope for improved incentives through OECD trade policy reforms, and through developing countries' own policy reforms. The latter also includes improvements in the overall investment climate, and more efficient use of public resources.

Chapter structure

- 4.1. Global trade reforms
 - OECD agricultural policy reforms
 - What will be the outcome of the Doha round?
- 4.2. Policy reforms in developing countries
- 4.3. Improving the investment climate for the private sector
- 4.4. Improving efficiency in public expenditures

Expected messages

- OECD agricultural tariffs and subsidies have not come down significantly, despite the Uruguay Round agreement on agriculture. They restrict developing country market access and the incentives to produce both domestic foods and exports.
- Domestic policies that “taxed” farmers in numerous developing countries have improved since the 1980s but have not disappeared, offering opportunities to improve incentives, particularly in low income countries. Other developing countries, meanwhile, have raised their barriers to imports of farm products, adding to the harm caused by restricted access to OECD markets.
- Intra-regional trade offers significant growth potential for small agriculturally-dependent countries, but faster harmonization of country policies is needed to realize this potential.
- Public investments in agriculture are often squandered on regressive subsidies rather than focused on high-payoff investments in rural public goods and human capital. Significant scope remains for improving the efficiency of use of public resources to increase investments on high priority public goods.
- Political economy factors drive international trade negotiations, domestic policy reforms, and public expenditure allocations, so incentives for policymakers need to shift if reforms are to be more pro-poor. Promoting a greater role for rural producer organization may help to achieve this goal, but it carries the risk that those organizations will not stop at removing negative policies but rather become lobbyists for farm protection.

Chapter 5 New product markets and their supporting institutions

Introduction

Rising incomes, urbanization, liberalized trade, and foreign investment offer new markets and growth opportunities for agriculture. The participation of smallholder farmers in supplying these markets and the associated poverty impacts of market expansion will vary by market type. This chapter explores a set of institutional innovations with the potential to reduce risk, improve market efficiency, and strengthen the inclusion of the poor across a spectrum of agricultural markets.

Chapter structure

- 5.1. Demand dynamics and market differentiation
- 5.2. Institutional innovations to reduce risk, improve market efficiency, and increase the participation of the poor
 - Food staples: improving commodity trading and risk management
 - Commodity exports: financing and quality improvements after the demise of parastatals
 - Modern urban markets: including smallholders as providers to agroprocessors and supermarkets
 - High-value exports: costs of compliance for food safety and standards

Expected messages

- A four-tier differentiation of agricultural markets has emerged: traditional staples, bulk commodity export, modern urban, and high-value export. These markets differ significantly in their organization, the role of government, and the inclusion of smallholders.
- Staple crops still dominate the markets in low-income countries and for smallholders. There is significant scope for efficient import substitution through improved infrastructure and better mechanisms for exchange and risk management.
- Bulk commodities remain an important export for many low-income countries, but future growth will come more from quality improvements than higher volumes.
- Urban markets for high-value products are growing rapidly in countries with rapid overall growth and urbanization, but economies of scale and scope in retail chains and food processing are reducing the competitiveness of smallholders and heightening the need for institutional innovations to better link these farmers to markets.
- High-value export markets in the OECD have stringent sanitary and phytosanitary requirements, and significant investments in developing country capacity are needed to meet them. Emerging export markets in developing countries for high-value products have less demanding standards, offering opportunities for smallholder participation and to build capacity for future entry to OECD markets.

Chapter 6 Institutional innovations for smallholder competitiveness

Introduction

Institutional innovations can be major sources of growth for agriculture, on a par with factor accumulation and technological innovation, and they can also be key determinants of smallholder competitiveness. This chapter documents innovations in helping the poor access and use land, in providing financial services, in providing inputs such as fertilizers and seeds, and in enhancing the effectiveness of rural producer organizations.

Chapter structure

- 6.1 Innovations in accessing land and the role of land markets and land reform
- 6.2 Innovations in financial services to enhance the competitiveness of smallholders
- 6.3 Innovations in access to seeds and fertilizers
- 6.4 Innovations to enhance the effectiveness of rural producer organizations

Expected messages

On accessing land and the role of land markets

- Tenure security, critical for efficient land use, can be increased at low cost by legal reforms affecting property rights and contracts, improved mechanisms for conflict resolution, and programs of land certification.
- A modernized land administration system can have spillover effects on local development—facilitating access to credit, reducing corruption, and introducing e-governance mechanisms.

On financial innovations for smallholder competitiveness

- The microfinance revolution, despite success on other fronts, has still largely failed to solve the problem of access to financial services for smallholder agriculture.
- Promising institutional innovations need to be explored, particularly improving access to credit through interlinked agents in supply chains, use of information technology in financial transactions, index-based agricultural insurance, and credit reporting bureaus.

On access to inputs

- A new generation of institutional innovations, including market-smart subsidies, for input market development offers promise for significant gains in efficiency and equity.

On rural producer organizations

- Rural producer organizations (RPOs) can enable smallholders to contribute to and benefit from agricultural growth if they can incorporate them and represent their interests. There has been a rapid rise in the number and membership of RPOs.
- Important changes in the farm population and in the GSTI context introduce new challenges for RPOs and require adjustments to their traditional forms of organization and conduct.

Chapter 7 Science, technology, and skills

Introduction

Investment in agricultural research and development (R&D) has been the major driver of past success in rapidly increasing agricultural productivity, especially during the Green Revolution in Asia. Hundreds of studies have documented the high payoffs to these investments throughout the developing world. With globalization and rapid advances in the biological and information sciences, agricultural production systems and markets are becoming even more knowledge and information intensive, and investments in science and technology will remain a high priority for securing the competitiveness of small farms. At the same time, new technologies, climate change, and diseases are posing potential or perceived risks to human health and the environment. This chapter emphasizes the policy implications of the shifting nature and location of innovation, the changing pattern of knowledge and technology spillovers, and the new institutional arrangements to harness and apply modern science to benefit the poor.

Chapter structure

- 7.1 Investing in R&D for the poor
- 7.2 Collective action for more efficient and pro-poor science
 - The complexity of modern science demands collective action
 - Global collective action continues to be a priority
 - Acquiring proprietary science for the poor
- 7.3 Regulating technology risks, including genetically modified organisms (GMOs)
- 7.4 New approaches for heterogeneous environments, especially in Africa
- 7.5 Increasing skills to capitalize on investments in R&D

Expected messages

- Global market failures are leading to underinvestment in R&D, especially in Africa and many smaller countries in other regions, widening the gap in the capacity to harness modern science. Finding ways to build political support to increase public investment in R&D in these countries is even more urgent now to achieve open-economy competitiveness.
- The rapid rise of higher value markets, especially in transforming and urbanized developing countries, is creating new demands and opportunities for public–private partnerships to foster innovation along the value chain, requiring new skills and institutional capacities.
- The ability to tap new opportunities offered by modern science depends on global efforts—for investments in international public goods, agreements on access to proprietary technologies for the poor, mechanisms to regulate new technologies, and research that promotes spillover effects of technologies.
- Improving productivity in the heterogeneous rainfed areas of Africa is perhaps the highest priority for addressing extreme poverty and food insecurity. More decentralized and participatory approaches that also capture indigenous knowledge show promise in tailoring technologies to local contexts.

Chapter 8 Agriculture, natural resources, and the environment

Introduction

Agricultural growth has had environmental costs in terms of pollution, natural resources, degradation, and increased risks to human health. Important food-growing systems may be approaching thresholds that, if crossed, could lead to adverse and accelerated global impacts. Even if there is enough elasticity in global food systems to absorb such shocks, the same cannot be said for the people, regions, and countries directly affected in the developing world. In addition, globalization is increasing the pressures on resource degradation through market-induced area expansion. This chapter examines the state of the main natural resources connected to agriculture, including animal health, and the driving forces that lead to their degradation. Four major challenges are selected to review policy and institutional options.

Chapter structure

- 8.1. Quantifying the extent of the problems
- 8.2. Understanding the drivers of resource degradation
- 8.3. Four major challenges: A policy agenda
 - Water scarcity
 - Poor management of intensive crop and livestock systems
 - Soil and forest degradation in lagging regions, especially Africa
 - Dealing with climate change

Expected messages

- To increase water efficiency in agriculture in the face of acute water scarcity, a broader river basin and watershed approach to irrigation development is required—along with more effective institutional arrangements for allocating and managing water, such as market-based systems for water rights and decentralized water user groups.
- Better management of intensive crop and livestock systems depends on appropriate incentives to manage crop pesticide use, livestock waste management, and livestock health, including effective monitoring and enforcement by local governments and community organizations.
- Counteracting soil and forest degradation requires improved private incentives to invest in these natural resources and more effective devolution to community management.
- Agriculture's impact on global climate change can be reduced through new technology to lower emissions in intensive farming systems and by capitalizing on the emerging markets for carbon emission trading and bio-energy. Even so, climate change will have its largest impacts in the least developed countries, especially in Africa, requiring pro-active adaptive measures.

Chapter 9 Agriculture as a driver of income diversification and local development

Introduction

While productivity gains in agriculture can provide major pathways out of poverty for the rural poor, income diversification is another means of achieving that goal. It includes off-farm employment in agriculture and employment in rural nonagricultural activities, seasonal and permanent migration, and multiple activities for farm households. These opportunities to diversify rural incomes can be enhanced by local economic development programs. Massive population transitions out of agriculture have started and will accelerate in many transforming and urbanized countries. Labor markets are expected to play an increasing role in the pro-poor effects of agricultural growth.

Chapter structure

- 9.1. The rising importance of rural labor markets in enhancing the pro-poor effects of agricultural growth
- 9.2. The logic and potential of income diversification for farm households
- 9.3. Local economic development in support of growth and income diversification
- 9.4. Migration, population transitions, and exits from agriculture

Expected messages

On rural labor markets:

- Due to the low skill requirements, seasonality, and geographic dispersion of employment in agriculture, agricultural labor markets have structural features that tend to reproduce low wages and precarious employment conditions, often providing at best a narrow pathway out of poverty.
- Rural nonagricultural employment, and particularly wage labor, has been rising rapidly, but access to the better jobs is selective, depending on many factors such as education, gender, access to capital, membership in social networks, and proximity to employment opportunities.
- Child labor remains pervasive in rural areas. While not all labor is detrimental to child development, it is frequently adverse to education and health.

On multiple activities of households:

- “Pluriactivity” is a very important element for the survival of family farms, and it can enhance the competitiveness of agricultural activities.

On local economic development:

- Dynamic local economies can be constructed around agricultural systems that perform as clusters of economic activity, providing rural households with opportunities for income diversification. Poor people can be assisted in seizing the opportunities available in the local economy and thus gain a pathway out of poverty.

On exiting from rural areas:

- Migration from rural areas is a normal part of population transitions, but it is critical to manage migration and prepare potential migrants so that they integrate into the urban economy in a productive way.

Chapter 10 Reducing vulnerability and chronic food insecurity

Introduction

Agriculture, because of its close dependence on nature, volatile commodity markets, and often erratic government policies, is one of the riskiest sectors of economic activity. Added to this, poor people in agriculture are averse to risk and have little ability to cope with shocks. The result: exposure to uninsured risks is both a cause of continuing poverty and a source of new poor. This chapter reviews the ways that households, communities, private institutions, and states have addressed risks to vulnerable sectors of the rural population. It points to some innovative new schemes to offer insurance and access to loans as risk-coping instruments. Aside from being vulnerable to shocks, many households are in a chronic state of destitution. This chapter assesses the relative merits of traditional food security programs, food aid, and new safety nets in dealing with extreme destitution.

Chapter structure

- 10.1. Costs of vulnerability
- 10.2. Options for household and community risk management and risk coping
- 10.3. Institutional innovations and new approaches for risk management:
Insurance schemes and microfinance
- 10.4. Options for reducing chronic food insecurity

Expected messages

- Exposure to risk, a major force in reproducing poverty and creating new poor, has been neglected and deserves more attention.
- Informal risk-coping mechanisms tend to be weak and formal mechanisms exclusionary. Recent developments in microfinance and insurance have opened new possibilities for reducing household risk. Even so, these formal insurance mechanisms may not be accessible to poor households without a subsidy, at least to cover the fixed costs of marketing and monitoring.
- Counter-cyclical safety nets can be both socially efficient and welfare enhancing. They require flexible financing mechanisms for programs that are reliably accessible to all in case of need—and that can be scaled up or phased down in response to changing needs.
- The traditional tools for attending to the chronically destitute have been broadened to include cash transfers, often accompanied by conditions to build the human capital of poor children. These new safety nets recognize that chronic food insecurity is mainly about the purchasing power of the poor, and they combine short-term relief from poverty with strategies for preventing the inter-generational transmission of poverty.

Chapter 11 Toward national and global agendas

Introduction

Agriculture-for-development strategies have to address the three pathways out of poverty: (1) an agricultural growth pathway; (2) an off-farm income pathway; and (3) a migration pathway. Social assistance provides additional support to reduce chronic poverty and vulnerability to shocks. This chapter discusses these pathways as a basis for national strategies and elaborates on the associated national and global agendas.

Chapter structure

- 11.1. Agriculture-based economies (mainly Africa)
 - Empowerment and local development
 - Trade incentives and market access
 - Productivity enhancing public investments
 - Safety nets for efficiency and welfare
- 11.2. Transforming and urbanized economies
 - Sorting out in the smallholder population
 - Good jobs bad jobs in rural areas
 - Local economic development
 - Population transitions
- 11.3. The global agenda: role of the actors

Expected messages

- For **agriculture-based countries**, mainly in Sub-Saharan Africa, sustainable smallholder-based agricultural growth is both essential and urgent as a source of economic growth and poverty reduction. Realizing higher and sustained growth will require greater empowerment of farmers and local authorities, improved trade incentives and market access, and increases in the level and efficiency of productivity enhancing public investment. Effective safety nets are also required to assist populations to seize these opportunities.
- For **transforming economies**, mainly in Asia, strong nonagricultural growth offers new opportunities for agricultural growth. But the associated rural poverty and environmental challenges in capturing these opportunities cannot be met without assisting the transition to sustainable production of high-value products, creating jobs in agricultural labor markets, promoting rural nonagricultural employment through local economic development programs, and preparing human capital for large population transitions out of agriculture.
- For **urbanized economies**, mainly in Latin America, agricultural subsectors with a comparative advantage and the high-value revolution in consumer demand offer the possibility of using agriculture for rural poverty reduction. This strategy requires securing the competitiveness of national agroprocessors in supplying the domestic food chain, consolidating the competitiveness of smallholders as providers to agroprocessors and supermarkets, and using local economic programs development to promote diversified local economies and sustainable natural resource use.
- Using agriculture for development is conditional on **global issues**, and failures in successfully managing the global agenda will constrain country programs, calling for enhanced coordination and investments in addressing global issues.

Annex: Tentative focus sections

Two-page focus section	Key issues/questions
<p>Focus 1 <i>What can we learn from countries at odds with the historical patterns of structural transformation?</i></p>	<p>Both historical and cross-sectional data show remarkably consistent relations between the shares of agriculture in the labor force and in GDP, and per capita GDP. However, there are also important departures from these patterns with some countries exhibiting slower (e.g., China) or faster (some African countries) transformation relative to their income levels. What can we learn from these cases?</p>
<p>Focus 2 <i>Understanding the decision behavior of poor farmers</i></p>	<p>Since T.W. Schultz's poor but efficient hypothesis for small farmers was published in the 1960s, major lessons have been learned about how farm households decide on their livelihood strategies. This focus will review implications from advances in behavioral economics and the role of imperfect markets in understanding how farmers allocate resources and adopt new options.</p>
<p>Focus 3 <i>The culture of agriculture</i></p>	<p>Behavior in agriculture is strongly conditioned by cultural and social phenomena that help secure transactions but may also reproduce poverty and inequality. How far do these cultural phenomena go in explaining observed transactions and the resilience of rural poverty and inequality?</p>
<p>Focus 4 <i>Impacts of infrastructure on productivity and access to markets</i></p>	<p>Underinvestment in infrastructure, especially rural roads and communications, is widely believed to be a major cause of low agricultural productivity, especially in Africa. This focus section synthesizes the hard evidence on the impacts of infrastructure on agriculture, including returns to infrastructural investments.</p>
<p>Focus 5 <i>Global actors and the concentration of market power in trade and foreign direct investment</i></p>	<p>Many global markets for agriculture, such as coffee, food processing, and seeds, are becoming highly concentrated in a few multinational companies. This section explores the extent of market power, its implications for developing countries and smallholders in particular, and possible policy responses.</p>
<p>Focus 6 <i>Rising energy prices and the demand for bio-fuels</i></p>	<p>Fuel prices are expected to remain well above trends of the past two decades, which raises two questions.</p> <ul style="list-style-type: none"> • How will rising energy prices affect the competitiveness of intensive agricultural system, and the location of production, especially global sourcing of supplies? • How competitive will biofuels be with fossil fuels over the coming decades? How would rapid expansion in biofuels impact the wider food and fiber system, especially the price of food staples for the poor?
<p>Focus 7 <i>Agriculture and health: Managing the linkages</i></p>	<p>The interdependency of agriculture and health is now being recognized.</p> <ul style="list-style-type: none"> • Poor health is often a major constraint on agricultural labor productivity, especially malnutrition, malaria, and HIV/AIDS. • In turn, agriculture, especially intensive agriculture, has important implications for health, ranging from misuse of pesticides to the effects of irrigation on malaria and to zoonotic diseases in intensive livestock systems. In low-income countries, subsistence agriculture remains a major determinant of nutrition.