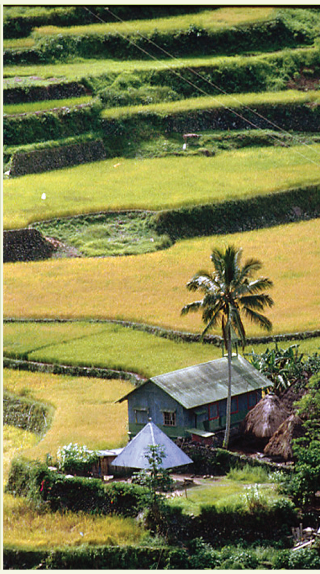
IMPLEMENTING AGRICULTURE FOR DEVELOPMENT







WORLD BANK GROUP

AGRICULTURE ACTION PLAN

2010–2012

IMPLEMENTING AGRICULTURE FOR DEVELOPMENT

World Bank Group Agriculture Action Plan: FY2010–2012

July, 2009

THE WORLD BANK

IFC International Finance Corporation
World Bank Group

© 2009 The International Bank for Reconstruction and Development / The World Bank
1818 H Street, NW
Washington, DC 20433
Telephone 202-473-1000
Internet www.worldbank.org/rural
E-mail ard@worldbank.org

All rights reserved.

This volume is a product of the staff of the International Bank for Reconstruction and Development/ The World Bank. The findings, interpretations, and conclusions expressed in this paper do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Rights and Permission
The material in this publication is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. The International Bank for Reconstruction and Development/ The World Bank encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly.

For permission to photocopy or reprint any part of this work, please send a request with complete information to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA, telephone 978-750-8400, fax 978-750-4470, http://www.copyright.com/.

All other queries on rights and licenses, including subsidiary rights, should be addressed to the Office of the Publisher, The World Bank, 1818 H Street NW, Washington, DC 20433, USA, fax 202-522-2422, e-mail pubrights@worldbank.org.

Cover design by Corporate Visions, Inc

Cover photos, in order from left to right: fish market, Curt Carnemark; Man with basket of fruits on head, Michael Foley; Man looking at grains of corn, Alfredo Srur; Woman with cow, Michael Foley; and rice terrace landscape, International Rice Research Institute/CGIAR.

TABLE OF CONTENTS

LIST OF **BOXES**

LIST OF FIGURES

FOREWORD

We are very pleased to present the World Bank Group's Agriculture Action Plan for Fiscal Years 2010–2012, a summary of the World Bank's proposed work program for agriculture and rural development for the next three years. We consider it especially timely in the context of the World Development Report 2008: *Agriculture for Development*, as well as with the renewed attention to food security issues caused by recent and projected food price volatility. Agriculture for Development has become a major analytical and strategic platform for promoting "more and better" investment in agriculture and rural development by stakeholders in both developing countries and donor organizations, including the World Bank. The main message of the WDR 2008 is that 75 percent of the world's poor are rural, most are involved in farming, and agriculture remains fundamental in the 21st century for poverty reduction, economic growth, and environmental sustainability.

The WDR 2008 involved a very broad external collaboration, through both the composition of its preparation team and through extensive consultations with stakeholders in both developed and developing countries during both the preparation and dissemination phases. The World Bank's new Agriculture Action Plan FY2010–2012 is intended to describe how we at the World Bank plan to support the broad international consensus represented by WDR 2008.

The World Bank Group projects a significant increase in support from IDA, IBRD, and IFC to agriculture, from a baseline average support in FY2006–2008 of $4.1 billion annually to between $6.2 and $8.3 billion annually over the next three years. While the Agriculture Action Plan is largely consistent with the themes of the 2003 World Bank Rural Development Strategy, *Reaching the Rural Poor*, it also follows the specific insights of WDR 2008. It thus gives relatively greater attention to: (i) the critical need to increase agricultural productivity, especially of poor smallholders, in order to make headway with rural poverty alleviation; (ii) differentiating the mix of support across the "Three Worlds of Agriculture" (agriculture-based, transforming, and urbanized countries, as described in the WDR 2008); and (iii) the role of agriculture in providing environmental services, including in the context of climate change.

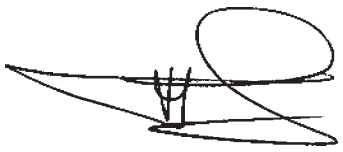
The Agriculture Action Plan is organized around five focal areas:

- *Raise agricultural productivity*—including support to increased adoption of improved technology (e.g., seed varieties, livestock breeds), improved agricultural water management, tenure security and land markets, and strengthened agricultural innovation systems.
- *Link farmers to market and strengthen value addition*—including continued support for the Doha round, investments in transport infrastructure, strengthened producer organizations, improved market information, and access to finance.

- *Reduce risk and vulnerability*—continued support for social safety nets, for better managing national food imports, innovative insurance products, protection against catastrophic loss, and reduced risk of major livestock disease outbreaks.
- *Facilitate agricultural entry and exit and rural nonfarm income*—including improved rural investment climates, and upgraded skills.
- *Enhance environmental services and sustainability*—including better managed livestock intensification, improved rangeland, watershed, forestry and fisheries management, and support to link improved agricultural practices to carbon markets (e.g., through soil carbon sequestration).

We hope that the World Bank Group's new Agriculture Action Plan will help us to align our work with the strategic views and investments of our partners in both developed and developing countries, and we look forward to working together to promote more and better investment to fully harness the power of agriculture to promote poverty alleviation, economic growth, and environmental sustainability.

Katherine Sierra
Vice President
Sustainable Development
The World Bank



Thierry Tanoh
Vice President
Sub-Saharan Africa, Western Europe, and
Global Manufacturing Cluster
International Finance Corporation

ACKNOWLEDGEMENTS

The World Bank Group Agriculture Action Plan FY2010-2012 was written by a core team comprised of Robert Townsend (Agriculture and Rural Development Department, team lead), Martien van Nieuwkoop and Francois Le Gall (Africa Region), Norman Piccioni and Melissa Williams (South Asia Region), Marie-Helene Collion and Yurie Tanimichi (Latin America and the Caribbean Region), Matthias Grueninger (Europe and Central Asia Region), Julian Lampietti (Middle East and North Africa Region), Steven Schonberger and Iain Shuker (East Asia and Pacific Region), Christopher Delgado and Sanjiva Cooke (Agriculture and Rural Development Department), Harry Palmier (CGIAR), Susanne Scheierling (Water Unit), Don Larson (Development Economics Group), and Joyce Msuya (IFC).

Additional inputs and support were provided by Anke Reichhuber, Johannes Jansen, Grahame Dixie, Renate Kloeppinger-Todd, Steven Jaffee, Marc Sadler, Eija Pehu, Riikka Rajalahti, Nabil Fawaz, Erick Fernandes, Gerhard Dieterle, Jimmy Smith, John Lamb, Kieran Kelleher, Klaus Deininger, Marjory-Anne Bromhead, Anne Davis Gillet, Ludovic Subran, Mona Sur, Pauline Zwaans, Saswati Bora, Fionna Douglas, Elizabeth Petheo, and Sonia Madhvani.

Overall guidance was provided by the Agriculture and Rural Development Sector Board, comprised of Juergen Voegele, Sector Director; Mark Cackler, Karen Brooks, Rahul Raturi, Dina Umali-Deininger, Ethel Sennhauser, Luis Constantino, Adolfo Brizzi, Oscar Chemerinski, Ren Wang, Gershon Feder, Abel Mejia, Monika Huppi, Eric Schlesinger, and Konrad von Ritter. Review and additional guidance was provided by Katherine Sierra, Vice President of the Sustainable Development Network (SDN); Hartwig Schafer, Director of Strategy and Operations for SDN; other SDN Sector Directors; and both the regional and non-regional Vice Presidential Units within the World Bank. Staff input and feedback were received through multiple channels, including presentation and discussion of the emerging Action Plan at the World Bank Group's Agriculture and Rural Development Week in March 2009.

ABBREVIATIONS AND ACRONYMS

AAA	Analytical and Advisory Activities
ARD	Agriculture and Rural Development
CAADP	Comprehensive Africa Agriculture Development Program
CGIAR	Consultative Group on International Agricultural Research
CAS	Country Assistance Strategy
CDD	Community Driven Development
CO_2	Carbon Dioxide
CP	Cooperative Program
DEC	Development Economics Group
DPL	Development Policy Lending
EU	European Union
FAO	Food and Agriculture Organization
FY	Fiscal Year
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GDPRD	Global Donor Platform for Rural Development
GFRP	Global Food Crisis Response Program
GMO	Genetically Modified Organism
HD	Human Development
HLTF	UN Higher Level Task Force on Global Food Security
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communications Technology
IDA	International Development Association
IEG	Independent Evaluation Group
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFPRI	International Food Policy Research Institute
IIED	International Institute for Environment and Development
MIGA	Multilateral Investment Guarantee Agency
MDG	Millennium Development Goal

ODA	Official Development Assistance
OEI	World Animal Health Organization
PNG	Papua New Guinea
EAP	East Asia and Pacific
ECA	Europe and Central Asia
LCR	Latin America and the Caribbean
MENA	Middle East and North Africa
PREM	Poverty Reduction and Economic Management
PRSP	Poverty Reduction Strategy Paper
SAR	South Asia
SDN	Sustainable Development Network
SPS	Sanitary and Phytosanitary
SSA	Sub-Saharan Africa
US	United States
WDR	World Development Report
WFP	World Food Program

WORLD BANK GROUP AGRICULTURE ACTION PLAN: FY2010–2012

Executive Summary

1. **The World Bank Group has made a renewed commitment to agriculture**: This document presents the World Bank Group's Agriculture Action Plan, FY2010–2012. It follows on from the World Bank agriculture and rural development strategy: *Reaching the Rural Poor* 2003–2007, and operationalizes the *World Development Report 2008: Agriculture for Development*. Consistent with client demand, the Agriculture Action Plan outlines the new phase of the World Bank Group's commitment to support client countries improve agriculture's contribution to food security, raising the incomes of the poor, facilitating economic transformation, and providing environmental services. This new World Bank Group Agriculture Action Plan (FY2010–2012) projects an increase in support (from IDA, IBRD, and IFC) to agriculture and related sectors from a baseline average support in FY2006–2008 of $4.1 billion annually to between $6.2 and $8.3 billion annually over the next three years. This would be between 13 and 17 percent of total projected World Bank commitments. Reaching these projections will, among other factors, be dependent on continued strong client demand to borrow IBRD resources and to use IDA concessional financing for agricultural development.

2. **The changing global context adds new urgency.** Sudden increases in food prices in 2008 drove an estimated 100 million more people into poverty.[1] The seasonal nature of agriculture resulted in a lagged production response. Global food prices more than doubled from 2006 to mid-2008, then declined by 30–40 percent through to the end of May 2009. Global food prices are now increasingly being driven by events exogenous to the food sector. Future prices are expected to remain higher than in the 1990s and likely more volatile. Higher price volatility may dampen supply response to higher average prices, negatively impacting both poor producers and consumers. In addition, the financial crisis has both slowed growth and trade. Resultant declines in government revenue have curbed the ability of governments to respond. Exchange rate depreciations have kept food prices high for many developing country importers. Tighter lending practices of commercial banks have led to higher interest rates on farmer and agribusiness borrowing and lowered subsequent investment in the sector. Lower remittances and migration back to rural areas have lowered purchasing power and pressured household budgets. The severity of the impact of the food and financial crises has been amplified by broader trends that need to be acknowledged in future action. These include the ability of institutions, policy, and investment to respond to accelerated demand for food, globalization of markets

[1]Ivanic and Martin (2008). Implications of higher global food prices for poverty reduction in low-income countries, *Agricultural Economics* 39:405–416.

and associated risks, rising urbanization, growing land and water scarcity, and climate change. Each has implications for the role of agriculture in the broader economy, and the associated priorities for action.

- *Rising food demand:* By 2050 there will be an estimated 2.3 billion more people to feed (one third more than today).[2] Demand for grains and protein will increase. Competing uses of food are growing rapidly (e.g., biofuels), and water scarcity will increase. Climate change adds to the uncertainty. Yet global annual growth rates in yields of major grains have declined from around 3 percent in 1980 to 1 percent today.[3] These trends place upward pressure on food prices, on further deforestation for crop area expansion and associated climate change impacts. Substantial investment in agricultural productivity growth is needed now.
- *Poverty reduction and the globalization of markets:* Seventy-five percent of the world's poor live in rural areas, and most are involved in farming. Overall GDP growth originating in agriculture has proven to be, on average, two to four times as effective in raising incomes of the poor as growth generated in nonagricultural sectors. Maintaining and enhancing these poverty reducing impacts of agricultural growth will require concerted efforts to integrate smallholder farmers into growing global agricultural markets and supply chains.
- *Urbanization and economic transformation:* Demand for manufactured goods and services, affordable food, and market driven rural-to-urban shifts of land and labor all facilitate economic growth and transformation. Agriculture must play its significant role. Income growth to spur demand, productivity growth to provide affordable food (and raise real wages), and market driven release of land and labor for urban development all require more investment in agriculture.
- *Climate change:* Climate change is likely to expose more people, more frequently and for longer periods to threats to their livelihoods.[4] Agriculture can play a significant role in mitigating climate change, but adaptation also remains important. Productivity growth potentially reduces the need for deforestation. More drought tolerant crops and livestock breeds can improve resilience. Education and training can improve management of climate induced changes in pests, weeds, and diseases. Better managing agricultural intensification can reduce GHG emissions, as can sequestering more carbon in the soil. The latter offers an important potential income source for the poor, but only if soil carbon sequestration is adequately included in future carbon trading systems.
- *Rising rural-urban income disparities:* Rapidly rising rural-urban income

[2] United Nations (2008). *World Population Prospects. The 2008 Revision.*

[3] World Development Report 2008.

[4] World Development Report 2010.

disparities, particularly in South and East Asia, coupled with continuing extreme rural poverty are major sources of social and political tension. Tensions that can spill-over to undermine the overall growth process. Improved agricultural performance can help temper these income disparities and associated tensions. But the focus needs to be on raising farm and nonfarm rural incomes, to avoid subsidy and protection traps.

3. **The global investment needs for agriculture are significant.** The global incremental agricultural public investment required—the additional amount necessary to meet the Millennium Development Goal of halving poverty by 2015—is estimated to be $14 billion annually for all developing countries, and $3.8 to $4.8 billion annually for sub-Saharan Africa.[5] Recent policy reforms have improved price incentives for agricultural producers in developing countries[6]—improvements that can strengthen future investment returns.

4. **We have a comparative advantage to respond.** The World Bank Group has the largest number of country level programs across all bilateral and multilateral development partners; strong in-country representation; depth in technical expertise; strong links with the Ministries of Finance and other sectors; a strong policy base, backed by extensive analytical research; and strong institutional memory. In addition, other multi- and bilateral development partners have tended to favor social sectors, such as health and education, while the Bank has retained a larger share of its support for agriculture. We also have demonstrated ability to respond rapidly to shocks, as reflected in the rapid response to the global food price crisis—particularly important for a more uncertain world.

5. **What we will help our clients do.** The World Bank Group will respond to the short-term effects of the food and financial crises, but embed these within our response to the longer-term challenges outlined above. We will focus on five key areas of action over FY2010–2012: (i) raise agricultural productivity growth, (ii) link farmers to markets and strengthen value chains, (iii) reduce risk and vulnerability, (iv) facilitate agriculture entry and exit, and rural nonfarm income, and (v) enhance environmental services and sustainability. The mix of support across these five areas will differ by region.

   - **Raise agricultural productivity**: Provide additional support for agricultural productivity in at least 30 countries. Support technology adoption to reduce the significant gap between yields achieved in farm trials and average national yields, and focus on improving the relevance and effectiveness of agricultural advice through improved extension services to farmers. Improve livestock off-take rates

[5] Fan, S. and Rosegrant, M. (2008). *Investing in Agriculture to Overcome the World Food Crisis and Reduce Poverty and Hunger.* Policy Brief 3. International Food Policy Research Institute.

[6] Anderson, K. (ed). Forthcoming 2009. *Distortions to Agricultural Incentives: A Global Perspective, 1955–2007*. London: Palgrave Macmillan; and Washington, DC: World Bank.

and aquaculture yields. Improve agricultural water management and expand and improve the efficiency of irrigated area, particularly in Sub-Saharan Africa. Strengthen property rights through support of new low-cost approaches to issuing certificates of land ownership (as was used in Ethiopia), and strengthen land rental markets, particularly in Asia. Assist in the development of standards (a code of conduct) on foreign investment in large-scale agricultural production. Scale-up support for new technology generation, with more focus on regional approaches, including support for global actions through a reformed Consultative Group on International Agricultural Research (CGIAR).

- Link farmers to markets and strengthen value chains: Provide additional support to at least 15 countries to better link farmers to markets, improve their competitiveness, and continue with global efforts to improve trade. Continue to support the Doha round (Doha failure could further reduce developing country agricultural exports by 12 percent [7]), and support improved regional trade. Better link farmers to markets through targeted investments in market places, rural roads, telecommunication (market information), and electrification for agribusiness, and scaling up business models that better enable smallholder farmers to compete in growing higher value markets (such as livestock and horticulture in Asia). Strengthen market institutions (rules that define the risks and obligations of buyers and sellers). Help developing countries to improve food safety infrastructure and institutions, thus facilitating their access to developed country markets. Strengthen producer organizations to ensure scale in sales and purchases, and attractiveness to private trade and industry (such as support to community groups in Andhra Pradesh). Increase access to finance through continuing support to service provision, market facilitation, and the enabling environment, but also build on cell phone and other relevant technological advances to spread access. Continue to support agribusiness restructuring in transition economies and strengthen ongoing support to agribusiness enterprises in this period of financial crisis, particularly through the IFC.
- Reduce risk and vulnerability: Continue to support the Global Food Crisis Response Programs ongoing across more than 30 countries. Expand reach to at least an additional 10 countries with $800 million in new fast-track programs—focusing on short-term budget support, social protection, and agricultural supply response. Help client countries better manage national food imports, improve trade and transport facilitation, particularly for clients with large food deficits such as in the Middle East and North Africa. Better understand the extent and

[7] Bouët, A. and Laborde, D. (2008). *The Potential Cost of a Failed Doha Round.* Issues Brief 56. International Food Policy Research Institute.

drivers of food price volatility and global and local policy implications. Continue to implement and use innovative insurance products to help clients transfer risk of weather and grain price shocks (as done in Mongolia and Malawi). These actions will be undertaken to address the rising uncertainty of grain prices over the next few years. Continued attention will be given to surveillance and rapid response of major livestock/crop pests and disease outbreaks. Other aspects of risk from farm to end-market will be addressed in the other pillars of the action plan.

- Facilitate agricultural entry and exit, and rural non-farm income: Strengthen land rental and sales markets. Learn from recent rural investment climate assessments to improve incentives for local private investment. Upgrade skills (education levels in rural areas tend to be lower than in urban areas, and among women lower than among men). Better link private sector skills demand with training curricula. Support regional clustering of economic activity (e.g., territorial development). All these aspects are particularly important for Latin America, East and South Asia, and Europe and Central Asia.
- Enhance environmental services and sustainability: Better manage intensive livestock systems to reduce pollution and disease risk. Tap into carbon markets and pilot soil carbon sequestration projects as a climate change mitigation measure. These could result in opportunities to improve incomes of the poor while at the same time mitigating climate change effects. Reduce natural resource depletion, particularly forests and fisheries. Improve soil and moisture conservation and invest in more drought-, heat-, salt-, and flood-tolerant crops and livestock systems to make agriculture more resilient to climate variability and change.

6. The mix of support across the five focal areas will vary by country and region. For example, the dominant focus in Africa and in parts of Asia, where agriculture is still a major contributor to overall growth and poverty reduction, will be on agricultural productivity growth, particularly for food staples, with less attention to facilitating rural nonfarm income and exit. In parts of East and South Asia, and Europe and Central Asia, relatively more emphasis will be given to nonfarm income and exit, and linking farmers to higher value markets, although productivity growth remains important. This differentiation is consistent with the "Three Worlds" of agriculture highlighted in the World Development Report 2008. In addition, complementarities across the five focal areas need to be recognized in program design; for example, strengthening linkages to markets can help raise technology adoption, dampening price volatility can reduce the risks associated with productivity investments, and improving land productivity can help reduce deforestation.
7. Attention to sector governance will be crucial. Successful implementation of the above agenda will require addressing the

governance challenges in the agriculture sector—including better balancing public-private roles, which is more challenging in agriculture than in others sectors, improving local and national state capacity, strengthening voice (particularly of marginalized and vulnerable groups), and improving efficiency of agricultural public spending. We will support governance improvements through capacity building of local government and Ministries of Agriculture, strengthening producer organizations, support for community driven development, technical assistance, analytical work to better understand trade-offs of policy reform, and public spending reviews.

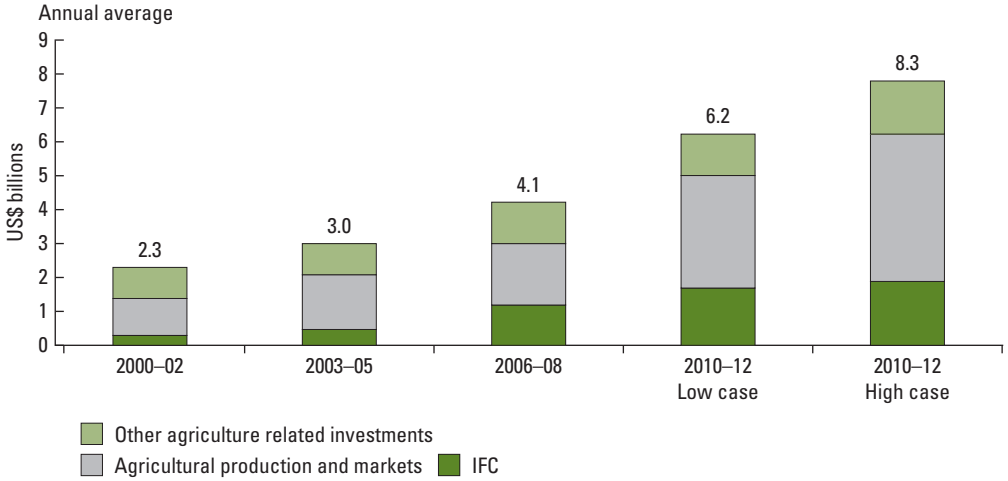
8. **How we will do it.** Our support to the five focal areas will give attention to the following aspects:

   - **Strengthen business lines, maintain quality**: We will consolidate a set of good practice programs across the five focal areas, highlighting principles of design, and unit costs to guide scale-up. Areas of ongoing core business lines include irrigation, land tenure, and research and extension, which account for a large share of our agriculture portfolio. These will continue to be important programs with continued demand for them, particularly in IDA countries. Agricultural markets and trade related programs are increasingly demanded by client countries, for which there are emerging good practice examples to be scaled up. We will continue experimentation and learning with insurance innovations, and technologies to spread access to finance, and explore new product development in support for environmental services. In addition to new commitments, we will continue to focus on maintaining quality of our ongoing programs (with about $10bn in committed support to be disbursed over the next several years).
   - **Focus on the ultimate client, especially women.** Greater focus on empowerment of the ultimate beneficiaries of our support (e.g., farmers, livestock keepers, fishers) has been associated with improved project performance. For example, an increase in the number of extension and research projects in Africa giving farmers more influence over funding allocation decisions (from 5 percent to 35 percent of projects) was associated with improved project outcomes. Similarly, in Andhra Pradesh, farmer empowerment through collective action improved access to services. We will continue to learn lessons and draw on good practice design for scaling up. In many countries, agricultural production and use of forest products for energy, food, and medicines is dominated by women, and specific attention will be given to improving their access to assets (particularly land), finance, and services.
   - **Better match instrument choice to need**: Specific investment loans will continue to account for the major share of our support, with increased used of adaptable program loans, and supplemental

financing to speed additional support, and follow-on programs. Emergency recovery loans will be the main instrument to address climatic, price, or pest and disease shocks. Development policy lending (DPLs) will continue to be an additional tool used in selected cases. We will also explore options for using commodity linked loans as instruments to reduce commodity price risk, and will work with the investment lending reform team to try to ensure reforms assist the action plan implementation efforts.

- Strengthen local processes: Country led and implemented programs offer the greatest prospect for long-term sustainable outcomes. The World Bank will focus on strengthening processes at regional, national and local levels (e.g., including community-driven development programs and regional initiatives such as the Comprehensive Africa Agriculture Development Program [CAADP]). We will continue to engage in the Poverty Reduction Support (PRSP) processes as well as work to ensure Country Assistance Strategies (CASs) and Country Partnership Strategies give satisfactory attention to agriculture.
- Strengthen and leverage donor partnerships: Fragmentation of development partner projects geographically, thematically, and in use of financial management, accounting, and reporting systems raises transaction costs, diverts local capacity, and often undermines the strengthening of local systems. This effect is strongest in countries where development partner support accounts for the major share of public spending in agriculture, particularly in Sub-Saharan Africa. Consistent with the Paris Declaration and Accra Agenda for Action, we will continue to work to integrate our support into government-led efforts, including joint financing of programs by development partners, especially those involving the Global Donor Platform for Rural Development. We will work to better leverage Global Programs and Partnerships, such as support to the CGIAR.
- Better organization to deliver: We will continue to decentralize on a country-by-country basis as the business case dictates. The World Bank will continue to draw on the FAO Cooperative Program (CP) to provide specialized expertise. Technical support for each of the five focal areas will be provided by the ARD thematic groups and we will continue to capitalize on and facilitate south–south learning across thematic areas. In addition, the World Bank will work to leverage synergies with the CGIAR. The integration of the Sustainable Development Network strengthens the World Bank Group's capacity to support clients in addressing cross-cutting issues that impact agriculture. Implementation of the action plan also requires collaboration with other networks and non-regional vice presidencies.

FIGURE I World Bank Group Agriculture and Related Sector Financing



(US$ billions)

	Annual average			Annual projections	
				2010–12	
	2000–02	2003–05	2006–08	Low	High
IDA/IBRD (by sub-sector)					
Agricultural production and markets*	1.1	1.6	1.8	3.4	4.8
Agriculture, fishing & forestry**	0.9	1.5	1.6	3.0	4.3
Agriculture markets, trade, & agro-industry	0.2	0.1	0.1	0.4	0.5
Other agriculture related investments	0.9	0.9	1.2	1.1	1.6
IFC	0.3	0.5	1.2	1.7	1.9
Total	2.3	3.0	4.1	6.2	8.3

* Is the sum of Agriculture, Fishing & Forestry, and Agriculture Markets, Trade, and Agro-industry.
** As reported in the World Bank Group Annual Reports as agriculture. The Agriculture Action Plan includes IDA, IBRD and IFC financing. IDA/IBRD, including Special Financing, reflects: (i) project components specifically coded as Agriculture, Fishing and Forestry as well as those coded as Agriculture Markets and Trade, and Agro-industry, and; (ii) in order to capture important related investments such as land administration, agricultural agency reform, agricultural and rural finance, market roads etc, other investments directly related to agricultural production under the oversight of the Agriculture and Rural Development (ARD) Sector Board. The disaggregation across agriculture production, marketing and other agriculture related investments is reflected in the table above. For IFC it includes: (i) agribusiness production and processing, (ii) agri-related trade finance, (iii) fertilizers, (iv) agri-logistics and infrastructure, and (v) food retail. Trust Funds are not included but relatively small in comparison: $73 million in 2000–2002; $110million in 2003–2005, and $132 million in 2006–2008, of which GEF accounted for about 70 precent. The Africa region and LCR accounted for 34 and 28 precent of trust fund commitments in FY06–2008.

9. The above-mentioned actions translate into the projected scaled-up financing for agriculture and related sectors in Figure 1. As overall IDA/IBRD financing for development is expected to increase, these scaled -up projections translate into an estimated change in the share of IDA/IBRD Agriculture and Related Sector Financing from 12 percent in FY2006–2008 to between 13 and 17 percent in FY2010–2012.

CHAPTER 1: Introduction

1. **A new phase of the World Bank Group's commitment**. This document presents the World Bank Group's Agriculture Action Plan, FY2010–2012. It follows on from the World Bank agriculture and rural development strategy: *Reaching the Rural Poor 2003–07,* and operationalizes the *World Development Report 2008: Agriculture for Development* (WDR 2008). Consistent with client demand, the Agriculture Action Plan (Action Plan) outlines the new phase of the World Bank Group's commitment to support client countries improve agriculture's contribution to food security, raising the incomes of the poor, facilitating economic transformation, and providing environmental services. The *World Development Report 2008* provides the strategic framework for our support, which is not duplicated here. Rather, this document reflects on the recent extent and implications of changes in the global context, and the proposed World Bank Group actions over the next three years. The main messages of the WDR 2008 are integrated throughout the document.

2. **The changing global context adds new urgency**. Global food prices are now increasingly being driven by events exogenous to the food sector. Global food prices more than doubled from 2006 to mid-2008, then declined by 30–40 percent through to the end of May 2009. Future prices are expected to remain higher than the 1990s and likely more volatile. Low global grains stocks and thin markets amplify the effect of demand surges (from biofuels and institutional investors), and supply disruptions (from more volatile weather patterns), factors which converged in 2008. Despite declines in global food prices from mid-2008, depreciating exchange rates from the financial crisis kept local prices of food imports high in many developing countries. Lower remittances have reduced household purchasing power. Less private investment, higher local costs of borrowing, and reduced government revenue and spending, all reduce capacity of households to respond.

3. **Agriculture remains essential for growth, food security, poverty reduction, and environmental sustainability**. Agriculture still comprises a significant share of overall growth and household income, and provides essential food security, in many of the poorest countries, a fact amplified by the recent food price crisis. Improved agricultural performance can lead to dramatic improvements in the incomes of the poor, provide affordable food, and spur structural transformation. As highlighted in the World Development Report 2008, historically, poverty plummeted in China, India, and Vietnam, and other countries that went through major spurts in agricultural growth. Economic transformation through industrial takeoffs and rising incomes also followed in the wake of major spurts of agricultural growth in Japan and

the Republic of Korea. Moreover, global evidence shows GDP growth originating in agriculture has been, on average, two to four times as effective in raising incomes of the poor as growth generated in nonagricultural sectors.[7] The recent events in food and financial markets reiterate the importance of these relationships. In addition, agriculture's role in climate change is now becoming clearer as both part of the problem and a potential part of the solution.

4. **Reverse the decline in assistance**. Despite its relative importance, the share of agriculture in official development assistance (ODA) declined sharply from a high of 18 percent in 1979 to a low of 3.5 percent in 2004, which equated to more than a 50 percent decline in the value of support. This was a steeper decline than the decline in developing country governments' own commitments to agriculture, which were on average double the share of total donor commitments, although with significant differences across regions. This trend has been recently reversed, including an increasing trend in World Bank support following the strategy for *Reaching the Rural Poor* in 2003. The share of IDA/IBRD lending to agriculture declined from 30 percent in 1980–1982, to 7 percent in 1999–2001, then increased to 12 percent in FY2006–2008. As the WDR 2008 says, "more and better" is needed. In addition to raising the level of support, improvements to the composition of spending and the enabling environment in which these investments are made increase investment returns. Where these have been put in place, agricultural performance has improved.

5. **Lessons learned from implementation of the last rural strategy**. The 2007 review[8] of implementation progress of the agriculture and rural development strategy—*Reaching the Rural Poor*—highlighted that the most critical areas for future directions of the Bank's ARD agenda are: (i) to keep the Millennium Development Goals (MDGs) of poverty and hunger reduction at the forefront of the international development agenda; (ii) to put regions with the largest number of rural poor in the forefront of our efforts (Sub-Saharan Africa, South Asia, and East Asia and Pacific have the largest number of poor); (iii) press for results from our advocacy and policy reform efforts on trade liberalization and removing distorted agricultural policy regimes; (iv) improve project and budget support modalities for rural investments, institutional arrangements, incentive frameworks, and staff skills within the constraints of country driven assistance programs; and (v) continue to strengthen donor harmonization and alignment. Each of these aspects is reflected in this Action Plan.

7 World Development Report 2008

8 Agriculture and Rural Development at the World Bank FY2003–2006.

6. **The World Bank Group has committed to scale-up support for agriculture and related sectors**. The World Bank group has committed to increasing support from $4.1 billion annually to a projected estimate of between $6.2 and $8.3 billion annually. This action plan focuses on how the projected scale-up will be met over the next three years (FY2010–2012), and the investment areas to be scaled up. The WDR 2008 provides the strategic framework for action, while this document lays out the World Bank Group's Action Plan for the next three years (FY2010–2012).

7. Even before the food price spike, there were 850 million chronically malnourished people. The severity of the impact of the food and financial crises, with estimates of over 100 million more people pushed into poverty,[7] has been amplified by broader trends that need to be acknowledged in future action. These include the ability of institutions, policy, and investment to respond to accelerated demand for food, globalization of markets and associated risks, rising urbanization, growing land and water scarcity, and climate change. Each has implications for the role of agriculture in the broader economy, and the associated priorities for action.

8. **Rising food demand**: By 2050 there will be an estimated 2.3 billion more people to feed (one third more than today).[8] While agriculture has met the past global demand for food and fiber with an increase in per capita production, rising productivity, and declining commodity prices from the early 1980s to 2006, a changing environment amplifies the future challenge. Competing uses of agricultural products are growing rapidly. For example, about 25 percent of the US maize crop is now used for ethanol-based biofuels. Long-term income growth in emerging economies is increasing demand for livestock products, and adding to demand for grain through feedstuffs. Water scarcity will increase, with less predictable rainfall and with increasing amounts of land being shifted out of agriculture for urbanization in many countries. Global annual growth rates in yields of major grains have declined from around 3 percent per year in 1980 to 1 percent today. These trends place upward pressure on prices, on further deforestation for crop area expansion and associated climate change impacts. Substantial investment in agricultural productivity growth, especially for smallholders, is needed now to meet these challenges.

9. **Globalization**: Globalization has opened new market opportunities for farmers, and agribusiness entrepreneurs. Demand for higher value primary and processed products is rapidly increasing, driven by higher income and liberalized trade. But new markets demand quality, timely deliveries, and economies of scale. More widespread movement of food and livestock around the world requires vigilance on food safety and disease risk. More exacting standards pose challenges to poor farmers competing in these growing markets. While agricultural growth has proven to be, on average, two to four times as effective in raising incomes of the poor as growth generated in nonagricultural sectors, preserving and enhancing this impact

7 Ivanic and Martin (2008), Implications of higher global food prices for poverty reduction in low-income countries, *Agricultural Economics* 39:405–416.

8 United Nations (2008). World Population Prospects. The 2008 Revision.

will require concerted effort. Integrating smallholder farmers into these new markets is particularly important in Latin America and Asia. In addition, accession into economic unions and common markets often requires better alignment of domestic agricultural policies, particularly in Eastern European countries seeking accession and integration into the European Union.

10. **Urbanization and structural transformation**: Demand for manufactured goods and services, affordable food, and market driven rural-to-urban shifts of land and labor all facilitate economic growth and structural transformation. Agriculture must play its role in driving and facilitating transformation. Income growth to fuel demand, productivity growth to provide affordable food (and raise real wages), and market driven release of land and labor for urban development in contexts where land is scarce, all require more investment in agriculture. Even with rapid urbanization, the developing world is expected to remain predominately rural in most regions until about 2020.[9] Currently 75 percent of the world's poor live in rural areas, and the majority of the poor are projected to continue be rural until about 2040.[10] Migrating to urban areas is often hampered by lack of information, costs, skills, aging, and family and social ties. Improving the performance of agriculture can help reduce both relative and absolute poverty—as historically demonstrated. About 80 percent of the worldwide poverty reduction during 1993–2002 can be ascribed to improved conditions in rural areas; migration accounted for about 20 percent of the reduction.[11]

11. **Maintaining political and economic stability**: Rising rural-urban income disparities, particularly in transforming Asia, coupled with continuing extreme rural poverty are major sources of social and political tension. Tensions that can spill over to undermine the overall growth process. Improved agriculture performance can help temper these income disparities and associated tensions. But focus needs to be on raising farm and nonfarm rural incomes, to avoid subsidy and protection traps. Subsidy transfers compete for public funds at high opportunity cost, while import protection elevates food costs for the large masses of poor net consumers. The challenge is to ensure commitment and impacts of income generating public investments are large enough to facilitate a shift away from reliance on subsidy transfers.

12. **Land scarcity**: Much of historical agricultural growth was achieved by bringing more land under cultivation,

9 United Nations World Urbanization Prospects: The 2007 Revision Population Database.

10 Ravallion, M., Chen, S. and Sangraula, P. (2007). New Evidence on the Urbanization of Global Poverty. World Bank Policy Research Working Paper 4199.

11 World Development Report 2008.

driven by population growth and expanding markets. But in more densely populated parts of the world, the land frontier is closed. In Asia land scarcity has become acute in most countries, and rapid urbanization is reducing the area available for agriculture. Latin America, and Europe and Central Asia are still relatively land abundant, and there remains scope for land expansion in some Sub-Saharan African countries. However, in many countries, land expansion has been at the expense of clearing subtropical and tropical forests. With a declining land frontier, more efforts are needed to improve land productivity and strengthen enforcement of land use priorities. Strengthening property rights, improving the functioning of land markets, and investments in better soil management can all help.

13. **Water scarcity**: Growing demands from agricultural, urban, and environmental water users, as well as changing climates, are intensifying water scarcity in many parts of the developing world, particularly in the Middle East and North Africa. Agriculture accounts for about 70–75 percent of global water withdrawals. About 20 percent of the world's farmed area is irrigated, and produces 40 percent of the value of agricultural production in developing countries.[12] Without irrigation, much of the increases in agricultural output that has fed the world's growing population and stabilized food production would not have been possible. Irrigation will continue to be an important source of productivity growth, especially in Sub-Saharan Africa and parts of Latin America that still have large untapped water resources for agriculture. In other regions where the scope for further expanding irrigated agriculture is more limited, efforts are needed to enhance the policy, technical, and governance aspects of agricultural water use. Water use also needs to be improved in rainfed agriculture, which accounts for about 60 percent of agricultural production in developing countries. Especially in arid and semiarid regions, yields tend to be relatively low. Due to highly variable rainfall and long dry seasons, as well as recurrent droughts, dry spells and floods, water management in often a key determinant for agricultural production and productivity in these regions.

14. **Climate change**: Climate change will have far-reaching consequences for agriculture that will disproportionately affect the poor. Greater risks of crop failures and livestock deaths are already imposing economic losses and undermining food security, and they are likely to get far more severe as global warming continues. This comes at a time of rising demand for agricultural productivity growth. Future productivity gains will need to offset the productivity loss

12 Comprehensive Assessment of Water Management in Agriculture. 2007. London: Earthscan, and Colombo: International Water Management Institute.

Box 1
THE INTERCONNECTION OF CLIMATE CHANGE, AGRICULTURE, AND FORESTRY

Agriculture accounts for about a quarter of global green house gas emissions—15 percent from livestock and crop emissions of CO_2, methane, nitrous oxide, and other gases, and about 10 percent from deforestation for crop area expansion. Agriculture contributes about half of the global emissions of two of the most potent non–carbon dioxide greenhouse cases: nitrous oxide and methane. Nitrous oxide emissions from soils (from fertilizer applications and manure) and methane from enteric fermentation in livestock production each account for about one-third of agriculture's total non–carbon dioxide emissions. Agricultural productivity growth and better management of agricultural intensification is needed.

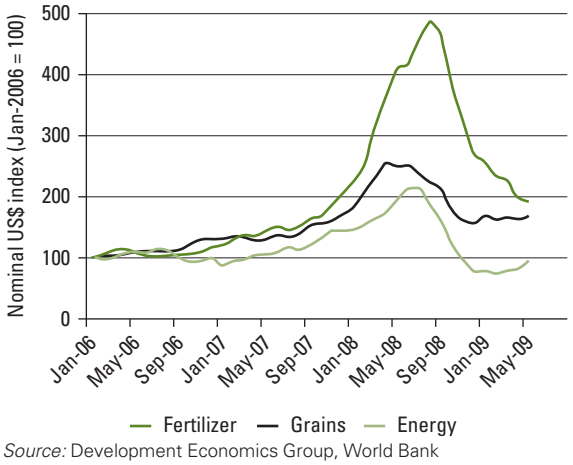
In the absence of agricultural productivity growth, global food demand will need to be met by crop area expansion, including further deforestation. But recent rates of the global deforestation (7.3 million hectares per year from 2000 to 2005) already have a climate impact equivalent to 14 percent of current global CO_2 emissions, a climate impact that further increases the risk of lower crop yields—a reinforcing spiral. Significant investment for agricultural productivity growth can potentially reduce deforestation. Successful incorporation of forestry (carbon sequestration in trees) and agriculture (carbon sequestration in soils) in future carbon trading systems can provide greater incentive to retain forests, and can raise farm incomes and on-farm productivity investment.

Sources: Adapted from WDR 2008 and WDR2010 (forthcoming)

from climate change and still generate sufficient gains to meet rising food needs—a double challenge. Adaptation to climate change will be critical, but agriculture can also help mitigation (Box 1). More drought tolerant crops and livestock breeds can improve resilience. Better managing agricultural intensification and reduced deforestation can reduce GHG emissions, as can sequestering more carbon in the soil. These have the potential to offer an important income source for the poor if soil carbon sequestration is adequately included in future carbon trading systems.

15. **Food and energy price levels**: Global food prices increased significantly

FIGURE 2 Global Food and Fertilizer Prices Remain High



Source: Development Economics Group, World Bank

from 2007 to mid-2008, fertilizer prices quadrupled, and grain and energy prices more than doubled (Figure 2). While prices have since come down, grain

prices are still about 50 percent higher than the 2003–2006 average and fertilizer prices are still about double these earlier levels. Energy prices are similar to 2006 levels, but are again starting to rise. The extent of pass-through of global to local prices depends on factors such as transport costs, domestic policies and market structure. Before the price increases, as much as half of all spending by poor households was on food. Sharply higher prices for these households meant reducing spending on non-food items such as school fees, or simply eating lower quality and less food, with disproportionate impacts on women and girls. As a result, the number of people in poverty increased by an estimated 100 million.[13] High food prices offer income opportunities for food producers. High food prices and favorable weather encouraged agricultural expansion in 2007 and 2008, but developing country production responses were generally slower than developed countries. Higher energy costs also raised transport costs. The price spike has also induced a number of countries, many with severe natural resource constraints and high dependence on imports, to explore ways to lock in future food supply through investments in agricultural production in other countries. Although greater private investment in agriculture is needed, such investment will need to ensure local and equitable benefit.

16. **Food price volatility**: Food prices are not only expected to remain higher in the future than the 1990s/early 2000s, but also to be more volatile. Real food commodity prices are forecast to be on average about 25 percent higher during 2009–2018 than over the 1997–2006 period, driven by higher demand for biofuels and for livestock products.[14] As food markets become more integrated with other commodity and financial markets, they become more exposed to the systemic risk and volatility of these markets. Oil price volatility is being reflected in maize markets (through links with biofuels), financial market volatility is being reflected in agricultural markets (through links with commodity index funds), and changes in the frequency, distribution and intensity of rainfall (through climate change) is impacting production volatility. Low global grain stocks have also increased the sensitivity of global price volatility to demand and supply shocks. All lead to a more uncertain future, and convergence of volatility shocks can lead to rapid and steep price changes as occurred in 2008. Imposition of trade restrictions further exacerbated the 2008 price spike by reducing liquidity in these markets.

13 Ivanic and Martin (2008), Implications of higher global food prices for poverty reduction in low-income countries, *Agricultural Economics* 39:405–416.

14 OECD-FAO Agricultural Outlook: 2009-2018.

17. **Financial crisis**: The financial crisis has both slowed global growth and trade. Resultant declines in government revenue have curbed the ability of countries to respond. Local currency depreciations kept local food prices high in many developing countries, and lower remittances have reduced purchasing power. Migration back to rural areas of the unemployed is placing added pressure on household budgets. Tightening credit markets have raised interest rates and lowered lending to rural areas, and, coupled with higher fertilizer prices, has put input use out of reach for many farmers. Increased pressure for reversal of reforms is also likely. These financial crisis impacts amplify the negative impacts of the recent food price spike.

18. **Implications for what we do over the next three years**: The World Bank Group will respond to the short-term effects of the food and financial crises, but embed these within our response to the longer-term challenges outlined earlier. This will include: (i) scaled-up efforts to spur agricultural productivity growth; (ii) better linking farmers to markets and strengthening value chains; (iii) a continued focus on reducing risk and vulnerability; (iv) facilitating agriculture entry and exit, and rural nonfarm income; and (v) enhancing environmental services and sustainability. The mix of support across these five areas will differ by country and regions. Relative to the 2003 Rural Development Strategy, consistent with the main messages of the WDR 2008, and in response to the current global context, the Action Plan gives greater emphasis to: (i) raising agricultural productivity; (ii) differentiating the mix of support dependent on local conditions (e.g., across the "Three Worlds" of agriculture as described in the WDR 2008); and (iii) environmental services and sustainability, including in the context of climate change.

19. **We will use our comparative advantage to respond**. The World Bank Group has the largest number of country level programs across all bilateral and multilateral development partners; strong in-country representation; depth in technical expertise; strong links with the Ministries of Finance and other sectors; a strong policy base, backed by extensive analytical research; and strong institutional memory. In addition, other multi- and bilateral development partners have tended to favor social sectors, such as health and education, while the World Bank has retained a larger share of its support for agriculture. We also have demonstrated ability to respond rapidly to shocks, as reflected in the rapid response to the global food price spike—particularly important for a more uncertain world.

CHAPTER 3: Results We Want to Help Our Clients Achieve

	Targets
Food security	Halve the proportion of the population below minimum level of dietary energy consumption (between 1990 and 2015)*
Growth	5 percent long-term annual agricultural GDP growth
Poverty reduction	Halve the proportion of population below $1 (PPP) per day*
Environmental sustainability	Reduce rate of loss of land area covered by forests*

* Millennium Development Goal targets

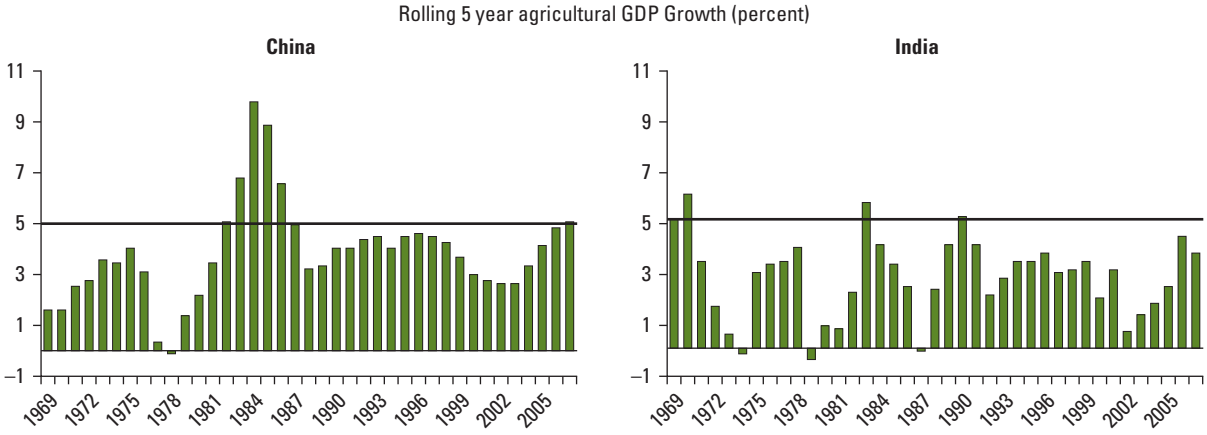
20. The selected Millennium Development Goal (MDG) targets reflect the global targets of our clients and development partners, not what we could achieve alone with our FY2010–2012 program. The 5 percent agricultural growth target reflects the explicit target set by the World Bank's Africa Region (as documented in the Africa Action Plan presented to the World Bank Board). This is an ambitious target both for countries in Africa and elsewhere, but to ensure consistency with one of the most important regions for agricultural development, the 5 percent target was retained.

CHAPTER 4: Needed Growth and Investment

21. **Estimated growth rates needed to achieve the MDGs are higher than those historically achieved**. Some estimates indicate that for many countries, particularly in Sub-Saharan Africa, about a 7 percent annual agricultural growth rate is needed to achieve the MDG poverty reduction target. This is a high target when viewed from an historical and global perspective. For example, India has rarely exceeded a five-year average agricultural growth rate of over 5 percent. China achieved agricultural growth above 5 percent following the 1978 reforms, but the rate subsequently settled back to between 3 to 5 percent and has remained there (Figure 3). Because some countries, particularly in Africa, are starting from a relatively low base and can benefit from more widespread adoption of existing technologies, growth of 5 percent annually seems achievable with sufficient and well-targeted public investment and the maintenance of a supportive policy framework, including measures aimed at increasing private sector investments in agriculture. Maintaining high growth levels across many countries will require significant investment in productivity growth, particularly against the headwinds of climate change, and rising land and water scarcity.

22. **The global investment needs for agriculture are significant**. Estimating the global investment needs to better exploit agriculture's potential to provide food security, economic growth, poverty reduction, and environmental services is at best a proximate exercise. The International Food Policy Research Institute (IFPRI) estimated the global incremental agricultural public investment required—the additional amount necessary to meet the Millennium Development Goal of halving poverty by 2015—to be US$14 billion annually for

FIGURE 3 Five Percent Sustained Agricultural Growth is an Ambitious Target



Source: Derived from World Development Indicators

all developing countries.[7] The estimated incremental annual investment needed in Sub-Saharan Africa ranged from US$3.8 to US$4.8 billion (the former using a unit cost approach, the latter being the additional investment needed to meet the Maputo Declaration of spending 10 percent of Government budgets on agriculture). The World Bank's projected incremental (low and high case) commitment of between $2 and $4 billion accounts for between 14 and 30 percent of these estimated investment needs.

23. **The improved policy environment can strengthen investment returns**: Recent policy reforms have improved price incentives for agricultural producers in developing countries. A recent analysis of a large sample of countries across the world shows that net agricultural taxation has on average declined sharply[8]. Between 1980–1984 and 2000–2004, it declined from about 30 percent to 10 percent in Sub-Saharan African countries, from about 15 percent to 5 percent in East and South Asia countries, and from marginally negative to a net protection of about 10 percent in Latin America. But changes in net taxation in some countries are the result of rising protection of agricultural imports with continuing taxation of exports. These differences suggest space for further policy improvements.

7 Fan, S. and Rosegrant, M. (2008). *Investing in Agriculture to Overcome the World Food Crisis and Reduce Poverty and Hunger.* Policy Brief 3. International Food Policy Research Institute.

8 Anderson, K. (ed.), Forthcoming 2009. *Distortions to Agricultural Incentives: A Global Perspective, 1955 to 2007.* London: Palgrave Macmillan and Washington DC: World Bank

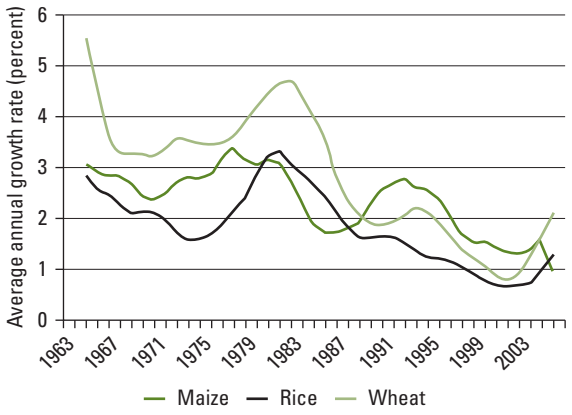
CHAPTER 5: What We Will Help Our Clients Do

24. Under the Agriculture Action Plan the World Bank will increase lending to agriculture and related sectors, scaling up good practice examples across five focus areas. World Bank support (from IDA, IBRD, and IFC) is projected to increase from a baseline average support in FY2006–2008 of $4.1 billion annually to between $6.2 and $8.3 billion annually, while maintaining portfolio quality. Our support will be aligned around the following five focus areas: (i) raising agricultural productivity; (ii) linking farmers to markets and strengthening value chains; (iii) reducing risk and vulnerability; (iv) facilitating agriculture entry and exit, and rural nonfarm income; and (v) enhancing environmental sustainability and services. The combination of support among these thematic areas will differ across countries and regions.

I. Raise Agricultural Productivity

25. With growing resource scarcity, and increasing demand for food, food production depends more than ever on increasing crop and livestock productivity. For major cereals—rice, wheat, and maize—the growth rates of yields in developing countries have slowed considerably since the 1980s (Figure 4). Except in Africa, the easy gains from high use of green-revolution inputs have already been made. Future productivity gains will need to rely on: (i) narrowing the gap between average farm yields and the experimental yield potential of the crop (i.e. improving technical efficiency), and (ii) reversing the slowdown in spending on research and development to generate new yield enhancing technologies (i.e. technological change).

FIGURE 4 Growth Rates of Yields for Major Cereals are Slowing in Developing Countries



Source: WDR 2008, derived from FAO data

26. **Close the crop yield gap**: Average crop yields in many countries are well below experimental farm yields, such as for rice in many parts of Asia, and maize in Africa. For example, average national yields in Malawi, Ethiopia, Nigeria, and Mozambique

are about 35 percent or less of yields achieved by on farm demonstrations using "best bet" technologies.[7] Closing the gap will require improved agricultural extension services to improve farm management practices, increased use of new seeds and fertilizers, and better ways to manage risk (see section III, on risk and vulnerability). The World Bank Group will support: (i) expansion of demand driven extension services (using the capacity of the public and private sector, together with the general state of producer organizations as a guide for program design), (ii) expanded use of Information and Communication Technologies (ICT) to provide farmers with better information (building on the Internet kiosk, e-Choupals, example in India) (iii) increased use of matching grants for technology adoption, and (iv) strengthening of seed and fertilizer markets.

27. **Close the livestock productivity gap**: While much attention is often given to crops, the livestock sector is becoming increasingly important. Livestock accounts for about one third of global agricultural GDP and is one of the fastest growing subsectors in developing countries, particularly in Asia and Latin America. Recent growth has come mainly from a shift from extensive to intensive livestock system (i.e., owning more animals), but productivity gains have also mattered. For example, livestock off-take rates have improved over the last twenty years with the adoption of new breeds and better management—increasing by over 50 percent for chickens, and by 130 percent of pigs.[8] Significant productivity gains can still be made through expanding adoption of new breeds, and reducing livestock disease. While many breeds are not suitable for developing country environments, cross-breeding has helped adaptability, with suitable breeds available for adoption. The World Bank Group will focus on: (i) expanding veterinary services, (ii) matching grants for adoption of new breeds (and use of artificial insemination for genetically improved livestock—an approach that has helped 1.8 million farmers in East Africa achieve higher milk yields), and (iii) expanding extension or advisory services to improve animal and rangeland management practices (including addressing externalities). Issues of major disease outbreaks that risk assets and public health are addressed in section III, on risk and vulnerability.

28. **Raise aquaculture yields and fisheries sustainability**: Aquaculture is a growing source of income and protein for many poor people. Use of genetically improved fish is changing aquaculture into one of the fastest growing sectors in Asian agriculture. Improved strains have lowered production costs per kilogram

7 World Development Report 2008.

8 Steinfeld, H, Gerber, P., Wassenaar, T., Castel, V., Rosales, M., and de Haan, C. 2006. Livestock's Long Shadow: Environmental Issues and Options. Rome: Food and Agricultural Organization.

of fish (e.g., farmed tilapia), increased survival rates, raised the average weight of fish, with yields 9–54 percent higher than existing strains.[9] Expanded use of improved strains can raise yields. Capture fisheries' productivity can be improved by reducing fishing effort to enable fish stocks to rebuild. Critical reforms to allow this to happen include the effective removal of open access conditions from capture fisheries, the institution of secure tenure and property rights systems, and removal of subsidies that induce increased fishing effort. The World Bank Group will continue to: (i) raise awareness of the benefits of improved fisheries governance, (ii) support capacity of developing countries to implement and enforce effective management, and (iii) support improved management and new strain adoption in aquaculture.

29. **Improve agricultural water management**: Our support for irrigated agriculture, where feasible, will consist of a combination of: (i) market oriented irrigation on a public-private partnership basis, (ii) individual smallholder irrigation for high-value markets, (iii) small-scale community-managed irrigation for local markets, and (iv) reform and modernization of existing large-scale irrigation. Across these areas, greater attention will be given to ensuring more sustainable water management through local water users associations, through incorporation of broader river basin management aspects, and through improved use of shared watercourses, including support for cooperation between different riparian states on the use of the scarce resource. Greater attention will be given to strengthening linkages between the different water using sectors, including joint multisectoral support for water management (e.g., multipurpose hydro). Attention will be given to both expanding irrigated areas, where feasible, and improving water use efficiency of existing schemes. Support for rain-fed agriculture will focus on improved water control, including broader water shed management. This will complement efforts to invest in more drought tolerant varieties. Investments in improved water management are in many circumstances catalytic—reducing the barriers to adoption of otherwise costly soil and crop management practices by increasing the returns to such investments.

30. **Improve tenure security and land markets**: Induced by higher agricultural prices, new foreign interest in investing in agricultural production, including land acquisition, raises the importance of property rights. In addition, security of property rights and the ability to draw on local or national authorities to enforce those rights are fundamental elements for increasing local incentives for investment and for productive land use. These

9 Asian Development Bank (2005). *An Impact and Evaluation of Genetically Improved farmed Tilapia and their Dissemination in Selected Countries.* Manila: Asian Development Bank.

can be sensitive issues politically, and a wide range of options, from full formal title to legally backed mechanisms at the community level, can be employed to promote higher levels of tenure security. Programs to make land rights more secure, especially for poor farmers, have long formed a major thrust of World Bank interventions in this area. Linked to security of tenure is the transferability of land rights. Making land rights transferable not only increases investment incentives but also allows the landless to access land through sales and rental markets or through public transfers. In some countries, particularly in Latin America and Southern Africa, inequality in the land ownership often leads to underutilization and deep-rooted rural poverty. In these cases, increased access to land by the poor through targeted programs of financial assistance to enter into land markets can potentially increase productivity and promote equality. Land programs also help agricultural regions to rebuild after conflicts and natural disasters, such as in Sri Lanka and Aceh, Indonesia. The World Bank Group will focus on five areas of a comprehensive approach to improving access to and security of land for agricultural development: (i) land policy and legal reforms; (ii) increasing security of existing customary or informal land tenure; (iii) modernizing land administration; (iv) land redistribution through socially manageable processes; and (v) preventing and reducing land conflicts. Included in the focus on land policy is the issue of foreign investment in large scale agriculture, an issue of growing significance (Box 2).

31. **Strengthen agricultural innovation systems**: Developed countries spend almost four times as much as developing countries on agricultural research as a share of their respective agricultural GDPs. The gap has widened but needs to be narrowed to reduce the growing knowledge divide. There has also been significant underinvestment in agricultural extension. While more investment is needed, so too is more effective innovation systems. Recognizing that markets primarily drive agricultural development, the World Bank programs are increasingly assisting farmers and agribusinesses to more explicitly orient agricultural research and extension services. This has led to improved outcomes, sustainability, institutional development, and poverty impacts of the World Bank's programs in these areas. Increased attention to support pluralistic public and private sector involvement in agricultural research and extension is a key element of the new approach. World Bank support will specifically focus on improving the relevance and responsiveness of cutting edge and traditional research and extension through: empowerment of end-users, encouraging pluralism in delivery, and better linking research and extension. The World Bank Group will

Box 2

LARGE-SCALE AGRICULTURE

Fuelled by a combination of: (i) a boom in biofuels; (ii) high (and more volatile) commodity prices, and (iii) a desire for food self-sufficiency by import-dependent countries, particularly in the MENA region, foreign investor interest (including multinationals, sovereign wealth funds, or government-owned corporations) in land and large scale agriculture has increased significantly. For example, about 2.5 million hectares of land allocations in five countries (Ethiopia, Ghana, Madagascar, Mali, and Sudan) have been concluded since 2004, at an accelerated pace, with a dominance of foreign investors (according to a recent IIED, FAO, and IFAD report*). This trend creates opportunities and risks for recipient countries. Increased investment may spur growth, fiscal revenues, employment, and local incomes, but may also result in local people losing land on which their livelihoods depend. The extent to which land deals seize opportunities and mitigate risks depends on their terms and conditions. A range of issues need to be explored: How can governments be helped to identify land available for beneficial investments that minimize adverse impacts on land rights? What safeguards should both governments and investors be applying to ensure a sustainable outcome? How can local land rights be better secured to ensure that communities and small-scale farmers are capable of protecting their interests in negotiations with outsiders? How can government capacity be strengthened to broker deals in a way that is transparent and beneficial for the country? The World Bank will assist in addressing some of these questions and will support, with other partners, the development of a code of conduct for these transactions, which includes significant background work to:

- Quantify major trends in these land transactions based on country-level inventories.
- Review the policy frameworks, drawing on best practice to identify areas for improvement.
- Undertake an in-depth economic analysis and assessment of the impact of the changing opportunity cost of land on financial/economic viability of different types of projects.
- Review and identify contractual arrangements that are most likely to result in an equitable sharing of benefits.
- Analyze the way social and environmental safeguards are dealt with and identify best practice in dealing with secondary rights and indirect environmental impacts.
- Use results from the above analysis as a basis for assisting the development of a code of conduct that both investors and countries could subscribe to.

* Cotsula, L., Vermeulen, R, Leonard, R., and Keeley, J. (2009). *Land Grab or Development Opportunity? Agricultural Investments and International Land Deals in Africa.* IIED, FAO, IFAD.

continue to reflect these principles in program and project design to contribute to enhanced use of new agricultural innovations in improving rural livelihoods and income generation. Attention will also be given to education and training, including tertiary education. Support will be provided to national, regional, and international research efforts, the latter mainly through the Consultative

Group on International Agricultural Research (CGIAR) (Box 3) as well as other regional bodies (e.g., the Forum for Agricultural Research in Africa).

32. **Support consideration of new technology tools**. The new tools of biotechnology can potentially deliver significant yield gains to address our global food challenges. One form of biotechnology, transgenic seed, is already used on about 800 million hectares. Adoption rates for Bt cotton, a transgenic crop for insect resistance, have increased rapidly in both China and India and both examples show increased income due to less need for pesticide and insecticide applications. But effects vary across years, institutional settings, and agro-ecological zones. Progress on food crops adoption has been much slower due to: (i) neglect of pro-poor traits and orphan crops in transgenic development; (ii) limited access to proprietary technologies with increased coverage of intellectual property rights; (iii) continued concerns about possible food safety and environmental risk in some countries; and (iv) weak regulatory capacity to assess risks and approve releases of transgenics. Where requested, the World Bank Group will support actions such as: (i) country capacity development for assessing the potential risks and benefits of transgenics; and (ii) development of cost-effective and transparent regulations and production programs with expertise and competence to manage their adoption and use.

Box 3

A MORE RESPONSIVE CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

The Consultative Group on International Agricultural Research (CGIAR), with its 15 international research centers, offers much needed economies of scale in research. Many developing countries may be too small to achieve efficient scale in research and development, except in adaptive research. In addition, private sector research often doesn't focus on crops most important for the poor (e.g., cassava, millet, and beans).

The CGIAR continues to offer significant knowledge and expertise for increasing agricultural productivity and environmental sustainability in developing countries. The ongoing reorganization of the CGIAR also offers the potential to improve the relevance and responsiveness of their research effort. Performance contracts between a new CGIAR Fund hosted by the World Bank and the Consortium of CGIAR Centers will provide opportunities for increasing World Bank investment in this global partnership. Performance contracts binding the CGIAR Centers to the Consortium, and the Consortium to the Fund, will include mega-programs expected to bring about increased coordination among donors. They, together with other stakeholders, will be actively engaged in the formulation of the research strategy through various means, including a biennial Global Conference on Agricultural Research for Development. An Independent Science and Partnership Council will provide advice to the Fund.

33. **Consider opportunities for mechanization**. Mechanization is a potential source of improved labor productivity in land abundant countries. An important area of support for improved access to and use of mechanization is through leasing markets (to reduce the lumpiness of machinery investment, and help facilitate machinery services development). The World Bank Group will continue to pilot support to establish leasing markets.

II. Link Farmers to Markets and Strengthen Value Chains

34. The demand for high-value primary and processed products is rapidly increasing, driven by rising incomes and faster urbanization. These higher value markets offer expanding market opportunities but have more exacting standards, timeliness in delivery and economies of scale, posing special challenges to smallholder farmers. Food staple markets remain important but are often hampered by poor infrastructure, inadequate support services, weak institutions, which push up transaction costs and price. Traditional bulk commodities still account for a significant share of exports from some of the poorest countries. Market structures can have a significant impact on country competitiveness. Linking farmers to the range of market opportunities across food staples, traditional bulk commodities, and higher value domestic and international markets likely requires different interventions by market. This differentiation is reflected in each of the intervention areas highlighted in this section. The focus is primarily on output markets, with input markets emphasized in the previous section.

35. **Continue support for the Doha round, South-South, and intraregional trade**: Doha failure will reduce developing country agricultural exports by about 12 percent (assuming an increase in protection to maximum rates applied over the last 13 years, following the Uruguay round)[10]. The current trade regime imposes significant costs to developing country producers, particularly for cotton, oilseeds, and dairy products. The World Bank Group will continue its analytical work on: (i) global, regional and national agricultural trade reform, (ii) national and local agricultural taxation, and (iii) macro-economic price effects on agricultural competitiveness. While there have been significant improvements to farmer price incentives in developing countries over the last two decades, there still remains scope for efficiency gains from further policy reforms. Continued analytical support will be provided for global trade reforms discussed under the Doha round, for policies to facilitate more intraregional and intranational trade, for less distorting

10 Bouët, A. and Laborde, D. (2008). *The Potential Cost of a Failed Doha Round*. Issues Brief 56. International Food Policy Research Institute.

national and local taxation, and for competitive macroeconomic policies (particularly exchange rate impacts). Addressing the use of standards as a non-tariff barrier to South-South trade, and support for improved regional agreements, can unlock trade opportunities.

36. **Identify and scale-up business models for market integration**. The ability of smallholders to compete in growing higher value markets will likely determine the poverty reducing effect of future agricultural growth, particularly in South Asia, Latin America, and East Asia. Some smallholder farmers have managed to integrate into some of these markets and have benefited from higher incomes. The World Bank Group will do more cross-regional learning on which business models are working, identifying entry points for our support. In addition, accession into economic unions and common markets, often requires better alignment of domestic agricultural policies, particularly important for Eastern European countries seeking accession and integration into the European Union. The World Bank Group will support countries seeking EU accession to better align domestic agricultural policies, including shifts to decoupled methods of agricultural support. Finally, improved coordination across the value chain can improve market integration and competitiveness. The World Bank Group will continue to learn from emerging good practice examples for scale-up.

37. **Improve food safety, market information, and standards**. Timely access to market information can dramatically improve the price discovery process of farmers, fishers, and traders—reducing local market volatility and post harvest losses. Improving capacity to comply with export market standards can improve market access, and vigilance in food safety can reduce health risks. The World Bank Group will support: (i) development of market information systems, including ICT, to improve access; (ii) improving implementation of Sanitary and Phyto-Sanitary Standards, and other food safety standards (for crops and livestock products); and (iii) training, knowledge sharing and analytical research on standards, including e-learning courses (with the World Bank Institute) on good practice in development assistance standards.

38. **Strengthen market institutions**. All forms of markets—wholesale, traditional open air retail food markets, commodity exchanges and institutional food purchasing programs—require rules which define the risks and obligations of buyers and sellers. This is particularly the case for traditional commodities which still play a predominant role in many developing country economies where they still offer substantial opportunities for future growth and value addition. We will support analytical work and legal and policy reforms on: (i) market structure and degree of private sector competition;

and (ii) intellectual property rights (e.g., brands and trademarks, geographic identification, and genetic material).

39. **Expand infrastructure**: The Agriculture and Rural Development Family in the World Bank Group will work jointly with other sectors across the institution to scale up our support to improve: (i) the reach and quality of rural roads; (ii) availability of storage (including cold storage at sea and airports); (iii) access to electrification; (iv) communication infrastructure; and (v) market infrastructure to reduce post harvest losses. All will help reduce transaction costs and risks and promote faster growth. Focus will be given to improving geographic prioritization and targeting of rural infrastructure investments to better link areas with high agricultural potential to markets. The implementation of the World Bank Group Infrastructure Action plan, and support through the Infrastructure Recovery and Assets (INFRA) Platform can speed support to this area—specifically the implementation of the transport business strategy.

40. **Strengthen producer organizations**: Effective producer organizations can reduce transaction costs, overcome economies of scale constraints, and advocate for improved service delivery. However, the challenges vary significantly by country context. In agriculture based countries, increasing the voice and influence of producer organizations can act to counterweight the historical urban bias in development policy. In economies where producers have much more influence, having advocated and secured large and inefficient subsidies, the challenge is to support negotiated compromises for shifting to more efficient forms of support. Our support to strengthen producer organizations will be two pronged: (i) technical assistance to improve their function (mechanisms to resolve conflict, deal with heterogeneous membership, development of managerial capacity, and participation in high-level negotiations), and (ii) financing for demand driven funds, with producer organizations selecting activities and needed services.

41. **Increase access to finance**: Rural financial services are critical to developing the rural economy, and for helping the rural poor build assets that can decrease their vulnerability to shocks. The World Bank Group is examining ways of delivering a broad range of financial services to the rural poor. We will scale up support to expanding multiple sources of rural finance, as well as savings mobilization. These include: (i) microfinance; (ii) interlocking financing arrangements through contract farming; (iii) "smart" subsidies, with exit strategies linked to creating bankable clients; and (iv) piloting support to establishing leasing markets. IDA/IBRD will continue support to service provision, market facilitation, and the enabling environment, and also build on cell phone and other relevant technological

Box 4

MULTILATERAL INVESTMENT GUARANTEE AGENCY SUPPORT FOR AGRICULTURAL INVESTMENT

MIGA mitigates noncommercial risks by insuring investments against the risk of: (i) currency inconvertibility and transfer restrictions (preventing earnings repatriation); (ii) expropriation (government take-over of assets, such as land, farm machinery, or food processing plants); (iii) war and civil disturbances (causing direct destruction of assets); and (iv) breach of contract (where governments are the contractual partners). MIGA also provides dispute resolution services for guaranteed investments to prevent disputes from escalating.

MIGA is currently providing guarantees for $126 million in private investment in agriculture, mainly in Sub-Saharan Africa. Agro-industry coverage includes sugar production, cotton seed production and processing, coffee processing, and cocoa production and processing in Mozambique, Kenya, Afghanistan, Madagascar, Uganda, and Cote d'Ivoire. These investments spanned from 1999 to 2007, with a guaranteed duration of about 10 years in each case. Two additional investment guarantees have been approved in 2009 for a palm and soya bean oil investment in the Democratic Republic of Congo and for a commercial fishing and fish processing investment in Sierra Leone totaling $15m.

advances to spread access. Improved access to finance can facilitate use of purchased inputs, including mechanization, and help cushion income shocks. IFC will: (i) continue to offer working capital facilities to help private sector agribusiness clients prefinance inventories, seeds, fertilizers, and fuel in response to the food price and financial crises; and (ii) continue to scale up direct financing in agribusiness firms along the supply chain. MIGA will continue to offer guarantees to private investments for those seeking to insure against noncommercial risks in developing countries (Box 4).

III. Reduce Risk and Vulnerability

42. Given the heightened price uncertainty, the ongoing financial crisis, and continued risk of major outbreaks of crop and livestock pests and disease, the Action Plan emphasizes both short and longer-term actions to address these risks, and continued targeted support for vulnerable groups. Financial instruments available to address price and weather risks are a complement to improved farm and firm management practices and managing physical goods–they are not a substitute. While risk and vulnerability cut across many of the action areas, several are emphasized in this section in the context of recent events and uncertainty over the next three years.

43. **Safety nets and fiscal support**: The Global Food Crisis Response Program (GFRP), with $1,156 million in projects already approved under the fast-track facility, will continue to be implemented over the next three years. The ceiling on

the fast-track facility has been raised to allow for accelerated processing of an addition $800 million under the GFRP over the next year (FY2010). In addition, trust fund resources are also available to support new operations in several countries. The overall aim of the GFRP is to minimize the threat posed by high food prices and sharply rising agricultural production and marketing costs to the livelihoods of both poor urban and rural residents in developing countries. GFRP interventions complement the short-term emergency humanitarian responses of the World Food Program (WFP) and other donors. The program is an umbrella facility offering access under fast-track procedures to IDA/IBRD grants, credits and loans for both investment lending, and development policy operations. All World Bank-member countries adversely affected by the food crisis are eligible to participate in the GFRP.

44. **Better manage national food imports**: Countries that are either food insecure or have exposure to contingent imports driven by domestic production shortfalls are currently exposed to a price risk and a more general risk of lack of available food. Many countries are likely to remain net cereal importers, particularly where local conditions are not conducive to significantly expanding agricultural production, as in some of the Middle East and North Africa (MENA) countries. The World Bank Group continues to assist such countries (where they request our assistance) with the development of risk management strategies to identify, mitigate, minimize or hedge their risk profiles. Some of the assistance concerns the use of physical storage and contracting tools to address physical availability of food stocks, and improved strategies to manage the use and restocking of such facilities. Other activities seek to address the potential price risk through both physical and financial hedging strategies. For those countries that are potentially exposed to contingent import requirements (at the macro level) driven by weather related failures that affect their domestic production, the World Bank also has the ability to work with them to provide weather risk transfer products (Box 5).

45. **Further explore policy options to address price volatility**: Designing appropriate policies to respond to food price volatility requires a solid foundation of empirical knowledge at the global and country level. In this respect, the World Bank's analytical focus will cover three areas: (i) analysis of the extent of grain price volatility changes, including the extent of volatility convergence across commodity markets; (ii) the drivers of volatility change, including analysis on the relative importance of biofuels, commodity index funds, trade policy, weather shocks, and grain stocks on volatility change; (iii) policy options at global and national levels to reduce negative impacts.

Box 5
INSURANCE INNOVATIONS

The food price spike has raised awareness of the need to develop strategies to help low income countries mitigate the impact of external shocks. Two of the most severe external shocks—commodity price and weather shocks—are particularly problematic for low income countries since they are already highly vulnerable to price and weather volatility. Since June 2008, the World Bank Group has offered intermediation services on index-based weather derivatives. World Bank intermediation allows clients to access the financial markets and transfer weather-related risk to market counterparts. The weather hedging product is a complement to the broad range of catastrophe financing solutions to help countries plan proactive responses to natural disasters.

In September 2008, Malawi used the World Bank as an intermediary to access weather derivatives. The contract was structured as an option on a rainfall index. The index links rainfall and maize production so that, if precipitation falls below a certain level, the index will reflect the projected loss in maize production. Under the contract, if the maize production in the country, as estimated by the rainfall index, falls significantly below the historical average, Malawi will receive a payout. The World Bank's participation in this new area may reduce the initial investment for market players to expand into developing countries and help build capacity in beneficiary countries for future hedging business done directly with the markets.

46. **Protect assets against catastrophic loss**. Selling assets to survive shocks can have long-term costs because decapitalization (distress sales of land, machinery and livestock) creates irreversibities or slow recovery in ownership of agricultural assets. In addition, child education and health can suffer long-term consequences when children are taken out of school in response to shocks or are exposed to early periods of malnutrition, leading to intergenerational transfers of poverty. The World Bank Group is working on the use of parametric insurance products to try and develop more affordable and transparent forms of insurance to expand reach. In this respect, the Bank is supporting weather index insurance initiatives in Thailand, Bangladesh, Senegal, Burkina Faso, Kenya, Jamaica, and potentially Fiji. The World Bank and the IFC are working together to complete a feasibility study on a crop insurance pilot for smallholder farmers in Indonesia. In addition, IFC is supporting the creation of a Global Index Reinsurance Facility which will support crop and livestock insurance for smallholders in developing countries. These products are a complement to other forms of risk management. For example, drought early warning systems, early destocking, feed management, and subsequent restocking strategies can also help reduce significant loss of livestock during severe droughts.

47. **Reduce risk of major livestock disease outbreaks**. Major outbreaks of livestock disease such as Avian Influenza pose significant risk to assets and public health. The rapid rise in demand for livestock products in developing countries has been associated with the growth of unprecedented concentrations of animals in the urban and peri-urban areas of developing countries, with major implications for human and animal health. Of 1,415 species of infectious organisms known to be pathogenic to humans, 61 percent are zoonotic, or transmissible from animals to humans. And of the 175 pathogenic species of infectious organisms considered to be "emerging" (or reemerging) in humans, 75 percent are zoonotic.[11] The poor are especially exposed because of the proximity of their living spaces to farm animals. The World Bank Group will support the strengthening of livestock disease surveillance in client countries, and provide rapid response if outbreaks occur, as was done with the Global Program for Avian Influenza.

IV. Facilitate Agricultural Entry and Exit, and Rural Nonfarm Income

48. Rural nonfarm income is increasingly important in many countries and often provides important linkages for agricultural growth. Where there is excess labor in agriculture, a lag in urban job creation, and urban congestion, a priority is to promote rural non-farm employment in secondary towns and to strengthen rural-urban linkages. Effective functioning of land markets is necessary to facilitate both entry and exit. Investments in the investment climate, infrastructure and skills are priorities.

49. **Improve the rural investment climate**: The World Bank Group will undertake more rural investment climate assessments to develop a better and more systematic understanding of location specific interventions needed to spur rural nonfarm incomes. The completed rural investment climate assessments show most businesses buy and sell locally, so rely almost exclusively on local demand and the local business environment. They also offer insights into how to better geographically target infrastructure investments to maximize rural employment growth. In addition, the World Bank will pilot in 12 Sub-Saharan African countries a set of indicators reflecting the cost of doing business in agriculture.

50. **Expand rural infrastructure**: The World Bank Group will invest in infrastructure, particularly in densely populated lagging areas to support mobility. In lagging areas were mobility is low, such as India (and where language and cultural differences are considerable) complementing infrastructure investment with incentives

11 Taylor, L. Latham, S, and Wollhouse, M. (2001). "Risk Factors for Human Disease Emergence." *Biological Sciences* 356: 983–989.

for enterprises to locate in these lagging areas/states can help raise rural employment (as suggested by WDR 2009, *Reshaping Economic Geography*). These actions will link with the implementation of the World Bank Group Infrastructure Action Plan.

51. **Upgrade skills**: Moving out of agriculture, whether to the rural nonfarm sector or by migrating to urban areas, depends on more and better quality education. Vocational training can help upgrade skills. Programs that have private participation in managing institutions (as in Brazil's National Rural Training Service [SENAR]), and designing curricula (as in Namibia's Community Skills Development Centers) have been most effective in meeting labor market demands. Enterprises also provide training but usually only to those with formal jobs, usually with higher income levels. The World Bank Group will support skills development, including vocational training, and seek opportunities to link with the private sector to ensure skill relevance. Programs that provide conditional cash transfers, such as cash grants conditioned on school attendance, can increase demand for education.

V. Enhance Environmental Services and Sustainability

52. **Manage intensive livestock systems**: Driven by the growth in demand for livestock products, with rising per capita incomes and urbanization, livestock systems have become more intensive. This intensification has produced some environmental challenges linked to the move from dispersed production in rural areas to specialized livestock units in urban and periurban areas, now happening on a significant scale in much of Asia. The major environmental threats are the pollution of water and soil with animal waste, especially nitrogen, phosphorous, and toxic heavy metals such as cadmium, copper, and zinc. Dense livestock populations also add significantly to the risks of spreading animal diseases and incurring subsequent economic losses. Some of these diseases are also a threat to humans, especially where dense populations of animals and humans come in close contact (see section on III). A blend of instruments are needed for managing intensive livestock systems (Box 6). The World Bank Group will discourage urban concentration of livestock intensification to better manage environmental and health problems (encourage incentives to livestock enterprises to relocate to environmentally more suitable areas). In addition, to reduce greenhouse gas emissions (e.g., methane) the World Bank Group will support improvements of nutrition and genetics of ruminant livestock, storage and capture technologies for manure, and conversions of emissions into biogas.

53. **Improve rangeland management**. Pastoralist account for a large share of

Box 6

BLEND OF INSTRUMENTS TO MANAGE INTENSIVE LIVESTOCK SYSTEMS

Inducing livestock enterprises to relocate to an environmentally more suitable area requires both "command and control" and "market-based" instruments. Command and control measures might include limiting the size of livestock farms (Norway), limiting the livestock density per farm (Germany), and introducing minimum distances between farms (Spain) or between farms and the nearest waterway (Brazil). Market-based instruments include tax rebates for relocation (Thailand), environmental taxes on urban livestock farms, and investment support for on-farm infrastructure to reduce nutrient leaching (countries of the Organisation for Economic Co-operation and Development [OECD]). Tradable manure quota systems, with a government buy-back system to reduce overall animal pressure, have worked in the Netherlands. One cause of recently emerging diseases such as avian influenza is production systems in areas densely populated by both people and livestock, as occurs in urban and peri-urban areas.

Source: World Development Report 2008

the rural population in many countries (e.g., in the Sahel, and parts of East Asia). The quality of rangelands has often declined, impacting the livelihoods of pastoralist communities. In an effort to improve rangeland management, the World Bank Group will support: (i) reducing pasture degradation, and upgrading grasslands to more productive grass species (including grass-legume mixes); (ii) environmental and pastoralist associations; (iii) improvements in land and water rights; (iv) better management of livestock watering points; and (v) more resilient livestock systems.

54. **Reduce forest degradation**. As much as 14 percent of global carbon emissions are estimated to come from all deforestation and forest degradation (from all causes, not just from and expansion of agricultural area). Finding pro-poor solutions to mitigating climate change should address this problem. Over the next year, the World Bank will operationalize a forest program [under the Strategic Climate Fund of the Climate Investment Funds] to finance transformational investments that address the drivers of deforestation and degradation. These include incentives for community certification, improving institutional capacity, forest governance and information; and complementary investments in non-forest-sector programs (agriculture, infrastructure, etc.) to include provisions for forest protection.

55. **Harvest agricultural carbon for a potential triple win**. The triple win is increased productivity and income, enhanced climate resilience, and effective GHG mitigation. Enhancing organic carbon contents of soils can improve land productivity. Soils with increased carbon stocks have better retention of water and, hence, climate resilience. Increased soil carbon sequestration can make farming a net carbon sink and

hence mitigate GHGs. Improved land management had only limited eligibility under the Kyoto protocol, but inclusion of soil carbon sequestration in future compliance markets could offer the triple win. However, farmers need assistance to overcome barriers to entry into carbon markets. Priorities to be addressed include: (i) identifying and testing lower-cost methods of measuring and monitoring carbon sequestration; (ii) reducing the risk of reversibility of GHG emission through subsequent adoption of poor management practices; (iii) further understanding the biological and ecological processes involved in GHG emissions and carbon storage; (iv) identifying ways to lower transaction costs to create the carbon asset (reporting, verification, aggregation, and sale); and (v) reducing uncertainty concerning the ownership of carbon revenues (which is linked to ensuring clear land rights). These challenges can be overcome with strong support from governments of developing and developed countries, development partners, and the scientific community. The World Bank Group will: (i) work with other partners to assist in improving carbon measurement methodologies; (ii) strengthen technical expertise to measure agricultural carbon in developing countries; (iii) support capacity building for service providers to generate, monitor, verify, aggregate, and sell the carbon asset; and (iv) draw on lessons from early carbon projects to help develop common standards for prototype projects.

56. **The five focal areas of the Agriculture Action Plan** are often interlinked. For example, strengthening linkages to markets can help raise technology adoption, dampening price volatility can reduce the risks associated with productivity investments, and improving land productivity can help reduce deforestation. These linkages need to be recognized in program design, and sequencing of support.

57. **Successful implementation** of the above agenda across the five focal areas will require addressing the governance challenges in the agriculture sector—including better balancing public-private roles that is more challenging in agriculture than in others sectors, improving local and national state capacity, strengthening voice (particularly of marginalized and vulnerable groups), and improving efficiency of agricultural public spending. In addition, challenges and responses vary across postconflict (and fragile) states. We will support governance improvements through capacity building of local government and Ministries of Agriculture, strengthening producer organizations, support community driven development, technical assistance, analytical work to better understand trade-offs of policy reform, and public spending reviews. The extent of support will vary by context (e.g., particularly in postconflict (fragile) states).

CHAPTER 6: How this Translates into the FY2010–2012 World Bank Group Program

I. Aggregate Program

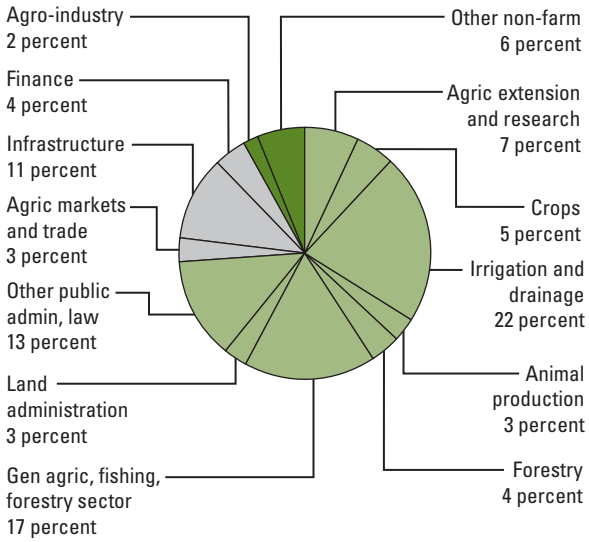
58. **Current composition of spending**: Across three of the focal areas—agricultural productivity, linking farmers to markets, and rural nonfarm income—agricultural productivity dominates (accounting for 74 percent of the IDA/IBRD undisbursed balance, of which irrigation alone accounts for 22 percent) [Figure 5]. Linking farmers to markets is also a significant focal area (accounting for 18 percent of the IDA/IBRD undisbursed balance), while rural nonfarm support accounts for a smaller share (8 percent). Support to reduce risk and vulnerability, and to enhance environmental services and sustainability cut across the previous three areas. Various aspects are highlighted in this Action Plan as explicit areas of focus over the next three years, including addressing price, weather, and disease risk, and better linking farmers to carbon markets.

59. **Current composition of Analytical and Advisory Activities (AAA)**: The allocation of the World Bank's AAA maps fairly closely to the undisbursed balance allocation with about 63 percent focusing on agricultural productivity, 30 percent focusing on linking farmers to markets, and 7 percent on rural nonfarm income and exit. In addition, a number of AAA focused on cross-cutting areas including gender, climate change, governance, public expenditure management, and food prices.

60. **Areas of emphasis in FY2010–2012**: over the next three years:

    - **New investment commitments**: At an aggregate level, IDA/IBRD investment support will give more attention to various aspects of raising agricultural productivity, specifically extension, land, and agricultural research. On linking farmers to markets, IDA/IBRD will focus on doing more on identifying and scaling up market integration business models, infrastructure, and market information. On rural nonfarm, IDA/

FIGURE 5 Ongoing Program: Composition of Undisbursed US$



IBRD will draw on lessons from both the WDR 2008 and 2009 to do more in specific regions. We will continue to focus on reducing risk and vulnerability, particularly in the context of the ongoing financial crisis and the uncertainty of food prices.

IFC will scale up support for agribusiness. IFC will continue to scale up investments and advisory services; expand activities in IDA countries, particularly in Africa; and integrate advisory services with investments to better serve clients. The scope and scale of development impact in agribusiness will be increased. Wholesaling through financial intermediaries such as financial institutions, traders and suppliers will be used more to reach small and medium-sized entrepreneurs. Complimenting IDA/IBRD support for public investment in agriculture, the IFC will continue direct support for private sector activities across the value chain, including: (i) efficient use of water through water-efficient irrigation technologies and practices; (ii) logistics/infrastructure to enhance access to inputs and markets; (iii) access to finance, particularly for small to medium enterprises and farmers; (iv) advisory services for food safety and standards; (v) linking smallholders and entrepreneurs to the value chain; and (vi) knowledge and technology sharing and transfer between players and markets.

- **New AAA**: the World Bank's analytical work will give more emphasis to public expenditure analysis, to managing risk (including the extent and drivers of volatility, insurance markets, climate change, and trade), to improve the investment climate (doing business in agriculture) to productivity growth (Box 7), as well as on better governance of forestry and fisheries. More work will be given to improving the mechanism of linking research effort with resource allocation decisions in the World Bank's investment program.

61. **Level of spending**: This new three-year World Bank Group Agriculture Action Plan (FY2010–2012) projects an increase in support (from IDA, IBRD, and IFC) to agriculture and related sectors from a baseline average support in FY2006–2008 of $4.1 billion annually to between $6.2 and $8.3 billion annually. This would be between 13 and 17 percent of projected World Bank Group commitments. Figure 6 reflects the activities described under each of the five focal areas. These include both support for agriculture production and marketing, as well as agriculture related investments (e.g., land tenure, rural finance, market infrastructure).

62. **The low case projection** reflects a 50 percent annual average increase in support to agriculture and related sectors over the next three years (FY2010–2012) relative to the annual average over the

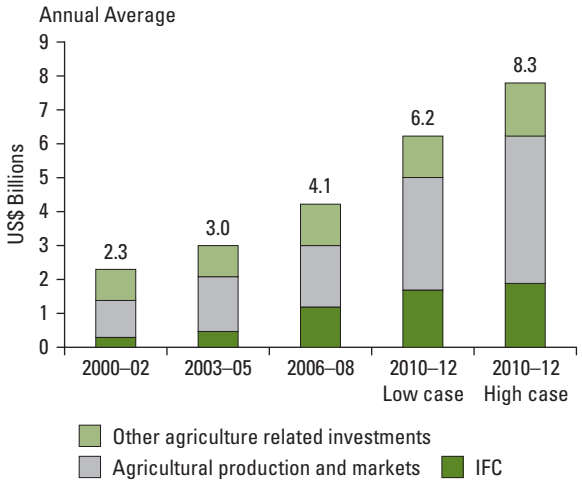
Box 7

NEW RESEARCH ACTIVITIES IN THE DEVELOPMENT ECONOMICS GROUP OF THE WORLD BANK

Complementing the analytic work to be carried out by the regions and networks, are knowledge-based efforts housed in the Development Economics Group. Some of these activities are on-going, including the monitoring of commodity markets and the provision of basic economic and sector data. These ongoing activities are subject to review to ensure continued valued added of research. There are several new research efforts organized around the following topics:

- Better understanding why farms in Africa, on average, are less productive than farms in Asia
- How to strengthen land markets to improve productivity and reduce rural poverty
- How to better use credit and insurance markets to improve the lives of rural households
- Better understanding the biofuels link with energy and food markets
- Prospects for new trade agreements and what they will mean for agriculture
- How farmers can better adapt to climate change
- Building better measures of rural welfare in Africa (in collaboration with Gates Foundation)
- Better understanding the returns to investment in rural infrastructure, such as roads and electrification.

FIGURE 6 World Bank Group Agriculture and Related Sector Financing



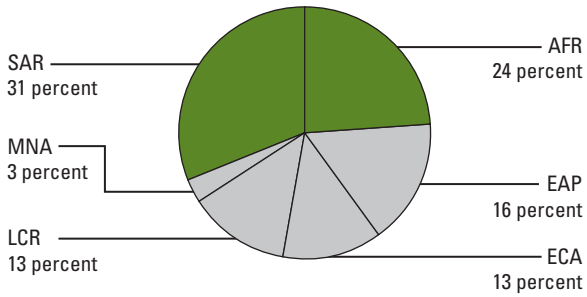
2006–2008 period. The projection is consistent with the current FY2010 project pipeline (firm and likely commitments). With the 40 percent increase in IDA resources from IDA14 to 15 and an increase in overall IBRD lending, the share of Bank support going to agriculture and related sectors would increase from 17 percent to 20 percent for IDA, and would decline slightly from 8 to 7 percent for IBRD, equating to an overall net increase in the share of IDA/IBRD resources from 12 to 13 percent.

(US$ billions)

	Annual average			Annual projections	
	2000–02	2003–05	2006–08	2010–12	
				Low	High
IDA/IBRD (by sub-sector)					
Agricultural production and markets*	1.1	1.6	1.8	3.4	4.8
Agriculture, fishing & forestry**	0.9	1.5	1.6	3.0	4.3
Agriculture markets, trade, & agro-industry	0.2	0.1	0.1	0.4	0.5
Other agriculture related investments	0.9	0.9	1.2	1.1	1.6
IFC	0.3	0.5	1.2	1.7	1.9
Total	2.3	3.0	4.1	6.2	8.3

*Is the sum of Agriculture, Fishing & Forestry, and Agriculture Markets, Trade, and Agro-industry. ** As reported in the World Bank Group Annual Reports. The Agriculture Action Plan includes IDA, IBRD and IFC financing. IDA/IBRD, including Special Financing, reflects: (i) project components specifically coded as Agriculture, Fishing and Forestry as well as those coded as Agriculture Markets and Trade, and Agro-industry; and (ii) in order to capture important related investments such as land administration, agricultural agency reform, agricultural and rural finance, market roads etc, other investments directly related to agricultural production under the oversight of the Agriculture and Rural Development (ARD) Sector Board. The disaggregation across agriculture production, marketing and other agriculture related investments is reflected in the table above. For IFC, it includes: (i) agribusiness production and processing, (ii) agri-related trade finance, (iii) fertilizers, (iv) agrilogistics and infrastructure, and (v) food retail. Trust Funds are not included but are relatively small in comparison: $73 million in 2000–02; $110 million in 2003–2005, and $132 million in 2006–08, of which GEF accounted for about 70 percent. The Africa region and LCR accounted for 34 and 28 precent of trust fund commitments in FY2006–2008.

FIGURE 7 IDA/IBRD Commitments to Agriculture 2006–08



63. **The high case projection** reflects a doubling of support to agriculture and related sectors by 2012. A pro-rata doubling across IDA and IBRD would increase the respective shares from 17 to 26 percent and from 8 to 9 percent, respectively, and an overall net increase in the share of IDA/IBRD resources going to agriculture and related sectors from 12 to 17 percent (from FY2006–2008 to FY2010–2012). Demand for IBRD loans may rise as a result of the financial crisis, if they continue to be a much cheaper source of borrowing than alternatives. If this is the case, then a doubling of lending is feasible, with perhaps a greater share of the increase coming from IBRD countries.

64. **Risks**: Achieving the projected scale-up will be dependent on: (i) continued strong client demand to borrow IBRD resources and use of IDA concessional financing for agricultural development; (ii) adequate staffing and budgets; (iii) limited financial crisis impacts on implementation quality of our ongoing program and the FY2010–2012 pipeline; and (iv) IDA16 replenishment is at least as large as IDA15, and is available to

support the latter years of the action plan (IDA15 covers the FY2009–2011 period). Many of these factors are exogenous, and will need to be monitored closely, and responded to accordingly.

II. Regional Differentiation

65. Sub-Saharan Africa and South Asia, the regions of highest poverty, will continue to be priority regions. Together the regions accounted for 55 percent of new IDA and IBRD commitments to agriculture in FY2006–2008 (Figure 7) and will continue to account for about half of our agricultural program over the next three years (FY2010–2012). Similarly, these regions accounted for about half of all analytical work done on agricultural related issues.

66. There is wide heterogeneity across and within regions. The WDR 2008 disaggregates this heterogeneity into "three worlds of agriculture" based on agriculture's role in overall growth and poverty reduction with the following messages: For agriculture-based countries, the focus needs to be on agricultural productivity growth and food security, balancing support to both entrepreneurial actors and favored regions, and subsistence farming through resilient farming systems and safety nets. For transforming countries, the focus in agriculture needs to be on reducing the rural-urban income gaps through a shift in support from subsidy transfers to earned income (in higher value markets, productive growth, and the rural non-farm). For more urbanized countries, the challenge is to balance support for rapid growth in medium to large farms and social safety nets for the poor, with a focus on helping smallholders compete in modern food markets and non-traditional exports (Box 8). While the WDR 2008 highlights the agenda for the "three worlds of agriculture," the regional priorities are also presented in this document.

67. **Sub-Saharan Africa**: The dominant focus of the scaled-up support for Sub-Saharan Africa will be on raising agricultural productivity growth, especially for smallholders. Thanks to reduced conflict, greater macroeconomic stability, and lower taxation, the enabling environment for agriculture in Sub-Saharan Africa has improved considerably leading to a growth response. Annual agricultural production (GDP) increased from 2.3 percent in 1980–89 to 4.5 percent in 2003–2007. With progress on policy reform, future growth will need to rely more on agricultural productivity gains. The Africa region of the World Bank has aligned its support around the four complementary areas emphasized in the recent Africa Union's Comprehensive Africa Agriculture Development Program (CAADP): (i) land and water management, (ii) markets and infrastructure, (iii) risk and vulnerability, and

Box 8

THE THREE WORLDS OF AGRICULTURE AND IMPLICATION FOR OUR MIX OF SUPPORT

The Three Worlds of Agriculture: The World Development Report 2008 highlights that agriculture's contribution to development differs across three distinct agriculture worlds—agriculture-based, transforming, and urbanized. In each case the agriculture-for-development agenda differs.

- *Agriculture-based economies*—Agriculture is a major source of growth, and most of the poor live in rural areas. This group accounts for about 420 million rural inhabitants, mainly, but not exclusively, in sub-Saharan Africa. In these economies, agriculture and its associated industries are essential to growth and to reducing mass poverty and food insecurity. The focus needs to be on agricultural productivity growth and food security, balancing support to both entrepreneurial actors and favored regions, and subsistence farming through resilient farming systems and safety nets.
- *Transforming economies*—Agriculture is no longer a major source of overall economic growth, but poverty remains overwhelmingly rural. This group, typified by economies of China, India, Indonesia, Morocco, and Romania, has more than 2.2 billion rural inhabitants. In these economies, rapidly rising rural-urban income disparities and continuing extreme rural poverty are major sources of social and political tensions. Rising income disparities cannot be sustainably addressed through agricultural protection that raises the price of food (because a large number of poor people are net food buyers) or through subsidies. A comprehensive approach is needed—shifting to high value agriculture with continued support to lagging regions, decentralizing nonfarm economic activity to rural areas, and providing assistance to help move people out of agriculture.
- *Urbanized economies*—Agriculture contributes directly only a small share to overall economic growth and poverty is relatively urban. Even so, rural areas are often still home to half the poor, and poor rural areas can be especially sensitive socially because of issues of marginalization. Moreover, agribusiness and the food industry and services account for as much as one third of economic output. Included in this group are 255 million rural inhabitants. Agriculture can help reduce the remaining rural poverty if smallholders become direct suppliers in modern food markets, good jobs are created in agriculture and agroindustry, and markets for environmental services are strengthened.

These agriculture worlds differ both across and within countries. For example, India states reflect all three worlds (e.g., Uttar Pradesh and Bihar are "agriculture-based", Arunachal Pradesh and Kerala are "transforming," and Chandigarh and Goa are "urbanized"), as do states in Mexico (e.g., Zecatecas and Sinaloa are "agriculture-based", Querétaro and Oxaca are "transforming", and Yucatán and Jalisco are "urbanized").

Implications for our mix of support: Our support will reflect the differences in the agriculture agendas across the three worlds of agriculture, both within and across countries and regions. The table provides an indicative, but not exhaustive, differentiation of focus across the three worlds, with further program specificity developed on a case-by-case basis.

Action Plan Focal Areas	Emphasis of Support Will Differ Across the Three Worlds of Agriculture		
	Agriculture-based	Transforming	Urbanized
Agricultural productivity	Close the crop yield and livestock productivity gap, expand irrigated areas and improve rain-fed systems, improve security of land rights, invest in agricultural research	Improve productivity in higher value markets (including livestock products and aquaculture), and in lagging regions, strengthen land rental and sales markets, improve water use efficiency	Improve equality in land access, invest in agricultural research, focus on grains and oilseeds, as well as higher value markets
Link farmers to markets	Improve market information, infrastructure, strengthen producer organizations, and finance	Improve food safety, standards, market integration business models, and finance	Improve international trade, food safety, standards, and market integration business models
Risk and vulnerability	Provide safety nets, asset protection against catastrophic loss	Better manage food imports, reduce risk of livestock disease, provide safety nets	Provide safety nets, reduce risk of livestock disease outbreaks
Rural non-farm income	Improve the rural investment climate, expand infrastructure	Upgrade skills, decentralize nonfarm activities, expand rural livelihoods approaches	Upgrade skills, expand territorial development
Environment services, and sustainability	Improve rangeland management, support for carbon market access	Manage intensive livestock systems	Reduce deforestation, expand payment schemes for environmental services

Source: The World Development Report 2008

(iv) agricultural technology. The ongoing IDA/IBRD program (undisbursed balance) focuses on these areas with priority given to agricultural research and extension (15 percent of program), crops development (14 percent of program), and irrigation and drainage (9 percent of program) (see regional allocations in Figure 8). The focus over the next three years will be to do more on improving land tenure security, scale-up support for irrigation, and technology adoption. Only 18 percent of arable land with irrigation potential in Sub-Saharan Africa is actually irrigated. Better adoption and use of existing seed varieties can double yields.

The country level analytical program will focus on public expenditure reviews (to support improved resource use efficiency), and the remaining policy agenda (which differs by country but includes poverty and social impact assessments, sector reviews, and investment climate assessments). At the regional level, the analytical program will focus on policy issues related to cotton, rice, regional trade, biofuels, and global food prices.

68. **South Asia**: Rapid economic growth with widening rural-urban income disparities and continued rural poverty has been a source of social and political tension

in this region. The focus of our support will be on rural income growth to both address the widening rural-urban income gap and rural poverty. Food security also remains important with immediate pressing questions such as—how is Bangladesh going to get its 330,000 metric tons of additional rice each and every year for the next 20 years, within a context of rapid population growth and competition for natural resources? To address these types of challenges, the region will continue its engagement on critical policy issues, technical assistance, and innovative public-private partnerships in three interlinked lines of business: productivity growth (including irrigation and drainage), livelihoods, and agriculture competitiveness. Irrigation and drainage, which currently dominates the current IDA/IBRD program with 38 percent of the ARD investments in South Asia (see regional allocations in Figure 8), is expected to continue to play an important role with further investments in irrigation infrastructure and services, water resources, and decentralization of system management services to Water Users Associations. Yet broader efforts to raise agricultural productivity growth are also needed and will be scaled-up. In the next three years South Asia will also significantly upscale its successful livelihoods and community-based program by building the institutions of the poor that can articulate their demand and interact with the public and private sectors (see Box 9). The focus will be on building and aggregating rural institutions to achieve scale and make rural producers attractive to private enterprise and able to leverage resources, improve access to services (including financial) and demand better governance and accountability in public service delivery. Continued support will also be provided to scaling up public services (agricultural technology and innovation) and to expand investments along various value chains (for fish, dairy, high-value crops, and forest products) with an increased focus on agricultural markets and trade, the livestock sector, and animal health, in terms of both added value and agricultural support services to increase small and marginal farmers competitiveness.

69. **East Asia and Pacific**: Economic transform is driving resources (labor, land, water, food, and public budgets) to urban areas. Agriculture needs to facilitate this transformation, while still providing food security, poverty reduction, and environmental services. In addition, improved agriculture performance can help reduce the widening rural-urban income gap, and associated political and social tensions. There is wide heterogeneity across EAP countries requiring differentiated approaches. In line with the World Development Report 2008 typology for investments, the focus for the emerging middle- and high-income countries (China, Indonesia, Malaysia, Thailand, Vietnam) will be on improving the

Box 9
RURAL LIVELIHOODS PROJECTS

Rural livelihoods projects address the challenges of reducing rural poverty and promoting inclusive growth by supporting representative institutions of the poor in rural areas. These projects use the community driven development approach, but their focus does not end at small scale service delivery. Rather, livelihoods projects start by helping to form affinity-based groups that begin accumulating assets through savings and group lending or through matching grants for productive purposes. The projects provide capacity building in areas such as bookkeeping and planning and technical assistance in economic activities to ensure the quality of activities at the community level. Groups receive help to aggregate into federations that have greater voice and leverage with outside service providers. The affinity based federations are linked with banks—based on clear criteria of creditworthiness—for additional credit resources. Experience has shown that members invest the majority of funds in agricultural enterprises (e.g., dairy, goats, crops, etc.) and nonfarm enterprises (e.g., trading, retail, service sector). Beneficiaries can also then form activity based groups and/or commodity based groups that focus on improving the backward and forward linkages needed by producers to extract maximum profit from their enterprises. The major outcome of rural livelihoods projects is an institutional platform of the rural poor that

- is organized to engage with, and even partner with, the public sector for better services;
- creates bankable clients for the financial sector; and
- generates forward and backward linkages with the private sector for contracts, partnerships, and co-management arrangements for goods and services.

Impact assessments of completed projects in Andhra Pradesh, Madhya Pradesh, and Rajasthan show that a total World Bank investment of US$322 million mobilized 2.9 million people into just under 250,000 community level groups that accumulated savings in excess of US$400 million, leveraged nearly $3 billion in loans from commercial banks, achieved US$1 billion turnover in collective marketing of farm and nonfarm produce, and leveraged well over US$60 million in resources from other public programs.

efficiency of agricultural product markets and food safety, improving social equality and lagging regions through better infrastructure and services, releasing agricultural resources to urban uses, improving environmental management of agricultural resources, and supporting climate change mitigation and adaptation opportunities. For the low-income countries (Cambodia, Lao, Myanmar, Papua New Guinea, Timor-Leste), the focus will be on improving the productivity of primary agriculture, the stability of food markets, agriculture-led growth and poverty reduction, and targeting emerging opportunities for agricultural exports. For the Pacific Islands, the focus will be on niche opportunities in agriculture, and assistance to cope with climate change. The ongoing IDA/IBRD program

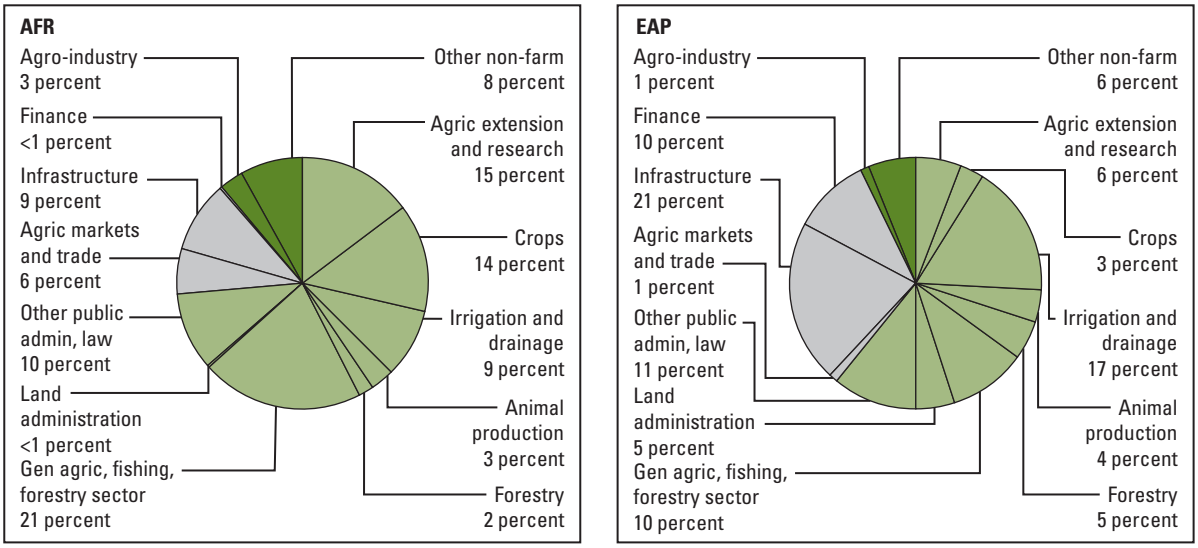
(undisbursed balance) focuses on these areas with priority given to infrastructure (21 percent of program), irrigation and drainage (17 percent of program), and finance (10 percent) (see regional allocations in Figure 8). The focus over the next three years will be to do more on land markets (currently 5 percent of program), on agricultural markets and trade (currently 1 percent of program) to better integrate smallholders into higher value chains, and on rural nonfarm income to support employment creation in lagging regions. The analytical program will focus on rice policy and production (Indonesia, Philippines, Vietnam and Cambodia), climate change (China, Philippines, Indonesia, PNG, Pacific Islands, and Mekong Sub-region), rural nonfarm income (Indonesia, Philippines, Vietnam, PNG, Malaysia, Cambodia, and Lao), and agricultural public expenditure reviews.

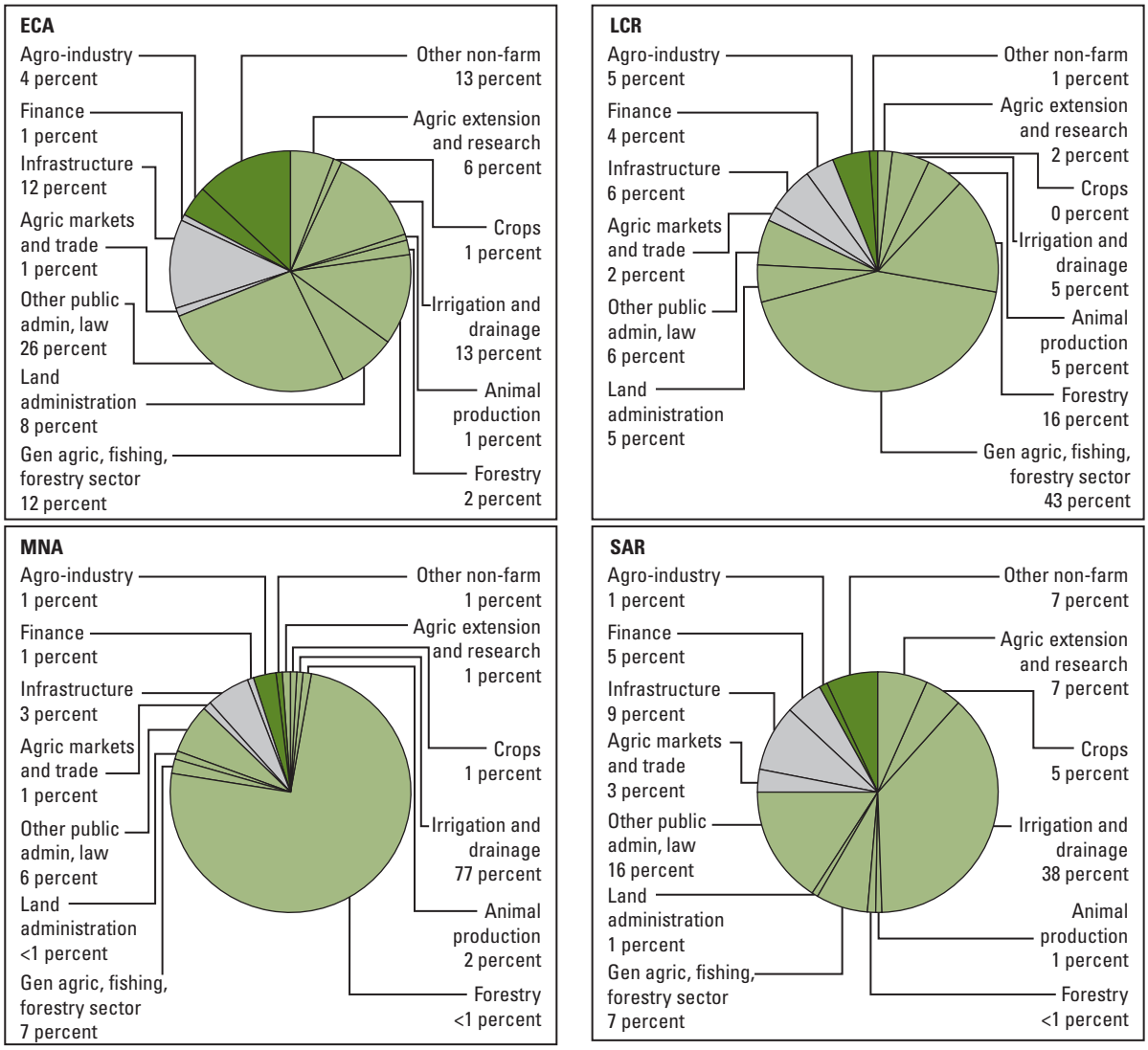
70. **Latin America and the Caribbean**: While the region is more urbanized than others, it has favorable natural resource endowments, providing the potential to not only meet domestic demand but to expand agricultural exports. Some countries such as Argentina, Brazil, Uruguay, and Chile are already producing food competitively for the rest of the world and are leading net food exporters. Other countries have not yet fulfilled their potential (e.g., Nicaragua), while third group have limited food production potential for exports (e.g., Mexico) or are likely to remain net food importers, such as the Caribbean countries. Inequality is very high, especially in rural poverty, and persists in land distribution (Argentina, Paraguay, Peru, and Venezuela). The focus in LCR will be to increase trade of agricultural products in countries with competitive advantage, increase small holder participation in value chains, and reduce the environmental foot print of agriculture (increasing output per unit of water, reducing the rate of deforestation, and reducing soil fertility loss). Emphasis will vary by country context. For countries with large pockets of rural poverty (Haiti, Bolivia, Honduras, and Nicaragua and in poorer regions of larger countries such as Northeast Brazil) the focus will be on strengthening the role of smallholder farmers in domestic markets and domestic value chains, securing livelihoods and food security of subsistence farmers, facilitating labor mobility and rural non-farm and community development, and facilitating access of small farmers to productive resources (land, finance, water, etc). For the slow growing countries (Mexico and Colombia), the focus will be on transforming public spending (from subsidies to investments), inclusion of smallholders in new food markets, strengthening resilience of subsistence agriculture, and territorial development and skills for the rural non farm economy. For the agricultural powerhouses (Argentina, Brazil, and Uruguay), the focus will be on better aligning public support for agricultural production

to the current context (SPS, innovation, trade policies), enhancing resources to reduce vulnerability, improving trade infrastructure, and minimizing the environmental foot print. The ongoing IDA/IBRD program (undisbursed balance) focuses on general agriculture (43 percent of program), and forestry (16 percent of program) (see regional allocation in Figure 8). The focus over the next three years will be to give greater emphasis to strengthening smallholder inclusion in agricultural markets, and continued export growth. The analytical program will focus on agricultural public expenditures, and vulnerability to climate change.

71. **Europe and Central Asia**: The focus of support will be to assist completion of the transition towards a market economy and international integration, to make better use of under-utilized high potential land for rain-fed production of temperate crops and livestock production (to assist in meeting global food demand), to overcome the negative environmental legacy of the Soviet system, and to support rural nonfarm incomes and eventual exit from agriculture. The ongoing IDA/IBRD program focuses on these areas with priority given to irrigation and drainage (13 percent of program), public administration (26 percent of program), and infrastructure (12 percent) (see regional allocations in Figure 8). The focus over the next three years will be to continue support for key productivity and competitiveness investments such as irrigation and drainage (only 10–12 percent of arable land is properly drained) and land administration; continue support for EU approximation, accession, and integration; continue support to rural non-farm income and exit; and to do more on environmental services. The analytical

FIGURE 8 Regional Composition of Current Program: Undisbursed Balance*





* How projects "count" by sector can be a complex issue, since projects often have objectives and components that relate to more than one sector. The Agriculture Action Plan includes IDA, IBRD and IFC financing. IDA/IBRD, including Special Financing, reflects: (i) project components specifically coded as Agriculture, Fishing and Forestry as well as those coded as Agriculture Markets and Trade, and Agro-industry, and; (ii) in order to capture important related investments such as land administration, agricultural agency reform, agricultural and rural finance, market roads and so on, other investments directly related to agricultural production under the oversight of the Agriculture and Rural Development (ARD) Sector Board. Therefore the commitments for infrastructure, finance and administration refer only to the share of total commitments in each area which falls under the responsibility of the ARD Sector Board. Infrastructure and finance amounts are derived using the related major-sector codes: "Transport" (T codes), "Energy and Mining" (L codes), "Information and Communications" (C codes) and "Water supply and Sanitation" (W codes) for infrastructure, and; "Finance" (F codes) for rural finance. The ARD Sector Board commitments related to the "Education" major-sector (E codes); "Health and other Social Services" (J codes) and nonagricultural "Industry and Trade" (Y codes less YA and YB) are grouped as "other nonfarm." In the Bank's coding system land administration is classified as part of the "Public Administration, Law and Justice" major-sector and not coded separately. Therefore, land administration commitments are estimates based on a desk study of project documents undertaken as part of the annual ARD Portfolio Review. The remainder of "public administration" commitments under the ARD Sector Board is referred to as "other public administration."

agenda will focus on public expenditure analysis, farm-level competitiveness, and climate change.

72. **Middle East and North Africa**: The dominant focus will be to improve food security—including improving grain trade, logistics, storage and handling, and rural nonfarm income and exit. Countries in the region rely on food imports for at least 50 percent of domestic consumption. As a result, they are relatively more exposed to severe swings in agricultural commodity prices, and their vulnerability will probably be exacerbated in coming years by strong population growth, low agricultural productivity, and their dependence on global commodities markets. Our support will focus on three elements to reduce future vulnerability: (i) strengthen safety nets, provide people with access to family planning services, and promote (nutrition) education; (ii) enhance the food supply provided by domestic agriculture and improve rural livelihoods by addressing lagging productivity growth through increased investment in research and development; and (iii) reduce exposure to market volatility by improving supply chain efficiency and by more effectively using financial instruments to hedge risk. Priorities will vary by country. For those countries highly dependent on cereal imports, with fiscal deficits (Djibouti, Jordan, Morocco, Lebanon, Tunisia, Yemen), priority will be given to advice and improved access to financial instruments to hedge risk, then to investments in agricultural research and development and rural livelihoods. For those countries that are not highly dependent on cereal imports, but have fiscal deficits (Egypt, Iran, Syria), the first priority is to invest in agricultural research and development and rural livelihoods, then to advise on use of financial hedging instruments. Finally, for those countries with a higher dependence on cereal imports, but with fiscal surpluses (Algeria, Bahrain, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, United Arab Emirates), there are requests to provide advice on issues related to longer term sourcing requirements from developing countries and on the use of financial hedging instruments. MENA's binding water constraint curbs the scope to expand agricultural production. Its rapidly growing population will likely outpace productivity growth and raise rural poverty unless there are efforts to encourage rural nonfarm income. Investing in rural education and literacy will help facilitate this transition. The ongoing IDA/IBRD program (undisbursed balance) is dominated by irrigation and drainage (77 percent of program) (see regional allocations in Figure 8). The focus over the next three years will be to do more on agricultural research and extension, agricultural markets and trade, and rural non-farm incomes. The analytical program will focus on public expenditures, and rural livelihoods.

CHAPTER 7: How We Will Do It

I. Strengthen Business Lines, Maintain Quality

73. We will consolidate a set of good practice programs across the five focal areas, highlighting principles of design, and unit costs to guide scale-up. Areas of ongoing core business lines include irrigation, land tenure, research and extension which together account for over half our agriculture portfolio. These will continue to be important programs with continued demand for them, particularly in IDA countries. Agricultural markets and trade related programs are becoming increasingly demanded by client countries, for which there are good practice examples to be scaled up, as there are for livestock, fisheries, and forestry. We will continue experimentation and learning with insurance innovations, and technologies to spread access to finance, and explore new product development in support for environmental services.

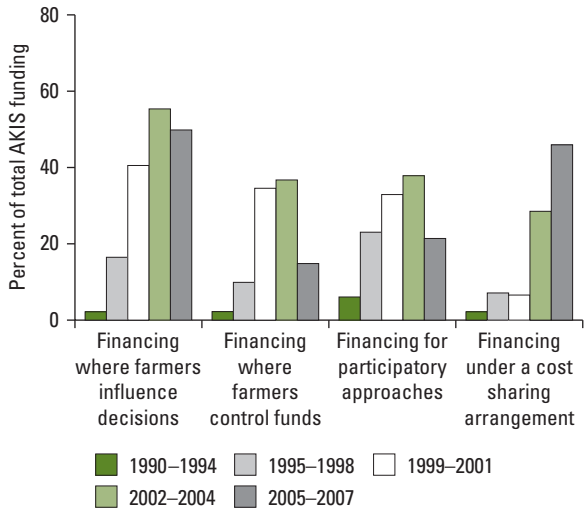
74. The World Bank has a large ongoing program of support with about $10bn in committed support to be disbursed over the next several years. Portfolio quality has improved over the last few years, and agriculture projects are now rated slightly higher (according to the Independent Evaluation Group [IEG]) than the Bank average (with an 85 percent satisfactory rating compared to 80 percent for the World Bank average in 2008). However, continued attention and flexibility will be needed, particularly in the context of the financial crisis, to maintain high quality levels. Attention will be given to cross-regional learning of quality monitoring and improvement, and scaling-up good practice examples. Scaled-up programs will likely take the form of larger projects, rather than an expansion in number, with greater use of streamlined procedures for follow-on programs. Instrument choice will also matter (see section IV).

75. Improved monitoring and evaluation will be a key aspect of improving our business lines and portfolio quality (i.e., to better understand what has worked, where, and why). Sound monitoring and evaluation systems are crucial for tracking progress, for identifying good practice principles of program design that enhance impact, and for guiding unit costing for scale-up. At the project level, we will continue to make progress on results measurement. In addition, monitoring costs and returns against environmental sustainability is becoming increasingly important. Yet there are still ongoing methodological challenges on how to do this effectively. More effort is needed on methodological improvement and training to more fully integrate these aspects in program analyses.

II. Focus on the Ultimate Client, Especially Women

76. Greater focus and empowerment of the ultimate beneficiaries of our support (e.g., farmers, livestock keepers, and fishers) has been associated with improved project performance. For example, an increase in the number of extension and research projects in Africa giving farmers more influence over funding allocation decisions (from 5 percent to 35 percent of projects—Figure 9) was associated with improved project outcomes. Similarly in Andhra Pradesh farmer empowerment through collective action improved access to services. Stronger farmer organizations can demand better governance and accountability for public service provision, and build scale in supply and demand and become more attractive clients for private enterprise. We will continue to learn lessons and draw on good practice design for scaling up. In many countries women dominate agricultural production. We will give specific attention to increasing their access to assets (particularly land), finance and services. The actions will link with the implementation of the Gender Action Plan (GAP), with efforts to mainstream the GAP into our agriculture program over the next three years.

FIGURE 9 Farmer Empowerment in Agricultural Knowledge and Information Systems Projects, World Bank Africa Region



III. Strengthen Local Processes

77. Country-led and implemented programs offer the greatest prospect for long-term sustainable outcomes. The World Bank Group will focus on strengthening local processes. Examples include continuing to support community driven development programs, aligning with the Comprehensive Africa Agriculture Development Program (CAADP), and working with the Arab Funds to initiate a program of Food Security with the League of Arab States as part of the Arab World Initiative. We will continue to engage in the Poverty Reduction Support (PRSP) processes as well as work to ensure Country Assistance Strategies (CASs) and Country Partnership Strategies give appropriate attention to agriculture. Progress has been made with the Bank's Strategy of *Reaching the Rural Poor.* From 2003 to 2006, the number of CASs with satisfactory

attention to rural development increased from 63 percent to 73 percent.

IV. Better Match Instrument Choice to Need

78. Specific investment loans will continue to account for the major share of our support, with increased used of adaptable program loans, and supplemental financing to speed additional support, and follow-on programs. Adaptable program loans offer longer-term phased support with built in flexibility—particularly suited to longer-term institutional development required in the sector. These long-term, more flexible instruments may be given more prominence in some regions. Emergency recovery loans will be the main instrument to address climatic, price, or pest and disease shocks. Development policy lending (DPLs) will continue to be an additional tool in selected cases and we will explore options for using commodity linked loans as instruments to reduce commodity price risk. DPLs accounted for 13 percent of IDA/IBRD support for agriculture in FY2006–2008, ranging from 24 percent in the Africa region to 2 percent in the Europe and Central Asia region. The remaining 87 percent was investment lending of which 71 percent was through sector investment loans, and 9 percent through adaptable program loans (Box 10). We will work with the investment lending implementation team to ensure that the risk-based approach proposed for the lending instrument reform process assists the action plan implementation efforts.

Box 10
LENDING INSTRUMENTS

Share of Agriculture and Related Sector Lending, by Instrument (percent)

	FY00-02	FY03-05	FY06-08
Development Policy Lending	21	6	13
Adaptable program loans	12	6	9
Emergency recovery loans	3	5	4
Financial intermediation loans	3	0	2
Learning and innovation loans	1	0	0
Specific investment loan	56	81	71
Sector investment loan	4	1	1
Technical assistance loan	0	1	0

Share of Agriculture and Related Sector Lending, through Development Policy Lending (precent)

	FY00-02	FY03-05	FY06-08
AFR	28	25	24
EAP	2	2	8
ECA	53	4	2
LCR	3	7	14
MNA	0	0	13
SAR	0	0	10
Total	21	6	13

V. Strengthen and Leverage Donor Partnerships

Fragmentation of development partner projects geographically, thematically, and in use of financial management, accounting, and

Box 11

SELECTED GLOBAL PROGRAMS AND PARTNERSHIPS

Institutional collaboration
- Global Donor Platform for Rural Development (GDPRD)

Reduce risk and vulnerability
- World Food Program (WFP)
- World Animal Health Organization (OIE)
- United Nations Higher Level Task Force (HLTF)

Raise agricultural productivity:
- Consultative Group on International Agricultural Research (CGIAR)
- ALive: A partnership for livestock development for poverty
- The Global Program on Fisheries (PROFISH)

Link farmers to markets and strengthen value addition:
- Communities, Conservation and Markets
- Support to Agricultural Value Chain Development and Diversification
- Trade Standards Practitioners Network
- Agriculture Finance Support Facility

Enhance environmental services and sustainability:
- Growing Forest Partnerships
- Program on Forests (PROFOR)
- Alliance for Responsible Fisheries
- Agriculture Insurance for Vulnerability Reduction and Climate

reporting systems raises transaction costs, diverts local capacity, and often undermines the strengthening of local systems. This effect is strongest in countries were development partner support accounts for the major share of public spending in agriculture, particularly in Sub-Saharan Africa. Consistent with the Paris Declaration and Accra Agenda for Action, we will continue to work to integrate our support into government-led efforts, including leveraging joint financing of programs by development partners, including foundations. We will also continue to support global partnerships for agriculture (Box 11), and work to ensure these efforts integrate better with regional and country programs. For example, the ongoing reorganization of the CGIAR offers the potential to improve the relevance and responsiveness of their research effort through improved financing and stakeholder accountability. The Global Donor Platform for Rural Development comprised of 19 donor nations, development agencies and international finance institutions is focused on achieving increased development assistance impact and more effective investment in rural development and agriculture (through shared learning, advocacy, and aid effectiveness). We will continue to strengthen these partnerships.

VI. Better Organization to Deliver

79. We will continue to decentralize on a country by country basis as the business case dictates. The World Bank will continue to draw on the FAO Cooperative Program (CP) to provide specialized expertise. Technical support for each of the five areas of focus will be provided by the ARD thematic groups and we will continue to capitalize on and facilitate South-South learning across thematic areas. In addition, the Bank with work to leverage synergies with

the CGIAR and Bank operations. The integration of the Sustainable Development Network (SDN) strengthens the World Bank's Group capacity to support clients address cross-cutting issues that impact agriculture—particularly rural infrastructure. Implementation of the action plan will also require collaboration across networks, such as with the Human Development Network on training and disease control (e.g., H1N1), with the Poverty Reduction and Economic Management Network on risk and vulnerability, agriculture trade and taxation, and the Finance and Private Sector Development Network on linking farmers to markets and strengthening value chains. In addition, collaboration across non-regional Vice Presidencies will include working with Treasury on hedging instruments, with Development Economics on the research agenda (Box 7), with the World Bank Institute on training, and with the Legal Department on assessing national and international legal frameworks and proposed reforms.

80. Following the experience gained during the implementation of the agriculture and rural development strategy: *Reaching the Rural Poor 2003–07,* the Agricultural and Rural Development Sector Board will provide oversight and monitor implementation progress. This will include monitoring of progress toward lending scale-up, portfolio quality, and supporting a more systematic process for better monitoring intermediate outputs, and eventual impacts. As a complementary effort to monitor performance, the Bank is supporting an initiative to strengthen agricultural statistics (Box 12).

Box 12
STRENGTHENING AGRICULTURAL STATISTICS

While many developing countries have difficulty in producing accurate agricultural production and GDP data, there is a growing need for additional information to guide policy decisions in the sector. A recent assessment of national agricultural statistical systems undertaken by FAO points to an urgent need to improve the statistical capacity of countries to rebuild their capabilities to both improve data quality and meet the challenges of the changing global context. In response, the Bank is engaged in a global effort initiated by the UN Statistics Commission to improve agricultural statistics in developing countries.

The purpose of the global initiative is to provide the vision for national and international statistical systems to produce the basic data and information to guide decision making in the agricultural sector. The vision of the initiative is that: (i) countries will agree upon a minimum set of core data that meet the emerging demands, and all will pledge to provide these data annually; (ii) agriculture will be integrated into the national statistical systems in order to

meet policy maker and other data user expectations that the data will be comparable across countries and over time; and (iii) the integration will be achieved by an agreed upon suite of methodologies that includes the development of a Master Sample Frame for Agriculture, the implementation of an Integrated Survey Framework, and with the results available in an Integrated Data Base. The initiative is a long-term effort with its implementation proceeding in stages that will depend upon each country's initial statistical capacity.

The World Bank has also partnered with the Bill and Melinda Gates Foundation to improve the quality and policy relevance of household level data on agriculture in sub-Saharan Africa. The initiative involves the inclusion of agriculture into the World Bank Living Standards Measurement Survey (LSMS) in 10 Sub-Saharan African countries. The purpose is to fill some of the data gaps and to improve the quality, relevance, and sustainability of agricultural data systems. The set of surveys will be integrated into each country's existing system of household and other surveys. They will focus on agriculture using a multitopic survey instrument as the base. Both non-farm income and agricultural activities will be captured along with multisector information to provide a better understanding of what drives farm production. This integrated survey framework meets many of the goals of the strategy to strengthen agricultural statistics, thus will be providing a proof of concept test.

Agriculture and Rural Development (ARD)
1818 H Street, NW
Washington, D.C. 20433 USA
Telephone: 202-477-1000
Internet: www.worldbank.org/ard

THE WORLD BANK

IFC International Finance Corporation
World Bank Group