IMPLEMENTING AGRICULTURE FOR DEVELOPMENT





WORLD BANK GROUP AGRICULTURE ACTION PLAN

2013–2015

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Foreword

Agriculture remains critical for food and nutrition security, improving incomes and employment, and providing environmental services. The latter includes critical needs such as absorbing carbon, sustainably managing watersheds, and preserving biodiversity. Enhancing agriculture's impact in all these areas requires more and better investment in the sector, particularly in view of three world food price spikes over the last five years, continued medium-term price uncertainty, and already observable crop yield losses from global warming.

In this context, we are very pleased to present the World Bank Group's Agriculture Action Plan for Fiscal Years 2013-15. In combination with the FY2010-12 Agriculture Action Plan, it will result in a continuous six year period of operationalizing the *World Development Report 2008: Agriculture for Development*. The Agriculture Action Plan FY2013-15 outlines the continuation of a scaled-up World Bank Group commitment to agriculture and related sectors, projected at between $8 billion to $10 billion annually over the next three years. Scaled-up support is needed to meet the World Bank Group goals of reducing poverty, increasing shared prosperity, and promoting environmental sustainability.

Our predominant focus continues to be on raising agricultural productivity and resilience, especially for smallholder farmers. We will also be giving more emphasis to: climate-smart agriculture, private sector responses, longer-term risk management, gender mainstreaming, nutrition, and landscape approaches to farming and to land use more generally. The approach addresses an evolving and volatile context with a long-term focus on growth and sustainability, and the mix of our support across and within countries will continue to be guided by the strategic insights in the *World Development Report 2008: Agriculture for Development*.

Complementing our country-level support, priority for engagement in global partnerships will be on those that improve the efficiency and effectiveness of agricultural assistance in poor countries and that leverage greater resources in low-, middle- and high-income countries to address global public goods. This leverage will be sought through lowering risks, improving transparency, increasing global environmental sustainability, improving nutrition, safeguarding public health, and encouraging private sector provision of public goods through partnerships. These will all help enhance the power of agriculture to reduce poverty, improve food security, and help avoid a 4°C warmer world.

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Acknowledgments

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Abbreviations and Acronyms

AAA	Analytical and Advisory Activities
AAP	Agriculture Action Plan
ADB	Asian Development Bank
AES	Agriculture and Environmental Services
AfDB	African Development Bank
AFR	Africa Region
AIDS	Acquired Immune Deficiency Syndrome
ALLFISH	Alliance for Responsible Fisheries
AMIS	Agricultural Market Information System
ARD	Agriculture and Rural Development
CAADP	Comprehensive Africa Agriculture Development Programme
CAS	Country Assistance Strategy
CFS	Committee on World Food Security
CGIAR	Consultative Group on International Agricultural Research
CPS	Country Partnership Strategy
CRW	Crisis Response Window
CSO	Civil Society Organization
DEC	Development Economics
DGM	Dedicated Grant Mechanism
DIME	Development Impact Evaluation Initiative
EAP	East Asia and the Pacific
ECA	Europe and Central Asia
EU	European Union
FAO	Food and Agriculture Organization
FAOSTAT	FAO Statistical Database
FBS	Fee Based Service
FCPF	Forest Carbon Partnership Facility
FIF	Financial Intermediary Fund
FIP	Forest Investment Program
FPD	Finance and Private Sector Development
FY	Fiscal Year
G8	Group of Eight (France, Germany, Italy, Japan, United Kingdom, United States, Canada, Russia)
G20	Group of Twenty (Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States, European Union)
GAFSP	Global Agriculture and Food Security Program
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFRP	Global Food Crisis Response Program
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GLOBALGAP	Global Good Agricultural Practice

GPO	Global Partnership for Oceans
GPS	Global Positioning System
HDN	Human Development Network
HIV	Human Immunodeficiency Virus
IBRD	International Bank for Reconstruction and Development
ICFA	International Coalition of Fisheries Associations
ICT	Information and Communication Technology
IDA	International Development Association
IDB	Inter-American Development Bank
IEG	Independent Evaluation Group
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IMF	International Monetary Fund
IRM	Immediate Response Mechanism
ISR	Implementation Status Report
IUCN	International Union for Conservation of Nature
LCR	Latin America and the Caribbean
MDG	Millennium Development Goals
M&E	Monitoring and Evaluation
MIC	Middle-Income Country
MIGA	Multilateral Investment Guarantee Agency
MNA	Middle East and North Africa
OECD	Organisation for Economic Co-operation and Development
OPCS	Operations Policy and Country Services
PPP	Public Private Partnerships
PRAI	Principles of Responsible Agriculture Investments
PREM	Poverty Reduction and Economic Management Network
PROFISH	Global Program on Fisheries
PROFOR	Program on Forests
REDD	Reducing Emissions from Deforestation and Forest Degradation
RTA	Reimbursable Technical Assistance
SAR	South Asia
SDN	Sustainable Development Network
SDR	Special Drawing Rights
SUN	Scaling Up Nutrition
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
US	United States
USDA	United States Department of Agriculture
VG	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security
WBG	World Bank Group
WDR	World Development Report
WFP	World Food Program
WTO	World Trade Organization

Summary

1. The future needs an agricultural system that produces about 50 percent more food to feed the world's 9 billion people by 2050;[1] that provides adequate nutrition; that substantially raises the levels and resilience of incomes and employment for most of the world's poor, 75 percent of whom live in rural areas and most of whom rely on agriculture for their livelihoods; that provides environmental services such as absorbing carbon, managing watersheds, and preserving biodiversity; and that uses finite land and water resources more efficiently. It can be done with more and better investment in the sector, with more attention to reducing gender inequality in access to resources and opportunities, and to addressing cross-sectoral linkages between agricultural actions and outcomes for economic growth, livelihoods, the environment, nutrition, and public health. Such linkages were addressed in depth in the World Development Report (WDR) 2008, *Agriculture for Development.* More recently, the already-urgent need for action in agriculture has been amplified by recurrent spikes in global food prices, their lasting impact on poverty and nutrition, and the associated risk of social and political tensions. And for each degree Celsius of global warming, the potential grain crop yield loss is about 5 percent.[2] Investment returns in the sector can be high. Income gains in agriculture are no more costly to achieve than income gains in other sectors,[3] and the associated growth originating from agriculture has been two to four times more effective at reducing poverty than growth originating from other sectors.[4]

2. **The evolving and volatile context.** Higher short-term food price volatility is increasingly becoming a longer-term phenomenon. Food prices are spiking again for the third time in five years. In 2012, the US experienced its worst drought in 50 years, which, combined with lack of rains in Russia, Ukraine, and Kazakhstan, significantly raised world maize, soybean, and wheat prices. The increased frequency and intensity of weather events is making it harder to produce enough food for the world's growing population, which, combined with projected rising demand and the inherent slow responsiveness of the food system, is leading to high food price volatility. While higher food prices offer improved incentives to producers, these are weakened by high food price volatility and inputs costs. Beyond grain markets, growing demand for higher-value products, including from livestock and aquaculture, offers new opportunities for producers, but with the challenge for smallholders to meet more exacting standards. Low and slowing economic growth in developed economies and increased South-South trade provide a shift in market opportunities. Private investment in the sector has increased substantially over the last three years, along with a renewed focus on agriculture by developing countries, donor governments, and the World Bank Group (WBG). Long-term pressure on donor public financing amplifies the need for more-effective use of public sector support, which includes leveraging larger private investment inflows into agriculture to provide public goods such as increased supplies of more nutritious foods, lower marketing costs, greater food safety, and higher incomes more broadly spread.

3. **The World Bank Group Agriculture Action Plan FY2013–2015 builds on recent scaled-up support for agriculture and related sectors**[5] that focused on helping developing countries make progress toward the

1 An estimate based on Alexandratos, N., and Bruinsma, J. (2012). "World Agriculture Towards 2030/2050. The 2012 Revision." ESA Working Paper No. 12-03, Food and Agriculture Organization of the United Nations. Rome.

2 Lobell, D., Schlenker, W., and Costa-Roberts, J. (2011). "Climate Trends and Global Crop Production Since 1980." *Science* 333: 616–620.

3 World Bank (2010). *Cost-benefit analysis of World Bank Projects.* Independent Evaluation Group. Washington, DC.

4 World Bank (2007). *World Development Report 2008. Agriculture for Development.* Washington, DC.

5 The coverage of "agriculture and related sectors" includes IDA/IBRD investments coded as agriculture, fishing, and forestry; agro-industry, marketing and trade; public-administration–agriculture and other investments directly related to agricultural production under the Agriculture and Rural Development Sector Board (e.g., land administration, agricultural and rural finance, market roads); and IFC investments in (i) agribusiness production and processing, (ii) agri-related trade finance, (iii) fertilizers, (iv) agri-logistics and infrastructure, and (v) food retail.

Millennium Development Goals (MDGs) of halving poverty and hunger. In response to client demand, the WBG support to agriculture and related sectors increased in aggregate by 70 percent, from an annual average of $4.1 billion in FY2006–08 to $7.0 billion in FY2010–12, consistent with earlier projections (annex 1). Reflecting the growing role of the private sector, International Finance Corporation (IFC) investments in the sector more than doubled. IFC further elaborated its elements of the action plan through its Agribusiness Strategic Action Plan in 2011. IFC's expanding presence in the agriculture sector was notably evident in Sub-Saharan Africa, where investments tripled from $190 million in 2011 to $586 million in FY2012. In FY2010–12, there was a particular focus on the poorest countries, with the share of International Development Association (IDA) resources supporting agriculture and related sectors increasing from 17 to 19 percent. Benefits are reaching the poorest people, who mainly reside in rural areas. For example, the Global Food Price Crisis Response Program (GFRP) reached 66 million people in 49 countries since its inception in 2008. Recent economic returns to Bank investments in agriculture, which have improved over time, have been relatively high, with median returns of 24 percent.[6] The dominant focus of support is on smallholder agriculture. The broader program, with Bank investments in 93 countries, has supported longer-term investments such as in agricultural research and extension, and improved water management with measured progress on irrigated areas (supported 1.2 million hectares of new or improved irrigation and drainage), agricultural management practices (supported 3 million client days of training to improve agricultural management practices), adoption of new technologies (600,000 farmers adopted new technologies),[7] gender mainstreaming (in FY2012, 98 percent of all Bank-financed agriculture and rural development projects [and 100 percent in five of the six regions] were gender informed),[8] and improved access to finance for private sector actors in liquidity constrained IDA countries to stimulate trade of critical agricultural commodities and inputs to improve food security (through programs such as IFC's Critical Commodity Finance Program).

4. **Going forward, the WBG will sharpen its focus on long-term actions in response to the evolving and volatile context.** The WBG will continue to focus on helping developing countries make progress on poverty reduction, on which improved performance of agriculture has been particularly effective, and on food and nutrition security. Given that higher short-term agricultural price volatility is becoming a longer-term phenomenon requiring longer-term solutions, and reflective of client demand, our support over the next three years, relative to the previous three, will give more emphasis to improving the resilience of agricultural systems and rural livelihoods through support for more climate-smart agriculture, longer-term risk management, and better nutritional outcomes, while giving less attention to shorter-term solutions, such as through the GFRP. As higher average agricultural prices offer better opportunities for smallholder producers, traders, and agro-processors, more emphasis will be given to helping stimulate this private sector response, including analytical work to better understand some of the political and institutional constraints to improving agricultural performance. In addition, with growing pressure on land, and natural resource inter-linkages, more emphasis will be given to supporting landscape approaches to better integrate the use of land, water, and forest resources for their more sustainable use. The annual average level of WBG investment in the sector over the next three years is projected to be between $8 billion to $10 billion (an increase from the FY2010–12 projection of $6.2

6 Median of the subset of projects that closed in FY2009–11 evaluated by the World Bank Independent Evaluation Group (IEG) that had ex-post rates of return estimates.

7 For projects closing during FY2010–11. As these results indicators are now among the World Bank core sector indicators, they will be collected more systematically over the next three years.

8 The Bank standard is that a project is gender informed if it satisfactorily addresses at least one dimension of gender in project design (gender-focused analysis, gender actions, or gender-disaggregated M&E).

billion to $8.3 billion). Responding to client demand, these investments will give more emphasis to the evolving global context, while maintaining the longer-term directions set over the last three years to scale up impact by building systematically on the lessons of our past engagement. The WBG will:

- **Maintain the strategic focus of long-term actions through five thematic areas** to help clients improve sustainable agricultural growth, incomes, food and nutrition security, and their resilience to climate change. The thematic areas—shaped by the WDR2008, associated consultations, and implementation lessons—are (i) raising agricultural productivity and its resilience through support to better land and water management in irrigated and rainfed areas, and improved technologies, including through the Consultative Group on International Agricultural Research (CGIAR), and greater IFC support for critical inputs such as fertilizer and farm equipment; (ii) linking farmers to markets and strengthening value chains to improve market access and trade through support to improve infrastructure, information technology, post-harvest handling, and access to finance; (iii) facilitating rural non-farm income through improving the rural investment climate and skills development; and the two cross-cutting themes of: (iv) reducing risk, vulnerability, and gender inequality through support to risk management mechanisms, greater transparency in food markets, and improving women's access to services, resources, and opportunities; and (v) enhancing environmental services and sustainability, including support to better manage livestock systems, forests, and oceans, and to enhance carbon capture in agriculture. Successful implementation will continue to require addressing local, national, (sub) regional, and global governance issues in agriculture.

- **In recognition of the evolving global context, give more emphasis to** (i) climate-smart agriculture, within the theme of agricultural productivity growth, including increasing the share of IBRD/IDA/IFC agriculture lending and investments that support climate change adaptation and mitigation, such as improved land and water management, development and adoption of more drought and flood tolerant plant varieties, and support for animal and forest management systems that reduce and absorb greenhouse gas (GHG) emissions; (ii) facilitating private sector response, including, but not limited to, increasing IFC's agribusiness investments by about 65 percent (projected) to, on average, between $4 billion to $5 billion annually in FY2013–15; (iii) pursuing agriculture risk management more explicitly, including increasing the number of country-level agriculture sector risk assessments, and continued development of new market-based risk-hedging instruments for farmers; (iv) improving gender mainstreaming by raising the bar for agriculture beyond the Bank standard;[9] (v) greater attention to nutritional outcomes of agricultural actions, including increasing the share of agriculture projects with an explicit focus on nutrition; (vi) more use of landscape approaches, including increasing the number of projects that combine agriculture, water, forestry, and biodiversity complementarities; and (vii) governance, including strengthening analytical work to better understand the nature of political and institutional constraints to improving agriculture performance, and support to improve the governance of land tenure.

9 With a target that, in the design of agriculture and rural development projects, by FY2015, 100 percent are informed by gender analysis, and 75 percent also have gender actions and gender-disaggregated monitoring and evaluation (M&E). For a relatively small set of projects, after the gender analysis is complete it may reasonably be concluded that gender-specific actions and related M&E are not appropriate. The focus on all three elements of design (gender analysis, gender actions, and gender disaggregated M&E), raises the bar for an agriculture and rural development project beyond the Bank standard of having only one of these elements satisfactorily addressed. Using the Bank standard, over FY2010–12, 88 percent of agricultural and rural development projects (98 percent in FY2012) addressed at least one of the three gender elements of design, while 47 percent addressed all three.

- **Give less emphasis to** (i) short-term emergency response to food price spikes through GFRP. This will be de-emphasized starting in FY2013 because most client countries and the WBG have now largely adapted to the increased risk stemming from international food price uncertainty (that was largely unexpected at the time of the 2008 food price spike). More emphasis going forward will be given to longer-term solutions, and the World Bank now has more permanent instruments to respond to future emergencies, including those related to agricultural price spikes, through the IDA Crisis Response Window (CRW) and Immediate Response Mechanism (IRM); (ii) on average, smaller projects relative to country context will be given less emphasis. To improve portfolio quality with fixed staff numbers and fixed budgets, the number of IDA/IBRD projects in the portfolio will need to remain the same or even decline, implying larger project sizes at the slightly higher IDA/IBRD projected levels of assistance over the next three years, even though small projects may still need to be supported in some specific contexts; (iii) stand-alone crop and forest IDA/IBRD projects will be given less emphasis with a shift toward more integrated agriculture, water, and forestry projects, using a landscape approach for more sustainable resource use; and (iv) operations outside a country-led framework for coordination of agricultural investments where such frameworks have been put in place in response to aid effectiveness concerns.

5. **The mix of WBG support will vary by country and by region.** For example, the dominant focus of our support in the Africa Region (AFR) will be on raising agricultural productivity and improving market access through more emphasis on, among others, irrigation, research and extension, input availability and distribution, private investment, the improved governance of agricultural land, better integration of value chains, and improved rural roads and other infrastructure. In the South Asia Region (SAR) and the Middle East and North Africa Region (MNA), it will be on raising productivity through better management of water resources; reducing risk and vulnerability, including through better nutrition; improving market access and competitiveness; rural livelihoods; and jobs. In East Asia and the Pacific (EAP), Latin America and the Caribbean (LCR), and Europe and Central Asia (ECA), more attention will be given to linking farmers to higher value markets—a differentiation consistent with the "three worlds of agriculture" highlighted in *WDR 2008: Agriculture for Development*. While these are aggregate regional areas of focus, there is wide diversity within regions and countries, to which projects will be adapted. For example, there has been growing demand from middle-income countries (MICs) for Bank engagement beyond lending operations for fee-based services and reimbursable technical assistance in areas of agricultural competitiveness and access to markets, inclusive green growth, and public-private partnerships.

6. **The WBG will be more effective in agriculture through leveraging resources of others, including clients, the private sector, and donor partners.** By itself, $8 billion to $10 billion a year in new investment in agriculture is significant, but not enough to meet global needs. While it can lead to significant results on its own, this investment will lead to more comprehensive and effective results if it is aligned to and leverages larger public and private responses. In addition, there will be continual efforts to improve the quality and effectiveness of our agriculture portfolio. In these respects, the WBG will:

- **Use a strategic approach to global partnerships.** High external demand for partnership from the WBG and limited staff time require that a more strategic approach be used in undertaking global partnerships. In agriculture, priority will go to partnerships that improve the efficiency and effectiveness of agricultural assistance in poor countries and that leverage greater resources in both low- and middle-income countries through lowering risks,

improving transparency, increasing global environmental sustainability, improving nutrition, and safeguarding public health. This mandates larger and broader partnerships, increased coordination with other sectors within the WBG, and expanding engagement in initiatives under external governance. A good example of the latter is the newly reformed CGIAR, which concentrates the resources of 1,000 highly qualified scientists on the critical issue of increasing smallholder productivity in food crops in poor countries. We will also pay particular attention to those partnerships that allow public sector funding to better leverage private sector provision of public goods such as innovation in agriculture and food safety. Global partnerships will complement our country-level programs and associated bilateral and multilateral partnerships in which we will also give attention to new areas, and emphasize some areas more.

- **Give attention to new areas**, including (i) working with other partners, primarily USAID and African Development Bank (AfDB), to establish a project preparation facility for needed but more costly to prepare projects (such as irrigation and land tenure projects, including public-private partnerships (PPPs)) in AFR (regardless of who ultimately finances them); (ii) developing new IFC market-based instruments that leverage private finance to manage price and weather risks, reduce post-harvest losses, spread the use of low water use irrigation and expand aquaculture production; and (iii) shifting more toward a strategic and context-specific framework approach and early risk screening to manage project risks (safeguards) as a more cost-effective and timely approach to recognizing and managing these risks.

- **Give more implementation emphasis** to (i) support capacity development for policy, planning, and investment prioritization through the Africa-led Comprehensive Africa Agriculture Development Program (CAADP) process to improve country investment plans and prioritization in agriculture and the associated quality of public expenditures and investments from all sources of financing, including the WBG; (ii) strengthen the internal platforms such as the Global and Africa Region Agribusiness Platform to better link and coordinate WBG support to both the public and private sectors at the country level; and (iii) strengthen partnerships (such as through the SecureNutrition Platform) to leverage knowledge and maintain our analytical base for policy dialogue and project development. All can help both improve the quality of our portfolio and the magnitude of our impact.

7. A summary of the key actions on areas of more emphasis over the next three years are reflected in Table 1. The actions relate to specific elements of portfolio composition with the associated baselines and the direction of change, reflective of the direction of client demand. Specific targets at the level of detail on portfolio composition across each of the areas emphasized (e.g., climate-smart agriculture, nutrition, and landscape approaches), as reflected by the indicators in Table 1, are not included as this would leave little room for flexibility to respond to specific client demands over FY2013–15. We will, however, engage in country dialogue on each of these areas which, together with the direction of client demand, should increase the share of our program focusing on these issues. This was the same approach taken in the WBG Agriculture Action Plan FY2010–12. We will increasingly report on outcome indicators as aggregate information becomes available on these. In addition to the set of core sector indicators reported on in FY2010–12 (related to irrigation, agricultural management practices, and technology adoption), an expanded set, many of which are outcome indicators, will be reported on in FY2013–15 (see full list in annex 3).

TABLE 1: Summary of Key Actions on Areas of More Emphasis, Indicators of Progress, Timeline of Expected Results, and Responsibilities

WHAT WE WILL HELP OUR CLIENTS DO							
				Year results expected [shaded]			
Thematic Areas	**Key WBG Actions on Areas of More Emphasis**	**Indicators of progress**	**Current Value**	**FY13**	**FY14**	**FY15**	**Responsibility**
Raise agricultural productivity (and improve its resilience)	**More emphasis on climate-smart agriculture** Increase share of support for adaptation through investments such as development and adoption of more drought and flood tolerant varieties, improving land and water management practices, and reducing gender inequality across these types of investments.[10]	Share of IDA/IBRD agriculture lending that supports climate change adaptation.[11] Increased amount of IFC financing for use of high-efficiency irrigation equipment.	31% [FY11–12] $75 million				Regions with technical support from AES and DEC. Reporting by OPCS IFC
	Increase share of support for mitigation through investment such as animal and forest management systems that reduce GHG emissions.	Share of IDA/IBRD agriculture lending that supports climate change mitigation.	20% [FY11–12]				
Link farmers to markets and strengthen value chains	**More emphasis on private sector response** Strengthen value chains, and increase small holder supplier networks serving agribusiness processors, traders, agri-commodity supply chain integrators, and food retailers, including by women smallholders.	Share of IFC's agribusiness investment in total WBG support for agriculture. *[Volume of IFC agribusiness investment projected to increase by about 65 percent from $2.7 billion in FY2010–12 to between $4 billion and $5 billion in FY2013–15, reaching 1.5 million farmers].*	39% [FY10–12]				IFC
Increase rural non-farm income	**More emphasis on private sector response** Develop and implement 'Doing Agribusiness Surveys', together with more focused multiple country analysis on specific topics.	Number of countries covered in annual Doing Agribusiness Surveys.	0			80	AES and FPD/ IFC

10. The indicators of progress on gender mainstreaming cut across agriculture projects, including those focusing on raising agricultural productivity (see cross-cutting section of the table for specific indicators on gender).
11. Measures the share of the portfolio that provides adaptation co-benefits both when climate change adaptation is among a project's stated objectives or one of its positive externalities. The same approach is used for the indicator on climate change mitigation.

TABLE 1 *(continued)*

WHAT WE WILL HELP OUR CLIENTS DO							
				Year results expected [shaded]			
Thematic Areas	**Key WBG Actions on Areas of More Emphasis**	**Indicators of progress**	**Current Value**	**FY13**	**FY14**	**FY15**	**Responsibility**
CROSS-CUTTING: Reduce risk, vulnerability, and gender inequality	**More emphasis on reducing gender inequality** Raise the standard for mainstreaming gender into agriculture programs beyond the Bank-wide standard	Share of projects that include gender analysis in design. Share of projects that address all three gender dimensions (analysis, actions, and M&E) in project design.	68% [FY10-12] 46% [FY10-12]			100% 75%	Regions with AES
	More emphasis on risk management Increase the number of country level agricultural sector risk assessments	Number of country-level agriculture sector risk assessments undertaken.	2 [FY12]				AES with Regions
	Expand the number of crop related insurance offerings	Number of IBRD-IFC crop-related insurance projects.	10				IBRD/IFC
	Expand financial instruments for agricultural price risk management and trade facilitation.	Number of clients accessing the IFC Agricultural Price Risk Mechanism. Number of clients accessing IFC's Critical Commodity Finance Program.	TBD in FY13 TBD in FY13				IFC
	Provide financial and technical support to the recently established (global) Agricultural Market Information System to improve market transparency and information availability on the global food situation.	Monthly and biannual global food outlook reports available.	0 monthly reports 0 biannual reports	9	10 2	10 2	AES, DEC, FAO, OECD, WTO, IFAD, WFP, UNCTAD G20 plus 8 other countries
	More emphasis on nutrition Encourage development and adoption of biofortified varieties; food fortification; crop diversification to food with high nutrient content; and improving nutrition education through agricultural extension and livelihoods projects.	Share of projects with an explicit focus on nutrition.	12% [FY12]				Regions with AES, HDN, and PREM

TABLE 1 *(continued)*

WHAT WE WILL HELP OUR CLIENTS DO							
Thematic Areas	**Key WBG Actions on Areas of More Emphasis**	**Indicators of progress**	**Current Value**	**Year results expected [shaded]**			**Responsibility**
				FY13	**FY14**	**FY15**	
	More emphasis on governance More analytical work to better understand the nature of political and institutional constraints to sustainably improving agricultural productivity and resilience, and more use of land governance assessment frameworks at country level.	Number of AAA that address political economy issues.	TBD in FY13				Regions, AES, PREM
	Dissemination; technical cooperation; financial assistance; institutional capacity development; knowledge sharing, including through South-South cooperation; and assistance in developing national tenure policies and transfer of technology in accordance with the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGs).	Share of projects addressing the governance of tenure of land, fisheries, and forests that support voluntary efforts by client country government to implement these VGs.		100	100	100	AFR, EAP, ECA, LCR, MNA, SAR, support from AES and DEC, with other development partners
	New IFC investments in larger-scale primary agriculture will include food security baseline impact assessments in food-insecure countries and disclosure of key contract terms in government to private transfers of land.	Number of IFC investments in larger-scale primary agriculture that assess food security baseline. Number of IFC investments in larger-scale primary agriculture that have disclosed key contract terms in government to private transfers of land.	0 0				IFC
CROSS-CUTTING: Enhance environmental services and sustainability	**More emphasis on landscape approaches** Promote more use of landscape approaches for more sustainable resource use (e.g., combine agriculture, water, forestry, and biodiversity).	Share of projects that use landscape approaches.	TBD in FY13				Regions, AES

TABLE 1 *(continued)*

HOW WE WILL IMPLEMENT							
How we will implement	**Key Actions on Areas of More Emphasis**	**Indicators of progress**	**Current Value**	**Year results expected** [shaded]			**Responsibility**
				FY13	**FY14**	**FY15**	
Strengthen planning and investment prioritization in the poorest countries	Seek additional financing for the Multi-Donor Trust Fund supporting capacity development for policy, planning, and investment prioritization through the Africa-led CAADP country processes.	Volume of support through the CAADP Multi-donor Trust Fund.	$12.5 million				AFR
	Support the process of planning and investment prioritization through agricultural public expenditure reviews.	Number of agricultural public expenditure reviews complete.	7 [FY09–10]		12	18	Regions (mainly AFR) using PER toolkit from AES
	Implement new special initiative to scale up IFC agribusiness impact in AFR.	Volume of IFC agribusiness investments in AFR.	$0.6 bn [FY12]			$1.2 bn [FY15]	IFC
Facilitate additional scale-up of irrigation and land tenure projects in AFR	Work with other partners to establish a project preparation facility for needed, but more costly to prepare projects (such as irrigation and land tenure projects, including PPPs). [led by USAID]	Project preparation facility operational.	0				USAID, AfDB, WB AFR, IFC, and other development partners
Better link IDA/ IBRD/IFC/ MIGA support at country level	Strengthen explicit coordination between IFC and World Bank country teams, including through use of internal platforms such as the Global and Africa Region Agribusiness Platform, which includes IFC, WB regions' private sector development and agriculture units.	Number of projects that explicitly benefit from cross-institutional learning between staff from the agriculture and private sector development sectors of the Bank and staff from IFC.	4				Regions, IFC, AES
	Strengthen linkages between public and private investments through the Global Agriculture and Food Security Program (GAFSP).	Number of GAFSP countries with both public and private sector window investments.	1				GAFSP, WB, IFC, ADB, AfDB, IDB, IFAD, FAO, WFP

TABLE 1 *(continued)*

HOW WE WILL IMPLEMENT							
How we will implement	**Key Actions on Areas of More Emphasis**	**Indicators of progress**	**Current Value**	**Year results expected** [shaded]			**Responsibility**
				FY13	**FY14**	**FY15**	
Strengthen analytical work, including impact evaluations to guide sector dialogue and project identification	Strengthen partnerships, including through the SecureNutrition Knowledge Platform on Food Security and Nutrition, and for AFR, through the ongoing work under the CAADP process) to leverage knowledge and maintain our analytical base to guide sector dialogue and our future project pipeline.	Share of agriculture and related sector analytical products (by expenditure) that focus explicitly on agriculture and rural development.[12] Share of staff satisfied with analytical outputs (relative to area of expertise/interest). Share of external clients satisfied with analytical outputs (relative to area of expertise/interest).	54% [FY09–11]				SDN
	Make strategic use of impact evaluation and look toward supporting long-term pathways for scaling up impact beyond the individual project.	Number of impact evaluations undertaken.	20 ongoing through DIME	+4	+4	+4	Regions, DIME
Improve project quality	[Focus on design and sustainability] Establishment of a Sustainable Landscape Practice that integrates agriculture productivity, livestock, forestry, land tenure, biodiversity, and climate-smart agriculture into one team.	Share of closed projects with satisfactory outcomes.	71% [FY09–11]			80%	SDN
	[Focus on risks] Engage in ongoing revision to the World Bank Safeguards, ensuring sector issues are addressed.	Share of active projects with implementation issues or those not meeting their development objectives that have had corrective actions completed.	66% [end FY12]			80%	AES, Regions, SDN
	[Focus on staffing] Align staff with size and composition of support, including use of secondees, additional hires beyond current levels, and cross-regional support.						ARD Sector Board, and Regions

12. Share of analytical work on agriculture and related sectors under the responsiblity of the Agriculture and Rural Development Sector Board. The analytical work on agriculture under the responsiblity of other sector boards is usually a component of a broader-focused mutisectoral analysis.

CHAPTER 1: The Evolving and Volatile Context

1. The world continues to consume more food every year as the population grows and demand for the use of food crops in biofuels rises. Projections suggest that food production would need to increase by about 50 percent to feed the world's population by 2050,[13] but even today too many people remain hungry[14] and malnourished. Land and water scarcity is becoming more of a constraining factor and is compounded by growing concerns about climate change. Water consumption by agriculture is expected to further increase by about 11 percent in 2050 compared to 2005.[15] The expansion of farming frontiers into forested areas pose huge challenges for reducing GHG emissions from land-use change. At the same time, demand for forest-based fiber and wood energy is also increasing rapidly. Widening rural-urban income disparities increase the risk of social and political tensions. More exacting standards continue to pose challenges and opportunities for producers and especially smallholder farmers to compete in growing high-value markets. All these trends continue to call for greater attention to agriculture to ensure it fully contributes to food security, poverty reduction, and green growth. Recent increases in agricultural investment have yielded a positive response. Developing countries were slightly more resilient to the 2011 and 2012 food price spikes than in 2008 mainly due to higher domestic production. However, these recent gains in developing countries have not been enough to put all countries on track to meet the MDGs on halving poverty and hunger by 2015.[16] Over the next three years, the WBG will continue to assist clients to respond to these broader long-term trends that remain in place and will give more emphasis to changes that occurred in the global context over the last three years.

Changes in the World

2. **Food (and broader agricultural) prices have increased, as has price uncertainty.** Higher agricultural prices provide an opportunity for farmers to produce and invest more, an incentive that is weakened by higher price volatility and higher input costs. World food prices spiked again in 2012 for the third time in five years (figure 1). The World Bank Food Price Index rose by 62 percent from mid-2007 to mid-2008. After declining by 30 percent from mid-2008 to mid-2010, it rose sharply again and in February 2011 reached its 2008 peak. Throughout 2012 food prices have remained high and in July 2012 they spiked again, especially for maize and wheat, with world food prices being 65 percent higher than their mid-2007 levels (53 percent in real terms). Broader agricultural prices also increased in 2011 and 2012 along with food prices, raising the value of agricultural land. Energy and fertilizer prices have increased substantially raising production costs and reducing farm profits. Higher food prices and food price variability, along with higher input costs, are likely to continue for the foreseeable future, with persistent uncertainty on the supply side including continued low stock levels; rising projected demand, especially for biofuels, and the inherently slow responsiveness of the global food system to supply and demand shocks.[17] In practical terms, farmers deciding what to plant, and countries deciding

13 The 2050 projection estimates are based on Alexandratos, N., and Bruinsma, J. (2012). "World Agriculture Towards 2030/2050. The 2012 Revision." ESA Working Paper No. 12-03, Food and Agriculture Organization of the United Nations. Rome.

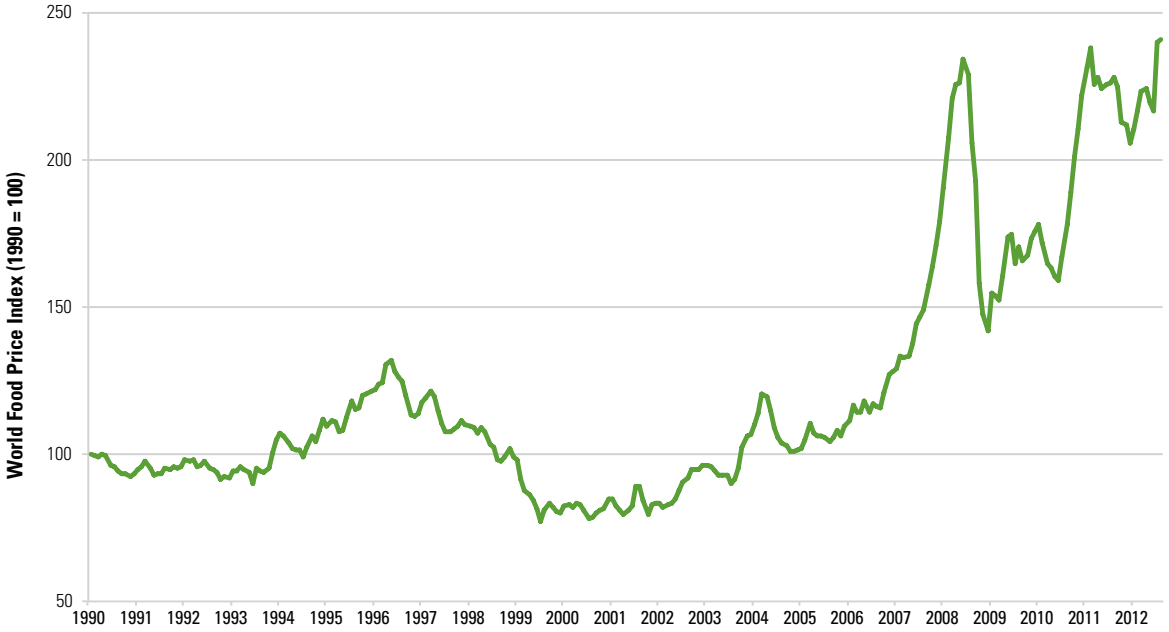
14 About 900 million people remain hungry (undernourished) according the latest published estimate from FAO.

15 FAO (2009). *Global Agriculture Towards 2050*. Rome.

16 World Bank (2012). *Global Monitoring Report 2012: Food Prices, Nutrition, and the Millennium Development Goals*. World Bank. Washington, DC.

17 World Bank (2012). *Responding to Higher and More Volatile World Food Prices*. Agriculture and Rural Development Department. Washington, DC.

FIGURE 1: Recent World Food Price Spikes



Source: World Bank.

when to import, face increased uncertainty in the likely distribution of future world food (and agricultural) prices and perhaps greater consequences in using past price levels and distributions to guide current decisions. Weather variability played a larger contributing role to food price increases in recent years.[18] Trade-restricting policy responses to higher food prices exacerbated price increases; for example, changes in border protection measures accounted for an estimated 45 percent of the world price increase for rice and 30 percent of the increase for wheat in 2006–08.[19] Despite the rising share of food exports from larger-scale production systems, improving the performance of smallholder agriculture remains critical for food and nutrition security in many regions (box 1).

3. **Climate change has an increasing impact, but there are new opportunities to respond.** "Climate-smart agriculture," which aims to enhance productivity, resilience, and reduce GHG emissions has gained more recognition[20] at the UN Climate Change Conferences in Cancun 2010, in Durban 2011, and at Rio+20 in 2012. In addition, recent agricultural reforms, particularly in OECD countries, are shifting slowly toward "greener" agricultural support,[21] with more positive environmental externalities and reduced emissions. Reducing global warming cannot be achieved

18 In 2010/11, there were simultaneous weather-induced production losses in Canada, Russia, Ukraine, and the EU, which contributed to a 25 percent decline in cereal stocks in developed countries. More generally, the number of reported droughts, floods, and extreme temperatures seems to be increasing. Relatively recent examples range from dry weather in Brazil, Ukraine, and Russia, to flooding in Australia, Pakistan, and West Africa.

19 Martin and Andersen (2011). "Export Restrictions and Price Insulations during Commodity Price Booms." World Bank Policy Research Working Paper 5645, Washington, DC.

20 The triple win of increasing productivity, resilience, and reducing GHG emissions/enhancing soil carbon sequestration.

21 World Bank (2012). *Inclusive Green Growth: The Pathway to Sustainable Development*. Washington, DC.

BOX 1: Shifting Scale and Geography of Global Grain Production and Exports

Globally, the average farm size (scale of production) declined from 2.1 hectares in 1980–1985 to 1.9 hectares in 2006–2010 (FAOSTAT), with large regional variations. The average farm size in AFR declined from 3.2 hectares to 2.1 hectares, and in SAR from 0.5 to 0.4 hectares during this period, while average farm size grew in LCR (from 5 to 8 hectares), ECA (from 8 to 14 hectares), and high-income developed countries (from 22 to 35 hectares), mainly due to out-migration of farm labor to non-agriculture sectors. Regions with large smallholder agriculture sectors (AFR, EAP, SAR, and MNA), increased their share in global grain production from 39 percent (in 1971–1980), to 44 percent (in 2001–2012), and their global share of grain exports from 6 to 12 percent for the respective periods. Yield gaps (the difference between actual farm and research farm yields) are the largest in AFR and SAR, but fairly small in EAP, pointing to the potential of smallholders to achieve higher yields when a conducive environment is in place. Smallholder agriculture will continue to be an important source of global and local food security. The global grain production share of regions with larger farms (ECA and LCR), has remained at about 14 percent, however, with stagnant local demand due to stagnant population growth (for example, the population of ECA has remained at about 400 million people since the mid-1990s), their share of global grain exports increased from 9 to 27 percent from 1990–95 to 2006–10.

Source: Derived from FAOSTAT and USDA.

without reducing GHG emissions from agriculture, which, together with the deforestation associated with land conversion, accounts for about 30 percent of all emissions. In addition, agriculture has significant potential to sequester carbon emissions with an estimated potential of 20 percent of all GHG emissions.[22] There has also been progress on a methodology to measure and value carbon sequestered through sustainable land management, which could allow for carbon to be sold on the voluntary market on behalf of farmers to generate additional revenues for them. At the same time, increased soil carbon can improve soil productivity and the resilience of farming systems to climate shocks. This productivity increase would be complemented by reductions in climate change and GHG emissions.[23] Information and Communication Technology (ICT) innovations (such as GIS, sensors, and high-resolution satellite images) offer further opportunities to enhance soil management in response to climate change, and for crop yield monitoring and forecasting, and dissemination of weather-related information. There also remain substantial, less capacity-intensive gains to be made to directly improve farm and water management practices that can raise yields, enhance resilience, and reduce emissions. These activities may include (i) adopting farming techniques that use less fuel such as shifting to conservation tillage, (ii) changing the nutrient management practices applied to crops to reduce emissions from nitrogen fertilizers and manure applied to farmers' fields, and (iii) changing livestock and manure management practices, including improving livestock nutrition.

4. **World economic growth has slowed, but South-South trade has increased.** With major financial turbulence in the Euro area and unrest in some important oil producing countries, world economic growth has slowed. Real GDP growth in advanced economies has slowed from 2.4 percent

22 Smith, P., Martino, D., Cai, Z., Gwary, D., Janzen, H., Kumar, P., McCarl, B., Ogle, S., O'Mara, F., Rice, C., Scholes, B., Sirotenko, O., Howden, M., McAllister, T., Pan, G., Romanenkov, V., Schneider, Uwe., Towprayoon, S., Wattenbach, M., and Smith, J. (2008). "Greenhouse gas mitigation in agriculture." *Phil. Trans. R. Soc. B* 363 (1492): 789–813.

23 World Bank (2010). *World Development Report 2010: Development and Climate Change*. Washington, DC.

(2006–2008 average) to 1.7 percent (2012–2013 estimate), while in developing economies it slowed from 7.6 percent to 5.9 percent.[24] Trade among developing countries has increased. For example, China is now the biggest trading partner for Brazil and Argentina in agricultural products, and South-South trade will be an important source of agricultural growth over the next three years relative to trade with developed countries. Rising inequality and associated risks of social and political unrest can further undermine the growth process. Tempering the widening rural-urban income gap will require higher and more productive private and public investment in rural areas. With current demographic patterns, particularly in Africa and the Middle East, this investment will need to provide more opportunities for young people. Key to this is ensuring the overall enabling environment (polices, laws, and regulations) fosters private sector entrepreneurship in rural areas and protects land rights of smallholder farmers, especially women. Leveraging more private sector investments in agriculture can help accelerate growth and generate jobs.

5. **Governments, development partners, and private sector commitments to agriculture have increased.**[25] African governments, for example, have committed to and are scaling up support for agriculture through the CAADP initiative. The G8 in L'Aquila in July 2009 and the G20 in Pittsburgh in September 2009 pledged $22 billion to support food security and agricultural growth in low-income countries, including through the public and private sector windows of the Global Agriculture and Food Security Program (GAFSP); however, actual provision of these funds continues to fall short of pledges. Traditional and new donors are increasingly looking at the WBG to play a stronger role in coordinating fundraising activities and in managing the associated resources through trust funds. Strategic and efficient management of these resources can improve the effectiveness of aid delivery and help increase the returns to assistance provided. In addition, there are new opportunities for South-South collaboration (e.g., the Africa-Brazil Agricultural Innovation Marketplace). Private sector investment in agriculture supply chains, including primary production, continues to expand rapidly. Agricultural land investment, particularly from foreign investors, has also increased, bringing both new opportunities and new risks, which will need to be assessed and mitigated on a country-by-country basis and through the continued development of such initiatives as the Principles on Responsible Agricultural Investment.[26] Large private companies have also increased their sourcing of products and their engagement directly at the farm level, with greater attention to sustainability. Public and private investments needed to achieve the MDGs remains substantial.[27]

Changes in the World Bank Group

6. Over the last three years there have been several positive changes in the WBG related to the implementation of the Agriculture Action Plan (AAP). These include the broader 2010 post-crisis directions of the institution after the fuel and financial crisis to reinvigorate efforts to address poverty; the mainstreaming of emergency response instruments; development of the IFC Agribusiness Strategic Action Plan, including a new initiative to expand IFC agriculture investments in Africa, and the resulting rapid increase in IFC investments; and increased collaboration across sectors and the WBG, as illustrated by the SecureNutrition Knowledge Platform and GAFSP).

7. **Post-crisis direction.** In April 2010, in response to the food and financial crisis, and in an effort to modernize multilateralism to reflect the changing world, the WBG initiated a set of actions and reforms

24 IMF (2011): *World Economic Outlook: Slowing Growth, Rising Risks*. Washington, DC.

25 http://www.oecd.org/dataoecd/36/61/49154108.pdf

26 World Bank (2011). *Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits?* Washington, DC.

27 FAO (2009). *Capital Requirements for Agriculture in Developing Countries to 2050*. Experts Meeting on How to Feed the World in 2050, June 24–26, 2009, Rome.

to reinvigorate efforts to address poverty.[28] The five priority areas identified for strategic engagement are targeting the poor and vulnerable, especially in AFR; creating opportunities for growth; promoting global collective action for scaled up impact; strengthening governance; and managing risk and preparing for crises. In addressing these strategic areas, the WBG is modernizing services (to simplify procedures, enhance flexibility, and strengthen technical practices) and enhancing service delivery (with decentralization to get closer to clients, supported by stronger central guidance on policies and practices). The WBG AAP FY2013–15 constitutes a key part of this invigorated effort to address poverty.

8. **Mainstreamed emergency response instruments have been introduced.** The food price spikes of early 2008 led to requests for rapid delivery of flexible and fast-disbursing assistance to meet a rapidly developing crisis. The main result was the GFRP approved by the Board on May 29, 2008. Committing over $1.5 billion to 49 countries, the bulk of it in a relatively short time period. At that time, GFRP fit the need of having a flexible vehicle to meet the urgent demands of a wide diversity of countries and was designed to disburse resources quickly to the most affected ones. Rapid response from the agriculture-specific financing of GFRP (which also included budget support and social protection options) and other mechanisms accounted for about 15 percent of IDA/IBRD agriculture and related sector programs in 2009. However, with continued food price volatility and repeated income shocks, there clearly emerged a need for more mainstreamed instruments with emergency triggers more suited to broader circumstances. The Bank responded with the creation of two instruments: (i) an IDA CRW was approved in the course of the IDA-16 replenishment process, and provides IDA countries with timely access to additional resources for crisis responses not limited to food crises; and (ii) an IDA IRM that was approved by the Board in December 2011 to allow for reallocations by countries of a portion of their undisbursed balances from ongoing projects to crisis response operations. The design of these instruments draws on lessons from other crisis-response instruments used over the last three years, including GFRP.

9. **IFC is leveraging a broader range of private sector investments in the agriculture value chain.** In 2011, IFC undertook an extensive review of its engagement in the agriculture sector with the objective of enhancing its footprint and positive impact. The resulting Agribusiness Strategic Action Plan emphasizes collaborative efforts across the agriculture value chain to (i) enhance food security through increased productivity and reduced losses; (ii) promote inclusive economic growth and development, targeting benefits to smallholder farmers and women; and (iii) promote the dissemination and uptake of sustainability standards and make better environmental and social performance a business driver (box 2). By way of example, a targeted focus on food security has resulted in more investments in essential agricultural inputs such as seeds, productivity-enhancing equipment, and fertilizers. It has also resulted in the development of programs such as the Global Warehouse Finance Program, which supports private bank lending backed by agricultural production, and the Critical Commodity Finance Program, created to stimulate the trade of critical agricultural commodities and inputs. The importance of managing risk has led to the development of new instruments such as the Agricultural Price Risk Mechanism, a new IFC product that addresses price risk volatility. A focus on inclusive growth has resulted in new investments in global agri-commodity traders because they provide direct links to markets for smallholder farmers; promoting sustainable supply chains through the uptake of sustainability standards has provided a platform for working with retailers, consumer brands, and other buyers of primary production to enhance the performance and long-term viability of their

28 New World, New World Bank Group: Post-Crisis Directions. Paper presented to the Development Committee on April 20, 2010. Washington, DC.

BOX 2: Scaling Up IFC Interventions in the Agribusiness Value Chain

IFC is scaling up its support across the agribusiness value chain to improve the investment climate, expand infrastructure, improve access to agricultural inputs, facilitate trade, strengthen agribusiness-smallholder linkages, expand risk management options, and provide advisory and ecosystem services.

Areas of support		
Investment climate	Land tenure, regulation for provision of security, warehouse receipt finance, and streamlining customs procedures	Scale up in areas with largest impact
Infrastructure	Concessions for storage, irrigation, and transport	
Input producers and distributors	Farm equipment, micro irrigation, fertilizer, and agrochemicals	
Traders, distributors, and retailers	Backward linkage to smallholders through provision of finance, extension services, and ecosystem services	
Financial intermediaries	Expand agribusiness financing with risk sharing, warehouse receipt financing, risk management products, trade finance, and environmental and social standards	
Advisory and ecosystem services	Farmer, small- and medium-scale enterprise training, environmental and social standards, resource efficiency, corporate governance, strategic community investments	

suppliers. Other manifestations include developing new multicountry applicable small farmer–friendly financing mechanisms for low water use irrigation technologies, or reengaging in aquaculture as global demand for protein increases. Partnerships have been emphasized in the private sector and with governments, civil society organizations (CSOs), and regulatory bodies; examples include the launching of an Agriculture Investors Forum and anticipated active participation for IFC in helping provide a more representative and diversified private sector voice in the FAO Committee on Food Security's deliberations to define the Responsible Agriculture Investment Principles.

10. **Launch of the SecureNutrition Knowledge Platform.** The Bank, under the leadership of the Human Development Network (HDN), has made a concerted effort over the past three years to scale up World Bank work in nutrition. The Bank currently has 52 active projects that include efforts to improve nutrition, with approximately $450 million going directly to nutrition activities (approved between FY2005 and FY2012). The Bank's disbursement for nutrition since FY2000 has been averaging over $100 million per year. The largest portions of these commitments are focused in AFR, SAR, and LCR. Agricultural practitioners in the WBG have long sought a vehicle to improve collaboration among vice presidential units on food issues, especially with regard to nutritional outcomes. The new SecureNutrition Knowledge Platform,[29] established in 2011, aims to link agriculture, food security, and nutrition. It is coordinated jointly by HDN, the Poverty Reduction and Economic Management Network, and SDN, and is one of six knowledge platforms supported by the Knowledge and Learning Council of the Bank. The Knowledge Platforms are intended to foster cooperation on multisectoral and transformational issues between development practitioners,

29 http://www.securenutritionplatform.org

policy makers, researchers, and academia, while also promoting a higher level of cross-sectoral and cross-vice presidential unit collaboration within the Bank. The main objective of SecureNutrition is to create an active community of practice—both virtual and physical, and internal and external to the WBG—where information and operational knowledge can be shared on how to increase the nutritional impact of agriculture and food security investments and interventions while focusing on the following themes: (i) measurement: how food security and nutrition can be accurately and consistently measured to inform policy and programs, and how nutrition interventions could be better monitored and evaluated over time; (ii) delivery: how to deliver interventions through the agriculture sector that will have positive impacts on nutrition, and how to minimize possible negative impacts that agriculture interventions may have on nutrition; (iii) knowledge: what information exists on policies and programs linking food security, poverty reduction, agricultural production, and nutrition outcomes, and how to use this information to maximize the impact of policies and programs.

Analytical Underpinnings

11. **WDR 2008: *Agriculture for Development* continues to provide the strategic framework for our support.** The overall message of the WDR 2008 on the need to invest more and better in agriculture to enhance its role in overall growth, poverty reduction, and environmental sustainability remains as valid today as it was at the time of the report. Seventy-five percent of poor people remain in rural areas and most depend on agriculture for their livelihoods. A reinvigorated response to reduce the number of poor and food insecure will require improving the performance of agriculture in low-income countries. Agriculture's contribution to growth, poverty reduction, and environmental sustainability continues to differ across three distinct agriculture worlds—agriculture-based, transforming, and urbanized economies. The WDR 2008 highlighted the continued relevance and importance of focusing on smallholder agriculture (see also box 1). In addition to the WDR 2008, the AAP FY2013–2015 builds on the findings of analytical work undertaken over the last three years, particularly on *Responding to Higher and More Volatile Food Prices, Rising Global Interest in Farmland*, the *WDRs on Climate Change, Gender, and Jobs, the 2012 Inclusive Green Growth for All report, and the Global Monitoring Report 2012 on Food Prices, Nutrition and the Millennium Development Goals*.

12. **Responding to higher and more volatile food prices.** Further analytical work was undertaken on responding to food price volatility[30] and subsequently summarized in the economic and sector work on *Responding to Higher and More Volatile World Food Prices*. The key messages are that agricultural commodity prices are likely to remain higher than pre-2007 levels and high food price volatility is likely to continue for the foreseeable future, largely due to persistent uncertainty on the supply side, projected rising demand, and the inherent slow responsiveness of the food system. Measures suggested to reduce average food price escalation: (i) raise food crop yields, and their resilience, as the single most important action needed for sustainable global food security; (ii) facilitate land markets, with a strong emphasis on supporting the poor; (iii) curb biofuels mandates; (iv) better use price risk management tools; and (v) better integrate markets to ensure world price signals reach more producers to induce a supply response. Measures suggested to reduce world food price volatility: (i) develop weather-tolerant crop varieties to reduce food production shocks; (ii) ensure sufficient food stock levels and improve management of stock purchases and releases; (iii) open trade across markets; and (iv) improve market transparency. Measures suggested to reduce the

30 The Development Committee Paper of April 2011 on *Responding to Food Price Volatility and Its Impact on Food Security*, the June 2011 interagency paper prepared for the G20 on *Price Volatility in Food and Agricultural Markets: Policy Responses*.

negative impact of price shocks on food security: (i) reduce taxes and tariffs (in some countries) to lower domestic prices, (ii) provide short-term food and cash transfers to preserve purchasing power, and (iii) support next season agricultural production to increase local supply.

13. **Rising global interest in farmland.** In response to increased interest in land and large-scale agriculture following the world food price spikes, the WBG undertook analytical work completed in 2011 to better understand this phenomenon: *Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits?* The findings of the analysis are that demand for land is growing, particularly in Africa, Latin America, and Southeast Asia. This rising interest provides opportunities for investment, but also poses considerable risks. This calls for increased support to improve governance of land tenure; secure local land rights; increase the transparency of land transactions; and improve the capacity for assessing the technical, economic, environmental, and social merits and risk of potential agricultural investments involving large tracts of land.

14. **WDRs messages on climate change,[31] gender,[32] and jobs:[33]** (i) Climate change will make it harder to produce enough food for the world's growing population, altering the timing, availability, and quality of water resources. To avoid encroaching into already-stressed ecosystems, agricultural productivity growth will have to almost double while minimizing associated negative environmental effects. This will require improving land and water resource management, including through landscape approaches, farm production practices, trade, crop varieties that withstand climate shocks, rural livelihoods, management of forests, weather and climate information, and risk management systems. (ii) Gender gaps in productivity and earnings remain pervasive, and gender differences in time use, in access to assets and credit, and in treatment by markets and formal institutions (including the legal and regulatory framework) all play a role in constraining women's opportunities. Equalizing access to productive resources between female and male farmers could increase agricultural output in developing countries by as much as 2.5 to 4 percent.[34] This will require actions to improve access to economic opportunities for women and increase their access to assets and services. (iii) Jobs: In poor agrarian economies, making farming jobs more productive and creating off-farm employment for those in rural areas may be the most conducive ways to improve living standards. Farming is typically the largest source of income for rural households; growth in income from agriculture is particularly effective in reducing poverty, as was dramatically shown in China's experience in the last two decades of the 20th century.

15. **Green growth.** The 2012 report on *Inclusive Green Growth for All: A Pathway to Sustainable Development* argues that sustainable management of natural capital underlies green growth in key sectors—such as agriculture, manufacturing, and energy—and is vital for resilience and welfare gains. The report argues that innovation, efficiency gains, and integrated landscape approaches can help secure agricultural productivity gains through sustainable intensification while avoiding ecosystem damage. The key is to "use resources (such as land, water, forest and fisheries) without using them up" and to recognize that the elements of natural capital cannot be regarded in isolation. The report suggests that in designing a green growth strategy, priority should go to policies and investments that provide higher local and immediate benefits and where inertia and/or risk of irreversibility is higher, such as land use planning and sustainable intensification in agriculture. Enabling

31 World Bank (2010). *World Development Report 2010: Development and Climate Change.* Washington, DC.

32 World Bank (2011). *World Development Report 2012: Gender Equality and Development.* Washington, DC.

33 World Bank (2012). *World Development Report 2013: Jobs.* Washington, DC.

34 FAO (2011). *The State of Food and Agriculture — Closing the Gender Gap for Development.* Rome.

policies and investments include: (i) better defined property rights, (ii) value chain enhancement, and (iii) better reflecting the economic value of the environmental services that natural capital provides.

16. **Global Monitoring Report 2012 message on nutrition.** Progress on nutrition-linked MDGs is lagging. Higher food prices make it more difficult to achieve most MDGs, especially those related to nutrition. As food prices increase, the purchasing power and food consumption of the poor decreases, while the composition of their diet worsens, directly affecting all targets of MDG 1 on poverty, full and productive employment, hunger, and undernutrition. Malnutrition affects early childhood development and makes children more likely to drop out of school (MDG 2). An increase in food prices affects women and girls' consumption disproportionately (MDG 3). Undernutrition is linked directly to more than one-third of children's deaths each year (MDG 4). Pregnant women face heightened maternal mortality, through increased anemia, during a food price crisis (MDG 5). The adverse effects of a food crisis on the availability of health services and on health status affect countries' and individuals' abilities to combat the HIV/AIDS epidemic (MDG 6). Undernutrition weakens the immune system and compounds the effect of diarrhea and waterborne diseases (MDG 7). Higher food prices have weakened intergovernmental coordination in food markets (MDG 8). The many pathways along which food crises affect household and individual welfare also offer multiple entry points in consumption and social protection, biology and health, and production and income generation. Interventions should include[35] (i) improving the information about nutrition status, practices, and interventions; (ii) targeting the period from conception to two years of life; (iii) tailoring interventions to country implementation capacity; and (iv) incorporating nutrition sensitive approaches in multisectoral interventions.

17. The evolving context and the findings of the recent analytical work suggest more emphasis is needed on climate-smart agriculture, risk management, private sector responses, nutrition, gender, and landscape approaches.

35 These extend beyond increasing the amount of food available, as the quantity of food is necessary but not sufficient for good nutrition. The quality of a diet (diversity of nutritious foods that provide minerals, vitamins, protein, and other nutrients) combined with adequate health care and appropriate child care practices are needed for positive nutrition outcomes.

CHAPTER 2: Lessons from FY2010–2012

18. **Lessons from the last three years of implementation have been integrated into the AAP FY2013–2015.** These lessons have relevance to specific regions and to broader themes across regions. They are taken from the Independent Evaluation Group (IEG) reviews on what worked and did not work; they have been derived from broad lessons from implementation of the AAP FY2010–2012, including preliminary assessments of short-term food price response activities,[36] and lessons on managing project risks, on integrating nutrition into agricultural programs, on landscape approaches, and on climate-smart agriculture. More detail on the WBG portfolio performance in FY2010–2012 and lessons are included in Annex 1 and 2, respectively.

19. **The IEG review of the WBG in agriculture[37] and water[38] has helped refine our focus.** The IEG's review of lessons over 1998–2008 recommended that, to improve performance in the sector, the WBG should aim to (i) foster public-private partnerships and building synergies between the IDA/IBRD and IFC to improve agriculture and agribusiness outcomes even in difficult business environments such as AFR; (ii) provide better support to research and extension through global research programs (e.g., through the CGIAR) focused on key strategic priorities, linked to national programs, and mainstream research results in country-level projects; (iii) encourage agricultural public expenditure analysis to assess the efficiency and equity of public spending allocations (of which the Bank resources are part), and for guiding future investment priorities in the sector; (iv) improve water, soil, and crop management in current rainfed areas to increase agricultural productivity; and (v) contribute to gender equality by improving economic opportunities for women through agriculture, which in turn will also increase agriculture productivity. In addition, the IEG water review recommended that to improve the performance of irrigation, the WBG should give more attention to agricultural water resource management—including groundwater, on which attention has declined while its use for irrigation is increasing. These recommendations will continue to be further integrated in the implementation of this AAP.

20. **Lessons learned from the design and operational aspects of the AAP FY2010–2012 include the following**: (i) Specifying overall lending projections helped focus attention and provided a basis for monitoring progress (ii) Continued attention is needed to maintain the quality of our program, including ensuring that our operations are built on a solid and consistent knowledge base; more staff time and budgets focused on increased lending has come at the expense of reduced analytical work and depth of client engagement on broader sector issues. (iii) There is a need to strengthen the quality assurance process, including through the associated role of Sector Boards, including the World Bank Agriculture and Rural Development Sector Board. (iv) The pressure to deliver on short-term results needs to be balanced with the needed attention on longer-term agricultural development that may take time to show tangible benefits, but without which problems will continue to recur over decades. (v) Political economy factors can add to portfolio risk, and these factors need to be considered in program selection, design, and implementation.

36 IEG is in the process of doing this more comprehensively for GFRP projects, but results are not yet available as of writing. Assessment of lessons learned is ongoing within the World Bank and is the subject of continuing positive discussion with the UN food agencies that have similar interests in improving good practice.

37 World Bank (2011). *Growth and Productivity in Agriculture and Agribusiness: Evaluative Lessons from WBG Experience.* Independent Evaluation Group, Washington, DC.

38 World Bank (2010). *Water and Development: An Evaluation of WBG Support, 1997–2007.* Independent Evaluation Group, Washington, DC.

21. **Lessons from the impact on the 2008 and 2011 food price spikes**. Higher and volatile food prices can lead to higher levels of undernourishment, higher inflation, deteriorating balance of payments with public spending reallocations from longer-term development goals to short-term emergency response, and price volatility weakening incentives to produce more food;[39] all negatively impact progress to the MDGs of halving poverty and hunger.[40] The food price spike in 2008 was estimated to have pushed 105 million people into poverty in low-income countries, and in 2011 and 2012, about 40–44 million people were estimated to be negatively affected.[41] Even in the longer-term, neither supply response to higher prices nor wage adjustments were large enough to offset the initially large adverse impact on poverty and malnutrition.

22. **Specific lessons in helping clients respond to food price spikes include:** (i) responses to unanticipated food price spikes require both short-term measures that give clients options for food crisis mitigation, including emergency assistance, and longer-term interventions that give options for adaptation to changed circumstances and prevention of reoccurrence; (ii) short-term interventions need to be straightforward (simple to implement), rapid, and targeted to the poor and vulnerable; (iii) more cost-effective and timely approaches are needed in safeguard clearance to recognize and manage risks; (iv) more nutrition sensitive investments are needed, including more awareness of the linkages between agriculture and nutrition, ensuring an emphasis on women; (v) safety nets can create capital investments in rural areas (e.g., roads and irrigation systems), and help preserve purchasing power of poor households; (vi) continued effort is needed on longer-term risk management; and (vii) poor countries that have been able to move from emergency response in 2008 to longer-term and strategic agricultural programs have typically exhibited country ownership of programs through national engagement in peer review processes, transparency, and broad stakeholder consultations, such as in the CAADP process in Africa.

23. **Lessons from integrating nutrition into agriculture programs**. Despite increased awareness of the need to incorporate nutrition more in agricultural operations to more directly induce nutritional outcomes, the share of agricultural or rural development projects supported by the Bank that explicitly include objectives or targets for improving nutrition outcomes is fairly low (currently 12 percent). The reasons include (i) the limited evidence base on nutrition-sensitive approaches in agricultural operations (relative to operations in the health sector or in social protection through direct income support); (ii) weak client demand; (iii) the added complexity of multisectoral approaches in project design and implementation; and (iv) the difficulty of measuring results.[42] Actions that can make the agricultural portfolio more nutrition-sensitive include (i) investing in women; (ii) increasing year-round access to and availability of high-nutrient food; (iii) improving nutrition knowledge among rural households to enhance dietary diversity; and (iv) incorporating explicit nutrition objectives and indicators into agricultural operations.

24. **Lessons learned from our work on landscape approaches include the following:** (i) they work better if land tenure and water rights are secure, which provides more incentive for individual farmers, households, and communities to invest in improved land and water management and to protect trees and forests; (ii) there is a need to find an appropriate balance between bottom-up participation with top-down planning of the appropriate soil and water conservation interventions;

39 World Bank (2012). *Responding to Higher and More Volatile World Food Prices*. Washington, DC.

40 World Bank (2012). *Global Monitoring Report*. Washington, DC.

41 World Bank (2012). *Global Monitoring Report 2012: Food Prices, Nutrition, and the Millennium Development Goals*. Washington, DC; World Bank (2012). "Note on Food Price Spike in 2012." DEC, Washington, DC.

42 World Bank (2013). *Improving Nutrition through Multisectoral Approaches*. Washington, DC.

(iii) appropriate pricing regimes encourage the sustainable use of scarce resources; (iv) regulations are likely needed (e.g., to control pollution runoff or avoid free grazing of animals), but need to be complemented by appropriate incentives for farmers to invest in public good activities that may benefit others; and (v) the public good nature of many of these investments, including positive environmental impacts outside the project area, justify complementary financing from local and central governments.

25. **Lessons from climate-smart agriculture**[43] include the following: (i) Patterns of public support that focus on research, support for investments in soil and water conservation, weather and climate services, land tenure, technology, and value chain development rather than on commodity or input support are generally more effective, benefit more farmers, and are more sustainable in the long-run; the exception is where input use is very low. (ii) Integration of the productivity, adaptation, and mitigation agendas must be addressed if climate-smart agriculture is to achieve the "triple win," both in strategies and in financing mechanisms. (iii) Water management is a critical challenge in water-stressed countries; measures to enhance agricultural water productivity are often most helpful if combined with measures to support broader economic diversification. (iv) In countries most highly exposed to climate variability and change, disaster management and a climate resilient, diverse agricultural sector are closely linked. (v) To be successful, programs need a long-term commitment. (vi) Aligning strategies and policies with enabling measures and institutional support, adapted to country circumstances, provides incentives for responsible private sector investment, both large- and small-scale.

43 World Bank (2011). *Climate-Smart Agriculture: Increased Productivity and Food Security, Enhanced Resilience and Reduced Carbon Emissions for Sustainable Development*. Washington, DC.

CHAPTER 3: The World Bank Group Support for Agriculture[44] FY2013–2015

26. The strategic framework being used for the Agriculture Action Plan (AAP) was developed in the *WDR 2008: Agriculture for Development*. This framework, which remains valid today, was subject to extensive global consultations through preparation of the WDR. Implementation of the FY2013–15 AAP, together with that of the FY2010–12 AAP, will provide a continuous six-year period of operationalizing the WDR 2008 within the WBG. Ongoing thematic consultations undertaken during implementation of the FY2010–12 AAP informed the FY2013–15 AAP. These consultations covered a wide variety of themes, including international food price volatility, agricultural research for smallholders, climate-smart agriculture, food safety and zoonotic disease control, security of land tenure, shared resources like forests and oceans, and responsible agricultural investment. Individual Bank-financed projects are all prepared and implemented in the context of Country Assistance and Partnership Strategies, which themselves are subject to extensive dialogue and consultation. Consultations in the context of the WBG's numerous global partnerships over FY2010–12 also helped inform the FY2013–15 AAP and involved a broad range of stakeholders, including civil society, national and sub-national government bodies, academia, the private sector, and other development partners. Finally, ongoing regional consultations informed the AAP—for example, the CAADP, an Africa-led initiative, guides WBG's support in Africa. An overview of the 2013-15 AAP projections and what we will do more of, less of, and what is new is presented in table 2.

Results We Will Help Our Clients Achieve

27. We will continue to support our clients' progress toward the MDGs (box 3) but will also monitor indicators being tracked as part of the IDA/IBRD corporate scorecard (annex 3), and relevant Bank core sector indicators. The selected MDGs reflect the global targets of clients and development partners, not what we would achieve alone with our FY2013–15 program, but are important to monitor following the direction of causality of contributions from project-level indicators to sector performance to reductions in poverty and hunger (table 3).

28. There is currently a lag in the data availability on the MDGs and sector performance indicators, as well as concerns about data quality, which constrain accurate and timely reporting on progress on results. A Global Strategy to Improve Agriculture and Rural Statistics is being implemented with the objective of providing a minimum set of timely core data, integrating agriculture into national statistical systems, and ensuring the sustainability of the statistical system through governance and capacity building.

29. A concerted effort is under way to develop more consistent institution-wide WBG results indicators for agriculture. For example, IFC is piloting an agriculture-focused indicator to measure the number of farmers with "increased or improved sustainable farming opportunities" (to be collected systematically across IFC projects beginning in FY2014). As part of the Bank-wide effort to improve results reporting, several core sector indicators have been identified for agriculture to include in the IDA/IBRD Implementation Status Reports of projects. A more detailed set of indicators is provided in annex 3; some of the core sector indicators that we will track are reflected in table 3, which will be disaggregated by gender where appropriate.

44 We will continue with a more explicit focus on agriculture (in title and composition) relative to rural development. This responds to the earlier concern from IEG that the Bank's attention to agriculture had been increasingly subsumed within a broader rural focus in which its importance had suffered. Broader investments in rural areas, beyond agriculture, that are being supported through other sector specific strategies (e.g. rural electrification through the WBG Infrastructure Strategy Update FY2012–2015) will not explicitly be addressed in this Agriculture Action Plan, although relevant linkages will be highlighted.

TABLE 2: Overview of WBG Projections, What We Will Do More of, Less of, and What Is New

PROJECTIONS	WHAT WE WILL DO MORE OF, LESS OF, AND WHAT IS NEW
Results we will help our clients achieve	
MDG level: Halving poverty and hunger **Sector level:** Improved agricultural growth and environmental services **Project-level examples:** **2 million** hectares of new or improved irrigation **3 million** client days of training **0.5 million** farmers adopting new or improved technologies **1.5 million** farmers reached through IFC investments per year by 2015 **20 percent** median economic rate of return on investment projects (as evaluated by IEG), or at least at levels similar to other sectors	**More** concerted effort is under way to develop and use more and consistent institution-wide core sector indicators, to be monitored through project Implementation Status Reports.
What we will help our clients do	
Raise agricultural productivity Link farmers to markets Facilitate rural non-farm income and on cross-cutting areas: Reduce risk, vulnerability, and gender inequality Enhance environmental services and sustainability **50 percent of program** in poorest regions (AFR and SAR)	**More** capacity development for country driven programs, particularly in Africa; more emphasis to climate-smart agriculture, private sector responses, risk management, nutrition, gender, and governance. **Less** focus on short-term emergency response through GFRP, stand-alone crop or forest projects, and operations outside a country-led strategic framework for coordination of agricultural investments where such frameworks have been put in place in response to aid effectiveness concerns.
Aggregate program	
$8 billion to $10 billion projected annual average support for FY2013–15 [IDA/IBRD/IFC] **$350 million** in annual average support [in the form of recipient executed grants] through Trust Funds	**More** IFC investments, doubled in AFR by FY2015. Aggregate consolidation by IDA/IBRD.
How we will implement	
80 percent of projects that close in FY2013–15 have satisfactory outcomes **80 percent** of projects with implementation issues or those not meeting their development objectives have had corrective actions completed **100 percent** of new project include gender analysis in design **75 percent** of new projects addressing all gender dimensions of design (analysis, actions, and M&E)	**New** project preparation facility for needed, but more costly to prepare projects (e.g., irrigation and land tenure projects, including PPPs) in AFR [led by USAID]. **New** special initiative to scale up IFC agribusiness impact in AFR. **Less** focus on small projects relative to country context (with fixed staff numbers and fixed budgets, and the projected levels of assistance).

30. **Aggregate in-country impact**: The relative size and aggregate impact of the WBG's program varies significantly across countries. In some countries, IDA/IBRD financing accounts for a relatively large share of overall public spending, and associated sector programs (e.g., for projects that closed in FY2009–12, IDA/IBRD supported new or improved irrigation of an estimated 25 percent of all irrigated land in Niger and 14 percent in Azerbaijan). In other countries, IDA/IBRD financing accounts for small shares of public spending and associated programs (e.g., in China, our projects that closed in FY2009–12 supported less than 1 percent of all irrigated land). Selectivity of projects, particularly in countries where our IDA/IBRD program is a small share of overall sector financing (e.g., India and other MICs), will be guided by in-country consultations and one or more of the following criteria: (i) the project is transformative and can subsequently be scaled up or mainstreamed into the government program; (ii) the project has high potential for leveraging financing from domestic and/or international sources; and (iii) the project is targeting a specific issue/area on which it can have a significant aggregate impact (e.g., geographically targeted to "pockets of poverty"). Some of our analytical work is also assisting in improving overall sector spending (not just from IDA/IBRD), through the increasing number of agricultural public expenditure reviews being undertaken.

What We Will Help Our Clients Do

31. To contribute to our client targets of reducing poverty and hunger, and improving environmental sustainability, our support will continue to be aligned around five thematic areas, as they remain as relevant today as they were at the start of the AAP FY2010–12. All are important for food security through contributions to improve food availability, access, stability, and utilization. Themes (iv) and (v) are considered cross-cutting themes.

    (i) *Raise agricultural productivity*—including support for increased adoption of improved technology (e.g., seed varieties, livestock breeds, aquaculture/fisheries, and agro-forestry), improved agricultural water management in irrigated and rainfed areas, tenure security and land markets, increased access to inputs, strengthened agricultural innovation systems, and across these areas, reducing gender inequality in access to services, assets, and inputs.

    (ii) *Link farmers to markets and strengthen value chains*—including continued support to improve market access and trade, integrate smallholders into the supply chain, investments in transport and storage infrastructure, better use of information technologies, strengthened producer organizations, improved market information and standards, and access to finance.

    (iii) *Facilitate rural non-farm income*—including support for an improved rural investment climate and infrastructure, upgraded skills for expanding job opportunities, improved rural livelihoods, and promotion of youth employment.

    (iv) *Reduce risk, vulnerability, and gender inequality*—including continued support for social safety nets, integrated agricultural risk management, better managing national food imports and food reserves, innovative insurance products, protection against catastrophic loss, climate-resilient farming systems, reduced risk of major livestock disease outbreaks, improved market transparency, and reduced gender inequality in access to services, resources, and opportunities.

    (v) *Enhance environmental services and sustainability*—including better-managed livestock intensification; improved rangeland and forestry management; conserving ecosystems, including oceans; more use of landscape approaches; increasing uptake of commodity certification systems; and support to link improved agricultural practices with markets for global public goods (such as biodiversity and carbon markets).

BOX 3: Recent Progress on Food Security, Poverty Reduction, Agricultural Growth, and Environmental Sustainability

There has been recent progress on the key results we are helping our clients achieve, although many countries are still off track to meet the MDGs. While direct attribution of the share of this overall progress due to the implementation of the WBG agricultural program is difficult to quantify, improved agricultural performance has historically been relatively efficient at reducing poverty.

- **Food security***:* Eighteen countries have already met the MDG of halving the proportion of the population below the minimum level of dietary energy consumption (between 1990 and 2015); 26 countries are on track to meet it, whereas 42 countries have made insufficient progress. Countries close to meeting the target include Bangladesh, Bolivia, Egypt, Indonesia, Jordan, Kenya, Pakistan, Rwanda, and Zambia. Still all but two of these countries have made insufficient progress on the other MDG target of reducing the prevalence of underweight children under five.

- **Poverty reduction**: Of the 85 developing countries with available data, 47 are on track to meet the MDG target of halving extreme poverty (the proportion of the population living below $1.25 per day); 21 countries are close to being on target; and 17 are far behind. Countries close to the target include Bangladesh, Burkina Faso, El Salvador, Guinea, India, Lao PDR, Lesotho, Philippines, and Uganda. Poverty rates remain highest in AFR (36 percent), which is the only region significantly off track at an aggregate level on halving poverty by 2015. Ninety-six percent of people in extreme poverty are in three regions: AFR (30 percent), SAR (44 percent), and EAP (22 percent).

- **Agricultural growth**: Countries that are on track to reach the MDGs had faster overall per capita GDP growth over 1990–2009, and in many poor countries, agriculture contributes a significant part of this overall growth and subsequent poverty reduction. While 14 of 49 developing countries with available data had real agricultural GDP growth rates over 5 percent in 2010, only 10 of these countries—Cambodia, Ethiopia, Mozambique, Tajikistan, Angola, Armenia, El Salvador, Mongolia, Paraguay, and Uzbekistan—managed to sustain this level of growth (5 percent annual growth over five years). Higher agricultural growth can help put countries on track to meeting the MDGs. Estimates suggest that a 1 percent increase in crop yields could reduce poverty by 0.72 percent in Africa, by 0.48 percent in both South and East Asia, and by 0.1 percent in Latin America.

- **Environmental sustainability**: Average global deforestation rates have slowed, yet the highest deforestation rates are still occurring in some of the world's most biologically diverse regions. Although global forest cover has been declining and degrading, at the same time, tree planting on farms, forest plantation development, and the natural expansion of forests in some regions, have added more than 7 million hectares of new tree cover and forests annually. As a result, the net loss of forested areas over the period 2000–10 was reduced to 5.2 million hectares per year, down from 8.3 million hectares per year in 1990–2000. Forest cover in ECA has increased, now accounting for more than 25 percent of the world's forests. However, South America and Africa continue to show the largest net losses of forests. Some 80 percent of global capture fisheries are exploited to their biological limit or beyond, threatening biodiversity, the integrity of coastal habitats, and the livelihoods and food security of 3 billion people worldwide who rely on these ecosystems.

Source: FAO (http://www.fao.org/fileadmin/templates/es/Hunger_Portal/MDG_Progress_per_country.pdf); World Bank (2011): Global Monitoring Report, 2011. *Improving the Odds of Achieving the MDGs*. Washington, DC.; World Bank (2010): *Unfinished Business: Mobilizing New Efforts to Achieve the 2015 Millennium Development Goals* (http://www.worldbank.org/mdgs/MDGPaperFINALSeptember102010.pdf); World Bank (2011): *World Development Indicators, 2011*. Washington, DC.; Thirtle, C., Lin, L., and Piesse, J. (2003): The impact of research-led agricultural productivity growth on poverty reduction in Africa, Asia and Latin America, *World Development* (31): 1959–1975.

TABLE 3: Results We Will Help Our Clients Achieve

	TARGETS/INDICATORS
1. High-level results our clients are striving to achieve (MDGs on halving poverty and hunger)	
Poverty Reduction	Halving the proportion of the population below the $1.25 (purchasing power parity) per day
Food Security	Halving the proportion of the population below the minimum level of dietary energy consumption Halving the prevalence of underweight children under five
2. Sector-level results that contribute to reducing poverty and hunger	
Growth	Increasing the number of countries with agricultural GDP growth rates above 5 percent[1]
	Higher cereal yields
	Higher agricultural value added per worker
Environmental services	Reducing the rate of average annual deforestation and increasing the proportion of fish stocks within safe biological limits
3. Examples of project-level results projected in FY2013–2015 that contribute to improving sector performance (attributable to project implementation); these will be disaggregated by gender where appropriate	
Agricultural water management	2 million hectares of new and improved irrigation and drainage services
Agricultural management practices	3 million client days of training
Technology adoption	0.5 million farmers adopting new technologies
Rural roads	16,000 kilometers of new or rehabilitated rural roads
Forest and tree cover	Hectares of forest and tree cover area under management plans[2]
Land	Population and number of land parcels with use or ownership rights recorded; and land area where sustainable land practices have been adopted[2]

1 The 5 percent agricultural growth target reflects the explicit target set by AFR—an ambitious target in Africa and elsewhere.
2 Recently adopted core sector indicators. Aggregate data for these indicators will be available in FY2013.

Areas we will give more emphasis

32. In response to the evolving and volatile context of food price uncertainty, climate change, increased private sector interest in agriculture, lagging nutrition-linked MDGs (many of which are interrelated), the increasing scarcity of land and water resources, and the findings of recent analytical work, we will emphasize the following areas:

Raise agricultural productivity, while emphasizing more:

- **Climate-smart agriculture**: The increasing frequency and intensity of droughts and floods,[45] together with longer-term temperature changes calls for a more climate-smart agriculture. More emphasis will be given to increasing the resilience of agricultural productivity gains to climate change (more important in the poorest countries where climate change impacts on lowering yields are projected to be

45 IPCC (2012). *Managing the Risks of Extreme Events and Disasters to Advance Climate Adaptation.*

large), and to lowering agriculture's net GHG emissions (with agriculture accounting for about 14 percent of global GHG emissions, or approximately 30 percent when considering land-use change, such as deforestation driven by agricultural expansion for food, fiber, and fuel).

Key actions: (i) increase the share of IDA/IBRD agriculture lending that supports climate change *adaptation* (31 percent in FY2011–12), such as improved agricultural management practices and development and adoption of more drought- and flood-tolerant varieties; (ii) increase the amount of IFC financing for use of high-efficiency irrigation; and (iii) increase the share of IDA/IBRD agriculture lending that supports climate change *mitigation* (20 percent in FY2011–12), such as animal and forest management systems that reduce GHG emissions. The CGIAR partnership is particularly important in both supporting development of more drought- and flood-tolerant varieties and in improving the carbon absorption capacity of plants.

Link farmers to markets and strengthen value chains, and facilitate rural non-farm income while emphasizing more:

- **Private sector response**: Farmers, herders, traders, input suppliers, and agro-processors are all private sector actors. Higher average agricultural prices offer significant opportunities to raise incomes of poor people, attract higher levels of private investment, and increase overall sector growth while improving food security. The public sector role is to establish a good governance framework and facilitate a level playing field for a much more active private engagement, including by smallholders. Better inclusion of disadvantaged groups in the market is a particular priority, as is securing the productive assets of the poor. Improving access to finance can help stimulate a private sector response, especially by those groups who until now had difficulties in securing access to capital. In addition, clients who wish to mobilize the power of private investment need to both establish a favorable overall investment climate and be sure that investors, including small-scale domestic ones, know about it and have confidence that it is true.

  Key actions: (i) Increase the share of IFC's agribusiness investment in total WBG support for agriculture (39 percent in FY2010–12). The volume of IFC's agribusiness investments is projected to increase by about 65 percent from $2.7 billion annually in FY2010–12 to $4 billion to $5 billion annually in FY2013–15 while reaching more farmers (1.5 million per year by 2015). (ii) Develop and implement annual "Doing Agribusiness Surveys" in 80 countries, together with more focused multiple country analysis on specific business environment topics.[46]

Reduce risk, vulnerability, and gender inequality, while emphasizing more:

- **Risk management**: In the increasingly volatile environment (three world food price spikes in the last five years, continued risk of major outbreaks of crops and livestock pests and diseases, and the increasing frequency and severity of droughts and floods), we will assist clients to better assess and prioritize agricultural risks, develop holistic risk management strategies, and support the management of these risks with financial instruments.

  Key actions: (i) increase the number of country-level agriculture sector risk assessments (building on the experience of those completed in Honduras and Niger); (ii) expand crop-related insurance offerings such as the Global Index Insurance Facility, a program established by IFC and IBRD to support developing markets for

46 FAO (2013). *The State of Food and Agriculture: Investing in Agriculture for a Better Future.* Rome. Shows a positive correlation between the investment climate and agricultural capital stock per worker.

index-based insurance for farmers vulnerable to catastrophic weather and other natural disasters; (iii) expand financial instruments for agricultural price risk management and trade facilitation (the IFC's Agricultural Price Risk Mechanism and the IFC's Critical Commodity Finance Program); and (iii) provide financial and technical support to the recently established global Agricultural Market Information System (AMIS)[47] to help reduce some of the uncertainty and volatility in international food markets.

- **Nutrition**: Nutrition-linked MDGs are lagging, particularly child mortality and maternal mortality.[48] In addition to the estimated 870 million people undernourished, another 2 billion are deficient in micronutrients like iron, zinc, and vitamin A ("hidden hunger"). Food production increases do not automatically translate into improved nutritional outcomes for specific groups of the population, such as children under five. Key investments beyond those targeted at raising income and food production can help: including a focus on women smallholder farmers; development and adoption of biofortified varieties; food fortification that adds micronutrients to processed food; crop diversification to food with high nutrient content (e.g., horticulture, pulses, meat, dairy, fish); and increased nutrition education through agricultural extension and livelihoods projects, which can improve dietary variety in production and consumption.

  Key action: (i) increase the share of agriculture projects with an explicit focus on nutrition (currently at 12 percent).

- **Gender**: Bringing yields on the land farmed by women up to the levels achieved by men would increase agricultural output in developing countries between 2.5 and 4 percent.[49] This will require actions to improve access to services, assets, and opportunities. Recognizing the importance of gender issues in agriculture,[50] gender mainstreaming in agriculture and rural development projects has been raised above the Bank standard. The World Bank will focus on (i) analysis of gender-related issues relevant to project objectives and components; (ii) actions that are expected to narrow gender inequality, including through specific actions to address the distinct needs of women and girls, and men and boys, or that have positive impacts on gender equality; and (iii) monitoring and evaluation frameworks that monitor gender impact and facilitate gender disaggregated analysis. The target is that, in the design of agriculture and rural development projects, by FY2015, 100 percent of projects will include gender analysis, and 75 percent will also have gender actions and gender-disaggregated M&E. For a relatively small set of projects, after doing the gender analysis it may reasonably be decided that gender-specific actions and related M&E are not appropriate. This target raises the bar for agricultural projects beyond the overall Bank standard where the satisfactory treatment of only one of the three dimensions is required for a project to be deemed as gender informed.

  Key actions: (i) increase the share of agriculture and rural development projects that include gender analysis in design with a target of 100 percent by FY2015; and (ii) increase the share of agriculture and rural development projects that include *all* three gender dimensions (analysis, actions, and M&E) in project design, with a 75 percent target by FY2015.

- **Governance**: Political economy issues in agriculture often constrain institutional and policy

47 http://www.amis-outlook.org/

48 World Bank (2012). *Global Monitoring Report: Food Prices, Nutrition, and the Millennium Development Goals*. Washington, DC.

49 FAO (2011). *The State of Food and Agriculture: Women in Agriculture—Closing the Gender Gap for Development.* Rome.

50 World Bank (2009). *Gender in Agriculture Sourcebook.* Washington, DC.

reform that could potentially improve agricultural productivity and make growth a more inclusive process. These include issues related to both public spending patterns (such as subsidies) and policies (such as trade restrictions). The governance of land tenure, particularly in AFR where less than a fifth of land is formally registered, is increasingly important to protect the rights of current land holders, resolve disputes, and provide appropriate safeguards for potential future private investors.

Key actions: (i) strengthen analytical work, including through the expanded program of public expenditure reviews, analysis of the alignment of agricultural and water subsidies and green growth to help better understand the nature of political and institutional constraints to sustainably improving agricultural productivity and resilience, and make more use of the land governance assessment framework at country level; (ii) ensure that all projects addressing the governance of land tenure support the efforts by client country governments to implement the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security, endorsed by the Committee on World Food Security in May 2012; (iii) ensure new IFC investments in large-scale primary agriculture include food security baseline impact assessments in food-insecure countries and disclosure of key contract terms in government to private transfers of land.

Enhance environmental services and sustainability, while emphasizing more:

- **Landscape approaches**: Given the interlinkages of our natural resources, we need to manage landscapes in a more integrated way and to restore the 2 billion hectares of degraded landscapes globally. For example, we cannot achieve food security, or nutrition security, without preserving the ecosystem services that forests provide. We cannot sustain forests without thinking of how we will feed a growing population. And we can't grow food without water. The WBG is increasingly using landscape approaches that integrate the management of land, water, and living resources, and that take account of human interactions with those resources in a way that equitably promotes sustainable use and conservation of natural capital (box 4).

  Key action: Increase the share of projects that use a landscape approach for more sustainable resource use (e.g., that combine agriculture, water, forestry, and biodiversity).

BOX 4: Examples of Landscape Approaches

The Loess Plateau Watershed rehabilitation project in China is one example that has returned a devastated area to sustainable agricultural production, improving the livelihoods of 2.5 million people and securing food supplies in an area where food was scarce. Other examples include the ongoing project in Rwanda that is supporting an integrated approach to land husbandry, water harvesting, and hillside irrigation, with better management of rainfall, erosion prevention through terracing, and improved soil quality; a new project in Tunisia integrating natural resource management with agricultural development, including support for reforestation, improved management of soils and pastures, and better water management; and in Albania supporting local communities to improve the sustainable management of upland resources at the micro-catchment level, to reduce erosion, improve carbon sequestration, and enhance livelihood opportunities.

Referenced projects: Rwanda, Land Husbandry, Water Harvesting, and Hillside Irrigation Program (P114931); Tunisia, GEF Second Natural Resources Management (P112568); Albania, Environmental Services Project (P130492); China, Second Loess Plateau Watershed Rehabilitation Project (P056216).

Areas we will give less emphasis

- **Short-term emergency response to food price spikes through GFRP**: Higher short-term food price volatility is becoming a longer-term phenomenon requiring longer-term solutions. Having met its objective of reducing the negative impacts of the unanticipated food crisis in 2008, benefiting almost 66 million people in 49 countries, the GFRP expedited processing facility closed on June 30, 2012 (meaning no more Bank-financed projects can be processed under the expedited procedures of GFRP). The Bank now has more permanent new instruments to respond to future emergencies, building on the GFRP experience, such as IDA CRW and IRM, and IBRD's Exposure Management Framework.

- **On average, small projects relative to country context**: The median size of agriculture projects has gone up from $30 million in FY2006–08 to $43 million in FY2010–12. To improve portfolio quality, with fixed staff numbers and fixed preparation and supervision budgets, the number of projects in the portfolio will need to remain the same or decline, implying that the median project size across the portfolio will need to be about $45 million or higher at the projected levels of assistance (i.e., on average less focus on small projects relative to country context). However, in some contexts and for some investment types, small projects will continue to be supported.

- **Stand-alone IDA/IBRD crop or forestry projects**: These stand-alone projects don't benefit from the synergies of a more integrated landscape approach, which can lead to more sustainable resource use, particularly in the context of rising pressure on land, water and forest resources.

- **Operations outside a country-led strategic framework for coordination of agricultural investments where such frameworks have been put in place in response to aid effectiveness concerns**: Client governments, regional organizations and donor partners have emphasized the importance of aid effectiveness in food and agriculture, adapting to the sector the broader concerns of the Paris Declaration and the Accra Agenda for Action. These were specified for food security most recently in the Rome Principles of the 2009 Summit on World Food Security.[51] The key elements include country-leadership, evidence-base, inclusiveness, transparency, and multilateralism. The World Bank Group has committed to support these principles through its regular agricultural lending. It further signaled its support through setting up in 2010 and hosting the multiagency Global Agriculture and Food Security Program (GAFSP).

33. Detailed actions are provided in the next sections in each of the five thematic areas of raising agricultural productivity; linking farmers to markets; facilitating rural non-farm income, including the cross-cutting areas of reducing risk vulnerability and gender inequality; and environmental services. Political economy factors will influence the extent and pace of progress, particularly on sensitive issues such as land and water. If these become a larger share of the overall portfolio, then the quality of the overall portfolio may be adversely affected. Governance issues are being addressed more explicitly in project preparation, with additional screening tools available (such as the land governance assessment frameworks), and continued attention will need to be given to this area. The increased program of agricultural public expenditure reviews and using analytical tools to better understand the associated political economy issues can help.

51 http://www.fao.org/fileadmin/templates/wsfs/Summit/Docs/Final_Declaration/WSFS09_Declaration.pdf

Thematic Area 1: Raise Agricultural Productivity

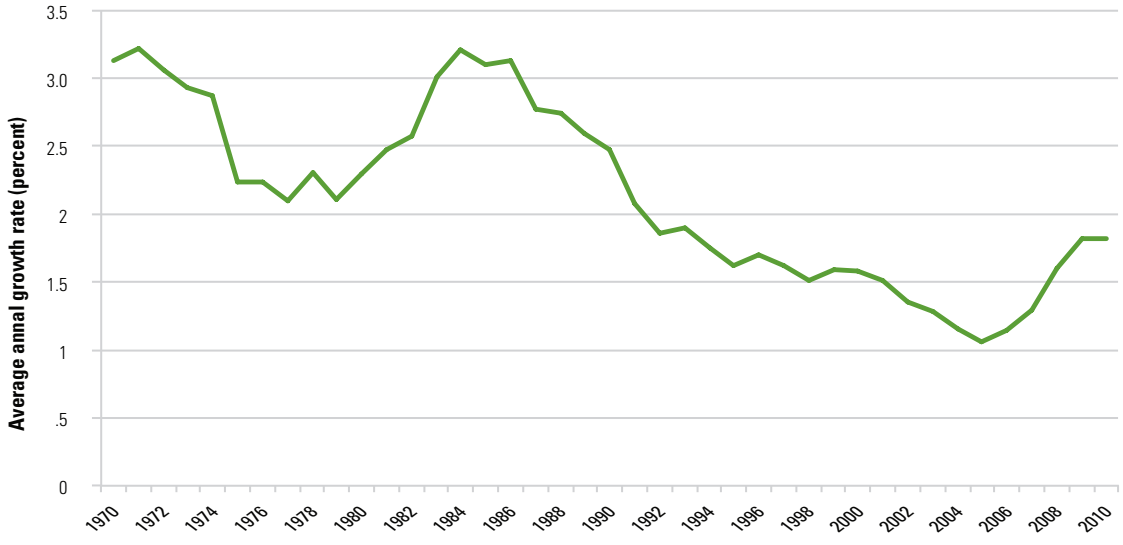
34. Raising food crop yields and increasing their resilience to climate change are the most important actions needed for sustainable global food security.[52] A more climate-smart agriculture is needed (box 5). After a two-decade decline in the growth rate of major cereal yields produced in developing countries, from 2006 onward they have been rising again from a low of about 1 percent to about 1.8 percent (figure 2). This recent yield growth has not matched annual growth in consumption, with some of the shortfall being made up by an expansion of area planted on degraded or converted land. While in certain regions in some countries there is still some scope for further expansion of uncultivated lands—mainly in AFR, LCR, and ECA—the aggregate land frontier is closing, and future supply growth will need to rely more on yield increases. Water constraints are more binding, requiring improvements in water productivity. In this respect, future land productivity gains will need to rely more on narrowing the gap between average farm yields and experimental yield potential, in the generation and adoption of new climate-smart technologies and management practices, and in improved water management and fertilizer calibration. Integrating in combination improved land, soil, and water management measures into climate-smart production systems can maintain and even enhance the value of natural capital.[53] The focal areas will be on raising yields (of food, traditional exports, and high-value crops, livestock, agro-forestry systems, and fisheries); improving agricultural water management; strengthening land tenure security and land markets; fostering agricultural innovation systems (research, extension, and education); supporting considerations for new technology tools,

52 World Bank (2012). *Responding to Higher and More Volatile World Food Prices*. Washington, DC.

53 World Bank (2012). *Inclusive Green Growth: The Pathway to Sustainable Development*. Washington, DC.

FIGURE 2: Growth Rates of Yields for Major Cereals Have Begun to Rise but Remain Low

10-year rolling growth rates of yields for major cereals in developing countries



Source: Derived from USDA data.

and opportunities for mechanization. The focus of the CGIAR research portfolio is aligned with these priorities, with research on food crops (rice, maize, wheat, roots, tubers, bananas, grain legumes, and dry cereals) aimed at increasing productivity, both by increasing the yield potential (or breaking the "yield ceiling") through plant breeding and by addressing production constraints to narrow the gap between yields in farmers' fields and experimental plots/farms. More attention will be given to gender mainstreaming across all these areas.

35. **Close the crop yield gap.** As average farm yields in many countries are often only a third of experimental farm yields, there still remains significant scope for closing this yield gap for food, traditional exports, and high-value crops. Over the next three years, the WBG, with more attention to reducing gender inequality, will continue to support (i) expanding the reach of demand-driven pluralistic extension and advisory services, giving smallholder farmers, especially women, more control over resource allocation decisions and the type of advice they receive; (ii) strengthening rural access to financial services and providing incentives such as matching grants for technology adoption; (iii) strengthening and increasing input markets and investments (fertilizers, machinery, micro-irrigation), including input market regulatory reform; and (iv) expanding the use of information and communication technologies. More emphasis will be given to broader landscape or watershed management approaches, particularly in rainfed areas. Support through these types of interventions have improved crop yields (and associated incomes) of targeted households in rainfed areas through Bank-supported programs. For example, crop yields increased by 15 to 20 percent among targeted farmers in Karnataka, India,[54] productivity doubled among targeted households in rainfed areas of Rwanda,[55] and adoption rates of higher-yielding seed varieties were 20 percent higher among targeted households in Uganda.[56]

36. **Close the livestock productivity gap.** Over the next three years, the WBG will build on the successes of recent livestock projects, particularly in transforming economies, such as India, through (i) providing matching grants for adoption of new breeds, (ii) extending the reach of extension and advisory services to improve animal and rangeland management practices, (iii) expanding veterinary services and vaccinations, (iv) supporting pasture management (including combining agro-forestry and pastures—e.g., silvo-pastoral systems), and (v) reducing gender inequality. These types of interventions have led to significant livestock productivity gains among targeted households. For example, milk yields increased by 65 percent among targeted households in Assam[57] through adoption of improved breeds; and by 11 to 33 percent among targeted households in Himachal Pradesh[58] through improved fodder availability. Livestock mortality rates declined by 29 percent for large ruminants and by 21 percent for poultry in Afghanistan,[59] and improved grassland management in Gansu and Xinjiang region in China contributed to a doubling of herder income.[60] Improved management of dry woodlands in Southern Africa[61] has also improved livestock productivity.

54 India, Karnataka Watershed Development Project I (P067216).

55 Rwanda, Land Husbandry, Water Harvesting, and Hillside Irrigation Project (P114931).

56 Benin, S., Nkonya, E., Okecho, G., Randriamamonjy, J., Kato, E., Lubade, G., Kyotalimye, M. (2011). "Returns to Spending on Agricultural Extension: The Case of the National Agricultural Advisory Services Program in Uganda." *Agricultural Economics* 42: 249–267.

57 India, Assam Agricultural Competitiveness project (P084792).

58 India, Himachal Pradesh Mid Himalayan Watershed Development Project (P093720).

59 Afghanistan, Horticulture and Livestock Productivity Project (P098256).

60 China, The Gansu and Xinjiang Pastoral Development Project (P065035).

61 Dewees, P., Campbell, B., Katerere, Y., Sitoe, A., Cunningham, A., Angelsen, A., and Wunder, S. (2010). "Managing the Miombo woodlands of southern Africa: Policies, incentives and options for the rural poor." *Journal of Natural Resources Policy Research* 2 (1): 57–73.

BOX 5: More Emphasis on Climate-Smart Agriculture

Climate-smart agriculture seeks to increase productivity in an environmentally and socially sustainable way, strengthen farmers' resilience to climate change, and reduce agriculture's contribution to climate change by reducing greenhouse gas emissions and increasing carbon storage on farmland. A more climate-smart agriculture is needed as agriculture is significantly affected by, and has been a significant contributor to, climate change.

For each 1° Celsius of global warming, grain yields are projected to decline by 5 percent. Already, since 1980, global wheat and maize production is 3–5 percent lower than if warming trends had not occurred. The increasing frequency and intensity of drought and floods have also significantly affected agriculture, as recently experienced in the Horn of Africa and the Sahel. At the same time, global agriculture (and the associated land-use changes) have contributed about 30 percent of GHG emissions (over half of which is CO_2). Yet agriculture has the biophysical potential to offset about 20 percent of total annual CO_2 emissions. More effort is need to raise productivity, improve resilience, reduce GHG emissions, and enhance soil carbon storage.

- **Raising agricultural productivity** can reduce pressure for land-use change, such as reducing deforestation driven by agricultural expansion of food, fiber, and fuel. Raising productivity has been the dominant focus of our agriculture program.
- **Strengthening farmers' resilience** will help adaptation to the increasing frequency and intensity of droughts and floods, together with longer-term temperature changes. Improving land and water management, better weather forecasting, early warning systems and risk insurance, and developing new technologies such as drought- or flood-tolerant crops can improve climate resilience.
- **Reducing GHG emissions** from agriculture to mitigate climate change beyond reductions in CO_2 emissions (which are predominantly from land-use changes), require reduction in methane and nitrous oxide emissions. Activities to reduce methane emissions include improved livestock nutrition and feed management, reduced frequency and intensity of biomass burning, keeping wetland rice fields dry in the off-season, and better waste management in intensive livestock systems. Activities to reduce nitrous oxide emissions include timely use of (and slow release) nitrogen fertilizers, when applied, and more use of legume trees to reduce dependency on nitrogen fertilizers.
- **Increasing carbon storage in farmland** will also help mitigate climate change. Actions to enhance carbon storage can also improve productivity and resilience leading to a *triple-win of higher productivity, more resilience, and greater carbon capture in soils*. This includes techniques such as mulching, intercropping, integrated crop-livestock management, conservation agriculture, and agro-forestry. The potential for carbon storage is highest on degraded lands (which are furthest from carbon saturation levels).

Key actions: (i) increase the share of IDA/IBRD agriculture lending that supports climate change *adaptation* (31 percent in FY2011-12), such as improved agricultural management practices, and development and adoption of more drought and flood tolerant varieties; (ii) increase the amount of IFC financing for use of high efficiency irrigation; and (iii) increase the share of IDA/IBRD agriculture lending that supports climate change *mitigation* (20 percent in FY2011-12), such as animal and forest management systems that reduce GHG emissions.

Sources: Lobell, D. B., Schlenker, W., and Costa-Roberts, J. (2011). "Climate trends and global crop production since 1980." *Science* 333 (6042): 616–620; Smith, P., Martino, D., Cai, Z., Gwary, D., Janzen, H., Kumar, P., McCarl, B., Ogle, S., O'Mara, F., Rice, C., Scholes, B., Sirotenko, O., Howden, M., McAllister, T., Pan, G., Romanenkov, V., Schneider, U., Towprayoon, S., Wattenbach, M., and Smith, J. (2008). "Greenhouse gas mitigation in agriculture." *Phil. Trans. R. Soc. B* 363 (1492): 789–813. World Bank (2013). *Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided.* Washington, DC.; Vermeulen, S.J., Campbell, B.M., and Ingram, J.S.I. (2012). "Climate change and food systems." Annu. Rev. Environ. Resour. 37:195-222.

37. **Raise aquaculture yields and fisheries sustainability.** Aquaculture and capture fisheries provide an important source of income and protein for many poor people (15 percent of global dietary protein).[62] Over the last several decades, the annual volumes of global capture fisheries has remained relatively stagnant (despite larger fishing fleets and improved technology), with a declining share from developed countries. In contrast, aquaculture production has increased significantly (7.6 percent annual growth since 1990), with most of the growth coming from developing countries (figure 3). Aquaculture now accounts for about 45 percent of global fish production, with 55 percent from capture fisheries. Shifting capture fisheries toward sustainable extraction rates remains a challenge, but it is beginning to be undertaken in some fisheries[63]through rights-based fisheries management, protected marine areas, and certification. Improving aquaculture production practices, resource use, and environmental management can help improve aquaculture productivity and sustainability. The Bank has provided support to improved management of coastal fisheries, for example, through increasing the share of territorial seas off Tanzania under effective protection or management,[64] and to aquaculture development, for example, through support for community fish ponds (under community-driven development projects) and integration of fisheries components in irrigation tank (reservoir) projects.[65] Over the next three years, the WBG will support: (i) increasing the capacity of developing countries to implement and enforce effective management of capture fisheries; (ii) fishing port infrastructure; and (iii) improving aquaculture practices. In addition, after a decade

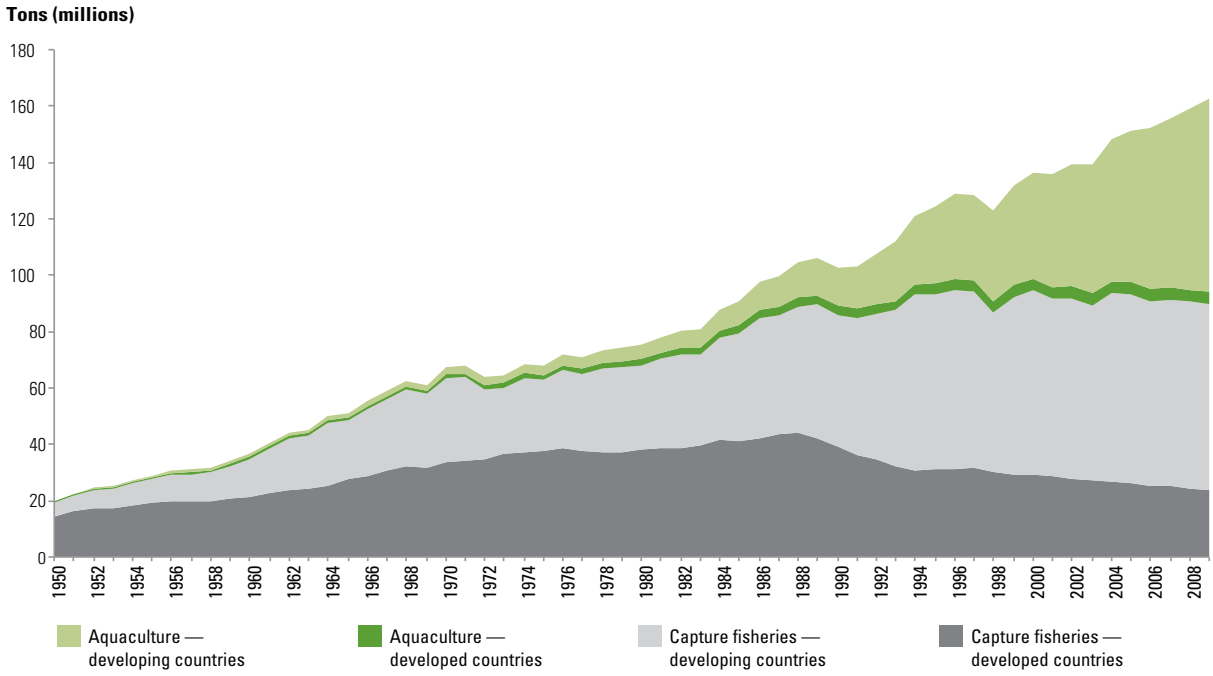
62 Frid, C., and Paramor, O. (2011). "Feeding the world: What role for fisheries?" *ICES Journal of Marine Science*. Oxford University Press, UK.

63 The Prince's Charities (2012). *Fisheries in Transition: 50 Interviews with the Fishing Sector*. Report commissioned by the Prince's Charities International Sustainability Unit, UK.

64 Tanzania, Marine and Coastal Environment Management (P082492).

65 In projects in Orissa, Andhra Pradesh, and Karnataka, fish production in 800 reservoirs in India increased by 190 percent.

FIGURE 3: Global Aquaculture and Capture Fisheries Production



Source: Derived from FAO data.

of minimal activity in the sector, IFC is reengaging in fisheries, with a particular focus on investment opportunities in sustainable aquaculture enterprises, given that an increasing share of the global supply of fish will have to be sourced from aquaculture.

38. **Improve agricultural water management in rainfed and irrigated areas.** Attention will continue to be given to improving water management in rainfed agriculture, which covers most of the world's cropland and accounts for most of agricultural production in developing countries, especially in the water-constrained rainfed production systems of arid and semi-arid regions, where yields tend to be relatively low. Combined with an improvement in other production factors, such as soil fertility, crop varieties, and tillage practices, better management of rainfall and runoff can help to achieve significant increases in yields and agricultural productivity. The expansion of irrigation will also continue to be an important source of productivity growth, especially in AFR and parts of LCR that still have large untapped water resources and opportunities for economically feasible agricultural use. In other regions where the scope for further expanding irrigated agriculture is limited, more efforts are needed to better use the available water, raising water productivity and its sustainable use. This includes addressing the technical, policy, and governance aspects of agricultural water use while accounting for the competing demands of other water-using sectors. Ensuring sustainability of irrigation investments will require more attention to sustainable financing for operation and maintenance. Support for irrigation and drainage accounts for the dominant share (24 percent) of the IDA/IBRD's support for agricultural productivity related activities—particularly in MNA, SAR, ECA, and EAP—and is a growing share of the program in AFR. Annual support during FY2010–12 increased to about $1 billion. Projects that closed in FY2010–11 had supported one and half million hectares (1,588,361 hectares) of new or improved irrigation. Projects that were approved in FY2011 alone are targeting two million hectares (1,972,800 hectares). In the FY2010–12 period, SAR, which has the largest irrigated land area in the developing world, also received the largest volume of IDA/IBRD support for irrigation and drainage, in particular in India and Pakistan. The second most important region, both in terms of irrigated land area and commitments, was EAP, with China as the largest borrower. In FY2012, AFR was in third place, with Nigeria as the most important country. IFC is also increasingly investing in agricultural water management. Support for micro-irrigation in India (partnering with Jain Irrigation) benefited about 25,000 small farmers, most with less than one hectare of land. The switch in irrigation technology has helped reduce water applications by more than 40 percent and contributed to increased annual incomes by up to $1,000. Technological innovations combined with changes in the policy environment are playing an increasingly important role in agricultural water management. For example, advances in the use of remote sensing technologies are now making it possible to cost-effectively estimate crop evapotranspiration (the sum of evaporation and plant transpiration to the atmosphere) from farmers' fields and to improve water accounting and management at the regional and basin-wide levels. Since 2010, China is adopting this approach in the Xinjiang Turpan Water Conservation Project in the arid northwestern part of the country.

39. **To improve agricultural water management over the next three years, the WBG will support**: (i) strengthening water management in rainfed areas through a combination of measures ranging from technological interventions, such as water harvesting and other water control and water capture infrastructure, to the provision of better climatic information and innovative approaches that allow farmers to better cope with the risks posed by climate variability; (ii) improving watershed management practices, in particular in rainfed areas, and reforestation in upper watersheds to reduce soil erosion and enhance water capture; (iii) expanding new irrigated areas, especially in AFR, with a focus on viable smallholder

and small-scale, community-managed irrigation, and also public-private partnerships[66]; (iv) rehabilitating and modernizing existing irrigated areas, including large-scale systems; (v) strengthening irrigation services, including for women, as well as supporting water user associations and the decentralization of management functions, including for more sustainable operation and maintenance of irrigation systems; (vi) strengthening systems for water rights allocation and improving water pricing; (vii) putting a stronger focus on assessing water resource availability in the longer-term and promoting irrigation water conservation, including through better monitoring and modeling; and (viii) improving river basin and groundwater management through institutional development and a move toward more integrated water management. In addition, the IFC plans a Global Efficient Irrigation Program, partnering with the GAFSP in IDA countries and the Global Environment Facility (GEF) in non-IDA countries, to provide access to finance and technical knowledge to help farmers switch to improved technologies, such as sprinklers and drip irrigation; and by cooperating with the World Bank and GAFSP's public sector windows that support basic infrastructure for irrigation.

40. **Improve the governance of land tenure and land markets.** High and volatile food prices add urgency to the challenges of improving land governance and applying appropriate safeguards to protect the land rights of the poor, especially women. High food prices and shortages, increased demand for biofuels, and countries trying to secure food supplies have contributed to rising demand for farmland and led to global concerns about forced land acquisitions and "land grabbing." The governance environment in which land acquisition is happening is often weak, and traditional users' rights are often overlooked or abused, with little or no consultation with communities affected and with little transparency. The WBG is especially concerned that large-scale land acquisitions do not disadvantage smallholder farmers, who depend on land for their livelihoods. The WBG supports (and consistently recommends) government policies that implement systematic land surveying and titling programs that recognize all forms of land tenure: public and private; formal and customary, including those of pastoralists or others with weak formal rights; collective and individual, including women's rights; and rural and urban. The World Bank has supported governments' efforts to strengthen land policies and administration systems in member countries for over four decades. Since 1990, the Bank has provided finance of $2.7 billion to more than 60 land administration projects around the world (see recent examples of land tenure projects in box 6). At the request of individual countries, we provide support through information and research, and by working with governments to implement sound policies. As of mid-2012, 23 stand-alone projects were under implementation focused on supporting improved governance of land tenure with IBRD/IDA commitments of $964 million (12 projects in ECA, 6 in LCR, 3 in EAP, and 1 each in AFR and SAR). In addition, there were 23 broader projects that include land tenure components (13 in Sub-Saharan Africa). Land administration and redistribution projects are inherently complex and difficult to implement, and they require long-term commitments from governments and partners.

41. **The WBG does not support speculative land investments or acquisitions that take advantage of weak institutions in developing countries**. In those countries where there is some scope for expansion of uncultivated arable lands, the WBG will support government efforts to attract domestic and foreign productive investments by encouraging inclusive business models that integrate smallholder farmers into high-value chains; emphasizing strong social and environmental safeguards, particularly with regards to land tenure rights; and insisting on the highest standards of responsible agribusiness

66 Public-private partnerships in irrigation are increasingly being initiated, including in Morocco, Brazil, Ethiopia, and Zambia.

investments. IBRD and IDA interact primarily with governments to increase agricultural productivity, strengthen land tenure policies and improve land governance. More than 90 percent of the World Bank's agriculture portfolio focuses on the productivity and access to markets by smallholder farmers. Five percent of our agriculture and rural development program currently focuses on the governance of land tenure. Similarly, investments by the IFC, including those in larger-scale enterprises, overwhelmingly support smallholder farmers through improved access to finance, inputs, and markets, and as direct suppliers. IFC invests in environmentally and socially sustainable private enterprises in all parts of the value chain (inputs such as irrigation and fertilizers, primary production, processing, transport and storage, traders, and risk-management facilities, including weather/crop insurance, and warehouse financing). IFC due diligence and Performance Standards, which address issues ranging from environmental and social impacts to labor practices to assuring future livelihoods for existing users, apply in all cases. IFC's Performance Standards were recently strengthened to address many risks associated with land investments and are widely regarded as best industry practice. In addition, IFC has recently further strengthened its approach to investments involving significant parcels of land to include assessment of local food security impacts and adding a new requirement for contract transparency in cases of government to private transfers of land. This complements existing Performance Standard coverage of issues pertaining to protection of existing users rights and consultation, as well as enhanced early risk screening tools.

42. **The Bank has actively supported preparation and endorsement (May 2012) by the Committee on World Food Security (CFS) of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGs)**. The Bank is actively engaged with multiple partners (UN agencies, bilateral donors, the International Land Coalition, CSOs) in supporting the implementation of the VGs at the country level through widespread dissemination, capacity building, and financial support to policies and projects that enhance the governance of land tenure according to these VGs. The WBG considers these VGs as a major international instrument to guide specific policy reforms, since they provide an agreed framework for action, broad participation, and monitoring outcomes. These VGs will guide IDA/IBRD's current and future engagement in land tenure projects and are now being operationalized in IFC's agriculture investments in primary production involving significant expansion onto new lands.[67] All WBG projects addressing the governance of tenure of land, fisheries, and forests will support voluntary efforts by client country governments to implement these VGs. This support will be through wide dissemination of the VGs; technical cooperation; financial assistance; institutional capacity development; knowledge sharing, including through South-South cooperation; and assistance in developing national tenure policies and transfer of technology in accordance with the VGs. In line with this institutional commitment, the Bank and several partners have developed the Land Governance Assessment Framework,[68] a diagnostic tool to assess the status of land governance at the country level in a participatory process that draws on local expertise and existing evidence rather than on the advice of outsiders. To date, assessments through this framework have been carried out or are under way in 13 countries (10 of which are in AFR).

67 Encouraging collaboration with the Sustainable Commodity Roundtables can help to increase the extent to which crop production systems meet voluntary environmental and social criteria, including the Roundtable for Responsible Soy, the Roundtable on Sustainable Palm Oil, the Better Sugarcane Initiative, and a variety of forest certification processes.

68 Deininger, K., Selod, H., and A. Burns (2011). *The Land Governance Assessment Framework: Identifying and Monitoring Good Practice in the Land Sector.* ARD Series, World Bank, Washington, DC.

BOX 6: Recent Examples of Land Tenure Projects

For many years in Nicaragua, the lack of an institutional and legal framework made it difficult for indigenous and ethnic community groups to have their rights and natural resources formally recognized and their territories demarcated and titled. Under the Land Administration Project, the World Bank helped to demarcate, title, and register 1 million hectares of land in the country's Atlantic coastal region, and prepare territorial management plans with participation of the indigenous and ethnic communities and their leaders and authorities to guide future development efforts.

In Malawi, inequitable access to arable land, combined with insecure land tenure, unsustainable farming practices, and intense competition for resources have resulted in chronically low incomes and persistent poverty. To address these challenges, the Community Based Rural Land Development Project was launched in 2004 to generate greater opportunities for the poorest of the Malawi's rural poor. By 2010, 15,000 poor families had access to land. Gross margins per hectare had increased tenfold for hybrid maize from the pre-location phase.

In Bolivia, the Bank helped update the 1952 land reform law, establish a new tenure regime for indigenous people, and modernize the land administration system. As a result, 2.8 million hectares of land were surveyed and titled—of these, 588,000 hectares were for indigenous peoples' communal territories.

In Indonesia, the Bank supported post-tsunami recovery efforts in Aceh through rapid community mapping and land registration and titling, introducing the concept of joint titling and gender recording. A total of 222,628 land title certificates were distributed to land owners after the tsunami, out of which 63,181 were given to women either individually or as joint owners with their spouses.

43. **The WBG supports international cooperation on principles of responsible agricultural investments.** At the request of some member countries, and in the context of the 2009 UN roundtable on this issue, concurrent with the 64th UN General Assembly meetings in New York, the United Nations Conference on Trade and Development (UNCTAD), the International Fund for Agricultural Development (IFAD), the Food and Agriculture Organization (FAO), and the World Bank, in consultation with a number of stakeholders, generated principles of responsible agriculture investments (PRAI) that could be used by both foreign and local investors, and by governments to address the needs of vulnerable groups, especially smallholder farmers (box 7). At the Seoul Summit in November 2010, the G20 encouraged "all countries and companies to uphold the Principles for Responsible Agricultural Investment," and further requested "UNCTAD, the World Bank, IFAD, FAO, and other appropriate international organizations to develop options for promoting responsible investment in agriculture."[69] At the Los Cabos Summit in 2012, the G20 reaffirmed its support for the PRAI. The Bank is now working with several stakeholders in operationalizing and retrofitting (to selected past investments) these seven principles. More recently, the Committee on World Food Security has launched a process of global consultations, similar to that pursued for the VGs on Land Tenure, around responsible agricultural investments. The WBG fully supports the committee's process and will contribute to it, along with IFAD, FAO, and UNCTAD. Moreover, the World Bank Group is an active participant in Grow Africa, which is a partnership platform to accelerate investments for sustainable and inclusive growth in African agriculture, coordinated by the African Union's New Partnership for Africa's Development and its CAADP, and the World Economic Forum.

69 G20 Seoul Summit 2010: Seoul Development Consensus for Shared Growth—Summit Communique.

The first Grow Africa Investment Forum was held in Addis Ababa in May 2012. It attracted 270 top-level leaders from global, regional, and national businesses, African and other governments, international organizations, and civil society and farmers' organizations. A total of 116 companies participated, including 49 African and 47 multinational companies plus 20 from other regions, such as Asia and the Middle East. More than 60 companies signed letters of intent reflecting intended private investments of $4 billion in African agriculture. This number reflects both the strong interest of the private sector to invest in African agriculture, as well as to do so in a sustainable and inclusive way supported by Grow Africa.

44. **In these areas, over the next three years the WBG will be providing support to** (i) protect the rights of local communities and individuals to forest and farmlands, particularly for women; (ii) working with governments and other partners to better direct new agricultural investments toward those lands where there are genuine development opportunities, existing land rights are adequately recognized and protected, and adverse environmental and social impacts are minimized (for example, in already converted or degraded lands); (iii) increasing land access for the poor and vulnerable, including women, through community-based redistributive land projects and forest management tenure regularization programs; (iv) incorporating greater transparency of government to private land transfer contracts, evaluating local food security impacts, and more inclusive business models in new IFC investments, which include smallholders/users in the production supply chain of larger farms; (v) increasing transparency and efficiency of land administration systems, including the use of computerized registration systems with increased access by the public; (vi) strengthening local governance and cost recovery via decentralized land administration service delivery, revised property valuation and land tax policies, and other measures; (vii) building capacity for sustainable land administration and management; and (viii) enhancing conflict resolution through the use of alternative resolution mechanisms, more competent institutions, and increased civic participation.

BOX 7: Seven Principles of Responsible Agricultural Investments (PRAI)

1. Existing rights to land and associated natural resources are recognized and respected.
2. Investments do not jeopardize food security but rather strengthen it.
3. Processes for accessing land and other resources, and making associated investments, are transparent, monitored, and ensure accountability by all stakeholders, within a proper business, legal, and regulatory environment.
4. All those materially affected are consulted, and agreements from consultations are recorded and enforced.
5. Investors ensure that projects respect the rule of law, reflect industry best practice, are viable economically, and result in durable shared value.
6. Investments generate desirable social and distributional impacts and do not increase vulnerability.
7. Environmental impacts due to a project are quantified and measures taken to encourage sustainable resource use while minimizing the risk/magnitude of negative impacts and mitigating them.

45. **Strengthen agricultural innovation systems (agricultural research, extension, education, training), including promotion of more nutritious food crop diversification.** Accelerating long-term agricultural productivity growth is especially challenging for researchers facing a moving target in that new technologies must address current and future realities, and must also show resilience in the face of climate change. The World Bank focus over the next three years will be on (i) improving the relevance and responsiveness of cutting edge and traditional research and

extension through inclusive prioritization of farmer needs, empowerment of end users, encouraging pluralism and gender balance in service quality and delivery, and farm innovation; and on ensuring better links between research and extension and other innovation actors, including by promoting the use of ICT for achieving these objectives; (ii) continuing 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 and the systematic scaling up of successful innovations; and (iii) education and training, in collaboration with HDN, including for capacity building, institutional development, and tertiary education. More attention will be given to sustainable financing of agricultural research and partnership development, supporting regional programs for research in Africa to ensure economies of scale in research efforts, and development of Centers of Excellence. Public sector financing remains essential for agricultural research, but more can be done to facilitate private sector research. CGIAR has approved a policy on intellectual assets in consultation with donors and the private sector for two years on a trial basis. This is expected to increase collaborative agricultural research between the CGIAR and the private sector (flood-tolerant rice has been adopted by farmers at a significant rate through partnerships with private sector seed companies). Further attention will be given to South-South collaboration and partnerships drawing on successful experiences in Latin America (e.g., IFC is in active discussion with Zamarano, Honduras, about the possible replicability of their agricultural education model). Continued support will be provided to the recently reformed CGIAR, with attention to strengthening mechanisms to ensure CGIAR research results are effectively integrated into national programs. In this respect, there are opportunities for local adaptation, dissemination and scaling-up of CGIAR developed biofortified crops, which are starting to be released in AFR, SAR, and LCR. Biofortified crops offer important nutritional enhancement, particularly in the context of the lagging nutrition-linked MDGs. Biofortified crops are being supported by programs such as the CGIAR's HarvestPlus program and in Brazil by their national agricultural research institute, as well as fortified inputs such as zinc and iodine fertilizers that increase yield and the nutrient content of the produced food. Over the next three years, the Bank will support actions such as (i) strengthening nutrition modules in extension and advisory systems such as through home economics extension to deliver simple nutrition messages around specific crops; (ii) national agricultural research systems in testing and disseminating biofortified crops; (iii) improving access to fortified fertilizers such as zinc and iodine fertilizers; and (iv) scaling up successful programs.

46. **Support consideration of new technology tools.** The WBG will continue to respond to requested client demand when activities related to new or less common technologies, ranging from organic farming to biotechnology, including transgenics,[70] have a potential to contribute to poverty reduction, economic growth, and environmental sustainability. The global area under biotechnology crops continues to expand and in developing countries has reached the same area under production as in developed countries.[71] The largest adopters in developing countries are Brazil, Argentina, India, and China, but other smaller countries such as Burkina Faso (in cotton) are also using biotech crops. The WBG will continue to support actions to (i) develop country capacity for assessing the potential risks and benefits of biotechnology; (ii) contribute to reverse the neglect of pro-poor traits and orphan crops, through focusing more research on crop

70 Transgenics, or genetically modified organisms, are the result of transferring one or more genes, usually from a wild species or a bacterium, to a crop plant. Transgenic varieties offer significant opportunities; however, to mitigate potential risks, they should be used in situations where international biosafety standards are in place and are being implemented.

71 James, C. (2012). "Global Status of Commercialized Biotech/GM Crops: 2011." ISAAA Brief No 43. ISAAA: Ithaca, NY.

and cropping systems of most relevance to poor farmers and poor countries; and (iii) develop cost-effective and transparent regulations and production programs, together with the expertise and competence to manage their adoption and use.

47. **Consider opportunities for mechanization.** The WBG will support actions to pilot the establishment of leasing and rental markets and scale up those initiatives that prove successful. If properly coordinated, machine rentals provide a practical and convenient way to substitute capital for labor, including for part-time farmers, who are often most in need of labor-saving technology, and overcome the indivisibility of machine inputs when credit markets are absent or imperfect. IFC actively works with local financial institutions and equipment operators to develop and expand equipment-leasing programs. The use of machine rentals has historically been practiced in many Asian countries to capture economies of scale and is on the rise in China. Support can also be provided to the formation of voluntary farmers' groups where members own the machines collectively.[72]

Thematic Area 2: Link Farmers to Markets and Strengthen Value Chains

48. Better connecting farmers to local, urban, regional, and global markets can help to raise incomes, link deficit regions with surplus regions, and reduce overall agricultural price volatility. Urban food markets in Africa alone are set to increase fourfold to over $400 billion by 2030,[73] and the growing middle class around the world is also seeking greater diversity and higher quality in its diets. Yet food staple markets are often hampered by poor infrastructure, inadequate support services, and weak institutions, which push up transaction costs and prices. High post-harvest losses along the value chain reduce farm incomes and lead to wasting scarce resources. Newer biofuels markets have recently emerged (box 9). Traditional bulk commodities (such as coffee, cocoa, and cotton) remain important in some of the poorest countries, and associated market structures have significant impacts on country competitiveness. Higher-value markets, however, require more exacting standards, timeliness in delivery, and the overall production system for these markets often involves economies of scale and access to finance. Even in middle-income countries there remain barriers to entry, especially for smallholders that operate locally at the village level or within a small provincial economy. High infrastructure costs, along with poor logistics, inadequate support services, lack of finance, and weak institutions, pose challenges to farmers. As increased weather variability is changing the geographical distribution of global food production and trade, more rules-based international trade and trade facilitation support is necessary to ensure the timely flow of food from surplus to deficit areas nationally, regionally, and globally. Enabling smallholders to more actively participate in markets will contribute to accelerating overall supply response. Support needs to be differentiated by regions and tailored to different types of markets. The Bank will help clients to improve physical infrastructure; strengthen producer organizations, business services, and value chain coordination; improve standards and food safety; increase micronutrient fortification of processed foods; facilitate trade; and increase access to finance, all of which are consistent with the WBG's Trade Strategy.[74] Overall, more emphasis will be given to facilitating a private sector response (box 8).

49. **Improve physical infrastructure, and information and communication technologies, including reducing post-harvest losses.**

72 FAO (2011). "The Kyrgyz Republic Farm Mechanization and Agricultural Productivity." Country Highlights Paper commissioned under the FAO/WB Cooperative Program.

73 World Bank (2013). *Growing Africa: Unlocking the Potential of Agribusiness.* Washington, DC.

74 World Bank (2011). *Leveraging Trade for Development and Inclusive Growth: The World Bank Group Trade Strategy, 2011–2021.* Washington, DC.

BOX 8: More Emphasis on Facilitating a Private Sector Response

Farmers, herders, traders, input suppliers, and agro-processors are all private sector actors. Higher average agricultural prices offer significant opportunities to raise incomes of poor people, attract higher levels of private investment, and increase overall sector growth while improving food security. The public sector role is to facilitate a level playing field for a much more active private engagement, including by smallholders. Better inclusion of disadvantaged groups in the market is a particular priority, as is securing the productive assets of the poor. Improving access to finance can help stimulate a private sector response, especially by those groups who until now had difficulties in securing access to capital. In addition, clients who wish to mobilize the power of private investment need to both establish a favorable overall investment climate and be sure that investors, including small-scale domestic ones, know about it and have confidence that it is true. Recent analysis also shows a positive correlation between the business climate and on-farm capital stock (FAO). Increasing access to finance by private traders can also help facilitate on-lending and advisory support to downstream suppliers, particularly smallholder producers, and support to local financial intermediaries can facilitate lending to agricultural input providers and agro-processing enterprises. These help facilitate private sector responses and can draw in more private investments along the value chain.

Key actions: (i) increase the share of IFC's agribusiness investment in total WBG support for agriculture (39 percent in FY2010–12). The volume of IFC's agribusiness investments is projected to increase by 60 percent from $2.7 billion annually in FY2010–12 to $4 billion to $5 billion annually in FY2013–15 while reaching more farmers (1.5 million per year by 2015); and (ii) develop and implement annual "Doing Agribusiness Surveys" in 80 countries, together with more focused multiple country analysis on specific business environment topics.

Note: This is not intended to be an exhaustive list of actions, but focuses in on several that will be given more emphasis over the next three years.
Reference: FAO (2013). *The State of Food and Agriculture: Investing in Agriculture for a Better Future.* Rome.

Improved rural infrastructure and market information can reduce transaction costs, facilitate the shift of farmers from subsistence to commercial agriculture, reduce post-harvest losses, promote value addition, and enable private sector investment. Effectively prioritizing rural infrastructure to improve access to electricity and connectivity with national and regional markets often requires strengthened capacity of local and national governments to plan, build, and maintain the quality of rural infrastructure in a cost-effective manner. In addition, better information technology (mobile phones) can improve price discovery and reduce product waste. Over the next three years, the WBG will continue to work across sectors to support (i) transport infrastructure (including the reach and quality of rural roads as is being supported in Assam, India[75]); (ii) market points and storage (including grain storage as was supported in the Punjab,[76] and cold storage at sea and airports as was supported in Mali[77]); (iii) access to water and electrification for food processing; (iv) infrastructure to reduce post-harvest losses (including to preserve harvests and adding value to crops, as is being supported in Ghana,[78] and investments in public-private partnerships to expand grain storage capacity and inventory management to ensure grain quality and reduced losses, as is

75 India, Assam Agricultural Competitiveness Project (P084792).

76 India, Punjab Silos (28159).

77 Mali, Agricultural Competitiveness and Diversification Project (P81704).

78 Ghana, Commercial Agriculture Project (P114264).

BOX 9: Liquid Biofuels: A Prominent Agricultural Issue in Global Food Price Discussions

There has been significant growth in the use of liquid biofuels: Maize-based ethanol in the US accounted for 48 percent of liquid biofuel production globally in 2011, following 25 percent a year growth between 2003 and 2010 under a policy regime intended to promote its use. More recently, growth in the use of maize-based ethanol slowed in the US, changing little between 2010 and 2011, while ethanol production increased 5 percent, reflecting a surge in exports to Brazil and the EU. The use of liquid biofuel is now widespread throughout the world. Biodiesel represented 78 percent of biofuels used in the EU in 2011, where liquid biofuel consumption grew by nearly 40 percent per year from 2003 to 2010. The US, Brazil, and the EU account for more than 90 percent of global ethanol and 70 percent of global biodiesel production and consumption. A further 19 countries have explicit policies to promote or channel liquid biofuel use.

Global growth in the use of food crops (or food-growing resources) for biofuel feedstock helped promote a claim in policy discussions that this phenomenon is behind current high agricultural prices. The first section of this document on the evolving and volatile context argued that there are several explanations of current high food prices, plausibly working together, and plausibly including high oil prices as a driver through the demand side (via biofuels) in addition to through the supply side (fuel and fertilizer). Proactive policies to promote biofuels use can also contribute if they have an effect beyond that of high fuel prices by themselves, particularly if their application is inflexible in terms of market conditions. This box uses the dominant case of maize use for ethanol in the US to explore some of the complexity for the broader issue of the relationship between high fuel and crop prices. The increase in the amount of maize used in ethanol production between 2003 and 2010 was equivalent to the entire growth in US production of maize. At roughly 40 percent of the US maize crop in 2011, amounts are substantial. This shift contributed to world maize price increases, as the growth in US maize production was no longer helping meet steady growth in aggregate demand for maize outside the US that was outstripping the supply of maize outside the US. This imbalance between demand and supply outside the US developed for years, but began to have a bigger impact on global prices when US exports ceased to expand in tandem with the demand for imports from the US.

Maize is not the primary ethanol feedstock in the Bank's client countries, where crops such as sugarcane are much more prevalent. The consequences of biofuel production on the levels and volatility of world sugar and vegetable oil prices are a plausible concern for developing countries. The merits of liquid biofuel use and policies affecting use are highly context-specific, depending on local prices for fuels relative to feedstock and many other factors in the production and consumption of both feedstock and fuels. A feedstock crop such as sugar is particularly efficient at reducing net CO_2 emissions through photosynthesis. The primary issue overall is whether biofuels are an efficient way to attain the net benefits sought when all the ramifications are assessed. Current WBG involvement in liquid biofuel production is small. IFC has several projects that include sugar-based ethanol, usually manufactured in dual-purpose mills that are flexible for both sugar and ethanol production. IBRD/IDA has had several pieces of formal analytical work on the topic.

Policy mandates and subsidies have been widely used to promote development of biofuels capacity. Blending mandates for gasoline are typically set for a fixed period of years. Mandates are typically set in percentages of biofuels to be blended, ranging from 1 to 10 percent. Mandatory blending has been implemented in some form in Argentina, Australia, Brazil, Canada, China, Colombia, Ethiopia, the EU, India, Indonesia, Jamaica, Malawi, Malaysia, Mexico, Paraguay, Peru, the Philippines, the Republic of Korea, Thailand, the United States, Uruguay, and Zambia, with varying levels of actual compliance. Some countries, such as China, India, and South Africa are now proactively seeking to ensure that food crops are not used as

BOX 9 *(continued)*

feedstock. The US is atypical in that it has a volume as opposed to a percentage mandate for ethanol. A key feature of mandates is whether they are flexible enough to permit temporary waivers in times of high feedstock prices. Brazil, for example, has a flexible mandate that is adjusted with supply availability. Subsidies may be more flexible than mandates. Many countries provide a fuel excise tax reduction or exemption, soft loans, tax credits, and direct subsidies to producers. Further policy support comes in some cases from import tariffs on liquid biofuel to prevent consumption subsidies from benefiting imports, deterring efficient production of biofuels in countries with comparative advantage.

The commercial profitability of the production of first-generation liquid biofuel is driven by the difference between the prices of petroleum and agricultural raw materials, taking into account government incentives. Petroleum and crop feedstock may be separately affected by different drivers, including different sorts of shock. At one point in early 2006, for example, the US ethanol was selling for $4 a gallon when corn was selling for $1.50 a bushel. Ethanol blending at that point was growing strongly beyond mandated amounts, and this growth was clearly fueled by high profitability. In contrast, the margins on ethanol production from maize shrank after 2006, and the continued rapid growth of blending was more clearly dependent on policy incentives and requirements. When maize reached $8/bushel after disastrous weather in summer 2012 in the US, a considerable amount of US ethanol production capacity was idled, in spite of relatively high petroleum prices of about $130/barrel. Further production was not profitable at these price relatives, and the credits ("Renewable Identification Numbers") accumulated by blenders toward mandated amounts were sufficient at that point to satisfy policy requirements. Paradoxically, high corn and soybean prices in recent years have also led to a tripling of the price of Distillers Dried Grains, an ethanol by-product used for feed that has become an important part of the US ethanol producers' net margins.

There are contrasting views on whether liquid biofuels improve ecological sustainability. Potential positive effects might include lower vehicular emissions of harmful pollutants in countries with less stringent emissions control, as ethanol is less polluting than some of the other additives used in some countries to boost octane. Plants grown for feedstock may absorb more CO_2 overall than would have been the case otherwise on the same land. However, potential negative effects include increased pressure on land and water sources, soil erosion, soil pollution, extra energy use for production and transport, loss of agro-diversity due to mono-crop cultivation, and loss of diversity in general due to agricultural expansion. The net impact on ecological sustainability needs to include a production landscape approach to factor in all costs and benefits.

The WBG will work with clients, if requested, to assess the wide range of costs and benefits in specific situations, as well as any spin-off effects on a broader set of markets and clients. The WBG recognizes the imperatives to address multiple needs for fuel, food, feed, income growth, and ecological sustainability. While the WBG maintains a general focus on facilitating market adjustments to both changing long-term needs and short-term shocks—something that in most cases quantitative restrictions and in many cases subsidies or other market distortions are not helpful to—it recognizes the breadth of policy objectives and complexity of underlying issues of this subsector. Better understanding the likelihood of unexpected consequences is especially critical here. The bottom line is that presently the outlook is for the global supply of food and feedstock to continue to fall short of needs unless global productivity grows faster than it is doing in most countries; there is a critical need for efficient responses to this issue worldwide.

being supported by IFC in Punjab, India); and (v) more use of information technology to facilitate price discovery and reduced product waste.[79] Attention will be given to improve geographic prioritization and targeting of infrastructure to link high potential agricultural areas with markets; promote development along growth corridors; promote cross-border trade, especially in low-income countries where the infrastructure gap remains significant; and strengthen competition in delivery of transport services to avoid monopoly and rent seeking in the transport sector. IFC will increase its investments in critical infrastructure needs in logistics, storage/silos, and dedicated agriculture port terminals during the three-year period to help to reduce post-harvest spoilage through better storage and more efficient transportation systems that speed access to markets.

50. **Strengthen producer organizations, business services, and value chain coordination.** The ability of farmers, particularly smallholders, to compete in growing higher-value markets will determine the poverty-reducing effect of future agricultural growth. Improved supply chain management leading to lower costs (operating, procurement, marketing, and distribution) will help smallholders to move beyond local markets to urban, regional, and global markets. Our focus over the next three years will be to (i) scale up successful business models that link smallholders to markets, which includes support for producer organization, ICT and business development services to farmers, value chain coordinators, out-grower schemes, and matching grants to spur innovative approaches; (ii) provide technical support on the policy environment, market structure, and degree of private sector competition; (iii) pull in the private sector, including through the AgResults initiative[80] and increased collaboration with agri-commodity supply chain integrators; and (iv) do more cross-regional South-South learning on good practice approaches. Our programs are having an impact. For example, new market identification, new product development, technical assistance, and advisory services to agribusiness companies in Kyrgyz Republic have increased sales and profits for smallholders.[81] Productive alliances to help producers transition into high-value supply chains in Bolivia have significantly increased both production and prices received by producers, with these productive alliance projects now being financed in 10 LCR countries. The use of ICT through an internet portal to access product prices in Anhui Province in China contributed to small cooperatives better identifying market opportunities for poultry sales in major markets.[82]

51. **Improve the enabling environment.** The policy and legal environment influences the incentives for private sector investment in agriculture—including by smallholder farmers, traders, and agro-processors. IDA/IBRD will continue to use analytical work to guide dialogue with client countries on improving the policy and legal environment, and the IFC is developing a program of support for (i) regulatory reform for the agriculture sector, (ii) warehouse systems regulation, (iii) competition policy, and (iv) tax and incentive reform in the sector. In addition, WBG is extending the Doing Business methodology to "Doing Agribusiness," with

79 World Bank (2011). *ICT in Agriculture Sourcebook*. Washington, DC.

80 AgResults is an initiative to enhance smallholder welfare and improve food security for the poor and vulnerable through the use of "pull mechanisms" in agriculture. Pull mechanisms are results-based financial incentives rewarding successful innovations and their adoption. They are designed to overcome market failures and encourage private and public sector innovators to develop products and services that they would not otherwise bring to the market. Well-crafted pull mechanisms can be used to close the gap between the demand for socially desirable goods and services and their supply by the private sector in developing countries.

81 Kyrgyz Republic, Agribusiness and Marketing Project (P049724).

82 China Construction and Popularization of Agriculture Info-Service System.

plans to develop indicators of laws, regulations related to accessing agricultural inputs, exporting agricultural products, getting credit for agribusiness, and accessing agricultural land and water, among others. The survey results on agribusiness constraints can help inform policy dialogue.

52. **Improve quality standards and food safety.** Improving capacity to meet quality and safety standards in growing high- and middle-income markets can improve smallholder competitiveness in these markets and improve domestic health and nutrition. The WBG will continue to support (i) improving implementation of sanitary and phyto-sanitary standards and other food safety standards, including improving capacity to comply with export market standards, as is being supported in Moldova;[83] (ii) training, knowledge sharing, and analytical research on standards, including e-learning courses (with the World Bank Institute) on good practice in development assistance standards; (iii) aligning food safety institutions and systems to market needs, as is being supported in Vietnam[84] with improvements and hygiene along the meat chain, and in Ukraine and Central Asia, through IFC Advisory Services support to better align food safety practices with international regulations, including the EU; (iv) improving grading and packaging, as is being supported in productive alliance projects in LCR, including support for enabling policies on intellectual property rights (e.g., brands and trademarks); (v) improved product traceability and verification of environmental and social sustainability practices (e.g., IFC is providing support to Armajaro Trading Limited to help maintain closer contact with cocoa and coffee farmers and cooperatives and offer value-added services); (vi) raising awareness, standards, and testing for improved "food safety" for better health and nutrition, particularly on aflatoxins (a mold predominately in maize and peanuts), with an estimated 4.5 billion people exposed to aflatoxins in their diet,[85] which is believed to cause 5–28 percent of all liver cancer cases around the world,[86] other liver diseases, stunting, and immune suppression; and (vii) promotion of voluntary sustainability standards to limit environmental and social risks of production (e.g., the WBG through the Roundtable on Sustainable Palm Oil set a comprehensive, agreed-upon sustainability standard that producers could adopt, to limit the crop's impact on deforestation and biodiversity loss[87]). IDA/IBRD support to governments to strengthen food safety standards (policy and regulation), are complemented well with IFC support to companies to implement the standards.

53. **Support fortification of processed foods with micronutrients.** Micronutrient fortified processed food can help improve nutrition outcomes. Some countries have universal fortification mandated by law, such as folic acid in wheat flour in Latin America and iron-fortified fish sauce in Vietnam and China, while other fortified products are market driven, such as iron-enriched curry powder in South Africa. The WBG will do more to support micronutrient fortification, for example, through developing financing mechanisms to offset additional fortification costs of cereal millers and vegetable oil refiners or supporting the development of the regulatory framework for fortification standards and related food laws (as is being done through the AgResults[88]).

54. **Facilitate intra-regional, South-South, and global trade.** Greater trade within regions (box 10),

83 Moldova, Agricultural Competitiveness Project (P118518), Investment Climate Reform Moldova Project (576047).

84 Vietnam, Livestock Competitiveness and Food Safety Project (P090723).

85 Williams, J., Phillips, T., Jolly, P., Stiles, J., Jolly, C., and Aggarwal, D. (2004). "Human aflatoxicosis in developing countries: a review of toxicology, exposure, potential health consequences, and interventions." *Am J ClinNutr* 80: 1106–22.

86 Liu, Y., and F. Wu (2010). "Global burden of aflatoxin-induced hepatocellular carcinoma: A risk assessment." *Environmental Health Perspectives* 118 (6): 818–824.

87 World Bank (2012). *Inclusive Green Growth: The Pathway to Sustainable Development*. Washington, DC.

88 http://siteresources.worldbank.org/CFPEXT/Resources/AGPM_OVERVIEW_April.pdf

BOX 10: The Importance of Promoting Cross-border Regional Trade in Sub-Saharan Africa

Africa's producers are not generally competitive in global markets for food staples. The same high international and domestic logistics costs that provide natural protection for local food producers pose a significant barrier when it comes to exporting. For example, Mozambican farmers, who are highly competitive in producing cassava for the domestic market, would have to cut production and logistic costs by more than 80 percent to become competitive exporters of cassava to Europe (FAO and World Bank 2009).

Regional markets and cross-border trade in Sub-Saharan Africa appear to offer the most promising opportunities for agricultural expansion over the short-to-medium term. Demand in regional markets is expected to grow rapidly as a result of population growth, income gains, and accelerating urbanization. Serving regional markets with less sophisticated requirements on food safety and quality than in developed countries is more affordable, including by displacing imports from outside the region, which is currently considerable.

In addition, cross-border trade offers more than new market opportunities. It facilitates the flow of food from surplus to deficit areas across country borders, reducing short-term food price volatility. Impact simulations of maize production shortfalls on food prices in Southern Africa illustrate that a 30 percent production shortfall would lead to maize price increases in Zambia of 163 percent without cross-border trade, but increases of only 36 percent when cross-border trade is permitted (World Bank 2008). In Malawi, a 20 percent production shortfall would result in maize prices spiking by 62 percent when trade with northern Mozambique is banned, and by 27 percent when cross-border trade takes place. Promoting cross-border trade is a cost-effective way of achieving price stabilization, in particular compared to such alternatives as export bans or buffer food grain stocks.

Source: FAO and World Bank (2009). Awakening Africa's Sleeping Giant: Prospects for Commercial Agriculture in the Guinea Savannah Zone and Beyond. ARD, Rome and Washington, DC.; and World Bank (2008). Regional Trade in Food Staples: Prospects for Stimulating Agricultural Growth and Moderating Food Security Crises in Eastern and Southern Africa. Washington, DC.

among developing country markets, and with developed countries can help raise farm incomes, link product surplus and deficit areas, and reduce price volatility. In addition to supporting infrastructure development, value chain coordination, and improving standards, the WBG will support analytical work and technical assistance to promote open trade policy and facilitate trade, including facilitating the identification and implementation of cooperative trade solutions to reduce the adverse impacts of unilaterally chosen policies on trading partners. Support includes (i) support for multilateral action and cooperation, including conclusion of the Doha Round of WTO negotiations that would reduce distortions and strengthen disciplines on agricultural trade restrictions; (ii) research that assesses the impacts of current policies; (iii) highlighting benefits of various policy options/agreements; (iv) capacity building (generally through the World Bank Institute) that aims at training on and dissemination of analysis; (v) provision of data and datasets on trade flows and policy (so that countries can assess market access implications); and (vi) technical assistance to countries in trade facilitation negotiations (working with our partners, especially the WTO and UNCTAD).

55. **Increase access to finance.** Rural financial services are critical to developing the rural economy, to help farmers, traders, and agribusiness firms participate in trade and food processing. The WBG continues to support clients in their efforts to deliver a broad range of financial services to the rural poor, especially women,

including through commercial banks (e.g., the Agricultural Financial Support Facility in AFR and Asia). Through the IFC, financing and advisory services are made available for financial institutions to increase their financing to the agriculture sector and rural populations, and to facilitate value chain financial solutions, such as warehouse financing, which provides farmer suppliers with needed liquidity by making commodities in warehouses available as collateral. We will scale up support for financial service provision, market facilitation, and the enabling environment for rural finance; building on relevant technological advances to spread access and expanding multiple sources of rural finance, trade finance, as well as savings mobilization, which includes (i) microfinance; (ii) interlocking financial arrangements through contract farming and out-grower schemes; (iii) warehouse financing (Global Warehouse Finance Program, a program directed to support bank lending backed by agricultural production); (iv) matching grants to farmers and value chain participants; (v) support to establishing leasing markets; and (vi) credit facilities and capacity building for farmers, exporters, and processors, as is supported in Uzbekistan,[89] Cambodia,[90] and Vietnam.[91]

Thematic Area 3: Facilitate Rural Non-Farm Income

56. Rural non-farm income is increasingly important in many countries and often provides critical linkages for agricultural growth as a vital source of savings and as a significant contribution to food access and food security. Growth of farm and rural non-farm sectors often has mutual benefits through production and expenditure linkages. As urban centers and associated job opportunities develop, labor migration out of agriculture will increase. However, where there is excess labor in agriculture, a continued lag in urban job creation, and urban congestion, a priority is to promote rural non-farm employment in secondary towns, including for women, and to strengthen rural-urban linkages. Effective functioning of land markets is also necessary to facilitate both entry and exit from agriculture. Facilitating exit from agriculture, including the intergenerational transfer of assets, is an important issue facing many middle-income countries, many of which are also facing the challenge of an aging population. In addition, to strengthening land markets, the WBG will continue to support improvements in the investment climate, investment in rural infrastructure, skills upgrading, and livelihood programs.

57. **Improve the rural investment climate.** The WBG is piloting a set of agribusiness indicators in 9 countries, with recent analysis completed in Ghana, Mozambique, and Ethiopia. A second round of four country studies (Burkina Faso, Tanzania, Kenya, and Zambia) is under way. Rural investment climate assessments are also being completed in Georgia and Tajikistan. This work is now being scaled up in partnership with the Global Indicators and Analysis Group, which undertakes the Doing Business Surveys. A hybrid approach of an annual Doing Agribusiness Survey in 80 countries, together with more focused multiple country analysis on specific topics will be used. The product can help guide policy dialogue to improve the overall investment climate.

58. **Invest in rural infrastructure.** Rural areas often have poor physical and communications infrastructure. More developed infrastructure can lower transaction costs, increase connectivity, and raise non-farm earnings. The WBG will invest in infrastructure, particularly in densely populated lagging areas to support mobility. In India, for example, where mobility is low and language and cultural differences are considerable, complementing infrastructure investments with incentives for enterprises to locate in lagging areas/states can help raise rural employment.[92]

89 Uzbekistan, Rural Enterprise Support Project Phase I (P046043).

90 Cambodia, Agribusiness Access to Finance Project (P121809).

91 Vietnam, Third Rural Finance Project (P100916).

92 World Bank (2008). *World Development Report 2009: Reshaping Economic Geography.* Washington, DC.

59. **Upgrade skills to expand job opportunities.** Just as the 21st century farmer will need to be better trained and educated, moving out of agriculture, whether to the rural non-farm sector or by migrating to urban areas, depends on more and better-quality education. More specific skills and training are necessary to promote non-farm activities such as subcontracting/outsourcing from urban to rural enterprises and households. Moreover, enhanced rural education is important for improving the productivity of the non-farm sector.[93] Vocational training can help to meet supply chain skills and capacity needs, and for rural non-farm employment (especially for women). The WBG will support skills development, including tertiary and vocational training, and seek opportunities to link with the private sector to ensure skill relevance, including for new labor market demands from a green growth agenda (e.g., labor market implications from afforestation, and new opportunities for biofuels production[94]). HDN has also developed survey instruments to identify skills gaps and to ensure skills relevance by incorporating the needs of employers. Programs that provide cash grants conditioned on school or training attendance can increase demand for education.

60. **Improve rural livelihoods.** Establishing efficient and effective institutional platforms of the rural poor, especially for women, can enable them to increase household income through sustainable livelihood enhancements and improved access to financial and other services, as is being done through livelihood programs in South Asia.[95] Project interventions can aim to build up both tangible (physical and financial) and intangible (social and institutional) assets that enhance or contribute to increased income and increased access to services. Key areas of support under livelihood operations can include (i) institutions of the poor that provide the initial "push" for collective action, development of "voice" and organized access to new economic opportunities; (ii) human capital development, which is essential to equip communities with the range of functional, entrepreneurial, administrative, technical, and social skills; (iii) networks and federation development to allow conversion of opportunities through economies of scale and allow greater representation and aggregation of demand; (iv) systems of capital development through access to credit, savings mobilization, insurance, and matching grants for asset creation and venture capital among the poor; (v) linkages with markets and the private sector by facilitating access to markets or through partnerships or "co-production" arrangements that encompass both forward and backward linkages.[96] The WBG will continue to support rural livelihood programs.

61. **Promote youth employment.** Harvesting a "youth dividend" through enhanced productivity of agricultural and non-farm rural sectors and thus creation of more and better rural jobs for men and women, is both an opportunity and challenge in many parts of the world. This is especially important in AFR, which, with its projected 1.7 billion people by 2050, will be the second most populous region in the world (after SAR) and the only region in which the rural population will still be growing. When compared to adults, youth are more often employed under informal and casual contracts; earn less; work more hours; have less assets, in particular land; and lack access to finance. The WBG will support client actions to remove barriers for youths to join the formal and informal labor force by improving youth access to land, capital, and skills. In AFR, the Youth Employment Flagship analytical work will help take stock of youth employment tailored programs, define actions to promote youth employment in wage and informal sectors, and identify entry points to add youth lenses to ongoing and new projects and programs.

93 World Bank (2007). *World Development Report 2008: Agriculture for Development*. Washington, DC.

94 World Bank (2012). *Inclusive Green Growth: The Pathway to Sustainable Development*. Washington, DC.

95 India National Rural Livelihoods Project (P104164), Sri Lanka, Community Development and Livelihood Improvement "GemiDiriya" Project (P074872).

96 Supporting the "People Sector": The South Asia Experience in Rural Livelihoods Development—A Summary. http://siteresources.worldbank.org/INTRURLIV/Resources/LivelihoodLearningNote1.pdf

Thematic Area 4: Reduce Risk, Vulnerability, and Gender Inequality

62. Greater price uncertainty, increasing frequency and severity of droughts and floods,[97] continued risk of major outbreaks of crop and livestock pests and diseases are posing significant risks. The AAP emphasizes both short- and longer-term risk management actions to address these risks. Malnutrition and gender inequality increase vulnerability and reduce overall productivity, and governance issues often constrain sector performance. These issues will be given more emphasis (box 11). While risk and vulnerability cut across many of the thematic areas, several actions are highlighted in this section in the context of heightened uncertainty.

63. **Better manage risks and reduce future vulnerabilities.** Using the full range of risk management strategies and tools, the WBG will assist clients to better assess and prioritize agricultural risks; develop holistic risk management strategies; understand the socioeconomic and gender asymmetries in the impact of the risks; identify and prioritize risk management instruments; and support management of these risks with financial investments, policy support, improved gender and poverty targeting and technical assistance. Agricultural risk assessment (at broader sectoral, supply chain, and farm levels) can identify and help plan ex ante risk management strategies, which include (i) risk mitigation activities to reduce the likelihood of adverse events or reduce the severity of actual losses (e.g., farming systems diversification, improved agricultural water management, use of drought and flood tolerant seeds, more resilient land-use systems, improved access to services for both men and women farmers including veterinary services, agricultural extension, improved early warning systems, and adoption of better agronomic practices); (ii) risk transfer to third parties, for a fee or premium (e.g., insurance, physical forward contracts, and hedging); and (iii) risk coping through improving resilience to withstand and cope with risk events, through ex ante preparation (e.g., contingent financing, disaster risk financing, fiscal provisioning, saving, and establishment of targeted safety net programs). Implementation of risk management strategies can be supported at the local, regional, and global level—for example, the CGIAR can make a significant contribution through development of crop varieties resistant or tolerant to abiotic stresses (drought and flooding) and biotic stresses (disease and insect pests), which remains a breeding objective of the CGIAR Research Programs on crops. Maize varieties tolerant to drought have been developed and are now widely grown in southern Africa. Rice varieties tolerant to extended periods of water submergence are already benefiting over 100,000 rice farmers in Bangladesh, India, and the Philippines.

64. **Response to droughts, particularly in the Horn of Africa and Sahel** (box 12). The overall thrust of the Bank's response in the Horn of Africa seeks to link short-term crisis mitigation with long-term development objectives focusing on three simultaneous phases: (i) Immediate targeted responses (first six months) to provide nutrition, preserve purchasing power, and reduce asset depletion of the most vulnerable through cash-for-work programs, cash transfers, health screenings, and nutrition schemes targeting vulnerable populations, especially women and children (e.g., support in Ethiopia[98] targeted chronic and transitory food-insecure populations, and in Kenya, household cash transfers were increased to preserve purchasing power[99]). (ii) Livelihoods recovery (first two years) through increasing investment to spur agricultural productivity growth (crops and livestock), advancing land management and efficient irrigation techniques to strengthen

97 IPCC (2012). *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation.* Available at http://ipcc-wg2.gov/SREX/.

98 Ethiopia, Productive Safety Net Program III (P126430).

99 Kenya, Cash Transfer for Orphans & Vulnerable Children Project (P11545).

BOX 11: More Emphasis on Risk Management, Nutrition, Gender, and Governance

Risk management: In the increasingly volatile environment, with three world food price spikes in the last five years, continued risk of major outbreaks of crops and livestock pests and disease, and the increasing frequency and severity of droughts and floods, we will assist clients to better assess and prioritize agricultural risks, develop holistic risk management strategies, and support the management of these risks through investment in risk mitigation, capacity building of stakeholders, and improving access to financial instruments. Given the multiple risks in agriculture, an integrated risk management approach is needed. This involves (i) analysis of the three principle types of agricultural risks and their prioritization, based on probability of occurrence and severity of losses—production risk, market risk, and enabling environment risk; (ii) assessment of risk management capacity across different producers, commercial sector stakeholder, and the public sector; (iii) developing strategies to manage agricultural risk—mitigation, transfer, and coping; and (iv) translating risk management strategies into specific actions—investments, technical assistance, and policy support.

Key actions: (i) increase the number of country level agricultural sector risk assessments (building on the experience of those completed in Honduras and Niger); (ii) expand crop-related insurance offerings (such as the Global Index Insurance Facility, a program established by IFC and IBRD to support developing markets for index-based insurance for farmers vulnerable to catastrophic weather and other natural disasters); (iii) expand financial instruments for agricultural price risk management and trade facilitation (the IFC's Agricultural Price Risk Mechanism and the IFC's Critical Commodity Finance Program); and (iv) provide financial and technical support to the recently established (global) Agricultural Market Information System (AMIS) to help reduce some of the uncertainty and volatility in international food markets.

Nutrition: Nutrition-linked MDGs are lagging (particularly child mortality and maternal mortality). In addition to the estimated 870 million people undernourished, another 2 billion are deficient in micronutrients such as iron, zinc and, vitamin A ("hidden hunger"). Investing in women smallholder farmers; development and adoption of biofortified varieties; food fortification that adds micronutrients to processed food; crop diversification to food with high nutrient content (e.g., horticulture, pulses, meat, dairy, fish); and improving nutrition education through agricultural extension and livelihoods projects (which can improve dietary variety in production and consumption) can all help improve nutrition beyond raising incomes and production. Food production increases do not automatically translate into improved nutritional outcomes for specific groups of the population, such as children under five.

Key action: (i) increase the share of agriculture projects with an explicit focus on nutrition (currently at 12 percent).

BOX 11 *(continued)*

Gender: Bringing yields on the land farmed by women up to the levels achieved by men would increase agricultural output in developing countries between 2.5 and 4 percent (FAO). This will require actions to reduce gender inequality in access to services, assets, and opportunities. Recognizing the importance of gender issues in agriculture, more will be done on gender mainstreaming in agriculture projects. The target is that by FY2015, 100 percent of new agriculture and rural development projects will include gender analysis in their design (an increase from 68 percent in FY2010–12), and 75 percent will also have gender actions and gender-disaggregated M&E (an increase from 48 percent in FY2010–12). The focus on all three elements of design (analysis, actions, and M&E) raises the bar for an agriculture project beyond the Bank standard of having only one of these elements satisfactorily addressed.

Key actions: (i) increase the share of agriculture and rural development projects that include gender analysis informing design with a target of 100 percent by FY2015; and (ii) increase the share of agriculture and rural development projects that include all three gender dimensions of design (analysis, actions, and M&E) with a 75 percent target by FY2015.

Governance: Political economy issues in agriculture often constrain institutional and policy reform that could potentially improve agricultural productivity and make growth a more inclusive process. These include issues related to both public spending patterns (such as subsidies) and policies (such as trade restrictions). The governance of land tenure, particularly in AFR where less than a fifth of land is formally registered, is increasingly important to both protect the rights of current land holders and possible future private investors.

Key actions: (i) strengthen analytical work, including through the expanded program of public expenditure reviews, analysis of the alignment of agricultural and water subsidies, and green growth to help better understand the nature of political and institutional constraints to sustainably improving agricultural productivity and resilience, and more use of the land governance assessment framework at country level; (ii) ensure projects addressing land tenure issues are in line with the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests, endorsed by the Committee on Food Security in May 2012; and (iii) ensure new IFC investments in large-scale primary agriculture include food security impact assessments and disclosure of key contract terms in government to private transfers of land.

BOX 12: Worst Drought in 60 Years in the Horn of Africa and the Sahel

In the Horn of Africa, the worst drought in the last 60 years reached emergency proportion at its peak in July 2011 due to low rainfall and record high prices of staple foods. Concurrently, the Sahel region was also affected by a severe regional drought that left 14 million people at risk of food insecurity, especially in the agro-pastoral and conflict areas. About 80 percent of the people in these regions rely on agriculture and pastoralism as their primary source of food and income. Farmers' crops in many countries did not withstand the drought, reducing incomes and available food. Livestock losses from death and distress sales reduced household assets. Higher world food prices compounded increases in local prices caused by drought, conflict, and internal displacement. In September 2011, the Africa Region carried out a comprehensive impact analysis of the drought, which estimated total damages and losses to be $13.5 billion, with profound impacts on national economies. The Bank Board approved a $1.8 billion Drought Response Plan. This Response Plan included $250 million from the IDA CRW, support from the donor-funded Global Facility for Disaster Reduction and Recovery, and support from the State and Peace Building Fund.

longer-term resilience of agriculture households, particularly in drylands, to weather shocks, with climate-smart agriculture as a priority (e.g., support for agricultural inputs and temporary employment in Somalia,[100] and to support inputs and productive infrastructure in Chad[101]). (iii) Longer-term drought resilience through investments to reduce food market uncertainty and associated food price spikes; develop cross-border strategies for drought risk reduction; and facilitate structural transformation and labor transitions to higher-waged industries and services. The latter would be supported through investments in skills development and through policies to reduce labor market rigidities (e.g., support to build social safety net programs, improve management of natural resources and rural resilience, including water and energy in Djibouti,[102] and support to improve climate resilience of populations and production systems to increase food security in Niger[103]).

65. **Reduce risk of disease outbreaks.** Climate change is expected to increase the incidence of malaria, dengue fever, and other vector-borne diseases and to harm ecological systems and their biodiversity. IDA/IBRD is sustaining its effort in livestock disease surveillance, especially in regions with intensive livestock systems (ECA, LCR, EAP, and SAR). Moreover, the Bank is reviewing available scientific and field-based knowledge to help clients define early action frameworks and interventions to mitigate key climate-sensitive infectious diseases, including (i) surveillance and early warning systems; (ii) development of long-term region- and country-specific disease outlooks; (iii) creation of climate-sensitive disease risk maps; (iv) implementation of climate-sensitive agriculture/livestock insurance and rural finance initiatives; and (v) strengthening veterinary services.

66. **Protect against catastrophic losses.** Over the next three years, the WBG will support (i) risk transfer products and catastrophe risk financing solutions for governments based on the use of parametric and other triggers (for example, the weather derivative transaction for Malawi and the Catastrophic Deferred Draw-down Option for Colombia and Indonesia); (ii) improvement and modernization of hydrological and meteorological

100 Somalia, Drought Management & Livelihood Protection Project (P128143).

101 Chad, Projet d'Appui à la Production Agricole (P074266).

102 Djibouti, Crisis Response, Social Safety Net Project (P130328); Rural Community Development Project (P117355); Power Access & Diversification Project (P086379).

103 Niger, Community Action Project for Climate Resilience (P125669).

services as part of a broader support for disaster reduction and climate change adaptation; (iii) targeted country programs, such as the Index Based Livestock Insurance Program to reduce the impact of livestock mortality on herders' livelihoods (e.g., the Mongolia program that involves a combination of self-insurance by herders, market-based insurance, and social insurance, and support in Ethiopia to increase the resilience of pastoralists to external shocks in response to drought and floods); and (iv) expand access to insurance (e.g., IFC support to improve access to insurance by Rwandan farmers and livestock herders to protect their animals, crops, and livelihoods against natural disasters and weather-related risks, and the roll-out of the Global Index Insurance Facility, a program established by IFC and IBRD to support developing markets for index-based insurance for farmers vulnerable to catastrophic weather and other natural disasters).

67. **Better manage food imports and public stocks.** Large net importers of food, such as countries in MNA, Asia, and West Africa, remain vulnerable to high and volatile world food prices and face higher import bills and reduced fiscal space. The WBG support will focus on helping clients better manage market volatility with technical assistance to (i) improve grain-import supply chain efficiency to keep import costs low and ensure timely delivery of supply; (ii) improve procurement systems; and (iii) more effectively use physical food reserves and financial strategies to hedge risk. In addition, designing transparent, rules-based arrangements for emergency food reserves to help shield vulnerable populations from food price spikes requires a solid foundation of empirical knowledge at the global and country level. Unlike buffer stocks or across-the-board trade measures that attempt to stabilize prices to all consumers and that act as universal subsidies benefiting both poor and non-poor consumers, emergency food reserves can facilitate provision of subsidized or free food to vulnerable population groups in times of crisis. In addition, emergency reserves or social safety net approaches, if effectively designed, do not disrupt normal private sector market development, which is needed for long-term food security. In this respect, the WBG will continue providing analytical and financing support to (i) integrate small emergency food reserves into national food security strategies; (ii) effectively use early warning systems to reduce costs and provide timely response to evolving needs; (iii) integrate emergency reserves with social and food security safety nets, to increase their effectiveness in benefiting the vulnerable; and (iv) reform public stocks arrangements that have negative impacts on long-term food security.

68. **Support greater global food market transparency.** To reduce some of the uncertainty and volatility in international food markets, the Bank is partnering with other multilateral international organizations to increase public access to information on the quantity and quality of global grain exports and stocks through an Agricultural Market Information System. The partnership leverages resources to improve global short-term agricultural outlooks; policy analyses of global production, trade, stocks, and price developments; and promotes early information exchange and discussion on crisis prevention and responses among policy makers. The WBG will continue to (i) increase transparency of global markets; (ii) better understand the market and policy drivers of price volatility; and (iii) develop policy options at global and national levels to reduce negative impacts.

69. **Better use of risk transfer tools.** To improve the appropriate use of risk transfer tools, the WBG is developing more accessible price hedging and insurance solutions for Government entities, commercial firms, and farmers. For example, IFC's Agriculture Price Risk Mechanism facilitates private sector risk management transaction through a financial intermediary (with IFC sharing some of the credit exposure of smaller emerging market counterparties in need of agriculture commodity price risk hedges). In addition to the Bank's Treasury department's hedging products,

such as commodity price swaps and weather derivatives, the department is also providing customized advisory service to client countries on (i) risk assessment to identify the specific price exposure and impact on the budget; (ii) analysis of the policy framework; (iii) strengthening the institutional framework; (iv) general review of commodity hedging products, including advantages and disadvantages of different approaches; (v) technical analysis of prototype hedging strategies; (vi) documenting and communicating what the hedging strategy can realistically do; (vii) building capacity of staff and decision makers; and (viii) transaction execution, monitoring, and back-office support systems. In addition to reducing volatility of revenues from exports and costs from imports, financial risk instruments can also be used to generate resources to support income transfers when there is a large pass-through of international to domestic prices. In addition, private investment in developing countries is sometimes deterred by political risks, including (i) currency inconvertibility and transfer restrictions (preventing earnings repatriation); (ii) expropriation (government takeover 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 (by governments and the contractual partners). These risks also significantly increase the cost of capital for investment in agriculture and related sectors, and some lenders are unwilling to extend credit in the absence of (political) risk insurance. MIGA will continue to provide products to insure foreign direct investment against these risks, and provide dispute resolution services for guaranteed investments to prevent disputes from escalating. MIGA is currently providing $154 million in guarantees to the agriculture sector in AFR, ECA, and MNA.

70. **Better link social protection instruments with sector interventions.** Based on a recent review,[104] broader approaches to social protection, as articulated in the Bank's Social Protection and Labor Strategy,[105] and recent experience with food price spikes and droughts, the Bank's focus over the next three years will be to (i) ensure that there are more longer-term programs and broader social protection and labor systems in place before crises hit; (ii) enhance existing programs so that they can more easily capture the newly vulnerable (such as more flexible and frequent mechanisms for identifying beneficiaries); (iii) add programs such as public works and unemployment insurance that can be easily scaled up to protect the newly poor and vulnerable and that can build resilience in farming systems through, for example, watershed management and agro-forestry; and (iv) focus more on supporting safety nets in low-income countries (two-thirds of lending for social protection in 2011 was in middle-income countries). Often women are more adversely impacted by crises, making it very important for the support and safety-net programs to be gender responsive in their design. It has also been shown that women more readily share the benefits from such programs among the family members. In this context, our support to safety nets will focus more on low-income countries and on preparedness to respond to shocks (with responsive design features such as agile targeting systems, gender analysis guiding investments, on-demand application, and investments that are suitable for crisis response as well as alleviating chronic poverty—such as improving nutrition, health, and education outcomes for children; creating access to better jobs; empowering girls and women; and promoting greater equity), while better combining safety net instruments with longer-term agricultural and

104 World Bank (2011). *Social Safety Nets: An Evaluation of World Bank Support, 2000–2010*. Independent Evaluation Group, Washington, DC.

105 World Bank (2012). *Social Protection and Labor Strategy 2012–2022*. Washington, DC.

nutrition investments.[106] Investment in agriculture and related sectors will complement the efforts of other sectors whose aim is to develop at least one sound poverty-targeted safety net program in countries where this does not exist.[107] Programs in rural areas will aim to smooth consumption, particularly during slack agricultural seasons (when prices are volatile and demand for labor declines); and to prevent depletion of productive assets in order to cope with repeated shocks. Promotion of multisectoral responses that help strengthen health and nutrition access and outcomes for vulnerable groups, particularly children and pregnant and lactating mothers, remains crucial.

71. **Reduce gender inequality in access to assets, services, and opportunities**. Gender gaps in productivity and earnings remain pervasive, and gender differences in time use, in access to assets and credit, and in treatment by markets and formal institutions (including the legal and regulatory framework) all play a role in constraining women's opportunities. Bringing yields on the land farmed by women up to the levels achieved by men would increase agricultural output in developing countries between 2.5 and 4 percent.[108] This will require actions to reduce gender inequality in access to services, assets, and opportunities. The World Bank will continue to mainstream the treatment of gender issues in agricultural projects with a focus on (i) analysis of gender-related issues relevant to project objectives and components; (ii) actions that are expected to narrow gender disparities, including through specific actions to address the distinct needs of women and girls, and men and boys, or that have positive impacts on gender equality; and (iii) M&E frameworks that monitor gender impact and facilitate gender-disaggregated analysis. For instance, we will monitor at the project level the number of women farmers adopting new technologies promoted by extension services, the number of land parcels with use or ownership rights of women recorded as a result of the project, and active microfinance loan accounts held by women. To improve gender mainstreaming, we have set a target that, in the design of agriculture and rural development projects, by FY2015, 100 percent of projects include gender analysis and 75 percent also have gender actions and gender-disaggregated M&E. The focus on all three elements of design (gender analysis, gender actions, and gender-disaggregated M&E) raises the bar for an agriculture and rural development project beyond the Bank standard of having only one of these elements satisfactorily addressed.

72. **The successful implementation** of the agenda across all thematic areas will continue to require addressing the governance challenges in agriculture that constrain institutional and policy reform and that could improve agricultural productivity and make growth a more inclusive process. Strengthening our analytical work (including through the expanded program of public expenditure reviews) can help us better understand the nature of political and institutional constraints to improving agricultural productivity and resilience. In addition, investment programs can help, including through (i) support for decentralization of agricultural services and functions guided by the principle of subsidiarity (e.g., decentralization of land administration to selected localities with high growth potential to enable the handling of high volumes of land transactions and disputes in Zambia,[109] or community-based forest management in Mexico); (ii) support for institutional reforms of ministries of agriculture to improve service delivery (e.g., reorganization of national advisory services in the Kyrgyz Republic[110] and support for forest institutions in the

106 World Bank (2011). *Social Safety Nets: An Evaluation of World Bank Support, 2000–2010*. Independent Evaluation Group, Washington, DC.

107 The Bank-wide support for IBRD/IDA allocations to Social Safety Nets rose sixfold, from just $1.2 billion in the FY06–08 pre-crises period (averaging $0.4 billion per year) to over $10 billion in FY09–11 to date (averaging $2.5 billion/year).

108 FAO (2011). *The State of Food and Agriculture: Women in Agriculture — Closing the Gender Gap for Development*. Rome.

109 Zambia, Irrigation Development Project (P102459).

110 Kyrgyz Republic, Agricultural Investment and Services Project Active (P096993).

Republic of the Congo[111]), and strengthening local government capacity; (iii) strengthening participation in agricultural policy processes, including for funding decisions (e.g., through greater participation of CSOs in discussion on funding allocation decisions in GAFSP); (iv) strengthening institutions in fragile countries, including improving participation through community-driven agricultural development and natural resource management projects, and support for rural self-help groups', women's organizations, and producer associations and cooperatives (e.g., direct transfers of resources to local community organizations in Haiti); and (v) a systematic focus on learning from our clients and our experience on what works and what doesn't and on replicating and scaling up those initiatives that prove useful.

Thematic Area 5: Enhance Environmental Services and Sustainability

73. In addition to better managing the above-mentioned risks, we need to reduce the risk of unsustainable (environment degrading) agricultural growth. Green growth to ensure that gains are sustainable over the long-term requires an agriculture that is efficient in its use of land and water, clean in its reduction of negative environmental externalities, and resilient in its tolerance to climate change, which is consistent with the WBG Environment Strategy.[112] This calls for a more climate-smart, environmentally sustainable agriculture and for continuous research. More attention will be given to each of these factors, which cut across raising agricultural productivity, linking farmers to markets, and facilitating rural non-farm income. Focus will be given to (i) improving agriculture's resilience to climate change (see productivity and markets section); (ii) improving the productivity of land and water (see productivity section), and (iii) reducing negative environmental externalities while enhancing positive ones (to be addressed in this section). The latter can be done through better managing landscapes; intensive livestock systems; rangelands and dry woodlands; reducing deforestation and enhancing forest management; preserving ecosystems, including oceans; and enhancing soil carbon sequestration by adopting land management systems that consider multisectoral issues across the rural landscape (more emphasis will be given to landscapes approaches—see box 13). IFC is specifically emphasizing the impact of environmental sustainability for private sector investments; meanwhile, IFC's Sustainable Business Advisory group is working directly with firms to save costs, prevent waste, and reduce GHG emissions through more efficient use of energy, water, and materials.

BOX 13: More Emphasis on Landscape Approaches

Given the inter-linkages of our natural resources, we need to manage landscapes in a more integrated way, and to restore the 2 billion hectares of degraded landscapes globally. For example, we cannot achieve food security or nutrition security without preserving the ecosystem services that forests provide. We cannot sustain forests without thinking of how we will feed a growing population. And we can't grow food without water. The WBG is increasingly using landscape approaches that integrate the management of land, water, and living resources, and that take account of human interactions with those resources in a way that equitably promotes sustainable use and conservation of natural capital.

Key action: Increase the share of projects that use a landscape approach for more sustainable resource use (e.g., combine agriculture, water, forestry, and biodiversity).

111 Republic of Congo, Forestry and Economic Diversification Project (P124085).

112 World Bank (2012). *Toward a Green, Clean, and Resilient World for All: A World Bank Group Environment Strategy 2012–2022*. Washington, DC.

74. **Better managing intensive livestock systems and rangelands.** The WBG will continue to discourage urban concentration of livestock intensification and will support investments to better manage environmental and health problems related to livestock systems (as is supported in China to improve environmental management practices[113]), including reducing methane emissions and nutrient runoff through better waste management (as is supported in Thailand[114] and in the Black Sea catchment[115]). Silvo-pastoral techniques (systems that combine agro-forestry and pastures) in Latin America have proven effective in increasing milk and beef production, enhancing biodiversity, and sequestering carbon while reducing methane emissions. Dry woodland management is a critical pillar for sustaining livestock through the dry season in southern Africa. The Bank will continue to support efforts to reduce pasture and rangeland degradation, to upgrade grasslands to more productive grass species; to strengthen pastoralist associations; to improve land and water rights; to better manage livestock watering points and to build more resilient livestock systems. Climate change impacts will increasingly result in loss of rangelands or increased marginalization of livestock production in extensive arid grazing zones or marginal cereal producing areas, such as the Maghreb, the Sahel, northeastern Brazil, and Rajasthan in India.[116] In this context, the Bank will give emphasis to sustainable agronomic and rangeland practices that both increase yields of crop and fodder systems and enhance carbon residue retention in soils, and to the establishment of agro-forestry, which could offer significant potential to sequester carbon and improve the resilience of the agro-ecosystem to extreme events, most notably in the recovery of agricultural lands from long-term droughts.

75. **Reduce forest degradation.** Forests absorb about 15 percent of the planet's GHG emissions. At the same time, deforestation and forest degradation contribute significantly to those same emissions. About 13 million hectares of forests are lost worldwide each year, while an estimated 2 billion hectares of lost or degraded forest landscapes could be restored and rehabilitated. The WBG[117] will continue to support (i) sustainable forest management systems, strengthening institutions and forest governance (as in ECA),[118] improving concession management systems with an emphasis on benefit sharing, supporting community based forest management, and watershed management and protection, (as is currently supported in China and Albania); (ii) forest protection (as in the Brazilian Amazon[119]) that includes support for enforcement of environmental laws (often in remote areas) improving forest governance, respecting needs for improved livelihoods; and valuing and funding conservation activities in partnership with indigenous people and forest-dependent communities; (iii) regenerating forests through farmer-managed approaches (as in Ethiopia[120] through a project developed jointly with World Vision); (iv) increasing IFC investments in

113 China, Henan Ecological Livestock Project (P100455).

114 Thailand, Small Scale Livestock Waste Management Project (P112092).

115 For example, the measures supported to reduce nutrient runoff from livestock manure through the Anatolia Watershed Rehabilitation Project (P075094).

116 World Bank (2009). *Agricultural Development under a Changing Climate.* Washington, DC.

117 IBRD and IDA assistance to the forest sector averaged $327 million a year during the last three years. IFC invested $195 million in eight projects related to forest use in FY11. Jointly with other multilateral development banks, the Bank also serves as an implementing agency for the Global Environment Facility ($19.5 million for forests in FY11) and the Forest Investment Program (about $630 million pledged). The Forest Carbon Partnership Facility (FCPF) aims to assist developing countries in reducing emissions from deforestation and forest degradation. With over $380 million already committed to these activities, the FCPF has 37 participating "REDD countries," of which 13 have already received grant allocations.

118 Being implemented in seven ECA countries through the regional Forest Law Enforcement and Governance Program Trust Fund and regionally in partnership with the EU, the donor, IUCN, and WWF (European Neighborhood and Partnership Instrument East Countries Forest Law Enforcement and Governance Program (P111139, P131138)).

119 Brazil, Amazon Region Protected Areas Program (P114819).

120 Ethiopia—the Humbo and Soddo Community-Based Natural Regeneration Project (P098428) is the first large-scale forestry project in Africa to be registered with the United Nations Framework Convention on Climate Change.

agro-forestry enterprises that reduce dependence on natural forests; and (iv) reducing carbon emissions through better protection of forests from fire and pests (as in Russia).[121]

76. **Conserving ecosystems, including oceans.** In addition to preserving the ecosystem services that forests provide, the Bank will continue to support (i) conservation of other ecosystems such as coral reefs in Indonesia and mangroves in Vietnam to help reduce erosion and increase livelihoods of coastal communities (with the resurgence of aquatic resources);[122] (ii) sustainable fisheries through management of aquatic resources of coastal communities (as is also being done in Mozambique and Tanzania with coastal communities); (iii) better management of oceans through the Global Partnership for Oceans to improve sustainability of the resource (as is being supported through Pacific Islands Regional Ocean Program[123])—the WBG will support further development of the fisheries performance indicators, already available for 44 fisheries, to guide policy makers as well as pilot more holistic sustainability indicators to ensure that aquaculture in both oceans and freshwater is a net contributor to ecosystem health; and (iv) broader progress to better valuing of ecosystem services, including through partnership on natural capital accounting (alongside measures of changes in GDP), and through the strengthening of biodiversity markets.

77. **Enhancing soil carbon.** The WBG will continue to support (i) improved farm management practices such as agro-forestry, mulching, intercropping, and zero tillage to enhance the natural process of soil carbon sequestration from crop residues and organic matter (box 14); and (ii) better linking improved agricultural practices to carbon markets, through piloting innovative approaches and exploring new opportunities to broaden the scope of carbon finance and scale up its impact

121 Russia Forest Fire Response Project (P123923).

122 Vietnam, Mekong Delta Water Management for Rural Development (P113949).

123 Pacific Islands Regional Oceanscape Program (P131655).

BOX 14: Triple Win of Sequestering Carbon in Soils

Carbon dioxide emissions are a significant cause of climate change. Some of this carbon dioxide can be transferred through a process of soil carbon sequestration, from the atmosphere into soils (in a form that is not immediately reemitted) through crop residues and other organic matter. Enhancing this natural process through improved soil management can lead to the *triple win of*

(i) **Mitigating climate change** through extracting some atmospheric carbon dioxide;
(ii) **Enhancing land (agronomic) productivity** through improved soil quality with more organic carbon; and
(iii) **Enhancing climate resilience** with increased water retention in soils with higher carbon levels.

Soil carbon sequestration can be accomplished by management systems that add high amounts of biomass to the soil, cause minimal soil disturbance, conserve soil and water, improve soil structure, and enhance soil fauna activity (e.g., continuous no-till, cover crops, and manure). This includes management systems for both crops and rangelands (the latter accounting for about two-thirds of total land surface).

Source: Sundermeier, A., Reeder, R., and Lal, R. (2005). "Soil Carbon Sequestration—Fundamentals." Ohio State University Fact Sheet, AEX 510-05.

on development (for example, the ongoing Kenya project that links smallholder farmers to carbon markets,[124], and payment schemes for environmental services including for carbon sequestration and biodiversity conservation introduced as an additional income stream for livestock production in Costa Rica, Nicaragua, and Colombia). The Kenya project helped to develop a methodology to measure and value carbon sequestered through sustainable land management practices (approved by the Verified Carbon Standard), and smallholder farmers are receiving payments for GHG mitigation based on sustainable agricultural land management through the BioCarbon Fund. This offers new opportunities for farmers. However, the methodology is knowledge intensive, and its use at scale will require significant capacity development of agricultural extension, particularly in the poorest countries. Assessment of cost trade-offs among actions to reduce emissions (e.g., improving farm practices) can help guide country priorities.

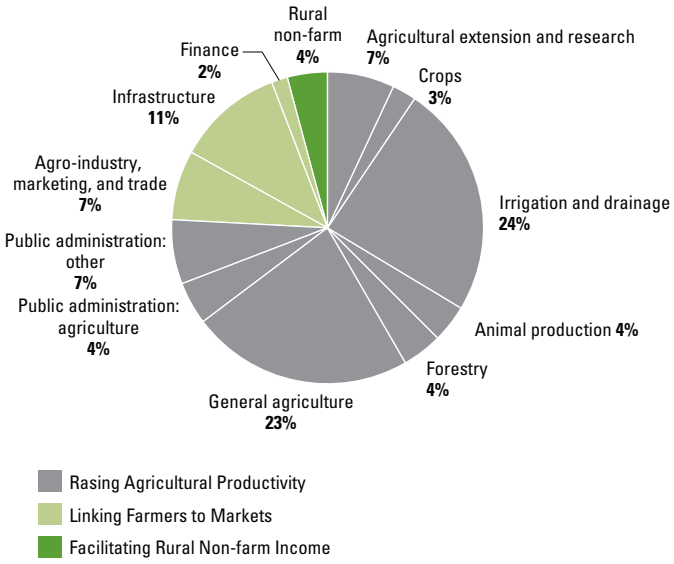
World Bank Group Program FY2013-2015

Aggregate Program

78. The impact of the WBG agriculture and related sector program will depend on both the implementation of ongoing projects under supervision ($14.5 billion undisbursed balance[125]), and new commitments over the next three years–both of which are key parts of the FY2013–15 Program.

79. **Composition of ongoing spending.** The dominant focus of the IDA/IBRD program across agricultural productivity, linking farmers to markets, and rural non-farm income has been on agricultural productivity (figure 4) (increasing from 73 percent of the undisbursed balance in June 2009 to 76 percent in June 2012). Twenty percent of the program

FIGURE 4: IDA/IBRD Ongoing Program: Composition of Undisbursed Balance



focuses on linking farmers to markets (similar share to June 2009), while 4 percent focuses on the rural non-farm income (declining from 7 percent in June 2009). Support to reduce risk and vulnerability, and to enhance environmental services and sustainability cut across all three areas, with 14 percent of the current IDA/IBRD portfolio having a cross-cutting focus on environmental services and sustainability, and with 10 percent of the portfolio having a focus on risk and vulnerability. In FY2012, 98 percent of all Bank-financed agriculture and rural development projects (and 100 percent in five of the six regions) were deemed gender informed, meaning at least one of the three gender dimensions of design (analysis, action, and M&E) was being addressed satisfactorily.[126]

80. **Composition of current Analytical and Advisory Activities (AAA).** The allocation of the Bank's current AAA continues to map fairly closely to the undisbursed lending balance, with 77 percent focusing on agricultural productivity, 17

124 Kenya Agricultural Carbon Project (P107798).

125 Undisbursed balance is the amount of an approved Bank loan/credit/grant that is still available to be drawn down.

126 The Bank standard is that a project is gender informed if it satisfactorily addresses at least one dimension of gender in project design (gender focused analysis, gender actions, or gender-disaggregated M&E).

percent focusing on linking farmers to markets, and 7 percent on rural non-farm income (in FY2012).

81. **Areas of emphasis in FY2013–15:** Over the next three years, client demand will drive the Bank program (box 15 provides a guide to in-country dialogue on our programs). This includes responding to the evolving context with more emphasis on climate-smart agriculture, private sector response, risk management, nutrition, gender, landscape approaches, and governance.

- **New Investment Commitments**: At the aggregate level, the IDA/IBRD portfolio will give more attention to various aspects of raising agricultural productivity, specifically water management for climate resilience, land administration to improve tenure security (including forestry), and agricultural research to support development of drought-tolerant varieties. On linking farmers to markets, we will give more emphasis to facilitating local, regional, and global market access and trade. As for cross-cutting themes, more attention will be given to risk management, gender, and nutrition.

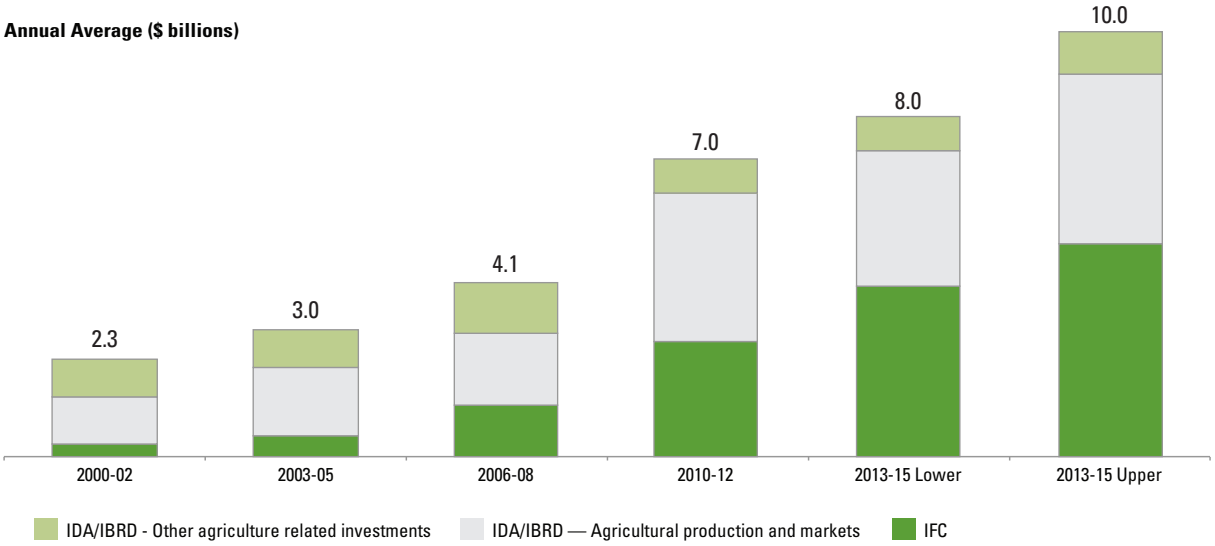
- **New AAA**: The Bank's analytical work will give emphasis to analysis of climate change (including for low carbon growth, and associated benefits), food security, irrigation, land governance, public expenditure reviews (particularly in IDA countries), storage, and trade, with technical assistance on nutrition and green growth. The analytical work will guide both policy advice and subsequent investment financing.

- **New Fee Based Services and Technical Assistance:** The Bank will step up the ability to deliver just-in-time policy advice, diagnostic assessments, technical assistance, sectoral expertise, and timely research, data, and statistics for middle-income countries to help address challenges in agricultural competitiveness and access to markets, green growth, and public-private partnerships.

82. **Aggregate projections of new commitments:** The AAP FY2013–15 will contribute to the objectives and results of our clients through projected World Bank Group support at between $8 billion and $10 billion (figure 5). This includes support for agriculture production and marketing, as well as agriculture-related investments (e.g., land tenure, rural finance, market infrastructure) and is reflective of the initial existing pipeline (initial client demand). Trust Fund financing from traditional donors and private foundations for recipient-executed grants will also be included more explicitly in measures of the level of support, given their recent growth in importance and the risks associated with a potential decline in Trust Fund availability in the future. This is especially important for low-income countries. The pipeline on current Trust Fund commitments to agriculture is roughly $350 million per year. The increasing share of IFC's Advisory Services devoted to supporting agribusiness will also be included. The increase in support is projected to be larger for IFC than IDA/IBRD. Particular emphasis by IDA/IBRD will be given to maintaining portfolio quality.

83. **Regional projections of new commitments:** WBG lower-range projections vary by region from $1.2 billion to $2.1 billion per year for each of five of the six regions, with a lower projection of $150 million to $350 million for MNA (table 4), which is reflective of client demand across regions. The largest volumes of aggregate support will be in AFR, SAR, and EAP. IDA/IBRD support is projected to increase in AFR, ECA, and EAP, with lower levels of support in SAR (reflective of India's graduation from IDA and single borrower exposure limits for IBRD) and MNA (with less demand for development policy loans than in FY2010–12) In this respect, there is a significant projected increase in the use of Trust Funds in SAR to about $240 million in FY2013, and if this level is sustained through FY2015, then the aggregate support levels (inclusive of Trust Funds) would be similar to the levels of support for SAR in FY2010–12. IFC is projecting significant increases in support to AFR,

FIGURE 5: World Bank Group Agriculture and Related Sector Financing



"Agricultural production and markets" include IDA/IBRD investments in agriculture, fishing, and forestry; agriculture markets, trade, agro-industry, and public-administration in agriculture; "Other agriculture related investment" include IDA/IBRD investments under the oversight of the Agriculture and Rural Development Sector Board other than those coded under "Agricultural production and markets." These include related investments in land administration, agricultural and rural finance, and market roads. IFC includes (i) agribusiness production and processing, (ii) agri-related trade finance, (iii) fertilizers, (iv) agri-logistics and infrastructure, and (v) food retail.

SAR, and EAP, with an aggregate support of $4 billion to $5 billion per year, on average, in FY2013–15, the same aggregate projections as IDA/IBRD.

84. **Trust funds:** Trust funds focused on agriculture and related sectors are projected to increase from an equivalent of 6 percent of IDA/IBRD support to 8 percent in FY13–15 (from $250 million to $350 million per year). Most of this growth is projected from recipient executed grants, with 40 percent in SAR, and 25 percent in AFR.

85. **Risks:** Maintaining the scaled-up support will be dependent on (i) IDA17 replenishment that is at least as large as IDA16, and the availability to support the latter years of the AAP; (ii) the ability to establish a project preparation facility (for the scale up of irrigation and land administration projects in AFR); (iii) continued strong client demand to borrow IBRD resources and use IDA concessional financing for agricultural development; and (iv) adequate staff and budget to carry out the program.

Regional Differentiation

86. **The five thematic areas of the AAP** described in previous sections—agricultural productivity; linking farmers to markets and strengthening value chains; reducing risk, vulnerability, and gender inequality; support for rural non-farm income; and enhancing environmental services and sustainability—are all important for agricultural growth and food security. However, priorities among thematic areas vary by regions and across countries within regions. The WDR2008 disaggregates this heterogeneity into "three worlds of agriculture" based on agriculture's role in overall growth and poverty reduction—agriculture based, transforming, and urbanized—each with a differing focus. The WDR2008 message on each is still valid.

- *For agriculture-based countries,* where agriculture and its associated industries are essential for growth and reducing mass poverty and food insecurity, the focus needs to be on agricultural productivity growth, and food and nutrition

TABLE 4: Regional Disaggregation of Financing Projections ($ millions)

	Annual Average		
	Actual FY2010–12	Projections FY2013–15[a]	
		Lower	Upper
Africa	**1,356**	**2,100**	**2,600**
IDA/IBRD	1,010	1,200	1,400
IFC	349	900	1,200
East Asia and Pacific	**1,077**	**1,550**	**1,950**
IDA/BRD	828	850	1,050
IFC	249	700	900
Europe and Central Asia	**861**	**1,150**	**1,350**
IDA/IBRD	156	350	450
IFC	705	800	900
Latin America and the Caribbean	**1,471**	**1,300**	**1,650**
IDA/IBRD	602	450	650
IFC	869	850	1,000
Middle East and North Africa	**538**	**150**	**350**
IDA/IBRD	164	50	150
IFC	374	100	200
South Asia	**1,712**	**1,750**	**2,100**
IDA/IBRD	1,522	1,100	1,300
IFC	190	650	800
Total	**7,032**	**8,000**	**10,000**
IDA/IBRD	4,282	4,000	5,000
IFC	2,750	4,000	5,000

a. The projections for IDA/IBRD are based on initial client demand reflected in the existing firm and likely project pipeline for FY2013–14. The FY2013–14 average was then projected as the average for FY2013–15, which was taken as a midpoint around which a range was added. At an aggregate level, a range of $2 billion, similar to that used for the FY2010–12 AAP was used, reflective of the uncertainty of the outer years of the pipeline.

BOX 15: General Sector Guide to In-country Dialogue on WBG Prioritization in Country Assistance Strategies and Partnership Strategies

Our country-level agriculture and related sector program is identified more explicitly in the Work Bank's Country Assistance Strategies (CAS) and Country Partnership Strategies (CPS), which is the result of extensive in-country dialogue with governments, stakeholders, and development partners. A general guide for in-country dialogue on WBG prioritization in the sector in the context of the preparation of the CAS/CPS is to

(i) use the WDR 2008 "three world" typology as a starting point to identify broad areas of needed attention (drawing on paragraph 86 and table 5);

(ii) reflect the implication of the evolving and volatile global context on the needed areas of emphasis (pages 1–4, 19–23);

(iii) identify the comparative advantage of the Bank within the broader set of local development partners to improve allocative efficiency of resources; and

(iv) for the selected themes (and subthemes) of focus (pages 24–52), identify good practice projects in each area to inform project design to ensure technical efficiency of investments (project references are provided in each of the five thematic areas in this document for ease of access for practitioners, and following the Bank's open access policy).

In agriculture-based countries, where the Bank still provides a significant share of overall support, our program will often focus on broader national programs; in transforming and urbanized countries, where the Bank contributes a much smaller share of overall support, our focus is often on more targeted programs in poorer regions. There has been a positive correlation between the coverage of agriculture in CASs and agriculture's share of GDP in the respective countries. The dialogue around the CASs in African countries and the subsequent lending program will be informed by the Africa-led CAADP processes, and associated consultations, in those respective countries. The initial demand and pipeline of projects (reflected in the regional section) is the product of the CAS process and reflective of the thematic directions and areas of more emphasis presented in the action plan.

security, balancing support for both entrepreneurial actors and favored regions and their links to markets, subsistence farming systems, and safety nets.

- *For transforming countries,* where agriculture is no longer a major source of overall economic growth but poverty remains overwhelmingly rural, 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, lagging regions, productivity growth, and rural non-farm), and in strengthening value chains.

- *For urbanized countries,* where agriculture contributes directly to only a small share of overall economic growth and poverty is more urban, 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 nontraditional exports. This is especially important since rural areas in these countries are often home to half of the poor, with many marginalized poor areas.

87. The AAP FY2010–12 had a differentiated emphasis across the three worlds of agriculture. The focus over FY2013–15 will be to build on the foundations put in place and the long-term directions set over the last three years, while responding to the evolving context. Responses to the evolving context differ across the "three worlds of agriculture," given their varied importance (table 5).

88. The three agriculture worlds differ both across and within countries, and regions. For example, Indian 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," Queretaro and Oaxaca are "transforming," and Yucatan and Jalisco are "urbanized"). While all these "worlds" are present in all Bank regions, the dominant world is agriculture-based in AFR; transforming in EAP, SAR, and MNA; and urbanized in LCR and ECA. There are growing interdependencies between the three worlds of agriculture, with large "transforming country" importers (e.g., China) sourcing their requirements from large "urbanized country" exporters (e.g., Argentina and Brazil). Our support will reflect the differences in the agriculture agendas across these three worlds, both within and across countries and regions. Table 5 provides an indicative, but not exhaustive, differentiation of focus across the three worlds, with further program specificity developed on a case-by-case basis. AFR and SAR have received increased attention over the last three years, accounting for a larger share of the overall IDA/IBRD program. They will continue to account for a larger share over the next three years, particularly for AFR.

89. Most of our financing support is through country-level programs; this includes through both IDA/IBRD country level projects and Trust Funded grants executed by recipients. In some regions, to benefit from scale economies, we will give more emphasis to regional approaches. For example, we will consolidate and expand support to the West and East Africa Agricultural Productivity Programs, which is scalable to other subregions in Africa. We are also launching similar programs for southern and central Africa and scaling up support to regional research institutes.

90. Many of the transforming and urbanized economies are in MICs in which our instruments of support are evolving. The Bank engages in multiple ways with MICs as they (i) provide leadership in global and regional forums, (ii) address public goods issues, and (iii) become bilateral development partners and influence multilateral institutions. Many of these countries continue to access Bank financing, with increased demand for Bank engagement beyond lending reflected in the increased use of Fee Based Service (FBS) and Reimbursable Technical Assistance (RTA), especially in MNA, ECA, and LCR (box 16).

TABLE 5: Differing Emphasis Across the Three Worlds of Agriculture

Agriculture Action Plan Focus Areas	Building on the Differing Emphasis Across the Three Worlds of Agriculture in FY2010–2012, with Areas of More Emphasis in Response to the Evolving World Context		
	Agriculture-based	**Transforming**	**Urbanized**
Agricultural productivity	Close the crop yield and livestock productivity gap, **expand irrigated areas, and improve rainfed systems;**[2] **improve security of land;**[1-4] **invest in agricultural research and extension**[2]	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;**[2] **integrate aquaculture into water management and water infrastructure**[2]	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 (with emphasis on trade within regions and among developing countries);[2-3] strengthen producer organizations; and **finance** (for micro, small, and medium enterprises/farmers);[4] **better integration of value chains**	Improve food safety, environmental and social standards, market integration business models (for smallholders), and **finance** (for processors, distributors, and retailers)[4]	Improve international trade, food safety, environmental and social standards, market integration business models (for smallholders) and **finance** (for processors, distributors, and retailers)[4]
Rural non-farm income	**Improve the rural investment climate,**[4] expand infrastructure	Upgrade skills, decentralize non-farm activities, **expand rural livelihoods approaches**[3]	**Upgrade skills, expand territorial development**[3]
Risk, vulnerability, and gender	Provide safety nets, asset protection against catastrophic loss, build resilience into farming systems, gender mainstreaming, **nutrition sensitive investments**[5]	**Better manage food imports**[1] (better manage food reserves),[1] reduce risk of livestock disease, gender mainstreaming, provide **safety nets,**[1] **nutrition-sensitive investments**[5]	**Provide safety nets**[1] (better manage food reserves),[1] reduce risk of livestock disease outbreaks, gender mainstreaming, **nutrition-sensitive invesments**[5]
Environmental services	Improve rangeland management, **support for carbon markets**[2]	**Manage intensive livestock systems**[2]	**Reduce deforestation,**[2] expand payment schemes for environmental services

Source: World Development Report 2008.
Note: Bolded actions are those we will give more emphasis to in response to the evolving world context, with the numerical superscripts referencing actions linked to the respective evolving context of food price uncertainty (**1**), climate change (**2**), slowing global economic growth (**3**), increased private sector interest in the sector (**4**), and lags in nutrition-linked MDGs (**5**).

BOX 16: Beyond Lending Operations: Fee-Based Services and Reimbursable Technical Assistance in Middle-Income Countries

There has been growing demand from MICs for Bank engagement beyond lending operations for Fee Based Services (FBS) and Reimbursable Technical Assistance (RTA). This engagement has been sought to address challenges in agricultural competitiveness and access to markets, green growth, and public-private partnerships. This totaled $1.4 million in FY2010–12 ($0.9 million in LCR, $0.4 million in AFR, and $0.1 million in ECA). Higher demand from ECA and LCR is envisaged for FY2013–15. Technical advice associated with IBRD lending, such as on financial management, procurement, and safeguards has been the driver of demand for IBRD loans, rather than simply access to finance.

Examples of FBS and RTA include agribusiness support to improve competitiveness and increase export value (e.g., Brazil); improving management of commodity price risk (e.g., agricultural insurance in Mexico); agriculture statistics and information systems (e.g., Algeria); adopting integrated silvo-pastoral techniques and improved forest management programs (e.g., Costa Rica, Mexico); improved water and natural resource management (also through a better use of new technology and ICT in India); advice on agricultural waste management and pollution control (e.g., China); and support to establishing food security research centers (e.g., Russia). Examples of technical advice as the driver of demand for IBRD loans include technical knowledge and fiduciary expertise in the IBRD financing project in Kazakhstan, accounting for only 30 percent of overall project financing (with the remaining 70 percent from the government).

Sub-Saharan Africa

91. Agricultural growth has continued over the last three years, with cereal production being on average 10 percent higher in 2010–12 than in 2006–08,[127] aided by a more favorable policy environment (lower taxes and conflict) and higher food prices (although perhaps growth could have been higher if food price volatility had not also increased). Future growth will need to rely more on agricultural productivity gains than price improvements or land expansion. In addition, this growth will need to be more climate resilient given the increasing severity of droughts that threaten development, as in the Sahel and Horn of Africa. To increase and stabilize production over time, more emphasis is needed on improving water resource management (only 18 percent of arable land in the region with irrigation potential is actually irrigated, with potential for economically feasible returns to irrigation investments, including for smallholders[128]), and on developing more weather-tolerant varieties and resilient land management systems (such as agro-forestry). In view of rapid urbanization, better integration of agriculture value chains and more responsive intra-regional trade to better match surplus with deficit areas will also be important. The recent increase in private sector interest in land investments offers

127 Aggregate production of maize, millet, rice, and sorghum (USDA).

128 World Bank (2009). *Africa's Infrastructure: A Time for Transformation*. Washington, DC.

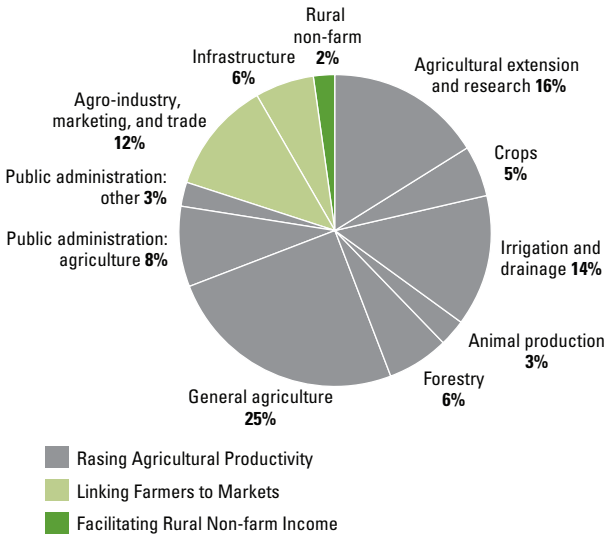
areas will also be important. The recent increase in private sector interest in land investments offers new opportunities and risks, and adds urgency to more investment in land administration. Less than 20 percent of occupied land in the region is registered; the remainder is undocumented, informally administered, and vulnerable to "land grabs" and expropriation without adequate compensation. Women farmers are especially vulnerable, despite more than half of the countries in AFR recognizing customary land rights and gender equality. More attention on agricultural and forest land administration is needed to reduce these risks. Continued efforts are needed to improve the overall investment climate. Coupled with the higher commitments to agriculture by African governments, development partner support has also increased in number and volume, with a continued need to ensure aid effectiveness.

92. The World Bank program in Africa will continue to be aligned around the four complementary areas emphasized in the Africa-led CAADP: (i) land and water management, (ii) markets and infrastructure, (iii) risk and vulnerability, and (iv) agricultural technology. The program will continue to respond to investment prioritization and demand emerging from the CAADP process at the country level. The Bank, through the CAADP Multi-donor Trust fund, is supporting this effort. More than 30 African countries are currently going through the CAADP process, which includes consultation and involvement of smallholders in investment planning and decision making. More than 20 countries have completed the process through to the independent technical reviews of country investment plans that will guide World Bank support.

93. *Implementation of ongoing undisbursed commitments:* The dominant focus of the IDA/IBRD $3.2 billion agriculture and related sector program in the region has been on raising agricultural productivity (figure 6), increasing from 72 percent of the overall program in 2009 to 80 percent in 2012 (IDA/IBRD undisbursed balance). More emphasis has been given to agricultural research and extension (increasing from 12 percent of the overall program in 2009 to 16 percent in 2012), irrigation and drainage (increasing from 9 percent to 14 percent), strengthening public administration (up from 4 percent to 11 percent), and value chain development through agricultural markets, trade, agro-industry support, and fostering of public-private partnerships (increasing from 6 percent to 12 percent). Consistent with the projected emphasis in the FY2010–12 AAP, more specific attention has been given to scaling up support for irrigation, technology adoption, value chain development, and land tenure security.

- *Irrigation*: Implementation of the AFR's Irrigation Business Plan has progressed and will continue to be implemented over the next few years, focusing on five types of irrigation practices: (i) market-oriented irrigation on a public-private partnership basis (16 percent of the irrigation program, with examples in Zambia, Mozambique, and Senegal); (ii) individual smallholder irrigation for high-value markets (17 percent of the program, with success stories in

FIGURE 6: AFR Composition of Current IDA/IBRD Program: Undisbursed Balance



Niger[129] and Nigeria); (iii) small-scale, community-managed irrigation for local markets (36 percent of the program, with examples in Tanzania, Malawi, Mali, and Rwanda); (iv) large-scale irrigation (9 percent of the program, with examples in Ethiopia and Madagascar); and (v) improved water control and watershed management (22 percent of program, with examples in Ethiopia, Mali, and Niger). For each of these five irrigation practices, there are models and good practices that can be scaled up.

- *Research, extension, inputs:* Consistent with the CAADP framework for African Agricultural Productivity, ongoing IDA support focuses more on regional and continental approaches through our regular lending program as well as Trust Fund supported programs (75 percent of the ongoing research program is focused at the regional level, 20 percent on national efforts, and 5 percent on continental-level efforts). The regional and continental focus provides the needed economies of scale in some of the research effort. Complementary support focuses on improving access to modern inputs through support to both distribution of seed, fertilizer, and animal feed in emergency programs, and to the development of better-functioning seed and fertilizer distribution systems. Our support for extension is still the dominant share of the combined support for research, extension, and inputs (with each respectively accounting for 37 percent, 52 percent, and 11 percent of the combined program). In addition, the Bank continues to contribute $50 million annually to the CGIAR annual budget of $650 million, roughly half of which supports agricultural research related to Africa.

- *Value chain development and commercial agriculture:* Commodity markets in AFR for food staples and export-oriented commercial crops are often insufficiently structured and have large potential for gains in competitiveness, domestic value-added, and income creation. Economic growth and urbanization are expanding domestic markets for agricultural products and creating opportunities for processing and enhanced quality. Private investment and development in the post-farm portions of value chains are expanding opportunities for the smallholder farming base to participate through contract farming and other arrangements that can improve on-farm productivity through better technology, credit, and market information. The Bank's activity in this area benefits from an extensive analytical foundation and numerous pilots. Over the past several years, operational finance has expanded to deepen, modernize, and diversify value chains. Clients now need support that better integrates the diverse components along the value chain and expertise essential to competitiveness. Attention to providing public goods and developing a supportive business climate can facilitate private investment, either directly or through PPPs. Within the WBG, the expertise for this work is deployed across units responsible for agriculture, finance and private sector development, the IFC, and infrastructure. To meld this expertise into more effective integrated teams, an Agribusiness Platform joins the efforts of these disparate units. Four projects—in Burkina Faso, Ghana, Tanzania, and Senegal—are moving forward with the support of this platform, and additional projects will follow. Integration has clear benefits, but these projects are also complex and challenging to prepare with highly constrained budgets.

- *Land*: The region has been doing more on land administration; however the land portfolio is still small relative to other regions, with ongoing components in 13 projects focusing on strengthening tenure security of smallholders, but only one stand-alone project (the Ghana Land Administration Project). The ongoing land-related activities under supervision across the Bank portfolio amount to $226 million in

129 Niger, Private Irrigation Promotion Project (P072996).

projects that will be implemented over the course of the next three years.

- *Risk transfer*: MIGA is providing insurance for $102 million in foreign investment in Côte d'Ivoire, Ethiopia, Kenya, Mozambique, Sierra Leone, South Africa, Uganda, Zambia, and Rwanda. The insurance provides cover to specific private company investments in the event of noncommercial risks such as wars, civil disturbances, and transfer restrictions that negatively affect their investments. This includes insurance for specific investment in fruit processing and fruit and vegetable farming (Ethiopia), fish processing (Sierra Leone), sugar production and processing (Mozambique and Kenya), cocoa production rehabilitation and processing (Côte d'Ivoire, Uganda), grain cultivation (Zambia), grain milling (Rwanda), and coffee production (Uganda).

94. *Focus of new commitments:* The focus of new commitments over the next three years will be aligned around the four complementary areas of CAADP on: (i) *Land and water management:* On water management, more attention will be given to market-oriented irrigation on a public-private partnership basis. Country coverage of new commitments in the first year of the action plan implementation is projected to include Senegal, Niger, and Malawi. Complementary support will be provided to water policy dialogue, including on cost recovery, and development of technical and organization skills in the public and private sector to reduce irrigation costs, including support to strengthening water users associations. On land management, the Bank will scale up support for land administration to strengthen tenure security of smallholders, particularly women, as well as communities (currently, demand is high in Uganda, Tanzania, Madagascar, Mozambique, and Malawi). Investments will be complemented with development policy operations to support associated policy reforms—such as adoption of new land laws. (e.g., Malawi), effective implementation of land laws and policies (e.g., Tanzania), and issues related to taxation of land (e.g., Mozambique). (ii) *Markets and infrastructure:* More attention will be given to financing public goods and helping develop supportive business climates that can facilitate private investment, either directly or through PPPs. This includes support to production infrastructure development and technical assistance (e.g., Senegal); and market infrastructure and institutional support (e.g., Mali); (iii) *Risk and vulnerability:* On nutrition, a team of agriculture and nutrition staff is established in the region to focus on this issue and is working with project task teams to identify targeted nutrition-supporting activities and results indicators in agriculture projects. Examples include nutritional education in rural communities; planting materials for nutritionally dense traditional and biofortified crop varieties; storage and processing of nutritious foods; improving the policy environment for food fortification, biofortified varieties, and food safety; and assessment of nutrition needs within gender assessments given the critical role of women for achievement of both nutrition and agricultural production objectives in Africa. On risk transfer, MIGA will continue to provide insurance against noncommercial (political) risk (e.g., for an initial project investment in a Zambian grain farming project). (iv) *Agricultural technology:* On agricultural research, we will give more emphasis to regional approaches through consolidating and expanding support to the West and East Africa Agricultural Productivity Programs, launching similar programs for southern and central Africa, and scaling up support to regional research institutes through Trust Funds.[130] More attention will be given to coordinating more closely with the CGIAR to facilitate technology spillovers. On extension, inputs, and education, the current scale of support for agricultural extension will be maintained while focusing on institutional

130 Association for Strengthening Agricultural Research include the West and Central African Council for Agricultural Research and Development, and the Centre for Coordination of Agricultural Research and Development for Southern Africa.

and programmatic reforms to improve effectiveness. Development of more effective subregional input markets will be assisted through support for policy reforms, institutional changes, and investment interventions. In collaboration with HDN and working through partnerships and trust funds, we will give more support to technical vocational education and training and to tertiary education.

95. *Analytical work:* Building on the agricultural public expenditure analyses initiated in five countries in FY2010–12, this work will be expanded to Burkina Faso, Central African Republic, Côte d'Ivoire, Ghana, Guinea, Liberia, Malawi, Togo, Mozambique, and possibly Sierra Leone. Analytical work on agribusiness in Africa will be completed, together with a comprehensive review of land administration and land reform in Sub-Saharan Africa, and support will be provided for the development of country-specific Land Governance Assessment Frameworks. The Bank will continue to build on analytical work on rice research and food security policies through existing partnerships such as the Africa Rice Research and Productivity Development Program supported by the Government of Japan through the Policy and Human Resources Development Fund and explore further collaborations with donors on food security issues. Opportunities to deploy sector development policy operations will be supported by analytical work.

96. *IFC*: Complementing the IDA/IBRD/MIGA work in the region, IFC priorities include financing and building the capacity of local financial institutions to facilitate increased exposure to the domestic agricultural sector, increasing access to finance and agriculture inputs for farmers, and partnering with private sector players to increase productivity and develop sustainable supply chains which directly integrate smallholders. In FY2012, IFC provided $0.6 billion in agriculture-related investment in the region. Supported by a special initiative to scale up IFC agribusiness impact in Africa (box 17), IFC targets over $1.2 billion in annual investments in the region by FY2015. A priority vehicle for these investments is the newly initiated GAFSP Private Sector Window, which provides dedicated capital for investments and advisory services in the poorest countries. To address recent liquidity constraints affecting private sector capacity to import food and inputs into IDA countries, IFC has also established the Critical Commodity Finance Program directed to stimulate the trade of critical agricultural commodities. Additionally, in the case of prospective new investments in primary agriculture (and forestry), IFC will apply a more comprehensive approach to assessing food security impacts and ensuring contract transparency in government to private land transfers.

97. *Public-private partnerships:* The Bank will continue to support the Grow Africa Initiative, a platform that seeks to accelerate agricultural investments and transformative change in support to CAADP and the New Partnership for Africa's Development. Building on public-private partnership models piloted by the World Economic Forum's New Vision for Agriculture Initiative, the partnership has a catalytic role in (i) increasing private-sector investment in African agriculture, (ii) enabling multi-stakeholder partnerships to attract investment in initiatives that complement national agriculture-sector strategies, and (iii) expanding knowledge and awareness of best practices and existing initiatives to strengthen investor interest in agriculture. For example, through Grow Africa, WBG is supporting commercial agriculture programs in Burkina Faso,[131] Ghana,[132] and Ethiopia.[133]

131 Burkina Faso, Bagré Growth Pole Project (P119662).

132 Ghana, Commercial Agriculture Project (P114264).

133 Ethiopia, Agriculture Growth Project (P113032).

BOX 17: A Special Initiative to Scale Up IFC Impact in Africa

IFC will undertake a special initiative to scale up its agribusiness support in Africa to double investments from $0.6 billion in FY2012 to $1.2 billion by FY2015. The scale-up will be guided by a specific country focus, partnership, and interventions to help improve the investment climate, direct project investment, and support through financial intermediaries to strengthen the value chain.

Country Focus: Investment and advisory services will focus in countries with significant agricultural and agribusiness potential, and a supportive government as validated by key partners (IDA, and USAID)—the initial countries include Ghana, Senegal, Côte d'Ivoire, Burkina Faso, Nigeria, Tanzania, Zambia, and Mozambique.

Partnership Approach: IFC will work closely with IDA and partners at the country level to align with government, other development finance institutions and donors, and NGOs to mobilize the private sector; be proactive in communication with stakeholders; use MIGA for risk management; partner with IFC's Asset Management Company for large-scale equity investments; implement the private sector window of GAFSP that provides concessional funds where needed; coordinate with Grow Africa partners; and joint ventures with financial markets for risk sharing, the Global Warehouse Finance Program, the Global Trade Liquidity Program, and the Critical Commodity Finance Program.

Interventions at Three Levels: (i) sector/enabling environment—advisory support for improvements to the overall investment climate for agribusiness development in partnership with government, IDA and other development partners; (ii) direct project investment—support through short/medium-term financial products for key cash crops and critical agricultural commodities, and through long-term funding for capital expenditures in larger-scale projects; and (iii) strengthening the value chain—support through short-term finance through banks and traders/aggregators, environmental and social standards, capacity building for financial intermediaries and firms/farms, and finance through financial intermediaries for input distributors (fertilizers, seeds, crop protection).

South Asia

98. Rapid economic growth without a commensurate transition of labor out of agriculture has led to widening rural-urban income disparities, and insufficient reduction in rural poverty has been a source of social and political tension in parts of this region. Seventy percent of the 1.6 billion people in the region live in rural areas, and most rely on agriculture (with variation across countries) for their livelihoods.[134] Agricultural growth has slowed in recent years for the bulk of the region, raising concerns about the inclusiveness of overall economic growth. Rural poverty and malnutrition remain high. The continued focus of our support will be on rural income growth and employment to address both the widening rural-urban income gap and rural poverty. This includes improving productivity in food staples as well as moving into higher-value markets (including livestock production, aquaculture, and horticulture), with a focus on lagging regions and rainfed areas, support for agricultural innovation and adoption, market development and linking farmers to markets, and strengthening the human and physical capital base for better rural livelihoods. In addition, in response to the evolving context, more

134 World Bank (2011). *World Development Indicators, 2011.* Washington, DC.

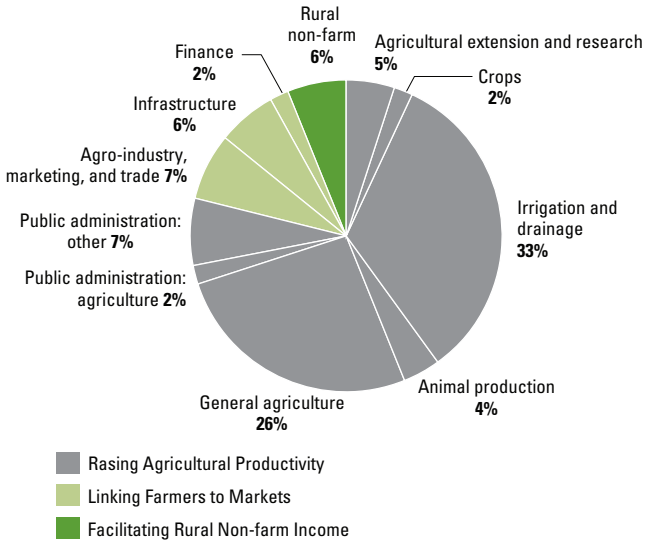
emphasis will be given to price risk management to respond to volatile commodity prices; to water resources management to address the complex synergy between agriculture, natural resources, and energy; and to nutrition. While overall poverty rates in SAR are lower than in AFR, undernourishment rates are similar to AFR countries, with India, Nepal, Bangladesh, and Pakistan making insufficient progress toward meeting the MDG on halving the undernourishment rates by 2015.[135]

99. *Implementation of ongoing undisbursed commitments:* The dominant ongoing IDA/IBRD focus in SAR is on raising agricultural productivity (figure 7), increasing from 75 percent of the overall program in 2009 to 79 percent in 2012 (IDA/IBRD undisbursed balance). Irrigation and drainage is the main subsector, accounting for 42 percent of the productivity program (33 percent of the overall agricultural program). Within the South Asia program, India accounts for 75 percent of the ongoing program (undisbursed balance), consistent with its share of the overall number of poor in region. The ongoing $5.8 billion program composition has a dominant focuses on:

- *Water management*: While irrigation infrastructure investments continue to account for a significant share of the ongoing program, increased support is being given to strengthen irrigation services, water resources management, and the decentralization of system management services to water users/irrigation associations (e.g., in India, Pakistan, Afghanistan, and Nepal). In addition, increased attention is being given to water management in rainfed areas (e.g., in Bangladesh, India, and Nepal).

- *Agricultural technology innovation*: Continued support is being provided to scaling up public services for the collaborative development and application of new agricultural technology in India[136] and Bangladesh.[137]

FIGURE 7: SAR Composition of Current IDA/IBRD Program: Undisbursed Balance



- *Markets and competitiveness*: Support is being provided to investments along various value chains (for fish, dairy, high-value crops, and forest products), with increased attention on agricultural markets and trade, livestock, and animal health in terms of both added value and agricultural support services to increase small and marginal farmers' competitiveness (e.g., agricultural competitiveness and livestock projects in India and Nepal).

- *Rural livelihoods development*: Support is being provided to rural livelihoods and community-based programs focusing on building institutions of the poor that can articulate their demand, especially for women; achieve economies of scale; improve access to public and private services (including financial); make rural producers attractive to private enterprise (e.g., in India, Pakistan, and Sri Lanka); and support the rehabilitation of post-conflict areas (Afghanistan and Sri Lanka).

100. *Focus of new commitments:* The focus of new commitments over the next three years, including response to the evolving context, will be on (i) *Water resources management and rainfed agriculture, with priority to lagging regions,* through

135 http://www.fao.org/fileadmin/templates/es/Hunger_Portal/MDG_Progress_per_country.pdf

136 India, National Agricultural Innovation Project (P092735).

137 Bangladesh, National Agricultural Technology Project (P084078).

providing support for comprehensive integrated water resources management, increased efficiency of water use, substantial reform of the water resources departments, and broader landscape approaches to watershed management to reduce soil erosion and harness rainwater and groundwater resources (e.g., in Karnataka, Andhra Pradesh, and Uttarakhand); (ii) *Addressing risk and vulnerability, including nutrition,* with more emphasis on supporting better management of food reserves (e.g., through support to grain storage in Bangladesh and Afghanistan), agricultural inputs supply (Afghanistan), targeted support to the most food insecure regions (e.g., in Nepal through GAFSP support), piloting support for improved nutrition (e.g., through community action in Nepal and increasing milk production in the poorest regions of India), rehabilitation of flood-damaged water infrastructure, upgrading flood forecasting and early warning systems (India), and disaster risk mitigation in cyclone prone areas (Bangladesh); (iii) *Improving market access and competitiveness* through expanded investments along various value chains to foster private sector growth and higher rural incomes (e.g., building and strengthening horticulture and livestock value chains in Afghanistan, expanding commercial agriculture opportunities in Nepal, and supporting diversified and high-value agriculture in Pakistan); and (iv) *Improving rural livelihoods* through support to raising rural incomes through community-driven livelihoods approaches (e.g., Bhutan).

101. *Analytical work*: Building on recent regional work on food prices, climate change, gender, nutrition, and country-specific work on lagging regions (Sri Lanka), agricultural competitiveness (Pakistan), financial services (India), and forestry (Nepal), the focus over the next three years will be additional work on nutrition (Bhutan, India, and Afghanistan) and gender (Bhutan and Maldives), on agricultural productivity (India), the dynamics of rural growth (Bangladesh), facilitating trade (regional), green growth (Himachal Pradesh), and agriculture sector reviews (e.g., Afghanistan). We will also initiate impact evaluations of our interventions (e.g., Nepal Poverty Alleviation Fund, community challenge fund for nutrition, India Agricultural Competitiveness projects).

102. *IFC*: Complementing the Bank's work in the region, IFC priorities include supporting inclusive business models that reach smallholder suppliers and consumers. A major component of this effort to reach the "base of the pyramid" is focused on increasing access to finance, inputs (including irrigation), and extension services for farmers. New products and services are in development to support increasing demand from food retailers to develop sustainability standards to increase productivity and develop sustainable supply chains. For example, one of the leading potato and onion companies has worked with IFC advisory teams to create its own product standards, based on GLOBALGAP. In the first year, almost 350 farmers were certified in what is rapidly emerging as an entry standard for GLOBALGAP in India.

East Asia and Pacific

103. Economic transformation is driving resources (labor, land, water, food, and public budgets) to urban areas, with 46 percent of the 1.9 billion people in the region now living in urban areas.[138] Agriculture needs to facilitate this transformation, while still providing food security, poverty reduction, and environmental services for all. 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, which requires differentiated approaches, and the evolving world context of more food price uncertainty and climate change requires better risk management and more resilient systems.

104. *Implementation of ongoing undisbursed commitments:* The ongoing IDA/IBRD program (undisbursed balance) gives priority to infrastructure

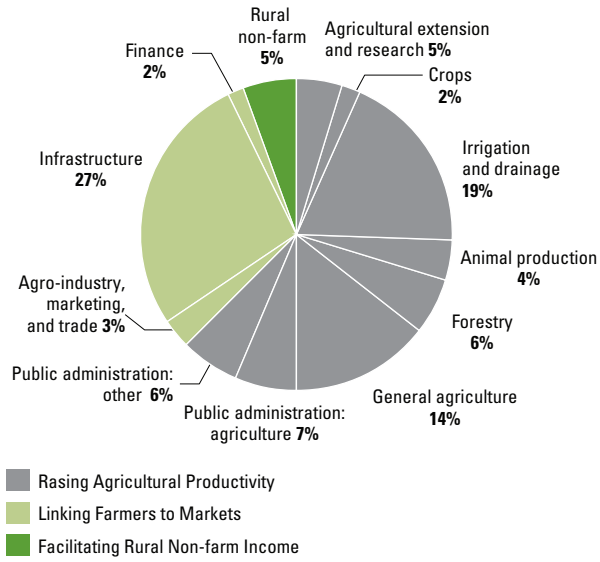
138 However, the share of the population in rural areas varies significantly across countries in the region, from 80 percent in Cambodia to 32 percent in Malaysia.

(27 percent of program) and irrigation and drainage (19 percent of program) (figure 8). The composition of support is differentiated across country groupings within EAP in response to their wide heterogeneity. The focus of the $2.4 billion ongoing IDA/IBRD is on the following:

- For the emerging middle-income countries (China, Indonesia, Malaysia, Philippines, Thailand, and Vietnam, which account for 90 percent of the ongoing EAP program, of which China accounts for half), the focus is on improving the efficiency of agricultural product markets and food safety (e.g., the food safety project in China), improving social equality and lagging regions through better infrastructure and services (e.g., sustainable development focused on poor regions of China, Mindanao in the Philippines, and the Northern Mountains and Central Highlands in Vietnam), releasing agricultural land and other resources to urban uses (e.g., Vietnam), improving environmental management of agricultural resources (e.g., forestry in China and Vietnam), supporting climate change mitigation and adaptation (e.g., Vietnam), and agricultural and rural development institutions in the context of decentralization (e.g., Indonesia and Philippines)

- For the low-income countries (Cambodia, the Lao People's Democratic Republic, Myanmar, Papua New Guinea, Timor-Leste, and Mongolia, which account for 6 percent of the ongoing EAP program), the focus is 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 (e.g., food security and rice productivity projects in Lao PDR; livestock and sustainable livelihoods in Mongolia; and smallholder development and productivity partnerships in Papua New Guinea). We will also reengage in Myanmar, a country that has been closed to the outside world for decades, with a primary focus of the Bank's overall reengagement being to support the agricultural sector to help raise farm incomes.

FIGURE 8: EAP Composition of Current IDA/IBRD Program: Undisbursed Balance



- For the Pacific Islands, the focus is on niche opportunities in agriculture and on assistance to cope with climate change (with projects in Samoa on agricultural competiveness and in the Solomon Islands on rural development), with technical assistance on a financing mechanism for catastrophic losses. The Bank has also prepared a fisheries sector engagement strategy to guide our future support in this area.

105. *Focus of new commitments:* The focus of new commitments over the next three years, including in response to the evolving context will be on: (i) *Agricultural productivity (more climate-smart systems)* with a focus on water resource management (Vietnam, Mekong Basin, and China); climate-smart agricultural practices (selected areas of China[139]); development and adoption of new technologies (Indonesia); improving land tenure security

139 Includes measurement of evapo-transpiration by satellite to better control and manage water usage in northern China

and land administration services (the Philippines and Vietnam); scaling up participatory forest management (Lao PDR); and helping to optimize sustainable economic benefits from Pacific Island fishery resources; (ii) *Strengthening value chains,* with a focus on building competitiveness and local entrepreneurship through support for productive partnerships with the private sector, public infrastructure, and institutional capacity building (Indonesia); enhancing competitiveness, sustainability, and inclusiveness of commodity value chains in targeted areas (the Philippines); and improving public services through improvement of prioritized infrastructure in selected small towns (Jiangxi Province of China). (iii) *Reducing risk and vulnerability,* with a focus on support to institutional mechanisms that reduce vulnerability of communities (e.g., pasture management in Mongolia, alternative aquaculture livelihoods in Indonesia); strengthening capacities for natural disaster prevention, preparedness, and mitigation (Vietnam, China, Vanuatu, Samoa, and Solomon Islands); targeted support to poor regions to foster private investment and job creation (Aceh and Nias in Indonesia); support for employment and occupational skills training for local youths (and others) for construction and maintenance of productive community infrastructure (access roads, terracing, and irrigation); and support to youth groups and others to form cooperatives or small enterprises for future work in rural infrastructure contracting (central highlands of Vietnam); and (iv) *Environmental sustainability and services* with a focus on forest restoration and management to strengthen resilience and enhance carbon sequestration (China Hunan Province); and support for adopting policies and strengthening institutional capacity to promote climate-resilient, lower carbon intensive development, and integrated coastal zone management (Vietnam).

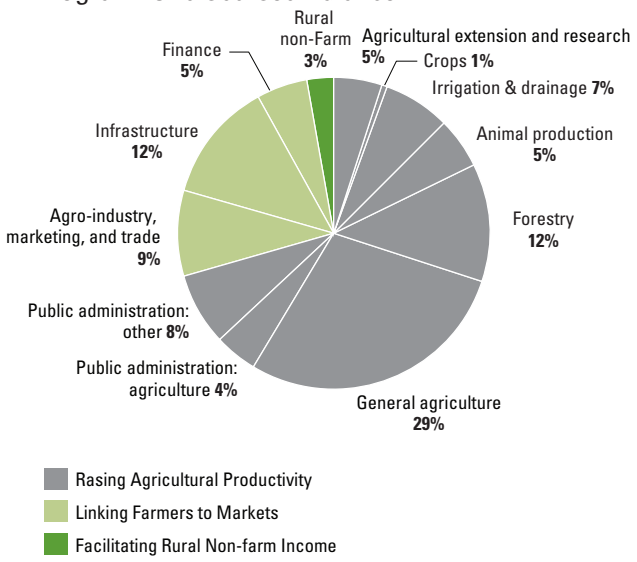
106. *Analytical work*: The analytical work will focus on water resource management (Indonesia, Vietnam, and the Philippines), trade and food safety (Mekong countries), climate change adaptation (China), rice and food security policies (Vietnam, Indonesia, Lao PDR, and Timor-Leste), and rural connectivity (Vietnam, the Philippines, and Indonesia). In addition, a regional flagship study on Farmgate-to-Market in East Asia is planned to be carried out in FY2013.

107. *IFC:* Complementing the IDA/IBRD work in the region, IFC activities also follow a country-differentiated approach. For example, in China, efforts with major food processors to promote food safety standards complement targeted investments in frontier regions to further rural economies, while resource efficiency investments support responsible energy and water use. Meanwhile, in Vietnam, agri-finance schemes and extension services for farmers complement nascent activities to develop warehouse finance systems via regulation and warehouse training programs. Initiatives in low-income countries emphasize increased productivity and access to both markets and financing for farmers.

Latin America and the Caribbean

108. While the region is increasingly urbanized (79 percent of the population lives in urban areas), it has favorable natural resource endowments, providing the potential to not only meet domestic demand but also to expand agricultural exports. The region as a whole is a major contributor to global soybean exports, accounting for about 40 percent. 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 a third group have more limited food production potential for exports (e.g., Mexico) or are likely to remain net food importers, such as most Central American and Caribbean countries. Inequality is very high, especially in poor rural areas, 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 smallholder participation in value chains, and reduce the environmental footprint of agriculture (increasing

FIGURE 9: LCR Composition of Current IDA/IBRD Program: Undisbursed Balance



output per unit of water, reducing the rate of deforestation, and reducing soil fertility loss). Emphasis will vary by country context.

109. *Implementation of ongoing undisbursed commitments:* While the dominant focus of the IDA/IBRD program in the region continues to be on agricultural productivity growth (figure 9) (71 percent of the program), a much greater attention is being given to agricultural markets (increasing from 14 to 26 percent of the program), consistent with the projected emphasis in the FY2010–12 AAP, which indicated the Bank would give greater emphasis to strengthening smallholder inclusion in agricultural markets and continued export growth. The thematic implementation focus of the IDA/IBRD $1.9 billion program over the next three years will be the following:

- For countries with large pockets of rural poverty (Bolivia, Honduras, and Nicaragua, and in poorer regions of larger countries such as northeast Brazil), the recently approved projects (large undisbursed balances) will be on strengthening the role of smallholder farmers in domestic markets and domestic value chains (Brazil and Honduras), securing livelihoods and food security of subsistence farmers (Bolivia and the Paraiba region of Brazil), improving irrigation systems (Brazil and Peru), strengthening innovation capacity (Bolivia), and facilitating access of small farmers to productive resources (land in Honduras). For Haiti, where 88 percent of the rural population is poor, the focus of our support is on raising agricultural productivity through improving agricultural services (such as extension), and on facilitating labor mobility and rural non-farm and community development.

- For the slower-growing countries (Mexico and Colombia), we will give support to transforming public spending from subsidies to investments (Mexico), inclusion of smallholders in new food markets (Colombia), strengthening resilience of subsistence agriculture (climate change adaptation in Mexico, including support to forestry), and territorial development and skills for the rural non-farm economy (Mexico).

- For the agricultural powerhouses (Argentina, Brazil, and Uruguay), the focus will be on better aligning public support for agricultural production to the current context such as sanitary and phyto-sanitary standards, innovation, and trade policies (Brazil), enhancing resources to reduce vulnerability (Argentina), improving trade infrastructure, minimizing the environmental footprint (Uruguay), and adapting to climate change (Uruguay). South-South partnerships (such as the Agricultural Marketplace developed between Brazil and Africa) are other mechanisms for engagement with these countries, opening sources of expertise and agricultural knowledge exchange.

110. *Focus of new commitments:* The focus of new commitments over the next three years, including response to the evolving context of climate change, private sector investment in supply chains, and support for global food production, will be

on: (i) *Agricultural productivity,* with emphasis on improving land administration services (Nicaragua); support for adoption and development of technologies for crop and livestock activities for the reduction of GHG emissions (Mexico); and irrigation and drainage (Brazil, Sierra region of Peru, and Argentina); (ii) *Market access,* with a focus on support to productive alliances between small, organized rural producers and value-adding buyers; promoting smallholder market inclusion through provision of competitive matching grants to producers to help them transition into more valuable supply chains and access higher-priced and more sophisticated markets (Bolivia, Brazil, Peru, Argentina, and Mexico); and more attention on improving food trade logistics and reducing post-harvest losses[140] and on mainstreaming food safety; (iii) *Rural non-farm income* support to improve the business climate and promote job creation by small- and medium-scale enterprises in growth poles outside capital cities (Haiti); (iv) *Environmental sustainability and services,* with a focus on technical assistance to strengthen environment and natural resources (Peru and Belize), for low-carbon development (Brazil—Rio de Janeiro), biodiversity conservation in productive landscapes (Mexico), and climate resilient infrastructure (Brazil); (v) *Reduce risk and vulnerability including nutrition,* with a focus on promoting inclusion of the indigenous and poorest/most disadvantaged populations (Paraguay and northeast Brazil); reestablishing agricultural productive environments in areas recently hit by disasters (areas of the Serrana Region); support for developing agriculture insurance markets (agriculture and livestock insurance in Uruguay, Argentina, Dominican Republic, Jamaica, and Guatemala), technical support to the development of commodity exchanges (Colombia and Nicaragua) and evaluation of risk management tools (Mexico), and mainstreaming nutrition into agriculture investments (Haiti) and promoting food safety.

140 Based on recent analytical work on High Food Prices: Latin America and the Caribbean Responses to a New Normal, Available at http://siteresources.worldbank.org/INTLAC/Resources/FoodPrices_english_V2_highres_.pdf.

111. *Analytical work:* Building on recent analytical work on low-carbon development (Brazil and Colombia), agricultural trade (regional), climate change impacts on land use (regional), and land (El Salvador and Nicaragua), the analytical program will focus on low-carbon strategies (Costa Rica and Uruguay), Amazon forest protection, climate change impacts on agriculture (Brazil), water resources management and integrated aquaculture and fisheries (Brazil and Peru), land governance (Brazil), and agricultural public expenditure reviews (Nicaragua). In response to food price volatility, the program will give advice on improving current public policies to respond to systemic risks (Colombia and Honduras) and on commodity price and weather risk management (Mexico).

112. *IFC*: Complementing the IDA/IBRD work in the region, IFC activities aim to increase the productivity and efficiency of agricultural value chains in countries with competitive advantage, increasing smallholder participation in value chains where applicable, and emphasizing sustainability practices throughout. To promote inclusive growth, numerous initiatives aim to increase efficiencies in local value chains and provide nutrition-based products to reach both rural and urban poor. Meanwhile, IFC will continue its efforts to increase access to finance primarily via rural financial institutions and corporate intermediaries.

113. *MIGA* will increase foreign direct investment in the private sector by providing (political) risk insurance to a bamboo cultivating and processing facility in Nicaragua.

Middle East and North Africa

114. The extraordinary recent period in the MNA region provides a unique opportunity for growth—if the Arab Spring is followed by sound transition to better governance structures and the benefit of reforms starts to accrue. Across the region, the events of the last two years have disrupted economic activities, and substantial social and economic challenges remain. Across sectors, the

Bank will continue to be responsive to client needs and flexible to ensure, through policy and technical advice, that instability does not undermine the process of political reform and that macroeconomic stability and social cohesion are sustained.

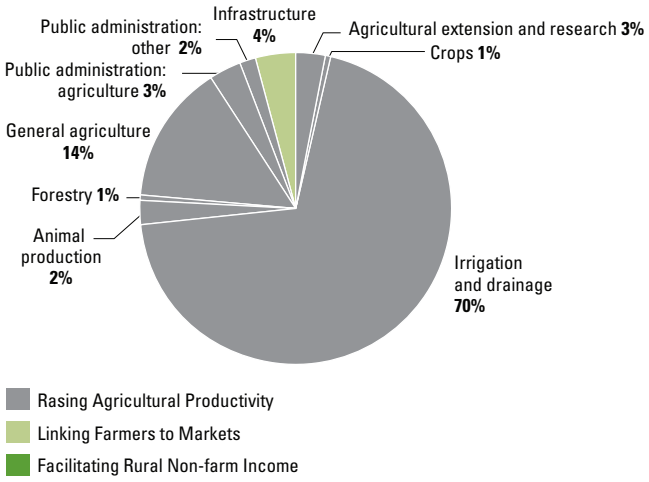
115. The MNA region faces two unique global challenges related to agriculture. The first challenge is that it is the most water-scarce region, with approximately one-tenth of the renewable water per capita relative to other regions. Climate change–induced variability is projected to make the region hotter and drier in the coming decades. The looming crisis of water scarcity is further complicated by rapid population growth and an increasingly agglomerated economic landscape. The second closely related challenge is that MNA imports 56 percent of its grain calories. MNA is, and will continue to be, the region in the world most dependent on food imports. This makes it particularly vulnerable to international food commodity price volatility and supply shocks of the type experienced since 2008. Food price shocks raise the threat of poverty for the relatively high share of MNA households living close to the poverty line, and they can exacerbate already-high malnutrition rates in several countries of the region. Vulnerability to events in world markets is likely to increase going forward as a result of population growth, urbanization, climate change, and binding constraints on water.

116. The dual challenges of climate change and food security are not new to MNA. But the threat they pose to the livelihoods of the region's people is gaining momentum, and comprehensive solutions are now necessary to avoid significant costs to current and future generations. The solutions can be grouped around four common themes embedded in the region's strategy for inclusive growth: (i) strengthening safety nets, including short-term access to cash, nutritious food, and jobs that generate the income to buy food; (ii) improving livelihoods to provide rural people with medium-term opportunities to improve their quality of life, including greater water and land productivity, sustainable agriculture and desert ecosystems, better access to markets, and improved basic infrastructure services, as well as promoting job creation, including skills development and reform of labor markets to facilitate labor exit from agriculture; (iii) increasing financial and infrastructure resilience also through the deployment of longer-term infrastructure and financial architecture necessary to increase local, national, and regional resilience to climate change and food price shocks; and (iv) strengthening institutions of new governments and putting greater emphasis on the role of trade as a reduction in tariffs and subsidies will help lower import costs, improve competitiveness and redirect stretched budgets to areas that are viable in the long-run. There is an urgent need for the region to transition from nontargeted programs (namely food and fuel subsidies) to targeted social safety net programs (such as cash transfers, child nutrition support, and public works).

117. Different countries in MNA have different resource endowments, and this will shape their needs around the four themes of the regional strategy. Some countries are wealthy and have very limited rural populations (the Gulf Cooperation Council countries and Libya). Others are middle income and have large rural populations (Morocco, Tunisia, Egypt, Iran, Iraq, and to a lesser extent Jordan and Lebanon), and yet others are low-income (Yemen and Djibouti). Overlaying the country typology with the four themes suggests an emphasis on RTA related to safety nets and resilience in the wealthy countries; RTA, IBRD lending, and AAA on safety nets, rural livelihoods, and resilience in the middle-income countries; and IDA credit and AAA on safety nets and rural livelihoods in the low-income countries. Operational work, including projects, AAA, partnerships, and RTA will be undertaken through the lenses of governance, economic and social inclusion, jobs, and private sector–led growth.

118. *Implementation of ongoing undisbursed commitments:* The ongoing IDA/IBRD program is

FIGURE 10: MNA Composition of Current IDA/IBRD Program: Undisbursed Balance



dominated by irrigation and drainage (70 percent of program) (figure 10), and a greater focus has been given to agriculture research and extension (increasing from 1 percent to 3 percent of the program). The focus of the ongoing IDA/IBRD program in the region is on enhancing productivity by improving irrigation application efficiency and on managing water scarcity in the region. This will remain of particular importance since water scarcity is projected to worsen due to climate change and the increasing demand of a growing population. The ongoing program focuses on:

- *Water management*: (i) rehabilitation and construction of irrigation canals and water harvesting infrastructure (Djibouti, Egypt, Iraq, and Tunisia); (ii) support for high-efficiency drip irrigation (Morocco); (iii) establishment of supporting institutions (water users associations in Egypt and Iraq, canal water boards in Egypt, basin water councils in Iraq); (iv) support for broader watershed management through construction of erosion control structures and management and conservation of forest and rangelands (Iraq); (v) support to strengthen irrigation advisory and production support services, including training of private sector service providers on installation and repair of irrigation infrastructure (Egypt); and (vi) pilot schemes to demonstrate the value and benefits to be derived from the use of treated wastewater to preserve and intensify agricultural production systems on degraded lands (Tunisia).

- *Agricultural research, extension, and inputs*: (i) support for adaptive research on water and land management (Egypt), on fisheries (Yemen), and for rehabilitation and strengthening veterinary laboratories (Tunisia and Yemen); (ii) strengthening linkages between research and extension (Iraq); (iii) on-farm demonstration of water control, irrigation, crops, horticulture, and climate-resilient practices (Egypt, Iraq, and Tunisia); (iv) training of farmers and extension staff (Egypt and Iraq); and (v) support for farmer-based seed improvement and management (Yemen).

- *Linking farmers to markets*: (i) construction and rehabilitation of rural feeder roads (Tunisia); (ii) improved fisheries landing sites (Yemen); (iii) support for partnerships between farmers and agro-processors to securing markets for high-value crops, and helping implementation of a market information system (Morocco).

- *Environmental services and sustainability*: (i) community-level subprojects on rangeland development through set-aside, reseeding, and shrub planting (Djibouti); (ii) improving the status of selected forests through community forest management; and (iii) fisheries management information systems (Yemen).

- *Risk transfer*: (i) noncommercial (political risk insurance (via MIGA) to specific companies for investments in palm production and export, as well as in vegetable and herb production for local markets and export (West Bank and Gaza), and floriculture for local markets (Morocco); and (ii) managing risks in international food trade, including difficulties in enforcing grain/food import contracts.

119. *Focus of new commitments:* The focus of new commitments over the next three years, including response to the evolving world context will give more emphasis to (i) *Agricultural productivity,* with support to provide irrigation access to smallholder farmers to grow higher-value crops, and create employment opportunities, especially for women and youth (Lebanon); improving water use efficiency (Morocco); improving the linkages among research, extension, and training activities (Morocco); and supporting integrated (public and private) system of delivering agricultural advisory services (Morocco); (ii) *Linking farmers to markets through* support to improve the efficiency of domestic markets by reducing marketing costs and improving marketing services in fruit, vegetable, and meat markets; smallholder inclusion through an improved policy environment for contract farming (Morocco); improving food safety through support for policy regulations (Morocco), and export opportunities with the EU (Egypt, Morocco); and (iii) *Environment services and sustainability* support to develop strategic approaches to climate change (Morocco), and exploring carbon finance for conservation agriculture (Tunisia).

120. *Analytical work*: Building on the analytical work undertaken on food import supply chains (regional), climate change adaptation (regional), and rural finance (Tunisia), the focus of economic and sector work will be on food security (regional), linking farmers to markets (Egypt), disaster risk prevention and management (Morocco), and agro-industries (Algeria).

121. *IFC*: Complementing the IDA/IBRD work in the region, IFC activities will aim to facilitate food trade financing and increase efficiencies in local food value chains. Emphasis will be on improving water and energy efficiency in production and processing activities, while continuing to work with governments to improve business enabling environments for the private sector.

122. *MIGA*: In line with MIGA's MNA Initiative to support investments in the politically turbulent region, MIGA is pursuing noncommercial (political) risk insurance for several companies in dairy and vegetable production (West Bank and Gaza) and a vegetable farm (Tunisia).

Europe and Central Asia

123. Agriculture in ECA has significant untapped potential. It has the potential to double its production of food grains and animal products, and thus can serve as a foundation for rural income generation and job creation. Moreover, it contributes to promoting national and global food security, with three of the largest food exporters located in the region (Kazakhstan, Russia, and Ukraine) and to reducing rural-urban income inequalities. ECA is also uniquely positioned to benefit from large and fast-growing agri-food market opportunities, especially given its proximity to three of the largest world markets—the European Union, Russia, and China—in addition to growing demand for food at a global level. Improving food security (in terms of availability and access to nutritious food) is a key global development challenge, and the international community has high expectations for ECA, and in particular the northern Black Sea Region. This is because ECA is perceived as having a strong comparative and competitive advantage and a strong export position for some agricultural commodities, especially grains. For ECA countries, improving agricultural productivity and competitiveness translates to export revenues, stronger sectoral contribution to economic growth, domestic surpluses and long-term food security. But to realize this potential, the countries must improve their production, investment climate, and trade environment accordingly. In addition, ECA has the largest forest cover of all the Bank's regions (accounting for more than 25 percent of the world's forests), which is expanding, with potential for additional growth.

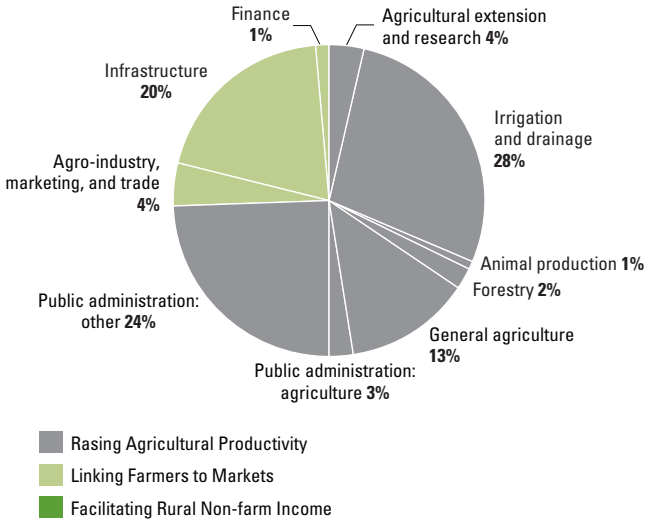
124. *Implementation of ongoing undisbursed commitments*: The focus of support of the WBG has been on improving agricultural productivity, especially

through irrigation and drainage systems and through making better use of underutilized high-potential land for rainfed production (figure 11). Consistent with the AAP FY2010–12, priority has been given to irrigation and drainage (increasing from 13 to 28 percent of program), public administration (continuing to be about one-quarter of the program), and infrastructure (increasing from 12 to 20 percent). Other investments are aimed at assisting completion of the transition toward a market economy and international integration as well as on better linking farmers to markets. The ongoing program focuses on:

- *Agricultural productivity:* (i) Irrigation and drainage through rehabilitation and upgrade of irrigation systems, especially for on-farm systems managed by water users associations (Armenia, Albania, Azerbaijan, Bosnia and Herzegovina, the Kyrgyz Republic, Serbia, and Uzbekistan); introduction of new technologies to promote water use efficiency (Azerbaijan, Bosnia and Herzegovina, and Uzbekistan); (ii) strengthening agricultural extension services (Armenia, the Kyrgyz Republic, Moldova, Montenegro, and Uzbekistan); (iii) enhancing land tenure security through registration of property rights (Azerbaijan, Croatia, Montenegro, Romania, and Tajikistan); policy, legislative, and institutional reforms aimed at improving the capacity of cadastre offices to deliver services (Kosovo); and development of efficient land and real estate markets (Macedonia); (iv) improving livestock and pasture management (Armenia and the Kyrgyz Republic); and (v) improving farmers' access to credit to finance investments (the Kyrgyz Republic, Moldova, Tajikistan, and Uzbekistan).

- *Link farmers to markets:* Support is being given to village-level agribusiness and farmer groups to develop new business opportunities, improve marketing, promote food safety practices (Azerbaijan, Bosnia and Herzegovina, the Kyrgyz Republic, Moldova, and Uzbekistan), enhance food safety management and improve marketability and market integration of high-value agricultural production (Moldova and the Kyrgyz Republic). In support of country accession to the EU: knowledge transfer to farm operators, commercial and semicommercial agro-processing enterprises, and municipal advisors to plan investments and utilize financial support of future EU grants schemes for Pre-Accession Assistance for Rural Development (Kosovo); and to improve institutional development and delivery of government assistance for sustainable agriculture and rural development in a manner consistent with the EU's pre-accession or membership requirements (Bosnia and Herzegovina, Macedonia, Montenegro, Serbia, and Romania).

FIGURE 11: ECA Composition of Current IDA/IBRD Program: Undisbursed Balance



- *Risk and vulnerability:* Investments are assisting farmers to deal with climate risk through improved weather alerts (the Kyrgyz Republic, Moldova), reducing flood peaks and increasing the flood carrying capacity of reservoirs to protect the population in the Odra River Basin against loss of life and damage to property caused by severe flooding (Poland), and noncommercial (political risk) insurance for private sector investment in central and southern

Russia that is producing, storing, processing, and selling grain and other crops such as barley, sunflower, and peas.

- *Environmental services:* Continued support to watershed management and community-based forestry by developing innovative financing mechanisms for sustainable forest management (Albania and Kosovo), and better protection of forests from fire and pests (Russia). Continued support is given to improve protected area boundary delineation and park management and to strengthen capacity for EU-compliant reporting and biodiversity monitoring (Croatia and Serbia).

125. *Focus of new commitments*: The focus over the next three years will be to continue support for key productivity and competitiveness investments such as in irrigation and drainage, in land administration, and in linking farmers to markets. In response to the global context, emphasis will also be given to the development of risk management products and to respond to climate change: (i) *Agricultural productivity:* Irrigation and drainage: While irrigation infrastructure development and rehabilitation will continue to account for a significant share of the program, increased support will be given to water user associations in developing and managing modernized systems, and to make more efficient use of the irrigated lands (Armenia, Azerbaijan, Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan). Emphasis will be given to integrated water resources management, including strengthening of the sector's legal, regulatory, and institutional framework (Albania and Tajikistan). These investments can assist in increasing the predictability of food supply in the region. (ii) *Land tenure:* Support to the development of a sustainable real estate registration system with harmonized land register and cadastre records (Bosnia and Herzegovina). (iii) *Linking farmers to markets:* Continued support will be provided to food safety programs (Turkey), supporting value chain development (Azerbaijan, Tajikistan), livestock production (Armenia and Kazakhstan), and horticultural sector development (Uzbekistan). (iv)*Addressing risk and vulnerability:* More emphasis will be given to prevention and management of flood, forest fires, and drought disaster risks (Poland, Bosnia and Herzegovina, Russia, Bulgaria, and Kazakhstan), as well as to building climate change resilience by helping farmers adopt sustainable land management strategies and practices for agro-ecosystems in climate vulnerable sites (Tajikistan).

126. *Analytical work:* The analytical work over the next three years will focus on agriculture productivity, especially on irrigation water use in Central Asia; on the adaptation to climate change in agriculture (South Caucasus), and water resource management (South East Europe). Further analytical work will be done on land governance (Georgia and Moldova), agricultural trade (Moldova), food safety (Armenia and Turkey), and on forest governance and innovative sustainable forest management (ECA region), including accounting for GHG emissions from forest fires (Bulgaria).[141] A significant share of support is through technical assistance (for food safety in Turkey) and FBS, which will likely increase. This includes a FBS project on the establishment of the Eurasian Center for Food Security (Russia), four FBS projects with the Ministry of Agriculture and Rural Development in Romania to help with strategic and operational management of agricultural policies in an EU membership context, two FBS projects with the National Cadastre Agency (Romania), and a FBS project to provide technical assistance for programming of rural development policies in an EU membership context (Bulgaria).

127. *IFC:* Complementing the Bank's work in the region, IFC activities will aim to increase productivity and efficiencies of agricultural value chains, particularly in grain production and livestock sectors. An integrated approach with food processors promotes food safety improvements via financing, regulatory reform, and advisory services to corporate players.

141 This study is being supported by the Program on Forests (PROFOR).

Global

128. **The evolving global context, with increased food price volatility and climate change, calls for stronger collective action to alleviate its impacts on the world's poor**. Some emerging issues of great policy and financial interest to clients transcend national or regional dimensions, and are consistent with the special role of the WBG as an institution that is multilateral, multiregional, multisectoral, and multidimensional, offering both financing and knowledge products. This comparative advantage is relevant to cases as diverse as dealing with the drivers and impacts of the 2008 food price crisis or dealing with migratory fish stocks. Other cases would be where the most desirable knowledge transfers are interregional, as in food safety, or where efficiency mandates a scale of dedicated activities addressing a specific issue that surpasses what would be possible at the national or regional levels, or by a single institution, as in some aspects of agricultural research or resource mobilization. In these cases, a global partnership approach may be indicated. Some global partnerships focus on building technical consensus on how to proceed with large amounts of technical consultations and assistance, and others focus on increasing the financial input to specific types of solutions through recipient-executed projects. Since 2008, the WBG has increasingly forged partnerships of both sorts to address such global issues in agriculture with a variety of local and global actors at the country and global level. These global partnerships complement our country-level support and bilateral partnerships through provision of knowledge to help shape debate on global public goods (especially those that affect country-level programs); improved coordination of activities and knowledge with global partners; continued consultations across stakeholders; and additional resource mobilization.

129. **Experience suggests that the following sorts of issues are especially appropriate for WBG involvement in a global partnership.** Three principles apply to both financial and technical partnerships. First, the topic addressed must be one of great priority for a significant subset of the WBG's client countries, crossing regional boundaries. Second, it should be one that makes good use of the WBG's status as a financial intermediary governed by a Board that represents a global constituency. The WBG Board institutionalizes a rare degree of international trust and cooperation; as such, the WBG has a comparative advantage in concentrating its global partnerships on issues where such trust in governance is most necessary. Third, while partnerships designed to improve technical assistance can be successful without financing recipient-executed projects, they tend to be even more successful if they can at the same time help improve clients' access to finance. Funding for clients is key for the WBG with respect to both success in outreach and having a seat at the table when the global issue in question is discussed. Four additional principles apply to partnerships that involve funding recipient-executed agricultural projects. First, a sufficient scale of operations is needed to keep administrative overheads low. While the threshold level of operations for cost-effective technical assistance can be relatively low, it is much higher for recipient-executed lending or grants, possibly surpassing a benchmark of hundreds of millions of dollars of lending or grants to offset the costs associated with participation in a global partnership dedicated to bringing about such additional lending. Second, the speed, sustainability of effort, and impact of WBG public sector projects financed through global partnerships tends to increase if the additional financing is well aligned to national priorities and to existing financing from other donors and IDA/IBRD. Cofinancing of existing WBG projects is especially helpful with regard to speed. Third, partnerships involving multiple stakeholders and resource allocation decisions across countries and regions work best where governance is fully transparent and all stakeholders feel that they have a say. Fourth, global partnerships under external governance but housed at the WBG work best when

the coordination function is managed by acknowledged technical experts in the topic of the partnership. The partnership itself gives the WBG an opportunity for leadership, but this is not inherent in an external governance structure. The combination of technical expertise and transparent decision making gives a WBG Coordination Unit a much more significant say in influencing how the partnership develops.

130. **We will continue to strengthen our global programs and partnerships to address the priorities of clients where a global partnership approach is most efficient and most appropriate**, following the above principles**.** The following three emerging topics, for example (not an exhaustive list), meet the criteria above. First, there is the continuing need to mobilize additional resources targeted to the best examples emerging from existing aid effectiveness processes at the regional and national levels that emphasize strategic long-term approaches to increasing agricultural production. These need to be country owned, evidence based, peer reviewed, and inclusive of civil society and the private sector. Second, leveraging increased private sector response to new opportunities and challenges in agriculture is critical. Emerging interest among clients in promoting both domestic food safety and increased exports of perishable foods to developed country markets with high food safety standards is an area where the WBG is building a public-private global partnership to promote consensus on the best way forward. Finally, there is widespread agreement among clients and development partners about the need to improve nutritional outcomes, especially for young mothers and infants. This objective is linked to the interest in increasing food production and has led to a widespread interest in improving nutritional outcomes from agricultural investments. Examples of WBG efforts toward these three partnership areas are given below.

131. **We will aim to improve aid effectiveness in agriculture while mobilizing additional resources for food security.** We will continue to focus on mobilizing additional resources, as was done effectively, for example, by the GFRP in 2008 with $560 million in Trust Fund resources (of which $358 million were external) that supported country-level Bank grants for rapid response in the most vulnerable countries through Bank-implemented, recipient-executed projects. The newer GAFSP, on the other hand, focuses on targeting resources to governments of IDA-only eligible countries and firms that are most ready to make evidence-based and inclusive contributions to long-term and strategic agricultural development and food security. The Public Sector Window of GAFSP includes a broad external governance structure of donors, recipient representatives, and CSOs. It finances proposals from country-led plans based on pre-established criteria for need and readiness, and that come from preexisting aid effectiveness processes at the country level, such as the CAADP in Africa. GAFSP provides incremental grant funding to poor countries that, in effect, compete at being better in following existing aid effectiveness procedures than other countries, as determined by a credible independent review process. GAFSP has to date mobilized $855 million in grants from nine donors (with more than $600 million in additional pledges still to come) to finance country-led and private sector programs in agriculture and food security. To date, its Public Sector Window has made grants of $658 million to governments in 18 IDA countries. Supervision is provided by the World Bank, other Multilateral Development Banks, and IFAD for public sector projects, with some technical assistance supervision through FAO and WFP, and by IFC for the private sector projects. GAFSP public sector projects are subject to a rigorous program of impact evaluations that is improving the ability of the participating Multilateral Development Banks, IFAD, and the Bank to jointly report progress. The World Bank directly supervises $300 million of these funds for public sector projects arising from existing aid effectiveness processes in 10 countries. The Private Sector Window of GAFSP funds private firms and financial intermediaries

that operate in IDA-only countries and support activities that are consistent with the national food security or agriculture plan. Through this window, GAFSP to date has allocated $5 million to support an agribusiness firm in Bangladesh, and the loan will be concurrent with IFC's loan investment of $10 million. The Private Sector Window is in the midst of a new call for proposals and robust staff increases for scaling up activities. We will work to achieve and report impact at scale.

132. **We are committed to working with the private sector and other key stakeholders to improve food safety.** Globalization of the food supply means that food safety risks are shared across borders and increasingly across regions through the globalization of the food supply chain. Foodborne disease outbreaks have serious implications for public health. Lack of food safety capacity also inhibits trade within and between developing and developed countries, and results in lost opportunities for food and agribusiness companies, farmers, and consumers. Food safety is increasingly a global public good, and addressing it requires global solutions. Farmers, processors, retailers, regulatory agencies, consumer advocates, and technical service providers find it difficult to collaborate effectively to improve food safety in globalized food supply chains without embarking on a high degree of formal vertical integration that cannot fully cover all needs, especially in the poorer countries. Building on the work initiated under the Asia Pacific Economic Cooperation's Food Safety Cooperation Forum, the WBG recently helped launch the multistakeholder Global Food Safety Partnership to deliver a five-year program for training and capacity development, supported by a public-private partnership and funded by a multidonor trust fund, with contributions from both the public and private sectors anticipated to reach approximately US$45.0 million. The initiative has already received $1 million in funding from contributors from both the public *and* the private sectors, which has enabled work to begin on an initial series of training programs. In addition to this funding, the World Bank has agreed to provide $400,000 this year from its Development Grant Facility, with the potential of similar funding amounts for the following two years. Capacity-building measures supported through the Global Food Safety Partnership will be based upon international standards, industry-defined operational competencies and best practice, and applied innovation, and will be delivered in a contextually appropriate manner via the best available IT platforms. These activities will draw on a global network of expertise from institutions and food safety professionals mobilized to address high-priority risks and threats identified at the country, regional, or international level and to provide an essential resource base of trainers.

133. **We are giving more emphasis to improving the nutritional outcomes from agricultural projects.** The WBG is cosponsor of a major global partnership entitled the Scaling Up Nutrition Movement (SUN) [box 18]. Agricultural projects in the WBG that address food production and distribution issues can contribute to the operationalization of SUN objectives through the inclusion of nutritional outcomes of the types prioritized by SUN in the results frameworks of new project designs where feasible. SDN is committed to promoting good practice in this area in the WBG Regions in the coming three years, with the support and collaboration of HDN. In addition, the SDN co-chairs with HDN and PREM, a new SecureNutrition Knowledge Platform (see paragraph 10) designed to create a community of practice inside and outside the Bank to improve nutrition, specifically through adding nutritional objectives to agricultural projects.

134. **We are continuing to work with other multilateral agencies to reinforce multilateralism in addressing current agricultural and food security challenges and to leverage the impact of WBG contributions.** The level and intensity of interactions since the onset of food crises in 2008 with multilateral organizations provide a clear indication that the Bank's partnership in challenging issues

related to agricultural development and food security is appreciated and sought after beyond bilateral relationships with clients, which remain strong. Examples of the WBG's partners in this regard since 2008 are the G20 and the G8, the United Nations' Rome-based food agencies (FAO, WFP, IFAD), the CGIAR institutes, the UN High Level Task Force on Food and Nutrition Security, the Multilateral Development Banks, OECD, and regional economic institutions in developing regions. The newest example of the fruits of this form of collaboration is the Agricultural Market Information System platform (AMIS) at FAO, created by the G20 Agriculture Deputies under the French G20 Presidency and which the World Bank actively supports with funding and staff time, as a member of both the Secretariat (composed of international organizations such as the Rome-based UN food agencies, the WBG, OECD, and WTO) and of the AMIS Steering Committee. AMIS aims to enhance food market outlook information, particularly for grain and soybean stocks, and build capacity in developing countries by strengthening collaboration and dialogue among countries. It was founded on the view that little is actually known reliably about how much food there is in the world at any one time (a view shared by FAO and USDA, which both actively support AMIS's statistical function), and that crises such as the one in 2008 could have been largely avoided if an information and discussion platform such as AMIS had been in place at the time. AMIS's associated "Rapid Response Forum" is composed of senior agriculture officials from G20 and other big grain importing and exporting countries that meet when the Secretariat identifies disturbing trends in prices to discuss a common set of timely facts prepared by the Secretariat.

BOX 18: Agriculture in the Scaling Up Nutrition (SUN) Movement

The SUN movement was launched in 2010 in response to continuing high rates of global malnutrition. Since then, the SUN Framework for Action has been endorsed by over 100 partners worldwide, including developing countries, academic and research institutions, civil society organizations, private sector companies, bilateral development agencies, United Nations agencies, and the World Bank. The Lead Group for SUN was formed in April 2012, composed of global leaders such as heads of states of SUN countries and representatives of organizations and sectors working to improve nutrition; the World Bank's HDN Vice President is a member of the Lead Group. *SUN promotes three key principles for improving nutrition outcomes*: (i) country-level action, (ii) a focus on evidence-based and cost-effective actions, and (iii) a multisectoral approach. The last point recognizes that although many of the nutrition-specific interventions lie in the health sector, other sectors have a key role to play in scaling up the indirect or nutrition-sensitive interventions, including agriculture. Leaders of partner developing countries ("SUN early riser countries") are prioritizing nutrition as an investment in their nations' development and are committing to implementation of national nutrition plans/strategies at scale. The SUN movement seeks to support countries as they build political commitment within governments, establish multistakeholder platforms, promote goals and targets for reducing undernutrition, encourage coherence and support of country progress through a global coalition of partners, and mobilize support for effective joint action.

135. **We are contributing knowledge and capacity building to help clients deal with emerging issues in the global environment for food and agriculture.** Global partnerships that focus on knowledge generation, knowledge dissemination, and capacity building have the potential for significant eventual impact on country-level programs through (i) increased ability of clients to engage on significant global changes affecting them, (ii) improving effectiveness in reducing negative externalities (from zoonotic or foodborne disease outbreaks, climate change, excessive price volatility, or depletions of fishery stocks, for example), and (iii) additional resource mobilization. An example is the new Global Partnership for Oceans (GPO), a new coalition of over 100 governments, civil society organizations, private companies and associations, research institutions, UN agencies, multilateral banks, and foundations with the objective of mobilizing significant human, financial, and institutional resources for effective public and private investments in healthier and more productive oceans. These investments will concentrate on filling the current gap in the implementation of global commitments for (i) sustainable seafood, better nutrition, and improved livelihoods from capture fisheries and aquaculture; (ii) conservation of critical coastal and ocean habitats; and (iii) reduction of pollution into the ocean. The GPO builds on the reputation and trust built through the relatively small Global Program on Fisheries (PROFISH) and the ALLFISH (between them less than $5 million in Trust Funds administered by the Bank). ALLFISH is a partnership between the seafood industry, represented by the International Coalition of Fisheries Associations (ICFA); the Bank; and the Global Environment Facility (GEF) that has invested in building capacity and knowledge in developing countries to participate in more sustainable high-value chains for fishery exports. These programs have had considerable results thus far in improving fisheries management and developing new tools to measure progress such as new Fishery Performance Indicators. Plans are to complete the design phase and roll out implementation of the GPO at an Oceans Summit next year.

136. **The reformed CGIAR illustrates the benefits of a forward-looking global partnership approach in the provision of a key international public good in developing countries.** The CGIAR is the world's premier global partnership in agricultural research, committed to reducing rural poverty, increasing food security, improving nutrition and health, and ensuring the sustainable management of natural resources. The CGIAR mobilizes funding from the WBG and 34 other donors, to support 15 international research centers and 1,000 highly qualified scientists throughout the developing world. The CGIAR Fund Council of donors is chaired by the Bank's Vice President of Sustainable Development. The CGIAR offers a common set of goals and priorities and very significant 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 does not focus on the most important crops for the poor, such as cassava, millet, and beans. The WBG has played a leadership role in the CGIAR since its founding in 1971 and recently oversaw its reform. Performance contracts between a new CGIAR Fund hosted by the World Bank and the Consortium of CGIAR Centers now provides opportunities for increasing World Bank investment in this global partnership. Performance contracts have been signed binding the CGIAR Centers to the Consortium, and the Consortium to the Fund, as have agreements on the majority of 16 new CGIAR Research Programs. These are expected to bring about increased coordination among donors and a more-upstream core research program. An Independent Science and Partnership Council provides advice to the Fund. Success in reform has allowed the CGIAR to grow from a $500 million per annum organization before the reform to one that is expected to grow to $800 million per annum by the end of FY2013.

137. **We are committed to developing and using new forms of global partnership for achieving private sector and civil society innovation in support of food security in developing countries.** The AgResults global partnership was launched by G20 Leaders at Los Cabos in June 2012. With a results-driven funding model that rewards innovators for tackling some of the biggest problems in food security and agricultural development, AgResults addresses global challenges in food security and agriculture by generating market-oriented solutions. It is administered by the WBG, which will outsource Secretariat functions while retaining a partnership role in the Steering Committee. Australia, Canada, Italy, the United Kingdom, the US, and the Bill & Melinda Gates Foundation are supporting this effort, with a pledged funding level of up to $100 million. AgResults uses pull mechanisms to encourage innovation and the adoption of new technologies through results-based payments such as prizes that are typically paid out when certain objectives or milestones have been met. Such financing mechanisms have seen success in generating innovation and market-oriented solutions in other domains such as health care, and AgResults aims to deliver similar gains in global food security and agricultural development. In the coming years, AgResults will launch a series of pilots representing a diverse mix of agriculture and food security issues that can be addressed by new technologies and products from the private sector, testing different types of pull mechanisms in different regions globally. The initial set of pilots, focusing on maize production in Sub-Saharan Africa, include incentivizing the development and adoption of on-farm storage technologies for smallholder farmers, encouraging innovative distribution of a breakthrough technology to reduce aflatoxin contamination, and building a market for new varieties of maize enhanced with vitamin A. Additional pilots will be explored in the coming years.

138. **We will support further South-South cooperation.** The Bank will continue to facilitate South-South cooperation by strengthening a new trend in development cooperation in which emerging economies play an increasingly important role in global development practice. In the last three years, the Bank helped clients by catalyzing the sharing of country experiences between practitioners. For example, Mali sought to draw lessons from India's dairy revolution, Tajikistan and the Kyrgyz Republic have learned from China's experience with agricultural value chain development, Nepal and Ecuador have learned from the Philippines experience with risk-sensitive land use planning, and Brazil is fostering technical cooperation and knowledge exchange between Brazilian and African organizations in agriculture. Many MICs are also benefiting from Bank brokered MIC-MIC exchanges, including Romania and Mexico on biogas from animal waste management, Brazil and Indonesia on forest management, and Turkey and China on watershed management. Such South-South cooperation is a key instrument for scaling up impact of successful agricultural development initiatives.

How We Will Implement The Program

139. To maximize the impact of investments under the AAP, we will focus on the following implementation issues related to improving portfolio quality and leveraging the resource of others, including clients, the private sector, and donor partners.

Areas we will emphasize more in implementation, and new areas

140. **Strengthen planning and investment prioritization in the poorest countries.** A recent assessment of country proposals submitted for financing to the GAFSP showed that the poorest countries had the least ready investment plans and country proposals.[142] Supporting national processes and capacity in these countries—particularly through

142 Nevertheless, there remained investment-ready proposals that were not financed due to there being insufficient financing available.

the CAADP process, including its consultations—can help to strengthen country plans and investment prioritization in agriculture, and increase the likelihood of high-quality investments across all sources of financing, including governments, donors, and the World Bank.

Key actions: (i) Seek additional financing for the CAADP Multi-Donor Trust Fund supporting capacity development for policy, planning, and investment prioritization through the Africa-led CAADP country processes; (ii) support the process through agricultural public expenditure reviews initiated in five countries (Burkina Faso, Senegal, Ethiopia, Togo, and Liberia), with work starting in six additional countries (Central African Republic, Côte d'Ivoire, Ghana, Guinea, Malawi, and Mozambique); and (iii) implement the new initiative to expand IFC agriculture investment in Africa.

141. **Work with other development partners to establish a project preparation facility for needed, but more costly to prepare projects (such as irrigation and land projects, including PPPs), in AFR.** Experience in AFR in the past three years has shown widely differing preparation costs of programs. Agriculture technology and emergency response programs can be scaled up fairly quickly within the budget preparation norms. In contrast, land administration and irrigation projects (needed to attain growth objectives) require feasibility studies, safeguard analyses, engineering design, and preparation of procurement packages, which take more time and resources than envisaged in the norms for project preparation in the Bank. Addressing these higher preparation costs will be important to sustain and support any increase in investments in AFR, as also acknowledged under the New Alliance for Food Security and Nutrition adopted by the G8.

Key actions: Together with development partners, led by USAID and the AfDB, we will work toward establishing a project preparation facility for more costly to prepare projects such as irrigation projects (to undertake feasibility studies, engineering designs, and preparation of safeguards instruments) and land tenure projects (for study and consultation on sensitive policy and institutional aspects, and for technical, economic, and safeguard considerations), including PPPs, in AFR. These will help to facilitate additional scale-up through financing costs extending beyond current budget preparation norms.

142. **Better linking IDA/IBRD/IFC/MIGA support at the country level.** The IFC and IDA have been working closely in Moldova with the IFC-supported Investment Climate Reform Project complementing the IDA Development Policy Operation, and agriculture investment operation. A recent example of regional collaboration between agriculture and the Finance and Private Sector Departments was on the analytical work on Agribusiness in Africa. Examples of potential collaboration include palm oil in West Africa, where a prospective IFC investment with a dedicated smallholder supplier component is linking with a Bank-supported smallholder program; Bank-IFC collaboration on Country Situation Analyses, which will precede new IFC palm oil investments in line with the new WBG Palm Oil Strategy; and cocoa-related IFC investments (traders and financial intermediaries) that integrate with Bank support to Côte d'Ivoire.

Key actions: (i) Strengthen internal platforms, such as the Global and Africa Region Agribusiness Platform, which includes IFC and the WB regions' and the private sector development and agriculture units, to capture country-level public and private investment opportunities in a more programmatic way through public-private partnerships and other explicitly complementary IFC-Bank interventions; and (ii) strengthen linkages between public and private investments through GAFSP where investments through the private sector window, administered by IFC, will be made in the same set of countries in which projects are financed through the public sector window, in many of which the Bank is the selected supervising entity.

143. **Strengthen analytical work, including impact evaluations to guide sector dialogue and project identification.** Time spent on analytical work and pipeline development over the last three years has declined as staff shifted to delivering the existing pipeline and supervision of a growing portfolio. This is reflected in less analytical products and a lower outer year pipeline than was in place at the start of the AAP FY2010–12. Also, it has meant a higher reliance on Trust Funds to finance AAA (increasing from 34 percent of the ARD AAA budget in FY2006–08 to 47 percent in FY2010–12). Continued attention is needed to maintain the quality of our program, including ensuring that our operations are built on a solid and consistent knowledge base (annex 2). In addition, there are 20 impact evaluations ongoing in our agriculture portfolio, half through the Agriculture Adaptation Program, whose results can help further guide program design. We will do detailed in-depth impact evaluation on 10 percent of our program, with more rapid assessments for the remainder of the portfolio.

Key actions: (i) Strengthen partnerships (including through the SecureNutrition Knowledge Platform on Food Security and Nutrition, and for AFR, through the ongoing work under the CAADP process) to leverage knowledge and maintain our analytical base to guide sector dialogue and our future project pipeline; and (ii) make strategic use of impact evaluation (10 percent of new projects each year, which equates to about four per year) and look toward supporting long-term pathways for scaling up impact beyond the individual project.

144. **Project quality.** The size of the program under implementation has increased significantly from $12.2 billion (undisbursed balance) in July 2009 to $14.7 billion (undisbursed balance) in July 2012. For closed projects, IEG's outcome ratings for those managed by the Agriculture and Rural Development Sector Board declined in recent years, and to a slightly lower level than for the Bank as a whole. The share of projects rated moderately satisfactory or better in terms of their development outcome rating fell from 85 percent for projects in FY2006–08 to 71 percent in FY2009–11. Yet the ex post economic returns remained relatively high (24 percent median return). Portfolio quality of active projects has declined, even though it is still in line with other sectors—reported reasons are being slow to proactively address the identified issues, and declining budgets. Pro-activity (actions taken to address problem projects such as restructuring, closing, suspending, or partially or fully canceling the project) has lagged behind targets, but is higher than pro-activity in other sectors in the Bank, and staff have provided more realistic assessments in identifying problem projects in the agriculture and rural sector portfolio than other sectors in the Bank. Projects at risk exceeded the targets, but are less than the share at risk in other sectors. As agricultural growth implies changes in land use, construction of large and small dams, water extractions, and activities in natural habitats, agriculture projects usually trigger multiple safeguard policies. More cost-effective and timely approaches to recognizing and managing these risks (currently managed through the safeguard clearance process) are needed. IFC has developed new tools designed to identify key environmental and social risks earlier at both the country and commodity level to better inform actions in the agriculture value chain to promote sustainability. More use of a framework-based approach to address issues as they arise during implementation of IDA/IBRD supported projects could also help. There are concerns that one of the risks to successful implementation of the AAP is its vulnerability to declining staff numbers. This will be reviewed on a region-by-region basis. For example, delivering the scaled-up program in AFR will require additional skills, including on irrigation and water resources management, and on land administration. In contrast, ECA is providing more support through fee-based services requiring skills in policy analysis and dialogue, also with private sector partners.

Key actions: (i) Ensure 80 percent of projects that close in FY2013–15 have satisfactory outcomes; (ii) ensure 80 percent of projects with implementation

issues or those not meeting their development objectives have had corrective actions completed; (iii) engage in ongoing revisions to the Bank Safeguards, ensuring sector issues are addressed; (iv) align staff with size and composition of support, including use of secondees, additional hires beyond current levels, and cross-regional support; and (v) realign the World Bank Agriculture and Rural Development and the Environment Anchor Department into a new Agriculture and Environmental Services Department, including the establishment of a Sustainable Landscape Practice that integrates agriculture productivity, livestock, forestry, land tenure, biodiversity, and climate-smart agriculture into one team and closely coordinates with the Water Anchor and the Climate Policy and Financing Anchor to provide the overall strategic directions and guidance support to regions.

ANNEX 1: WBG Portfolio Performance and Portfolio Quality FY2010–2012

Lending

145. **The actual level of WBG agriculture and related sector support in FY2010–12 is in line with initial projections.** To support countries' progress on the MDGs, the WBG AAP FY2010–12 projected an increase in agriculture and related sector lending (IBRD/IDA/IFC) from an average of $4.1 billion annually in FY2006–08 to $6.2–$8.3 billion annually in FY2010–12. The AAP's low-end projection of $6.2 billion annually (50 percent increase over the FY2006–08 period) was met in FY2010–12, with a $7 billion annual average (Table 6). Overall lending lagged the high-end $8.3 billion projection, mainly due to higher demand in IBRD countries for development policy operations in response to the economic and financial crisis. The share of agriculture and related sector lending in overall IDA lending increased from 17 percent in FY2006–08 to 19 percent in FY2010–12; for IBRD lending the share declined from 8 percent to 5 percent. The global reach of IDA/IBRD has been large, supporting 232 projects in 76 countries in FY2010–12. IFC commitments more than doubled over FY2006–08 to $4.2 billion in FY2012 and averaging $2.7 billion over FY2010–12.

TABLE 6: World Bank Group and Related Sector Lending by Subsector ($ millions)

	Annual Average FY2006–08	FY2009	FY2010	FY2011	FY2012	Annual Average FY2010–12
IDA/IBRD (by subsector)	2,931	5,269	4,138	3,591	5,117	4,282
Agricultural production and markets[1]	1,756	4,142	3,021	2,882	4,205	3,369
Agriculture, fishing and forestry[2]	1,614	3,469	2,618	2,129	3,134	2,627
Agriculture markets, trade, agro-industry, public administration	142	672	403	753	1,071	742
Other agriculture-related investments[3]	1,175	1,128	1,117	708	912	912
IFC[4]	1,197	1,994	1,960	2,058	4,233	2,750
Total	4,128	7,263	6,097	5,649	9,350	7,032

1 The sum of agriculture, fishing, and forestry; and agriculture markets, trade, agro-industry, and public administration in agriculture.

2 As reported in the WBG Annual Reports as "agriculture."

3 Includes investments under the oversight of the Agriculture and Rural Development Sector Board other than those coded under agriculture, fishing, and forestry; and agriculture markets, trade, and agro-industry and public administration in agriculture. These include related investments in land administration, agricultural and rural finance, and market roads.

4 Includes (i) agribusiness production and processing, (ii) agri-related trade finance, (iii) fertilizers, (iv) agri-logistics and infrastructure, and (v) food retail.

146. **The thematic and geographic composition of support has shifted.** The thematic focus of the program shifted in FY2010–12 more toward agricultural productivity, which now represents three-quarters of the IDA/IBRD program. IFC's support also shifted more toward post-harvest handling and increased market access, with a greater focus on smallholder inclusion. AFR and SAR accounted for 63 percent of the IBRD/IDA program in 2012 (undisbursed balance), an increase from 53 percent in 2009. IFC's agribusiness-specific investments to Africa also increased from $186 million in FY2006–08 to $346 million in FY2010–12. These shifts are consistent with the emphasis of the AAP FY2010–12. While these are regional averages, there is some lumpiness in investments. For example, in MNA, record agricultural lending of $350 million was delivered in FY2011, with only $3 million in 2012 (table 7). Factors contributing to this decline included political disruptions associated with the Arab Spring, which dramatically affected larger clients of the Bank for agricultural lending (Egypt, Morocco, Tunisia, and Yemen). There was a shift in the priority of Bank lending to development policy loans to assist government responses to their fiscal crisis in Egypt and Tunisia. This resulted in postponing potential and/or pipeline lending for agricultural projects previously under discussion. Institutional instability and rapid turnover in senior officials at the ministries of agriculture, particularly in Egypt, also affected the ability to dialogue with the clients. In the case of Yemen, security concerns on the ground and a limitation on travel hampered dialogue with counterparts. Similarly in LCR, lending spiked in FY2009 due to high client demand to help cope with the global economic crisis and a sharp rise in food prices. In contrast, lending in FY2011 was lower than in FY2006–2008 as key clients requested that lending planned for the fourth quarter of FY2011 be moved to the first quarter of FY2012. This lumpiness is partially evened out at an aggregate level as the AAP considers the average lending over a three-year period of implementation.

147. **Gender equality has been reflected more in program design.** Eighty-eight percent of agriculture and rural development projects (all agriculture and rural development projects in the Africa region) in FY2010–12 were gender informed (i.e., included gender in at least one dimension among analysis, actions, and M&E). In FY2012, 98 percent of all Bank-financed agriculture and rural development projects (and 100 percent in five of the six regions) were gender informed.

148. **The focus of commitments on the ultimate client has continued.** Thirty-five percent of agriculture and rural development commitments in FY2010–12 used community-driven development approaches, reflecting the AAP's call for greater farmers' control over resource allocation decisions. This was slightly lower than the 40 percent level over the baseline period of FY2006–08.

149. **Public partnerships and private sector investment have increased.** Partnerships to help implement the agriculture agenda, including with private foundations, have increased over the last three years through (i) a doubling of Trust Fund resources focusing on agriculture and related sectors from FY2006–08 to FY2010–12 amounting to 6 percent of IDA/IBRD support for agriculture and related sectors and 24 percent of Bank-wide Trust-Funded grants executed by recipients[143] (an increase from 11 percent in FY2006–08, and larger than the agriculture and related sector share of IDA/IBRD); (ii) support to CAADP in Africa, helping countries develop their own agricultural investment plans, which have formed a common platform for better aligning all development partners' support to country priorities; and (iii) the share of IFC support in the overall WBG portfolio on agriculture and related sectors increased from 29 percent in FY2006–08 to 39 percent in FY2010–12 reflecting a greater focus on private sector financing.

143 These include Carbon Offset, Global Environment Facility (GEF), Institutional Development Fund, and Recipient Executed Activities.

TABLE 7: World Bank Group and Related Sector Lending by Region ($ millions)

	Annual Average FY2006–08	FY2009	FY2010	FY2011	FY2012	Annual Average FY2010–12
Africa			1,071	1,352	1,652	1,359
IDA/IBRD	700	1,727	801	1,162	1,066	1,010
IFC	-	-	270	190	586	349
East Asia and the Pacific			1,305	786	1,140	1,077
IDA/IBRD	475	599	1,202	681	602	828
IFC	-	-	103	105	538	249
Europe and Central Asia			743	610	1,229	861
IDA/IBRD	325	50	221	156	90	156
IFC	-	-	522	454	1139	705
Latin America and the Caribbean			1,207	1,020	2,186	1,471
IDA/IBRD	407	1,683	411	324	1,072	602
IFC	-	-	796	696	1114	869
Middle East and North Africa			283	810	521	538
IDA/IBRD	86	60	136	352	3	164
IFC	-	-	147	458	518	374
South Asia			1,489	1,024	2,622	1,712
IDA/IBRD	938	1,150	1,367	915	2,284	1522
IFC	-	-	122	109	338	190
Total	**4,128**	**7,263**	**6,097**	**5,649**	**9,350**	**7,032**
IDA/IBRD	2,931	5,269	4,138	3,591	5,117	4,282
IFC	1,197	1,994	1,960	2,058	4,233	2,750

The total includes an IFC global program amounting to $46 million.

150. **In FY2009–11, outcome ratings for agriculture and related sectors were less than the Bank average.** The percent of projects with satisfactory outcomes as rated by IEG was 71 percent (a decline from FY2006–08 and less than the target of 80 percent satisfactory outcome). More than 80 percent of projects were rated as satisfactory in two regions (ECA and MNA) in FY2009–11, while in AFR and SAR this was the case for 67 percent and 63 percent of projects, respectively. These outcome ratings were better than other Bank projects in AFR, ECA, and MNA.

151. **Measured progress on irrigated areas, agricultural management practices, technology adoption, and emergency response**. A more concerted effort is underway to develop and use more consistent institution-wide results indicators for agriculture. As part of the Bank-wide effort to improve results reporting, several indicators have been identified for agriculture to include in the Implementation Status Reports of projects. Among those indicators, there is available data related to improving water management (hectares with new or improved irrigation), improving farm management (number of client training days), and technology adoption (number of farmers adopting improved technology). Progress on these three areas has been as follows:

- **Irrigated area**: 1.2 million hectares of new or improved[144] irrigation and drainage services resulted from project activities that closed in FY2010–11.
- **Agricultural management practices:** 3 million client days of training to improve agricultural management practices.
- **Technology adoption:** 0.5 million farmers adopted new technologies (in projects that closed in FY2010).
- **Emergency response:** Operations under the GFRP (since inception) have reached over 66 million people in 49 countries.

152. **Returns to investment.** The ex post economic return to IDA/IBRD investment in agriculture and rural projects that closed in FY2009–11 was estimated at 30 percent,[145] indicating substantial returns to investments in the sector (median returns were 24 percent). These estimated returns have improved over time. In FY2009–11, they were similar to estimated returns of other Bank projects, but as the benefits of agriculture projects are focused in rural areas where three-quarters of the world's poor reside, they had high poverty reduction returns.

World Bank Analytical and Advisory Activities

153. Strong analytical underpinnings have long been recognized as a critical success factor for the Bank's operational work and policy advice. This is confirmed by statistical analysis, carried out by the Rural Policies Thematic Group, that shows that not only is the investment (spending) in AAA work positively correlated with lending volumes, but more importantly, AAA has a significant positive impact on the quality of lending, in terms of quality at entry and outcomes (as measured by IEG ratings of project outcomes). Further, findings suggest that country and ARD sector focused AAA has a significantly larger impact on ARD portfolio quality and outcomes than regional or global AAA or non-sector-specific (multi- or cross-sectoral) AAA.

154. Following the food price crises, in responding to food security concerns and the need to build longer-term resilience, the Bank has justifiably channeled its resources and lending in responding to strong demands from client governments to invest

144 Improved irrigation and drainage services refers to the upgrading, rehabilitation, and/or modernization of irrigation and drainage services in an area with existing irrigation and drainage services.

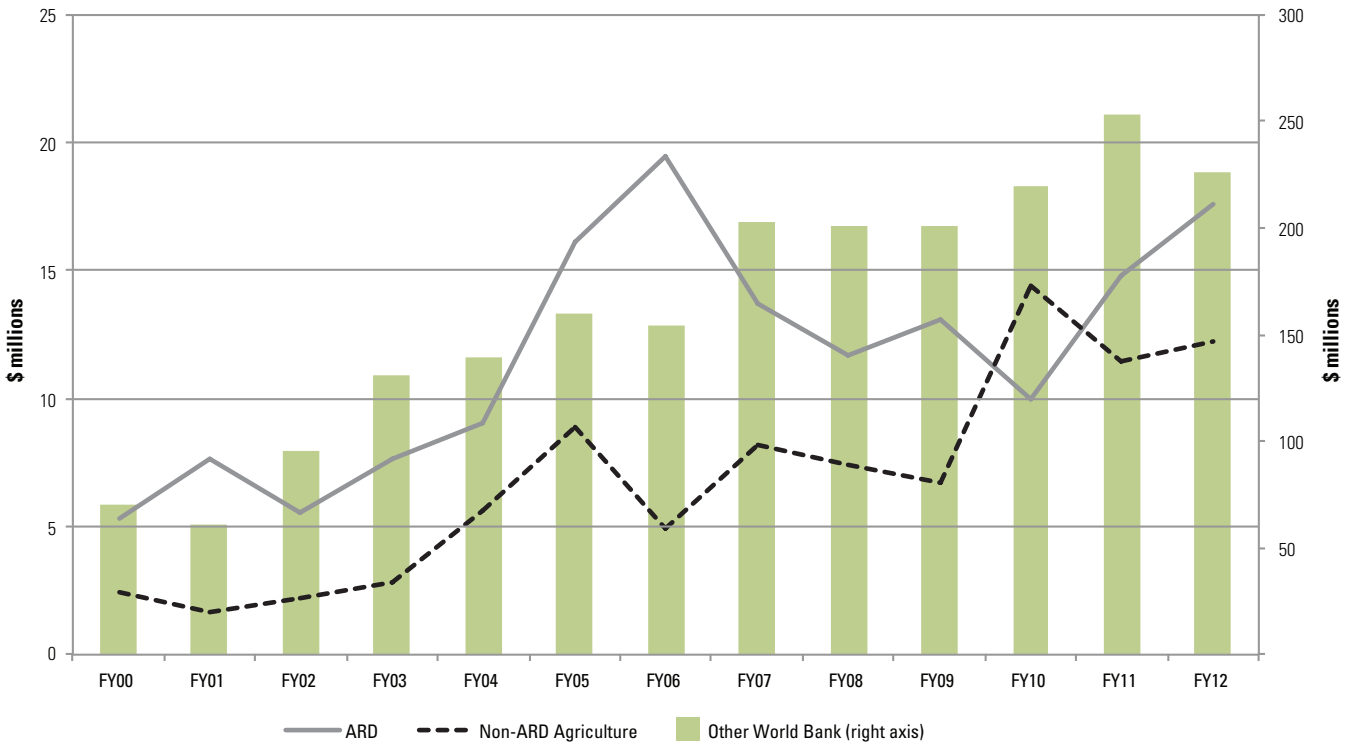
145 Average of the subset of closed projects evaluated by the World Bank IEG that had ex post rates of return estimates.

in agriculture. This imperative with flat budgets, however, has meant increasing demand on a limited Bank budget. In the trade-off, spending on analytical work gave way to preparation and supervision of emergency and other investment lending of a rapidly increasing portfolio. The longer-term cost, however, is potentially significant, as the much-needed investment in AAA had declined significantly.

155. Trends in the amount of agriculture-focused AAA work (defined as economic and sector work and technical assistance) show a dramatic decline since FY2006 ("ARD" in figure 12), with increases in FY2011 and FY2012. This is in sharp contrast to multisector AAA with agriculture components, ("Non-ARD Agriculture" in figure 12) (both in volume and number of products). On the positive side, increasing recognition of the importance of ARD issues in broader economic assessments has led to the inclusion of some agricultural issues in non-ARD tasks; as noted earlier, these do not seem to have the same impact on agriculture portfolio quality as focused country and sector studies. In part, this is because the issues covered are either regional or global in nature (when undertaken as part of regional or global studies), so the findings may often not be sufficiently country specific; or the analyses are cross-sectoral and higher level (such as part of broader Country Economic Memorandums, trade diagnostic studies, labor and migration studies) and as such do not delve into sector technical details as may be necessary to provide policy advice or influence operational designs suitably.

156. The recent increase in ARD AAA needs to be maintained for two reasons. One is the potential impact on the Bank's lending and portfolio quality, as indicated by the positive impacts of AAA noted earlier. Second, faced with the risks associated with

FIGURE 12: Volume of Spending on Analytical and Advisory Activities



climate change—with potentially huge impacts on food security and on livelihoods of millions around the globe, and in particular in the pockets of deep persisting poverty in AFR and SAR—as well as the likely continued commodity price volatility and degradation of the natural resource base in many parts of the world, future agriculture will necessarily have to be much more knowledge intensive than the past. This means not only pushing new technological frontiers, but also adapting to evolving agro-ecological circumstances, and the need for deeper and more nuanced policy and institutional reforms to address country and location-specific technical and economic issues and constraints. This, in turn, calls for a substantial investment in the Bank's knowledge base, particularly if the Bank wants to exploit its comparative advantage in becoming a global knowledge Bank. It is also necessary for the Bank to remain relevant as a provider of sound technical advice and deliver projects and programs with likely positive impacts.

World Bank Portfolio Quality

157. **Maintaining portfolio quality, with significantly scaled up lending has been a challenge.** For closed projects, IEG's outcome ratings for those managed by the Agriculture and Rural Development Sector Board declined in recent years, and to a slightly lower level than for the Bank as a whole. Although the share of projects rated moderately satisfactory or better in terms of their development outcome rating fell from 85 percent for projects in FY2006–08 to 71 percent in FY2009–11, the estimated ex post economic returns remained robust (and similar to other sectors) with a 24 percent median return .[146] Portfolio quality of active projects has declined, even though it is still in line with other sectors—reported reasons are slow pro-activity in addressing the identified issues, and declining supervision budgets. Projects at risk exceeded the targets, but are less than the share at risk in other sectors.

- *Pro-activity* (actions taken to address problem projects such as restructuring, closing, suspending, or partially or fully canceling the project) has lagged behind targets, but is higher than pro-activity in other sectors in the Bank, and staff have provided more realistic assessments in identifying problem projects in the agriculture and rural sector portfolio than other sectors in the Bank. Pro-activity on resolving issues related to problem projects is below target, but this is at least partly due to internal changes on how it is measured, rather than declines in actual pro-activity. The relatively low pro-activity across all Bank projects is partly a reflection of changes implemented with the internal investment lending reforms when pro-activity scores began excluding actions taken on lower-level restructuring of problem projects. Although there have been real declines in pro-activity, it remains higher than it is in other sectors in EAP, LCR, MNA, and SAR, but lower in AFR and ECA. Declining supervision budgets per project are a contributing factor.

- *Projects-at-risk.* General factors contributed, such as country macroeconomic conditions (that were negatively impacted by the financial crisis) and the riskier nature of agriculture projects relative to other sectors (being more dependent on weather and price volatility). As the financial crisis eased, there was a decline in the percentage of problem projects from 17 percent to 13 percent, and projects-at-risk from 26 to 20 percent. Specific factors also contribute. For the overall IDA/IBRD portfolio, these include slow disbursements relative to expectations at design (10 percent of projects), financial management (8 percent of projects), and procurement (7 percent of projects). Less common problems were with counterpart funds, safeguards, monitoring and evaluation, project management, and effectiveness

146 Median of the subset of closed projects evaluated by the World Bank IEG which had ex post rates of return estimates.

delays. But the importance of these factors varies across regions. In AFR, it is effectiveness delays, legal covenants, and slow disbursement; in SAR, financial management and slow disbursement; in MNA, procurement, effectiveness delays, safeguards, and monitoring and evaluation; in LCR, financial management, legal covenants, procurement, and slow disbursement relative to expectations at design; and in EAP, financial management. More explicit attention will be given to these elements in supervision of projects (team compositions) and in upstream reviews.

158. **Average project size and the number of projects increased, while real average supervision budgets declined.** The median IDA/IBRD agriculture project size increased from $30 million to $43 million, but it is still smaller than the $50 million median project size for other sectors. The number of primarily agricultural projects under supervision has decreased slightly from 250 to 241 (with projects with some agricultural assistance decreasing slightly as well from 338 to 333). Real average annual supervision budgets declined 6 percent (from $114,000 per project over FY2006–08 to $108,000 over FY2010–12). This was most severe in AFR, declining 32 percent (from $124,000 to $84,000), and in MNA declining 38 percent (from $124,000 to $78,000). Meeting the ongoing challenge of "doing more and better," will likely require a continued pressure on increasing project size, if budget pressures continue as they have.

159. **Average processing time of agricultural projects remained significantly higher than for other Bank projects due to the complex nature of the sector.** Over the implementation period, average processing time (from project concept review to approval) was 507 days for agricultural projects compared to 349 days for other projects. However, additional financing projects in the sector take roughly the same number of days to process (194) as projects in other sectors. This reflects the fact that once the complex design process is completed in the parent project, the provision of additional financing follows Bank norms.

ANNEX 2: Lessons of the WBG Agriculture and Related Sector Program: FY2010–2012

160. **Lessons from the last three years of implementation** include the IEG's reviews on what worked and did not work; the importance of specifying lending projections; our knowledge base; on the need to balance the pressure for short-term results with longer-term agricultural development; and on managing project risks.

161. **Independent Evaluation Group review of the WBG in agriculture[147] and water.[148]** The IEG's review of lessons over 1998–2008, recommended that to improve performance in the sector, the WBG should aim at: (i) fostering public-private partnerships and building synergies between the Bank and IFC to improve agriculture and agribusiness outcomes, even in difficult business environments such as Sub-Saharan Africa; (ii) providing better support to research and extension through global research programs (e.g., through the CGIAR) focused on key strategic priorities, linked to national programs, and mainstream research results in country-level projects; (iii) encourage agricultural public expenditure analysis to assess the efficiency and equity of public spending allocations (of which the Bank resources are part), and for guiding future investment priorities in the sector; (iv) improve water, soil, and crop management in current rainfed areas to increase agricultural productivity; and (v) contribute to gender equality by improving economic opportunities for women through agriculture, which in turn will also increase agriculture productivity. In addition, the IEG water review recommended that to improve performance of irrigation, the WBG should give more attention to agricultural water resources management, including groundwater, (on which attention had declined while use of water for irrigation had increased) (see box 19 for more details). These recommendations are already being taken forward in the current AAP, which will continue in the AAP FY2013–15.

162. **What worked well, and what did not work well.** During the implementation period, two agricultural projects that closed were rated highly satisfactory by IEG (Sri Lanka Community Development and Livelihood Improvement "GemiDiriya" Project[149] and the Nigeria Second National Fadama Development Project[150]). Both projects used a community-driven development approach. The Nigeria project highlighted the need to harmonize development plans to achieve synergy and complementarity, and the importance of capacity building of community organizations and farmers to access credit. The Sri Lanka project notes that leadership by experienced community members in the development of procedures and transfer of knowledge to other communities is a highly effective and efficient method for scaling up. In addition, the involvement of women was noted as a key factor underpinning the integrity of implementation, especially in the community micro-financing institutions that are primarily managed by women. Similarly, youth groups have been especially successful in fostering greater ethnic integration and identification of work opportunities. Both projects emphasize a programmatic approach, with adequate flexibility to incorporate innovations and sufficient technical assistance for piloting and testing at each stage, which help in building the confidence of staff and communities, fine tuning the model, and enhancing prospects for achieving development outcomes. Four projects were rated unsatisfactory. In the Mexico Access to Land for Young Farmers Project,[151] the main

147 World Bank (2011). *Growth and Productivity in Agriculture and Agribusiness: Evaluative Lessons from WBG Experience.* Independent Evaluation Group. Washington, DC.

148 World Bank (2010). *Water and Development: An Evaluation of WBG Support, 1997–2007.* Independent Evaluation Group. Washington, DC.

149 Sri Lanka, Community Development and Livelihood Improvement "GemiDiriya" Project (P074872).

150 Nigeria, Second National Fadama Development Project (P063622).

151 Mexico, Access to Land for Young Famers (P088732).

BOX 19: Lessons from the Independent Evaluation Group Review of the WBG in Agriculture and Water

Fostering an environment for public-private partnerships in project design and implementation can improve agriculture and agribusiness outcomes in difficult business environments such as in AFR. A review of the 25 Bank projects with the largest agribusiness components found that the Bank is largely supporting the enabling environment for private sector development. The shortage of indigenous entrepreneurs, the small size of the potential investments, and the lack of access to markets and infrastructure in Sub-Saharan Africa often limited IFC's engagement and performance in agriculture-based economies. Coordinated and complementary public-private sector interventions by the IFC and the Bank, especially through public-private partnerships in water efficiency and irrigation infrastructure, enabled the private sector to target small-to-midsize companies; to focus core investments in agriculture growth and productivity (not only on niche markets such as rubber) and encourage the inclusion of cost-recovery options.

Support to research and extension is more effective when global research programs focus on key strategic priorities, are linked to national programs, and research results are consistently mainstreamed in country-level projects. Both the Bank and IFC support research and extension—the Bank through support to global programs (most notably the CGIAR), to public systems in client countries, and to partnership arrangements with other stakeholders, and IFC through financing and advisory services to agribusiness trader-processors, who in turn assist their contract farmers. Greater results are achieved when collective effort is focused on major strategic high-impact research initiatives (e.g., addressing hunger and poverty in developing countries, while cushioning climate change impacts and curbing natural resource degradation). This also enables South-South cooperation to facilitate knowledge transfer while working with local and regional institutions to leverage local knowledge. The WBG needs to stay engaged in these areas at the country and global levels and continue to mainstream research results from CGIAR institutions in Bank projects at the country and regional levels.

Positive correlations between good M&E and good project outcomes suggest that better building M&E into design and implementation could help improve project outcomes. To improve project effectiveness, adequate M&E frameworks should be included, with clear, relevant, and realistic objectives; thorough cost-benefit analysis; appropriate indicators; and adequate baseline data. M&E results will in turn improve institutional learning, especially when the use of the improved coding systems enables effectively monitoring and tracking of all agricultural activities (World Bank 2011).

AAA, and particularly economic and sector work, are crucial to inform both policy advice and finance, improve lending outcomes and make an important contribution to the Bank's knowledge base and reputation. A sample of AAA and economic and sector work was evaluated for quality and effectiveness in the context of country case studies within the overall IEG Evaluation on Growth and Productivity in Agriculture and Agribusiness. The Evaluation found that over 85 percent of the products addressed issues that had been identified as development constraints in earlier work or in policy dialogue with clients and that a full 77 percent of products were delivered in time to inform relevant policy decisions by the government. Lending operations informed by sound AAA achieved better outcomes, and demand-driven AAA had equally effective results as supply-driven AAA. To maintain portfolio quality, while meeting rising lending demand, resources should be provided for analytical work (World Bank 2011)

Agricultural public expenditure analysis is critical for assessing the efficiency and equity of public spending allocations (of which the Bank resources are part), and for guiding future investment priorities in the sector. Increased attention is needed on enhancing the focus, quality, and appropriate scaling of public spending in agriculture, given that the agricultural policy environment has generally improved in the poorest countries; that many governments are scaling up their support for agriculture, particularly in the poorest countries, with greater recognition of the importance of agriculture, amplified by the global food price spike in 2008; and that donors are also scaling up support for agriculture,

BOX 19 *(continued)*

often with a shift to budget support, with more reliance on government budget processes. Given the dominancy of the private sector (farmers), the seasonal nature of production, and the multiplicity of subsectors, more attention is given to issues such as the roles of the private vs. public sector, timing of expenditure releases, breadth and depth of the coverage of analysis, and differentiation in expenditure tracking by subsector (World Bank 2011).

Improving water management in rainfed areas needs to receive greater attention, including by tracking related activities separately to allow the WBG to take stock of what works in addressing water management issues in these areas and contribute strategically to their development. About 85 percent of world arable land is rainfed, and 58 percent of world crop production comes from rainfed lands. The rainfed regions, home to most of the world's poor, were largely bypassed by the Green Revolution. Though technology and other advances could raise yields further in irrigated areas, much of the increase in crop production may have to come from the drier, riskier production environments of rainfed lands. This will require the wider use of management practices that will improve efficiency of water use, such as conservation agriculture (that also plays a wider resource conservation role) and water harvesting techniques. The literature notes the greater marginal impact on agricultural production and poverty alleviation from an additional unit of investment in rainfed areas compared to irrigated areas (World Bank 2011).

Effective management of agricultural water demand is one of the critical challenges worldwide in the face of increasing water scarcity. Efforts to limit demand in agriculture, the largest water-using sector, have had limited success so far. Efficiency-enhancing technologies alone do not necessarily reduce agricultural water consumption. Efforts to modulate demand with water charges encountered limited success. Fixing quotas for water use and enforcing them is a relatively recent measure and deserves careful evaluation. Overall, demand-management approaches should be closely monitored to identify aspects that are working or not working, and build on these lessons of experience going forward. This includes identifying ways to more effectively use fees and tariffs to reduce water consumption, and to assess the experience with quotas as a means to modulate agricultural water use (World Bank 2010).

More effort is needed to improve cost recovery in irrigation and drainage projects. Cost recovery targets in Bank-supported projects have often been too ambitious and unrealistic. Projects that have succeeded have generally improved the efficiency of water institutions in collecting fees. Limited success has caused the Bank to moderate its approach without clearly identifying sources to finance the recovery shortfalls. However, the question of who will pay for uncovered costs needs to be addressed in order to ensure the sustainability of investments. To the extent that borrowers must cover the cost of water services out of general revenues, it will be important to share the lessons of international experience so they can allocate partial cost subsidies most effectively (World Bank 2010).

Water user associations are often promoted to better maintain and operate irrigation and drainage systems. A review of projects that created or supported water user associations during 1997–2007 drew the following lessons: (i) developing the capacity of water user associations is a long-term process that often cannot be completed within the span of one project; (ii) training is an integral part to the development of water user associations, and works best when it entails full participation of members in the activities that the association is responsible for, such as planning and operation and maintenance of the systems; (iii) water charges need to be realistic, and collection rates tend to improve with in-time water distribution and proper maintenance; and (iv) transfer of public water systems to user groups can create a sense of empowerment that can help improve system efficiency, but the transfer process will not be sustainable unless members of the user groups perceive real benefits, such as increased agricultural incomes (World Bank 2010).

Source: World Bank (2011). *Growth and Productivity in Agriculture and Agribusiness: Evaluative Lessons from World Bank Group Experience.* Independent Evaluation Group. Washington, D.C.; World Bank (2010). *Water for Development: An Evaluation of World Bank Support, 1997-2007.* Independent Evaluation Group. Washington, D.C.

lesson was that containing political pressure to rapidly expand coverage (instead of restricting implementation of few States) proved very difficult. In the case of the Panama Land Administration Project,[152] the combination of extreme complexity in institutional arrangements, competing development agendas, and factional divisions among indigenous groups led to unfulfilled project objectives (e.g., limited merger between cadastre and registry, untitled indigenous lands). The unsatisfactory performance of the two other projects were for disparate reasons: the Afghanistan Avian Influenza Control and Human Pandemic Preparedness and Response Project[153] used a template approach that did not take sufficient account of country's level of capacity or the security situation, while in the Tanzania Forest Conservation and Management Project[154] foreseen institutional reforms were not realized, contributing to modest achievement of a number of key project objectives.

163. **Specifying lending projections helped focused attention and provided a basis for monitoring progress.** The lending projections specified in the AAP FY2010–12 document quantified the magnitude of the scale-up, focused attention on how to deliver, and provided a basis for monitoring progress. The lessons in setting the projections are: (i) use the current project pipeline (current client demand) to guide realism in the three-year projections, and (ii) set high-case and low-case projections (a range), but clearly identify risks of non-delivery. Frequent and detailed updates on progress toward lending projections were a useful guide for management.

164. **More staff time and budgets focused on increased lending has come at the expense of reduced analytical work and depth of client engagement on broader sector issues.** This comes at a time when many of our clients are reengaging in agriculture. The challenge is to balance the fixed administrative budget allocations among (i) new lending to deliver the existing pipeline of projects, (ii) ongoing supervision to deliver the existing projects, (iii) analytical work to inform focus and delivery of new lending (or to help clients improve the overall policy environment), and (iv) pipeline development, including for projects requiring costly feasibility studies, such as land administration and irrigation. Currently, the trade-off has been delivery of a higher volume of new commitments and supervision of ongoing projects, at the expense of analytical work. Continued attention is needed to maintain the quality of our program, including ensuring that our operations are built on a solid and consistent knowledge base. This may involve strengthening our partnerships (including through the Knowledge Platform on Food and Nutrition) to maintain both the quality of our operations, and to develop our future pipeline. Experience in Africa in the past three years has shown widely differing preparation costs of programs. Agriculture technology and emergency response programs can be scaled up fairly quickly within the budget preparation norms. In contrast, land administration and irrigation projects (needed to attain growth objectives) require more detailed feasibility studies, safeguard analyses, engineering design, and preparation of procurement packages, which take more time and resources than envisaged in the norms for project preparation in the Bank. Addressing these higher preparation costs will be important in sustaining and supporting any increase in investments in Africa.

165. **The pressure to report on short-term results needs to be balanced with the needed attention on longer-term agricultural development.** Results reporting is needed, and more systematic ways are being developed to effectively aggregate and communicate results through the Implementation Status Reports. This needs

152 Panama, Land Administration Project (P050595).

153 Afghanistan, Avian Influenza Control and Human Pandemic Preparedness and Response Project (P100935).

154 Tanzania, Forest Conservation and Management Project (P058706).

to be developed in a way that reflects short-term results (outputs) that can be expected from longer-term agricultural programs, to reduce the risk of narrowing our focus only to projects with immediate results.[155] Continued efforts are needed to better build relevant monitoring and evaluation into design and implementation to improve project outcomes. Ongoing efforts to scale up impact evaluation of agriculture projects by the Development Impact Evaluation Initiative (DIME) will more systematically measure project outcomes and associated lessons. To improve project effectiveness, M&E frameworks should include clear, relevant, and realistic objectives; thorough cost-benefit analysis; appropriate indicators; and adequate baseline data. M&E results will in turn advance institutional learning, especially when the use of the improved coding systems (such as the recently approved core indicators for agricultural extension and research, and irrigation and drainage development) enables effective monitoring and tracking of all agricultural activities.

166. **Responses to food price spikes require both short-term measures, including emergency assistance, and longer-term interventions.** Short-term interventions need to be rapid and targeted toward the poor and vulnerable. The WBG short-term emergency response mechanisms are in place (box 20), drawing on lessons learned from the 2008 food price crisis response and complementing the WBG's core focus on the longer-term agenda. In FY2009, when the food crisis was most severe, financing for short-term responses accounted for about 15 percent of the overall IDA/IBRD program for the sector. This declined to less than 1 percent in 2010 as countries moved from mitigation aspects of emergency response under the GFRP to adaptation improvements for future resilience. Continued effort is needed on longer-term risk management. This includes both scaling up pilot agri-insurance programs for farmers and herders (as part of broader rural financial services) and providing tools for governments to better manage their fiscal risk of production shortfalls and/or price volatility (in cases of both extreme and less extreme events).

167. **Managing project risks.** Agricultural growth implies changes in land use, construction of large and small dams, water extractions, and activities in natural habitats. More cost-effective and timely approaches to recognizing and managing these risks (managed through the safeguard clearance process) are needed. IFC has developed new tools designed to identify key environmental and social risks earlier and at a country and commodity level to better inform actions in the agriculture value chain to promote sustainability. More use of a framework-based approach to address issues as they arise during implementation of IDA/IBRD-supported projects could also help. In addition, clear guidelines about how to design our programs to reduce the risk of fraud and corruption, and clarity on the standards used for the timing and extent of remedial actions can improve the management of these risks.

155 For example, immediate seed distribution versus development of new seed varieties; rehabilitation of existing irrigation versus development of new irrigation schemes; external technical assistance to speed implementation versus longer-term local capacity development.

BOX 20: IDA Crisis Response Window and Immediate Response Mechanism

When established in May 2008, the GFRP was an institutional innovation in emergency response that built on experience in dealing with avian influenza and focused on speed of response in providing policy advice and financial support. The experience of the GFRP shows that the WBG can (i) provide rapid response; (ii) target vulnerable households in vulnerable regions; (iii) initiate supply response; (iv) implement multisectoral programs across HDN, SDN, and the Poverty Reduction and Economic Management Networks; and (v) mitigate the impacts of a crisis in a cost-effective way. Lessons from GFRP are being used to inform the design of emergency response policies that enhance speed, flexibility, and effectiveness. Emergency response in the Bank has now been mainstreamed through several instruments, including the recently set up IDA Crisis Response Window (CRW) and the recently approved Immediate Response Mechanism (IRM) that will provide the basis for immediate assistance in the future.

The **IDA CRW** was approved in the course of the IDA-16 replenishment process. The CRW would provide IDA countries with timely access to additional resources to respond to the impact of severe economic crises or natural disasters, and strengthens IDA's capacity to rapidly respond to such crises in collaboration with other agencies, development banks and donors. An amount of SDR 1,335 million was set aside to finance expenditures under this crisis window, which has been operational since July 2011. This amount would include an exceptional allocation of SDR 329 million for Haiti to support reconstruction after the earthquake in January 2010. Recently, a CRW allocation in the amount of US$250 million was approved by the Board in October 2011 to mitigate the impact of the drought emergency in the Horn of Africa.

The **IDA IRM** was approved by the Board of Executive Directors in December 2011 in order to allow participating IDA countries to have immediate access to a portion of the undisbursed balances of their IDA project portfolio in the event of an eligible crisis/emergency and thus shorten IDA's response time. This objective would be achieved by adding, at the request of the borrower, contingent emergency response components into existing IDA investment projects, as well as mainstreaming such components in new investment operations. With such components in place, IDA borrowers would be able to quickly draw down funds needed in the immediate aftermath of an eligible emergency. A secondary objective is to strengthen emergency preparedness and subsequent response in IDA countries.

ANNEX 3: Agriculture Action Plan Scorecard

168. The AAP Scorecard follows the Bank's overall Corporate Score Card[156] and is designed to provide a snapshot of the Bank's overall performance in implementing the AAP. The scorecard uses an integrated results and performance framework, which is organized in a four-tier structure that groups indicators along the results chain. Two of the tiers track elements of development results (Tiers I and II), and the other two capture elements of performance (Tiers III and IV). Tier 1 captures the development context of the AAP, Tier 2 the country results supported by the Bank, Tier 3 the development outcomes and operational effectiveness, and Tier 4 the organizational effectiveness in implementing the AAP. The Scorecard is a "living document" that will evolve and improve over time as our ability to report on results expands. The current indicators are aligned with the availability of data, and baselines for Tier 2 will be developed during the first year of implementation. The Scorecard will be available annually with all four tiers updated to the extent data are available.

TABLE 8: Agriculture Action Plan Scorecard [Illustrative set of indicators]

Tier 1: Development Context			
		Baseline	
Indicators	**Unit**	**Value**	**Year**
Population below US$1.25 (purchasing power parity) a day[a]	(%)	22.7	2008
Population below minimum level of dietary energy consumption	(%)	13	2006–08
Prevalence of underweight children[a]	(% of children under 5)	22.2	2009
Cereal yield[a]	(kg per hectare)	3,114	2010
Agricultural value added per worker[a]	(Constant 2000 US$)	759	2010
Agricultural GDP growth > 5 percent	(Number of countries)	10	2010
Average annual deforestation	(%)	0.2	2000–10

Tier 2: Country Results Supported by the Bank	**Unit**
Productivity	
Beneficiaries[b]	(Number)
Of which, women	(Number)
Area with new or improved irrigation or drainage[a]	(Millions of hectares)
Water users provided with new/improved irrigation and drainage services	(Number)
Of which, women	(Number)
Operational water user associations created and/or strengthened	(Number)
Agricultural technologies demonstrated	(Number)

a World Bank Corporate Score Card indicator
b Projects under the responsibility of the Agriculture and Rural Development Sector Board only

156 http://corporatescorecard.worldbank.org/

TABLE 8: Agriculture Action Plan Scorecard [Illustrative set of indicators]

Tier 2: Country Results Supported by the Bank	Unit
Collaborative agricultural research or extension subprojects	(Number)
Farmers adopting improved agricultural technology[a]	(Number)
Of which, women	(Number)
Client days of training on improved farm management practices	(Thousands of days)
People in targeted forest and adjacent communities with increased monetary or non-monetary benefits from forests	(Number)
Of which, (a) female	(Number)
(b) ethnic minority/indigenous people	(Number)
People employed in production and processing of forest products	(Number)
Of which, (a) women	(Number)
Target population with use or ownership rights recorded as a result of the project[b]	(Number)
Land parcels with use or ownership rights recorded as a result of the project[b]	(Number)
Land parcels with use or ownership rights of females recorded as a result of the project	(Number)
Target land area with use or ownership rights recorded as a result of the project[b]	(Hectares)
Average number of days to complete the recordation of a purchase/sale of a property in the land administration system[b]	(Number)
Markets	
Roads constructed or rehabilitated[ab]	(Kilometers)
Active Microfinance loan accounts[ab]	(Number)
Of which, held by women[b]	(Number)
Rural Non-Farm	
Active SME loan accounts[b]	(Number)
Cross-cutting: Vulnerability	
Pregnant/lactating women, adolescent girls and/or children under age 5 reached by basic nutrition Services[b]	(Number)
Cross-cutting: Environment	
Area restored or re/afforested	(Hectares)
Forest area brought under management plans	(Hectares)
Government institutions provided with capacity building support to improve management of forest resources	(Number)
Land area where sustainable land management practices have been adopted as a result of the project[b]	(Hectares)
Land users adopting sustainable land management practices as a result of the project[b]	(Number)
Land area brought under a catchment system as a result of the project[b]	(Hectares)
Cross-cutting: Other	
Countries with Bank-supported agricultural public expenditure reviews	(Number)

a World Bank Corporate Score Card indicator
b Projects under the responsibility of the Agriculture and Rural Development Sector Board only

TABLE 8: Agriculture Action Plan Scorecard [Illustrative set of indicators]

Tier 3: Development Outcomes and Operational Effectiveness				
		Baseline		**Performance Standard**
Indicators	**Unit**	**Value**	**Year**	
Development Outcome Ratings of agricultural projects				
Satisfactory operation outcomes at completion[ab]	% IEG rating	71	FY09–11	80
IBRD countries	% IEG rating	72	FY09–11	80
IDA countries	% IEG rating	69	FY09–11	80
Operational Effectiveness of agricultural projects				
Active IDA/IBRD operations[b]	Number	242	End FY12	Monitored
Gross IDA/IBRD agriculture and related sector disbursements	$ billions	3.3	FY12	Monitored
Recipient executed trust fund agriculture and related sector disbursements[a]	$ millions	105	FY12	Monitored
Average time from project concept to approval	Months	17	FY10–11	Monitored
Average time from approval to first disbursement[ab]	Months	8	FY10–11	Monitored
Problem projects[b]	%	13	End FY12	15
Projects at risk[b]	%	23	End FY12	20
Realism[b]	%	100	End FY12	80
Pro-activity[b]	%	71	End FY12	80
New projects which include gender analysis in design[b]	%	68	FY10–12	100
New projects with all three aspects of gender informed design (analysis, actions, M&E)[b]	%	46	FY10–12	75
New commitments using community-based approaches	%	35	FY10–12	Monitored
Analytical and advisory activities objectives accomplished[b]	%	TBD		75
DOTS rating for Agribusiness and Forestry (IFC)		TBD		Monitored

a World Bank Corporate Score Card indicator
b Projects under the responsibility of the Agriculture and Rural Development Sector Board only

TABLE 8: Agriculture Action Plan Scorecard [Illustrative set of indicators]

Tier 4: Organizational Effectiveness and Modernization				
		Baseline		Performance Standard
Indicators	Unit	Value	Year	
Lending commitments (IDA/IBRD/IFC) to agriculture and related sectors	($ billions)	7.0	Average FY10–12	Monitored
IDA/IBRD		4.3	Average FY10–12	Monitored
IFC		2.7	Average FY10–12	Monitored
Recipient-executed trust fund commitments to agriculture and related sectors	($ millions)	238	Average FY10–12	Monitored
Average cost of preparing a project[ab]	($ thousands)	405	Average FY10–12	Monitored
Average annual cost supporting project implementation[ab]	($ thousands)	138	Average FY10–12	Monitored
Speed of preparation from Concept Note to Approval[b]	(Days)	502	Average FY10–12	Monitored
Expenditure on analytical and advisory activities related to agriculture and related sectors	($ millions)	26	Average FY10–12	Monitored
Analytical and advisory activities related to agriculture and related sectors	(Number)	137	Average FY10–12	Monitored
ARD family Staff level	(Number)	240	End FY12	Monitored
Share of staff decentralized	%			Monitored

a World Bank Corporate Score Card indicator
b Projects under the responsibility of the Agriculture and Rural Development Sector Board only

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