Accelerating Ethiopian Agriculture Development for Growth, Food Security, and Equity

Synthesis of findings and recommendations for the implementation of diagnostic studies in extension, irrigation, soil health/fertilizer, rural finance, seed systems, and output markets (maize, pulses, and livestock)

July 2010

This synthesis report has been prepared by the Bill & Melinda Gates Foundation based on the diagnostics reports submitted by the International Food Policy Research Institute, the International Livestock Research Institute, the International Water Management Institute, and the Association of Microfinance Institutions

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I Executive Summary

This document is intended as a summary report of the agricultural diagnostic work requested by H.E. Prime Minister Meles Zenawi and facilitated by the Bill & Melinda Gates Foundation pursuant to a technical assistance request from the Government of Ethiopia. This summary report synthesizes key findings from eight sub-sector diagnostic reports, completed by international and local experts, in consultation with the Ministry of Agriculture and Rural Development (MoARD), and suggests a bold path to achieving the agricultural and national strategies of the Government of Ethiopia (GOE).

In summary:

- Improvements in the agricultural sector need to be accelerated to deliver on the GOE's objective of sustained growth, food security, and attainment of middle-income country status by 2025.
- This report outlines an integrated set of recommendations in five priority areas that can catalyze this acceleration by reinforcing key aspects of GOE strategies and strengthening current and planned donor programs.
- A different implementation model, including a dedicated unit with additional capacities, resources, and structures, is recommended to support the implementation of such an ambitious acceleration effort.
- The proposed approach will enable the government to harness resources more effectively and unlock up to USD 20 billion of additional GDP by 2025[i].

AGRICULTURE AS THE DRIVER OF GROWTH FOR ETHIOPIA

Agriculture is a key driver of Ethiopia's long-term growth and food security. Agriculture directly supports 85 percent of the population, constitutes 43 percent of Gross Domestic Product (GDP), and 80 percent of export value. Nearly 16 percent of GOE's public expenditures are committed to the sector. Due to investments by the GOE and its development partners, the agriculture sector has witnessed consistent growth of over 8 to 10 percent per annum over the past decade.

The combination of GOE and donor strategies and financing commitments for 2010–2014 provides the framework to drive continued growth in the agriculture sector. PASDEP II sets ambitious production targets that build on the successes achieved during PASDEP I. Ethiopia has also signed the country-level Comprehensive Africa Agriculture Development Program (CAADP) Compact and is currently developing a Policy and Investment Framework (PIF) to align the financing commitments of the country's development partners with GOE and the Compact's strategic plan. Two core donor and GOE programs (the Agricultural Growth Program, focused in high potential woredas, and the Food Security Program, prioritizing food

insecure woredas) will provide a financing base for the PASDEP II and the CAADP Compact objectives.

A NEW APPROACH FOR ACCELERATING IMPACT

Many previous approaches aimed at fostering agricultural growth in Ethiopia suffered from too narrow a focus and limited capacity to translate ideas into sustained action:

- A narrow approach to sectoral change focused on selected aspects of the sector only (e.g., specific value chains), often leading to disconnected interventions that failed to address underlying root causes.
- The impact of a limited program management and problem solving function with the ability to manage issues and problem solve across a large and complex portfolio of projects is compounded by the lack of capacity, capability, or appropriate mindsets to implement sustained change.

The approach presented in this report addresses both issues. By taking a holistic view on the whole agricultural sector, it provides an integrated set of recommendations – an integrated portfolio of projects – that reinforce and strengthen each other to address identified root causes. The suggested interventions also build off of and support current and planned GOE and donor programs and enhance the ability of those programs to meet their objectives. Based on the experiences in Ethiopia and abroad, to overcome program management and capacity, capability, and mindset issues, the proposed approach recommends the establishment of a dedicated acceleration unit to coordinate and accelerate implementation.

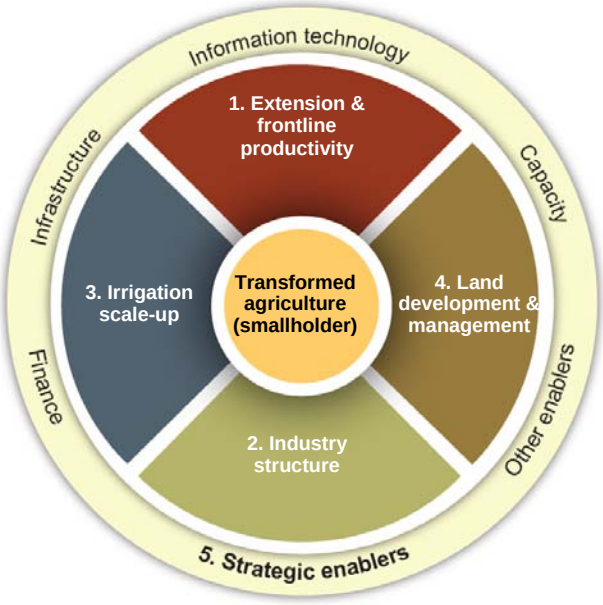
A. An integrated portfolio of projects in five priority areas

A synthesis of the diagnostics identified five priority focus areas, supported by a detailed set of actionable recommendations, which could considerably accelerate progress against GOE's objectives:

- **Enhance frontline productivity** through a more diversified, gender-sensitive, financially sustainable and market-oriented extension system and better-coordinated local institutions (extension, cooperatives, traders, research, etc.) with coherent sets of interventions, driven by kebele and woreda production opportunities.
- **Improve industry structure to build strong public and private actors in priority value chains** – the formation of joint public/private development programs should be supported through targeted incentives and appropriate regulatory frameworks. The public sector should prioritize its role as catalyst and regulator, and undertake implementation strategically, seeking to drive activities that build self-sustaining momentum and foster growth of sizeable local private sector players in key value chains.

- **Scale-up sustainable irrigation development** – attain climate change resilient and more sustainable agricultural system by exploiting Ethiopia's irrigation potential through improved project delivery and performance of both surface and groundwater schemes, investment in technical resources, and ensuring the financial and environmental sustainability of all relevant projects.
- **Adopt a sustainable approach to preserving and expanding cultivated land** – focus on an integrated soil fertility management approach and explore land expansion systematically to develop national and regional land-use strategies that consider farming models that balance economics, sustainability, and social impact.
- **Put the enabling environment in place** – support the growth potential of the first four areas by focusing on key enabling areas such as: access to financial services for actors along the entire value chain; development of the necessary infrastructure to expand producers' access to markets; innovative use of information and communication technology; and building the human capacity of the public sector.

Figure 1: Outline of integrated recommendations



B. An acceleration unit to coordinate and support implementation

A broad review of successful acceleration initiatives in other countries suggests that a new, dedicated entity is essential for supporting MoARD in driving change. In South Korea, such a unit coordinated a major national program to accelerate a broad range of economic development objectives. The entity in Ethiopia could support the agriculture growth agenda through: overall

program management (including monitoring, evaluation, and communications); problem solving of key bottlenecks for implementing partners; capacity building and technical support to implementing partners where needed; and the oversight of critical initiatives outside the scope of existing ministries.

The unit could be created as a public entity with a corporate structure similar to the Ethiopian Commodity Exchange (ECX). A Board of Directors consisting of key ministers related to the agriculture sector and senior regional representatives would provide overall governance. The Board of Directors would be complemented by an external Advisory Board to bring perspectives of key non-government actors, namely, development partners, research and professional organizations, NGOs, and the private sector.

Additional funding and high-caliber staff with the right mix of skills, tenures, and background must be dedicated to this unit. The unit would not have any direct implementation responsibility. Instead, it will be tasked to provide implementation and capacity support to MoARD and other implementing partners upon request. In addition to a federal unit, there would be strong satellite units in the regions where the majority of implementation will occur.

EXPECTED IMPACT OF THIS ACCELERATION EFFORT

Ethiopia has the potential of adding up to USD 20 billion in additional GDP, establishing food security, and reaching middle-income country status by 2025. However, achieving such results will require consistent, accelerated growth in the agriculture sector and a higher productivity in the use of all inputs and resources.

The recommendations and delivery model proposed in this report focus on the highest priority interventions to catalyze accelerated growth and increase the efficiency—and the effectiveness—of the Ethiopian agricultural sector. In particular, implementing this program will deliver:

- Accelerated impact of existing donor and GOE programs
- Potential to unlock additional donor and private sector investments
- Increased capacity and capabilities of government institutions
- A culture of delivery excellence supported by clear management processes

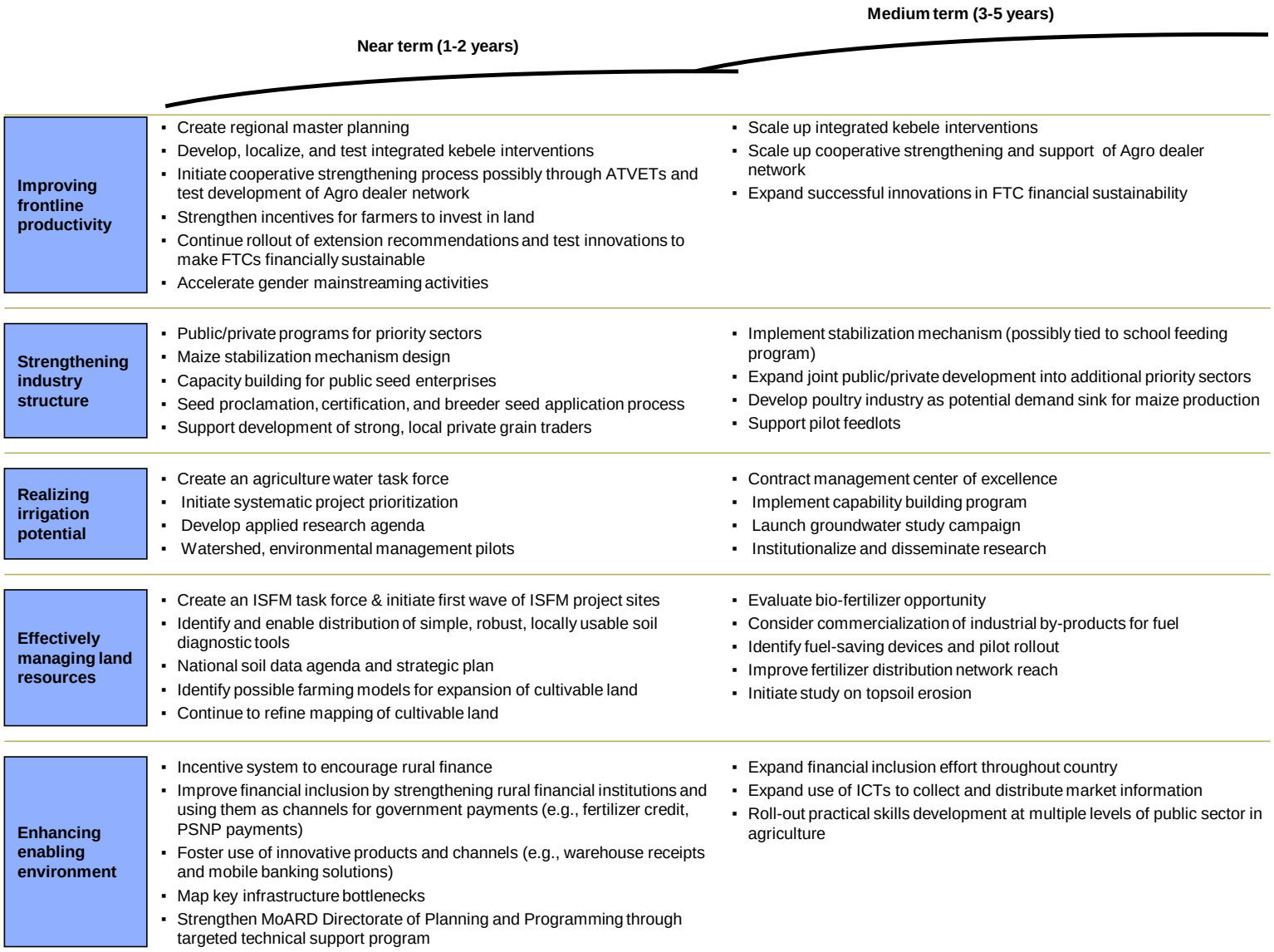
NEXT STEPS

The recommendations outlined in this report and in the other sub-sector diagnostic reports are not an explicit roadmap of the activities the Bill & Melinda Gates Foundation is best positioned to solely resource; they reflect a set of findings to support MoARD and all donors in the planning and implementing strategies to accelerate growth and food security in the context of Ethiopia's nationally stated objective to achieve middle-income status by 2025.

Based on the guidance of the GOE and upon securing the necessary support from major development partners, the acceleration program outlined in this report could be operational and providing results within a period of 6 to 9 months. The most important steps are:

- Further align the way forward across a broad set of stakeholders, including ministries, regional governments, local communities, donors, the private sector, and other implementing partners.
- Develop a master plan for implementation, including a prioritization and sequencing of the initiatives (a preliminary outline is provided below), and an assessment of the need for financial and technical support.
- Design the new acceleration unit (structure, talent, processes, governance, ramp-up plan), establishing the new entity, and staffing key management positions.
- Agree with development partners on their support, including additional financing for the unit and new projects, as well as alignment of ongoing initiatives.

Figure 2: Preliminary sequencing of priority activities in an acceleration program



II Acknowledgements

Since this work was initiated in February 2009 at the request of H.E. Prime Minister Meles Zenawi, we are grateful to the several hundred collaborators who participated with generosity and candor in the process, from smallholder farmers in Ethiopia's nine regions to the Ministry of Agriculture and Rural Development. The broad-based engagement of local partners in *kebeles*, *woredas*, regions, and at the federal level in co-creating the content of the diagnostic studies that inform this integrated report enabled the work to reflect a wide set of perspectives on Ethiopia's agricultural development.

The Ministry of Agriculture and Rural Development provided guidance and leadership throughout. We are particularly grateful to H.E. Minister Ato Tefera, State Minister Dr. Abera Deressa, State Minister Bashir Abullahi, State Minister Mitiku Kassa, State Minister Yaekob Yalla, and their colleagues in the federal Ministry, regional Bureaus of Agriculture and Rural Development, and the *woreda*- and *kebele*-level offices for their kind assistance and input.

In the Ministry of Water Resources, H.E. Minister Asfaw Dingamo and State Minister Adugna Jebessa and other colleagues provided valuable expertise and input. The Ethiopian Institute for Agricultural Research, with the leadership of Director-General Dr. Solomon Assefa, facilitated the involvement of the federal and regional seed enterprises and research institutes. Several other senior members of the government also provided valuable input, including H.E. Minister Shiferaw Jarso, Solomon Abate, Seleshi Demessie, and numerous others.

A panel of Ethiopian experts including Seme Debela, Solomon Bekure, Teferi Amakeltech, Yeshi Babunuki, Berhande Gebrikidan, Tesfai Kumsa, and Gete Zeleke have provided ongoing technical guidance and leadership to this effort. We would also like to provide special thanks to Marco Quinones, Eleni Gabre-Madhin, Derek Byerlee, Stefan Dercon, and Tsedeke Abate.

Beyond the local, regional, and federal governments, a broad number of Ethiopian institutions, research organizations, NGOs, private sector partners, and others engaged with teams of researchers in developing the content and recommendations for this work. These individuals are recognized in the sub-sector diagnostics, but their institutions include: Addis Ababa University, Amhara Design & Supervision Works Enterprise, Association of Ethiopian Microfinance Institutions, Amhara Works Construction Enterprise, Acos Ethiopia, Animal Feed Producers Industry Association, Agricultural Research Institutes in Amhara, SNNP, Tigray, and Oromia, Association of Ethiopian Insurance, Avallo, Bahir Dar University, Basin Coordination Office, Borena GWI Project, Bussa Gonofaa MFI, Development Bank of Ethiopia, Debit Credit and Savings Institution, Ethiopian Commodities Exchange, Ethiopian Institute for Agricultural Research, Federal Cooperative Agency, Fentale Irrigation Based Development Project, Ethiopian Mineral Development Share Company, Ethiopian Seed Enterprise, Haramaya University, ICARDA, ICRISAT, Oromiya Seed Enterprise, Amhara Seed Enterprise, Irrigation

Development Agency, Jimma University, Irrigation Development Agency, National Soil Lab of Ethiopia, OCCSCO, Omo Microfinance Institution, Organization for Rehabilitation and Development in Amhara, Nyala Insurance Company, Oromia Development Corridor Directorate, Oromia Pastoral Association, Oromia Water Works Design and Supervision Enterprise, Oromia Water Resources Board, Pastoral Community Development Project, Regional Soil Lab of Gonder, Relief Society of Tigray, Seed Growers and Processors Association, Tamrat Dairy Share Company, Tigray Water Works Construction Enterprise, Utuba Guma International Trade, Wasafa MFI, Wisdom MFI, and Zemen Bank.

Many donors and global experts were also engaged directly in the process. The CGIAR representatives in Addis Ababa provided generous use of facilities for consultant teams and expert leadership in the diagnostic areas, with particular thanks to the International Food Policy Research Institute, the International Water Management Institute, and the International Livestock Research Institute. Again, we recognize individuals themselves for their generous contributions in the diagnostics, but would like to note the institutions and donor agencies who contributed: the Alliance for a Green Revolution in Africa, ACDI-VOCA, Africa Soils Initiative, African Development Bank, CARE, Catholic Relief Services, Center for International Agriculture in the Tropics, Center for International Forestry Research, CIMMYT, the Royal Dutch Embassy, the Food and Agriculture Organization, the Global Alliance for Livestock Veterinary Medicines, GTZ, International Development Enterprises, International Fertilizer Development Center, the International Food Policy Research Institute, the International Livestock Research Institute, IPMS, Iowa State University, International Water Management Institute, KfW Development Bank, Mirtama, Michigan State University, Natural Resources Institute, Oxfam, Oxford University, PanVac, Sasakawa Africa Association, SNV, Ethiopian Sanitary and Phytosanitary Standards and Livestock and Meat Marketing Program, Islamic Relief, JICA, Save the Children, Technoserve, Tamrat, University of Texas A&M, Tufts University, UN OCHA, University of Minnesota, USAID, Wageningen University, Washington University, World Bank, and the World Food Program.

III Acronyms

ADLI	Agriculture Development Led Industrialization
AGP	Agricultural Growth Program
AI	Artificial Insemination
AMFI	Association of Microfinance Institutions
ARDPLAC	Agricultural Rural Development Partners Linkage Advisory Councils
ATVET	Agricultural Technical and Vocational Education and Training
BoARD	Bureau of Agriculture and Rural Development
BPR	Business Process Re-engineering
CAADP	Comprehensive Africa Agriculture Development Program
CAS	Country Assistance Strategy
CBE	Commercial Bank of Ethiopia
CIDA	Canadian International Development Agency
COMESA	Common Market for Eastern and Southern Africa
CSA	Central Statistical Agency
DA	Development Agent
DFID	Department For International Development (UK)
ECBP	Engineering Capacity Building Program
ECX	Ethiopia Commodity Exchange
EGTE	Ethiopian Grain Trade Enterprise
EHPEA	Ethiopian Horticulture Producer Exporters Association
EIAR	Ethiopian Institute for Agricultural Research
ESE	Ethiopian Seed Enterprise
ETB	Ethiopian Birr
FSCD	Food Security Coordination Directorate
FSP	Food Security Program
FSS	Food Security Strategy
FTC	Farmer Training Center
GDP	Gross Domestic Product
GOE	Government of Ethiopia
HABP	Household Asset Building Program
ICT	Information and Communication Technologies
IDA	International Development Association

IFA	International Fertilizer industry Association
IFPRI	International Food Policy Research Institute
ILRI	International Livestock Research Institute
IMF	International Monetary Fund
ISFM	Integrated Soil Fertility Management
IWMI	International Water Management Institute
MFI	Microfinance Institution
MoARD	Ministry of Agriculture and Rural Development
MoFED	Ministry of Finance and Economic Development
MoWR	Ministry of Water Resources
NBE	National Bank of Ethiopia
NGO	Non-Governmental Organization
NPL	Non-Performing Loan
O&M	Operations & Maintenance
OPV	Open Pollinated Varieties
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PIF	Policy and Investment Framework
PMO	Program Management Office
POS	Point of Sale
PPP	Public Private Partnership
PSNP	Productive Safety Net Program
RCBP	Rural Capacity Building Program
RED-FS	Rural Economic Development and Food Security
RSE	Regional Seed Enterprise
SACCO	Savings And Credit COoperatives
SDPRP	Sustainable Development and Poverty Reduction Program
SNNP	Southern Nations and Nationalists Peoples
SOE	State Owned Enterprise
TVET	Technical and Vocational Education and Training
UN	United Nations
UNECA	United Nations Economic Commission for Africa
USAID	United States Agency for International Development
USD	United States Dollar
WSM	WaterShed Management

WTO	World Trade Organization
WUA	Water User Association

IV Methodology of Diagnostic Work

The Bill & Melinda Gates Foundation was pleased to be invited by the Government of Ethiopia in early 2009 to provide technical assistance in facilitating the conduct of diagnostics in key aspects of the agriculture sector and supporting MoARD in implementing some recommendations. Specifically, with respect to the diagnostics, the foundation was asked for "opinions and recommendations on the strengths and constraints of Ethiopia's agricultural programs for extension, fertilizer, financial services, irrigation, seeds and various output markets." Pursuant to this request, the foundation submits the following synthesis and integration of the sub-sector diagnostics (which are submitted as annexes of this report).

In close consultation with the Ministry of Agriculture and Rural Development (MoARD), a team of local and global experts, led by International Food Policy Research Institute (IFPRI), International Livestock Institute (ILRI), International Water Management Institute (IWMI), and the Association of Microfinance Institutions undertook the sub-sector diagnostic in Ethiopia from February 2009 to June 2010. Hundreds of stakeholders, including many small-scale farmers, were consulted as part of the process at the kebele, woreda, regional, and federal levels. An independent Ethiopian expert panel, local and international researchers, development partners, local institutions, NGOs, and other actors also provided input. These discussions culminated in wide-ranging stakeholder convenings, where the team's preliminary findings and recommendations were presented and discussed.

These sub-sector diagnostics consisted of a rigorous multi-step process, described below:

- **Extensive review of the relevant literature** – the teams conducted an exhaustive review of the existing reports, which provided a baseline understanding and starting point for the team's work. A listing of the various reports consulted is contained in the Appendix of each of the individual reports.
- **In-depth key informant interviews** – hundreds of stakeholders, including BoARD and woreda government staff, research institutes, academic institutes, other content experts, cooperatives, unions, farmers, development partners, and others participated in interviews. The interviews brought context to and surfaced constraints identified in the literature review; they also provided a soundboard to validate findings and recommendations.
- **Multi-stakeholder convenings** – convenings were held toward the end of each study to present, test, and further refine the team's initial findings and recommendations. Convenings were attended by regional and federal government officials and private sector representatives, as well as national and international research organizations.
- **Synthesis and validation with expert panels** – an independent Ethiopian panel in addition to a selection of local and international soil fertility experts provided input to the analysis and recommendations in an iterative process, consisting of meetings and direct comments into documents, held over a multi-month period.

The methods sought to combine academic rigor with a participatory, forward-looking, and actionable process with the stakeholders in Ethiopia who, at the end of the day, are the protagonists who will be affected by and take leadership in the implementation of the findings and recommendations of this work. The project team also sought to interact directly with the farmers who are not only the primary beneficiaries of the work, but the final link in the chain in implementing recommended interventions. The incorporation of a farmer perspective, with a focus on gender, ensures that recommendations are demand driven, catering to the needs of the end beneficiaries.

This summary integrated report contained in this document reflects a synthesis of the key findings arising from each of the individual sub-sector diagnostics requested by the Government of Ethiopia and an initial hypothesis on an implementation strategy that has been developed through extensive literature review and engagement with local Ethiopian stakeholders. The recommendations outlined in this report were presented in a wide-ranging stakeholder workshop during June 2010 and the input of all stakeholders has been incorporated into the report.

1. Introduction

In February 2009, at the request of H.E. Prime Minister Meles Zenawi, the Bill & Melinda Gates Foundation's Global Development program (the "foundation") agreed to support a diagnostic review of the country's agricultural extension system. The extension diagnostic was undertaken from April to August 2009, involving fieldwork in six of Ethiopia's nine regions, consultations with local, regional, and federal-level officials in the Ministry of Agriculture and Rural Development (MoARD) facilitated by H.E. Minister Tefera Derbew and State Minister Dr. Abera Deresa. Additional stakeholders, including donors to Rural Economic Development and Food Security (RED-FS), participated extensively to align extension activities with the 2010 reinvestment in the Food Security Program (FSP) and the initial round of funding for the Agricultural Growth Program (AGP).

Findings from the agricultural extension diagnostic were presented to Prime Minister Meles Zenawi in September 2009. Subsequent to the meeting, the foundation agreed to broaden the scope of work to include seven additional sub-sector diagnostics: seed systems, irrigation and water resources, fertilizer/soil health, rural finance, and output markets for livestock, maize, and pulses[1]. This work was initiated in November 2009 and finalized in June 2010. Each of these diagnostic studies was led by an Ethiopian sector expert associated with the Ethiopian Institute for Agricultural Research (EIAR), the International Water Management Institute (IWMI), the Association of Microfinance Institutions (AMFI), the International Livestock Research Institute (ILRI), or the International Food Policy Research Institute (IFPRI). Diagnostic teams received additional support from technical staff at MoARD, a range of global content experts, and the international management consulting firm, McKinsey & Company.

Over the course of eighteen months, several hundred stakeholders from across Ethiopia's nine regions have been convened. Consultations spanned a broad cross-section of Ethiopian expertise in the agricultural sector: extension staff in *kebeles*, BoARD directors, MoARD leadership, the research community, private investors, cooperative and union leaders, global sector expertise, development partners (including representation of the RED-FS platform), civil society, and, most importantly, the small-scale producers, many of them women, who are responsible for 95 percent of the country's agricultural production. Teams of local and global experts conducted in-depth fieldwork, growth modeling, and rich literature reviews of past work, and applied new analytics to the sector. The depth and breadth of this consultation and analysis, across eight sub-sectors of the agricultural system, has led to the identification of the system's strengths and constraints, a set of recommendations, and a roadmap to implementation that seeks to accelerate GOE's path to achieve sustainable growth, food security, and middle-income status by 2025.

[1] Final reports and recommendations from the individual sub-sector diagnostics are completed and available for review. Contingent on the approval of GOE, the Foundation anticipates working with MoARD and the authors to facilitate the publication of the reports.

Findings across the technical work surfaced both interdependencies and common challenges, and recommendations across the different sub-sectors studied highlighted the need to take a holistic perspective to agricultural development. Isolated interventions will not be sufficient to create a steep change in the pace of agricultural development in Ethiopia; instead effective coordination and sequencing of activities across the sector is required. This report outlines these key challenges and recommendations, and suggests a holistic approach to implementation that would support MoARD and its development partners in accelerating the progress and achieving the impact of Ethiopia's second five-year Plan for Accelerated and Sustained Development to End Poverty (PASDEP II) and other sector strategies.

Section one of this report provides the context for the report and a brief summary of the progress of the agricultural sector during the PASDEP I. Section two focuses on the strengths and constraints of the Ethiopian agricultural system, and captures the current context of strategic and financing initiatives of MoARD and its development partners. The third section describes, in depth, the content of the five priority areas that surfaced as common themes across the sub-sector diagnostic work. Finally, section four offers a set of possible design criteria and a structure for the implementation of this work to accelerate the progress achieved to date, as well as the attainment of PASDEP II and the complementary initiatives of the government and development partners.

2. Overview

2.1 STAKES IN AGRICULTURAL PRODUCTION

For Ethiopia to achieve middle-income status by 2025 and make substantial inroads against food insecurity, concerted and strategic investment and strategic choices in the agricultural sector are vital. Concentrations of food insecurity and malnutrition are endemic in rural areas, with a population of six to seven million chronically food insecure, and up to 13 million seasonally food insecure[ii]. Over 90 percent of agricultural output is driven by smallholder farmers[iii]. Without expanding cultivated land, and given forecast population growth, the average land holding size in highland areas will be reduced to 0.7 hectares by 2020[iv], placing further pressure on rural incomes and food security.

Agriculture contributes substantially to the overall Ethiopian economy. On a nominal GDP of USD 25.6 billion[v], 43 percent was driven by the agricultural sector[vi]. Crop production accounts for 29 percent, with livestock at 12 percent, followed by the forestry sector with 4 percent. The sector contributed USD 1.4 billion to export earnings[vii]: crops and forestry account for 60 percent of overall export value, livestock for 28 percent, and remaining exports, a combination non-agricultural industry, primarily extractives and industrial production.

The sector also drives aggregate employment figures. Estimates show 83 percent of the population relies on agriculture for their livelihoods (with many more dependent on agriculture-related cottage industries such as textiles[viii]). To date, employment data is not disaggregated by gender, but participation of women, particularly in crop production, ranges from 45 to 75 percent based on the crop and stage of production.

The role of gender in the Ethiopian agricultural system is also critical: in post-harvest activities for cereals, women contribute as much as 70 percent of on-farm labor; in marketing, particularly in cereals, participation of women is as high as 60 percent of labor market share. While MoARD strategies do identify the role of women in the agricultural value chain, the gap is in the implementation of these strategies. PASDEP II has already identified targets for the participation of women in cooperatives and unions (>30 percent), as well as the number of women targeted by public extension in male-headed and female-headed households, 50 percent and 100 percent, respectively. Given the stakes of women in production systems, specific strategies that target increasing the opportunity of women to participate in income generation and decision-making, and the disaggregation of data sets to capture the participation of women are critical.

2.2 CONSTRAINTS TO AGRICULTURAL PRODUCTIVITY

A high-level understanding of the economic and physical constraints in the sector set the natural boundary conditions to the recommendations. Ethiopian agriculture will continue to operate with

sizable economic constraints. Public expenditures on agriculture and rural development already account for 15 to 17 percent[ix] of public spending[2], among the highest rates of spending on the continent, and it is unlikely that public expenditures can sustain additional commitments. Large current account deficits of close to USD 2 billion[x] limit the import of key development inputs such as fuel, fertilizer, and capital goods, while domestic purchasing power remains low (GNI *per capita* is less than USD 280[xi], and nearly 40 percent of the population subsists on less than USD 1 per day[xii]), limiting the extent of domestic demand for higher value agricultural produce.

There are also important physical constraints. Ethiopia is landlocked and mountainous, and many agricultural production areas are remote, resulting in high transport costs (for example, the cost to move maize from farm-gate to export in Djibouti is approximately USD 70 to 80 per ton[xiii]). This limits the competitiveness of exports of high-value crops. Soil degradation is also a physical constraint. FAO estimates the majority of Ethiopia's soil is moderately to severely degraded, impairing yields on cultivated land. This degree of environmental damage is already rendering some land unusable. Finally, the small holding size (over 60 percent of farmers cultivate less than one hectare[xiv]) and holding fragmentation will remain a feature of Ethiopian agriculture for the foreseeable future, limiting the potential for sizeable commercial farming, as industrialization will not compensate for high forecast return on population growth for at least a decade.

2.3 GROWTH POTENTIAL

Based on regional comparisons, crop and livestock productivity, while improving, still remains well below potential. The agricultural GDP per hectare of cultivated land is at about half of Kenya or Morocco. In 2007, the figure was USD 587 per hectare for Ethiopia, USD 1,190 per hectare for Kenya, and USD 1,150 per hectare for Morocco[xv]. Modeling the implications of forecast population growth, if Ethiopia continues on its current productivity path, food insecurity could climb to over 50 million people, reducing GDP per farming household by nearly 20 percent by 2020[xvi].

Addressing this productivity gap would yield substantial benefit for both growth and food security. Calculations suggest that Ethiopia could increase agricultural GDP per smallholder by 95 percent by 2025[xvii], through a new trajectory of growth, by: (a) improving staple crop productivity by 80 to 90 percent (through improved inputs, practices, and mechanization), (b) sustainably converting 8 to 10 million hectares of land to new cultivation, (c) irrigating over five million hectares, an increase from the 0.4 to 0.8 million hectares under cultivation today, (d) increasing export focus in niche commodities, (e) developing downstream trading and processing industries, like canning, and (f) combining these efforts with intensive capacity building in both the public and private sector. This would raise millions above the poverty line and would help to resolve the ongoing food security issues, even as the population grows. Ethiopia could thereby

[2] Note that approximately one-third of this is for food security, and a quarter for federal road construction

achieve a minimum 6 percent *per annum* increase in real agricultural GDP (slightly higher than growth rates over the last 10 years[xviii]), contributing an additional USD 19 billion to total GDP by 2025[3]. Agricultural export value could reach USD 8 billion through strategic choices in high-value export crops and a vibrant livestock sector, placing Ethiopia on par with Indonesia today in terms of agricultural exports.

2.4 MARKET OUTLOOK

The market outlook for Ethiopia is also promising despite some challenges. The country is becoming less dependent on its leading export, coffee, as its source of foreign exchange, and it is hoped that the recent significant investment by GOE in upgrading the country's physical infrastructure (e.g., roads, hydropower dams, etc.) will help to sustain and drive economic growth. Analysts expect GDP growth to average 7 to 8 percent *per annum* in the medium to long term, also driven by private sector investment, particularly in the agro-industry sector[xix]. However, risk to this economic growth outlook remains high, driven by factors such as continued electricity shortages and increasingly frequent droughts.

Domestic demand is also set to increase – population growth is forecast at 2.3 percent *per annum*[xx], and GDP *per capita* is likely to continue to rise (growth was 8 percent *per annum* in recent years[xxi]), increasing domestic spending power. Export value has more than doubled over the last 10 years[xxii], although Ethiopia's world trade linkages are limited – deliberations with the World Trade Organization (WTO) are open, but Ethiopia is not expected to become a member soon. However, Ethiopia's membership in the United Nations Economic Commission for Africa (UNECA) and the Common Market for Eastern and Southern Africa (COMESA) supports trade within the region.

2.5 PASDEP AND OTHER GOVERNMENT AND DONOR-LED INITIATIVES

2.5.1 PASDEP I and PASDEP II

GOE anticipates the launch of the second, cross-sector, five-year development plan, the PASDEP II, in late 2010. The initial PASDEP, launched in 2006, identified investment priorities by sector and acted as the primary government document to align external financing and internal strategy development within line ministries. This was driven by the Agriculture Development Led Industrialization (ADLI) strategy developed in the 1990s. The concessionary IDA lending priorities outlined in the World Bank's 2008–2011 Country Assistance Strategy (CAS) reflects the priorities set out by the government in their first five-year plan. With this first five-year window drawing to a close, the Ministry of Finance and Economic Development (MoFED) is leading a cross-sector effort to launch the PASDEP II, for 2010 to 2014.

[3] Ibid.

PASDEP I focused on a set of drivers in the agricultural sector: strengthening human resources for implementation, ensuring the prudent allocation and use of existing land, adapting of approaches to agro-ecologies, diversifying and commercializing of production, integrating agricultural activities with other sectors, establishing effective marketing systems, and promoting sustainable natural resource management particularly with climate adaptation. The Plan achieved an important set of outcomes, including sustained growth in cereal productivity and the ambitious expansion of human resource capacities in the frontline delivery of extension services.

PASDEP II has a similar set of priorities focused on capacity building of smallholder farmers, with quality improvements in frontline extension; enhanced conservation of natural resources; improved frameworks for the involvement of private investors; and ensuring that productivity gains are sustainable and that inroads are made against food insecurity at the individual and national levels. The recommendations and implementation strategy contained in this report are intended to accelerate the progress and impact of the PASDEP II, by enabling a systemic infrastructure for capacity development and innovation across the agricultural sector.

2.5.2 CAADP Compact and core donor programs

Comprehensive African Agricultural Development Program (CAADP) – the Ethiopian government adopted their CAADP Compact in September 2009. The Compact provides the country-level strategic plan for alignment with the regional CAADP process, committed to by African heads of state at the African Union annual meetings in 2007. CAADP acknowledges the crucial role of the agricultural sector, both in terms of productivity and food security, to ensuring safety nets and accelerating broad-based economic growth. The Ethiopian Compact maps MoARD and GOE strategy against the four CAADP pillars: land and water management, market access, food supply and hunger, and agricultural research. A corollary to the Compact is the donor-led Policy and Investment Framework (PIF) to align the financing commitments of country donors against the Compact's plan. This document provides a framework for both innovation and capacity building, complementary to the CAADP Compact and MoARD's priorities reflected in the pillars.

Agricultural Growth Program (AGP) – the AGP includes the set of sectoral financing activities emergent from the joint MoARD and donor working group on Rural Economic Development and Food Security (RED-FS). The AGP targets 83 high potential *woredas* in Oromia, Amhara, SNNPR, and Tigray. The approach provides a bottom-up, decentralized planning to identify key interventions and projects at the *kebele* and *woreda* levels. Project proposals are submitted for review by *woreda* and regional officials in the respective Bureaus of Agriculture and Rural Development (BoARD) for financing. Substantial funding will be allocated for local project implementation geared toward a combination of technology adoption and behavior change to enhance productivity, and the commercialization of production surpluses with improved marketing and value addition.

AGP contains a combination of concessionary lending and direct aid, primarily from the World Bank, USAID, CIDA, and other bilateral partners, with some parallel funding from the Ethiopian government. The total budget allocation is shifting, and parallel resources will be made available to complement the initial lending commitments made by the World Bank, but the eventual total for a five-year disbursement (2010 to 2014), including numerous parallel programs, is expected to range from USD 200 to 500 million[xxiii]. Similar to the CAADP Compact, the recommendations in this report are complementary to the AGP and propose a framework to enhance its overall impact.

Food Security Program (FSP) – whereas the AGP targets high potential *woredas*, the Food Security Program (FSP) targets 273 *woredas* where chronic food insecurity, malnutrition, and vulnerability are highest. A joint program, financed by a combination of donor resources and GOE revenue, FSP will receive a second phase of funding for 2010 to 2014. USD 2.1 billion to USD 2.5 billion[xxiv] is anticipated in allocations over the five-year term, which is an increase of over 30 percent from the previous funding window. FSP has four components: the Household Asset Building Program (HABP) for financial services, the Complementary Community Investment program for irrigation investments, the Productive Safety Net Program (PSNP) for food aid and cash transfers, and a resettlement program in lowland areas to higher productivity ecologies.

The PSNP is the single largest component of the FSP and provides direct cash and food transfers to food insecure households. In contrast to the prior phases of safety net programs, PSNP will pilot conditional cash transfers directly to food insecure households in addition to direct food aid. The Complementary Community Investment program is primarily government financed and focuses on mid-scale irrigation projects, reaching up to 250,000 hectares. These irrigation investments are primarily linked to agricultural production, for both smallholder and commercial activities. HABP focuses on the improved food sufficiency for households in food insecure areas through the diversification of income sources and increase of productive assets. The program innovates on earlier food security initiatives, addressing poor financial practices and lack of savings in rural areas, the inabilities of local administrators and extension workers to complete their daily tasks, weak linkages between household investments and complementary services including inputs and animal health services, and poor market access for diversified production even in regions of food insecurity.

Similar to the AGP and CAADP Compact, the recommendations that follow are intended to enhance the impact of FSP in existing initiatives through capacity building and innovation.

3 Recommendations

3.1 AN APPROACH TO RECOMMENDATIONS

Despite the considerable successes achieved by PASDEP I (as outlined above), even more could be accomplished in turning ambitious aspirations, strategies, and investment programs into effective action and impact. The biggest challenge facing a strategy such as PASDEP I or II is that the well-intended high-level ambitions described in the documents are not translated into concrete actions on the ground. As a result, high hopes engendered by compelling plans can end in disappointment, as organizations, employees and citizens fail to connect the strategy to their daily activities. Lack of detail and specificity have in the past made it difficult to organize a program of projects that could be effectively managed, monitored and coordinated for maximum impact.

The only way to overcome this risk is to develop, with a high degree of specificity, a detailed roadmap of how to achieve the ambitions of such a strategy with a view to addressing the various challenges in the system. Only such a detailed view will identify a portfolio of projects that can be implemented, managed, and monitored as finite units of action that, in a coordinated way, deliver real progress.

Any strategy must therefore be translated into a clear set of such activities, each associated with specific outcomes, and each contributing to the delivery of the broader aspiration set out in the strategy. Implementing the portfolio with speed and effectiveness will then be linked to the accountability of individual project leaders, to specific activities, and to clearly identifiable deliverables. This in turn will provide government with a powerful tool to manage and monitor progress, and – with the right resources in place – to accelerate the impact of its strategy.

The recently adopted Business Process Re-engineering (BPR) initiative has begun to drive many activities in this direction. Detailed programming has also begun within the PASDEP process as well as in the Policy and Investment Framework toward the development of specific activities that will drive Ethiopia's overall growth strategy.

However, the sub-sector diagnostic work that underlay this report identifies a number of areas that required increased focus to accelerate progress in realizing Ethiopia's agricultural potential and achieving the full impact of PASDEP II. These sub-sector recommendations underwent extensive syndication and validation with panels of Ethiopian experts and in convenings with donors, civil society, and government officials at the regional and federal levels. The details of each of these recommendations are described in the annexes to this document.

Based on the common challenges and proposed solutions arising from each of the sub-sector diagnostics, this report synthesizes this extensive portfolio of activities into a set of five broad

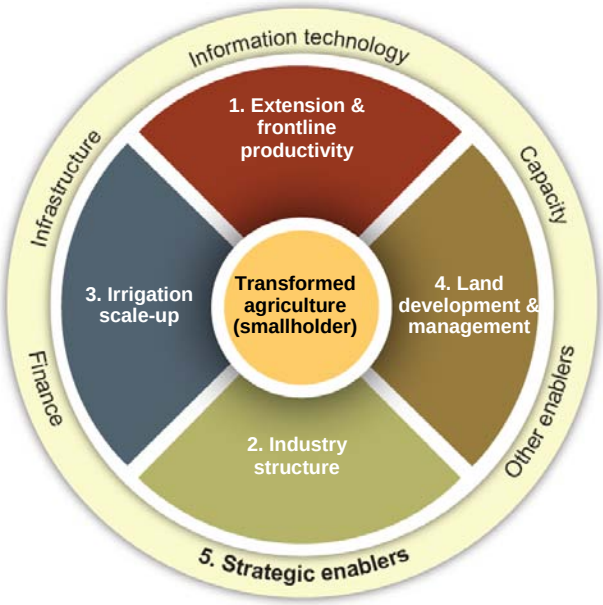
priority areas, which represent a priority set of actions for the next 10 to 15 years (Figure 2). These priority areas are:

- **Enhance frontline productivity** through a more diversified, gender-sensitive, financially sustainable and market-oriented extension system and better coordinated local institutions (extension, cooperatives, traders, research, etc.) with coherent sets of interventions, driven by *kebele* and *woreda* production opportunities.
- **Improve industry structure to build strong public and private actors in priority value chains** – the formation of joint public/private development programs should be supported through targeted incentives and appropriate regulatory frameworks. The public sector should prioritize its role as catalyst and regulator, and undertake implementation strategically, seeking to drive activities that build self-sustaining momentum and foster growth of sizeable local private sector players in key value chains.
- **Scale up sustainable irrigation development** – to improve project delivery and the performance of both surface and groundwater schemes, GOE should invest in technical resources, ensure the financial and environmental sustainability of all of its projects, and provide extension assistance on irrigated agriculture.
- **Adopt a sustainable approach to preserving and expanding cultivated land** by increasing yields through an integrated soil fertility management approach and exploring land expansion systematically by developing national and regional land-use strategies that consider farming models that balance economics, sustainability, and social impact.
- **Put the enabling environment in place** to support the growth potential of the first four areas. The priority areas to address are: access to financing for actors along the entire value chain (including rural financial inclusion); the necessary infrastructure to give producers access to markets; innovative use of information and communication technology (e.g., radio broadcasts to support extension advice); and building the human capacity of the public sector.

Each of these priority areas results from a detailed root cause analysis of the challenges faced by individual sub-sectors. These analyses are targeted to identifying the types of challenges faced by individuals in the process of implementing the government's programs, by farmers and other participants in the agricultural value chain, and by those who are supposed to support the agricultural sector.

At the center of the "wheel" of recommendations is the transformed smallholder farmer. In line with PASDEP II, the recommendations in this and the accompanying sub-sector diagnostics center on the smallholder, particularly in terms of productivity and market access.

Figure 3: Outline of integrated recommendations



Below, each priority area is described in detail. A summary of the root cause analysis and diagnostic is followed by a synthesis of the main recommendations that emerged from the work.

3.2 PRIORITY AREA I: ENHANCE FRONTLINE PRODUCTIVITY BY EFFECTIVELY DEPLOYING EXTENSION WORKERS AND COORDINATING LOCAL INTERVENTIONS

While there have been many areas of material progress, a consistent finding from all the diagnostic work has been that government and development partner initiatives to date have not been able to fully unlock the potential of the agriculture sector. At the smallholder level, interventions are disconnected and not integrated. The smallholder is the focus of many interactions through different channels – extension advice, inputs and aggregation from the cooperatives, credit from credit cooperatives, aggregation opportunities with regional traders or exporters, irrigation programs, income or food support via PSNP, and support from local NGO or donor programs, inter alia. Yet these interventions are not well coordinated or integrated, meaning that the impact falls short of potential, for example where fertilizer is being applied without improved seed (or vice versa). From a production perspective, crop or cultivar choice is often misaligned with agro-ecologies, and/or inputs and extension advice are rarely tailored for local issues. For example, water harvesting is essential for improving the efficiency of soil fertility interventions, so extension advice must support this.

One driver of this is lack of alignment and coordination between GOE support, donor support, and NGO support at the local level. Development partner support is fragmented, and not yet as

well harnessed or channeled as it could be. There are over 20 major donors investing a total of over USD 1 billion in Ethiopian agriculture[xxv]. GOE currently lacks the capacity to ensure widespread alignment of donor support to their programs, particularly at a *woreda* or *kebele* level. Historically, many donor activities are self-initiated, then syndicated with other donors and GOE, rather than integrated as part of a holistic sector plan. Although this is improving at the federal level with the RED-FS platform and funding activities through the AGP and FSP, there is limited coordination in local implementation. This means that the potential for significant synergies goes un-captured.

Further, although improving, there remains a level of a "one size fits all" approach to local interventions. PASDEP II identifies this as an area of continued concern, and addressing these issues is also a premise in the design of the Agricultural Growth Program (AGP), which allows *woredas* to identify local priorities. Several examples were highlighted in the diagnostic work:

- **Soil fertility** – chemical fertilizer recommendations from DAs to local farmers rely on a supply-driven process dating from the package interventions of the early 1990s. Often, they are not regionally tailored to fit cropping systems and soil needs in ways that best leverage the cost of inputs. Selected *woredas* in Amhara have made positive steps toward local calibration. Elements of the PASDEP II and new donor programs also identify the need for more local tailoring on input provision.
- **Agricultural extension**[4] – the overall field level system is often constrained in its ability to meet farmer needs and demands and the impact of major investments in the extension system (8,500 FTCs have been established and 63,000 DAs trained) has been limited by various challenges. There are many infrastructure and resource constraints, and usually inadequate localized technical information. Meanwhile DAs have skill gaps, insufficient market orientation, often take on non-agricultural activities, and have a lack of incentives to perform to their potential. In addition, with limited exceptions (see Case study – Innovative FTC in Atsibi, Tigray), innovations that strengthen the extension system through further market orientation and exploration of strategies that diversify and introduce financial sustainability were limited.

[4] Refer to the extension diagnostic report for more detail

Case study – Innovative FTC in Atsibi, Tigray

Sustainable "Model FTCs" are already demonstrating the impact that farmer-driven, market-oriented approaches can have in extension. At an FTC the team visited in Tigray, the senior DA shows farmers how to run the demonstration farm like a business, buying and selling different products to farmers (e.g., improved breeds of sheep, beehives, chicks) and local markets (fruit, vegetables, and milk), and then using these revenues to finance ongoing extension and training activities.

The success of this FTC has resulted in the further development of their training facilities, with local farmers donating their time and rocks and other building materials to construct these facilities. The FTC is also being used by both the Tigray region and Atsibi *woreda* extension directors to demonstrate and train DAs from other *kebeles* and *woredas* within the region about how they should develop and use their FTC demonstration farms for hands-on training of local farmers and rural youth, as well as revenue generation to finance all future FTC operating costs. During 2008, the total operating costs of the demonstration farm was about ETB 16,000 (all on micro-credit from the local cooperative), resulting in net revenues of ETB 7,000 to 8,000.

The FTC is introducing many technical and market-driven innovations to farmers, such as "zero grazing," which accelerates the fattening of both cattle and sheep, and then allows for the efficient collection and use of manure for both organic fertilizer and cooking fuel. In 2007, the FTC took an ETB 8,000 loan to purchase a cow that generates about ETB 10,000 in milk sales in a year. They also have 15 sheep and are now selling lambs on credit to local farmers.

On the demonstration farm, DAs are training farmers on commercial fruit and vegetable production, including drip irrigation, which was purchased for ETB 950, on credit. In 2008, the FTC produced three crops of tomatoes that generated about ETB 10,000 in revenue.

The DAs are also training landless youth and women in other enterprises, such as beekeeping and poultry production. The FTC procured 100 modern beehives that were distributed to rural households on a micro-credit basis. They have 20 hens to produce eggs for local markets.

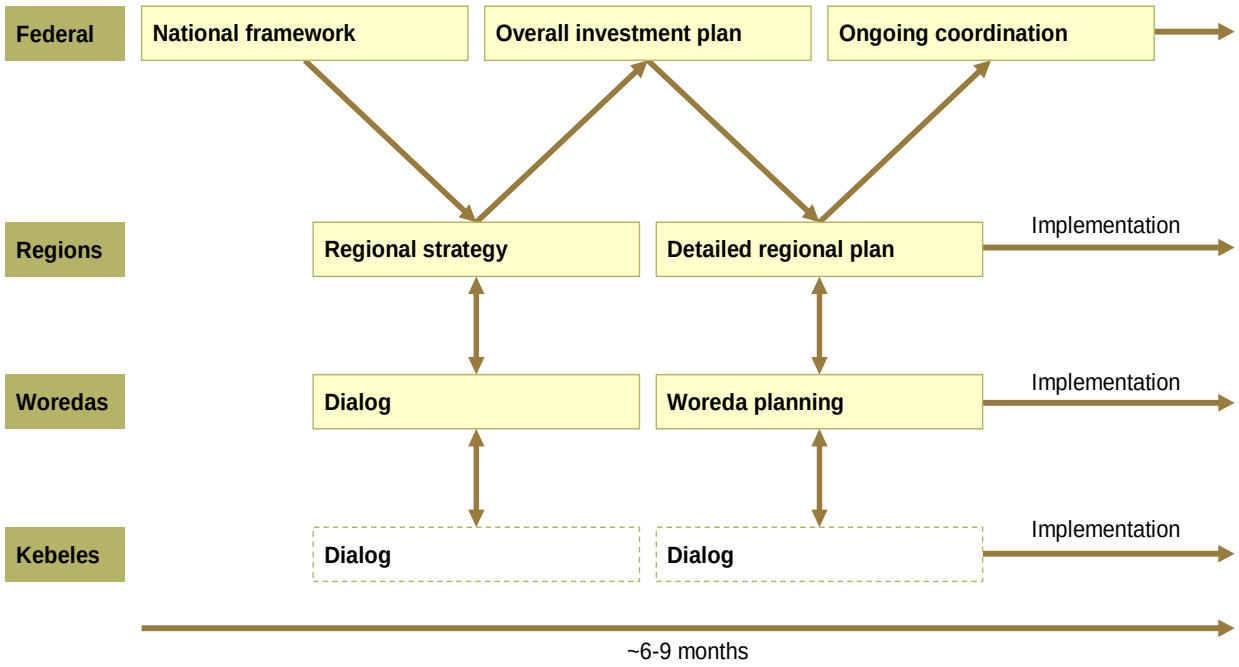
SOURCE: Field visit to Atsibi

Recommendations in this priority area are: A) strengthen regional planning; B) coordinate interventions at *kebele* level; C) explore innovations that will yield a diversified, financially sustainable, and market-oriented extension system, integrated with strong local institutions; and D) strengthen incentives for farmers to invest in the land.

3.2.1 Recommendation A – Strengthen regional planning

Regions should continue to play a central role in strategic and regulatory planning, developing regional master plans through ongoing and iterative "W-shaped" dialog between federal and regional/*woreda* authorities (as shown in Figure 4). These regional plans will form the basis for stronger links between federal and regional government.

Figure 4: "W-shaped" dialog between federal and regional levels



Regional plans could incorporate, in a very transparent way, all local interventions planned through PASDEP II and the acceleration effort outlined here, considering investments such as medium- and large-scale irrigation schemes, and identifying opportunities to attract large private sector players, such as large-scale processors, which would act as a demand pull for farmer crops[5]. The process could include prioritization of *woredas* and *kebeles* within the region for specific support, and coordination of *woreda*- and *kebele*-level projects.

3.2.2 Recommendation B – Coordinate interventions at kebele level

A national menu of integrated sets of interventions, tailored to basic agro-ecologies and specific commodity areas, could be developed and implemented locally at *kebele* level. The coupling of the right inputs with focused extension support will encourage efficient and effective farming practices, especially given the high rate of food insecurity. Other advantages are scale efficiencies (e.g., for input research) and ease of implementation and replication.

This "package" approach to local interventions, which has been explored in various forms in Ethiopia previously, is likely to be most effective at the current stage of development in the country. It allows adaption to local conditions and empowers local choice versus a "one size fits all" approach, while avoiding the excessive complexity and associated execution challenges of attempting to implement bespoke solutions for each *woreda* or *kebele*. However, in the longer

[5] Refer to the maize and pulses diagnostic reports for detailed recommendations

term, this model could be phased out (or perhaps tailored more closely to specific *woredas*/*kebeles*) in favor of a more market- or demand-driven approach, as agricultural practices, input access, output quality/aggregation, and thus food security, improve.

Extension packages have been a recurring theme in the history of the extension system in Ethiopia. The extension diagnostic completed last year found that a set of packages has been successfully developed for production of staple crops (including maize and wheat), although often with a focus on technology transfer. In some regions, additional packages have been developed and implemented at the FTC level to meet specific farmer and location demands, e.g., coffee packages in SNNP. However, this flexible approach to package development has not been implemented across all regions – many regions disseminate "standard" production practices for the major food crops across the entire region. As a result, little attention is being given by extension field-workers to a more balanced and expanded extension program that gives increased attention to the intensification and diversification of farming systems, and DAs often have limited skills concerning high-value crops and livestock products.

The recommendations presented in this report build on and strengthen this approach, with some key differences:

- General recommendations developed at the federal level (by agro-ecology) should be calibrated at the regional and then *woreda* levels, based on local research, before being introduced into the *kebele*. The *woreda* capabilities would have to be built up to support this process. This approach takes into account the needs and choices of the farmer.
- Intervention sets should be designed to incorporate the needs both of specific agro-ecologies and different farming systems, with sufficient flexibility to be able to adjust practices for seasonality in rain-fed conditions.
- Intervention sets should be linked to regional planning such that extension advice takes into account the local context, e.g., irrigation projects underway; specific soil fertility issues experienced in the *kebele*; local output and off-take opportunities; climate and environmental issues; and financial services available in the area.
- Intervention sets should be fully integrated across all activities targeting the smallholder, not just extension advice (e.g., input supply, market information, etc.).

The sets of interventions could include provision of the following elements[6]:

- **Standard input packs** (e.g,. seed, fertilizer, crop protection) for a range of crop options for that agro-ecology in accessible sizes. These could be provided through cooperatives, or through the development of private agro-dealers. Other inputs such as animal health products must also be available.

[6] Refer to the soil fertility, maize, pulses, livestock, and agricultural finance diagnostic reports for more detail on potential interventions

- **Credit** for input purchases and other investments (e.g., diversification, improved farm implements such as oxen-driven ploughs etc.), both for smallholder farmers, and cooperatives, traders, and agro-dealers.
- **Integrated soil fertility recommendations** based on local data, including interventions such as chemical fertilizer, bio-fertilizer, organic fertilizer, crop rotation, agro-forestry including improved fallowing with fast growing trees and shrubs, inter-cropping with grain and fodder legumes, lime application, tillage, land management, and soil and water conservation measures.
- **Extension support**, including basic soil fertility diagnostic tools such as visual assessment tools (like the leaf color charts used for rice in Asia[xxvi]), rapid soil diagnosis using field kits for pH and other parameters, fertilizer use manuals (such as the IFA World Fertilizer Use Manual), and symptom books.
- **Market information** (e.g., price, demand, supply information) from a range of sources made readily available in *kebeles* so farmers and aggregators can make informed buy and sell decisions. This information could come from a range of sources, such as the Ethiopian Grain Trading Enterprise (EGTE), the Central Statistical Agency (CSA), regional bureaus, development partners, NGOs with government support, etc.). Amongst their duties, extension Subject Matter Specialists (SMS) could collect daily market information and disseminate it to the *kebeles* and cooperative unions, enabling both DAs and farmers to access this information through both sources.
- **Quality control measures** for marketing. For example, for crops, providing scales and cleaning equipment to cooperatives and aggregators can help farmers get the benefits of the better prices offered for products that meet market specification (e.g., clean, sound, bagged on standard weights, free from pests, etc.). For livestock, provision of holding pens at reasonable cost in close proximity to export market-outlets and efficient quarantine and transport services will help to increase quality.
- **Support for on-farm storage** structures (or at the cooperative or trader level) and practices including optimal harvest time, drying, storage hygiene, separation of grain, etc.
- **Animal health services** including community animal health workers and drug delivery and artificial insemination (AI) to improve livestock productivity.
- **Off-take contracts with transparent pricing linked to the market** between cooperatives and traders and end users (e.g., large processors). Cooperatives and traders could be linked to large end-users or buyers who can take advantage of the aggregation they offer.

These sets of interventions could fall into two types (both tailored to agro-ecology and commodity):

- **Staple productivity interventions** intensifying existing production, to be rolled out across the country, prioritizing areas with the most potential and/or the greatest need.
- **Growth options** – high potential *kebeles* could also explore diversification strategies (also tailored to the local opportunities available) such as cash crops (e.g., sun-dried fruit and vegetables, fruit trees such as avocado, mango, passion fruit, etc.).

Aligned with this, at a *woreda* or regional level, commercialization options could be pursued, in line with the regional strategies, to link farmers to sources of demand. This could include attracting small and medium private sector players to enter downstream business areas, e.g., building cold chain dairies, canning plants, or peri-urban feedlots.

Rollout of this approach would include:

- **Design of the national menu** – strengthening existing extension package development through the design of an appropriate menu of sets of interventions, balancing the need for tailoring to different agro-ecologies, rainfall and farming systems, and the efficiency of more blanket approaches. In terms of the soil fertility components, soil testing would need to be in place to inform design of soil fertility interventions. Regional research centers could be leveraged to support this effort.
- **Testing the approach** – in the first year, the approach could be tested at a slow pace in a few *kebeles* with particularly high potential for impact from these interventions, to serve as a proof of concept. These test locations should be chosen in close consultation with the regions, and could be aligned with the AGP high potential *woredas*.
- **Tailoring the interventions** – regions and particularly *woredas* would calibrate and refine the national menu of sets of interventions to adjust for the specific context based on local research. The *woredas* would play the primary role in doing this refinement and would need additional capacity to be able to take this on.
- **Kebele selection of intervention sets** – through the iterative regional planning processes defined above, the *woredas* and *kebeles* could select the set of interventions appropriate to their agro-ecology and crop choices. The regional master-plans would then identify a rollout plan for that region. Prioritizing certain *kebeles* for earlier rollout could raise issues of equity, particularly if higher potential (and therefore already better off) *kebeles* receive most support. One way to address this is by targeting *kebeles* in greatest need as one of the priorities for the staple productivity packages. GOE could also consider whether redistribution of some of the benefits received by high potential *kebeles* receiving these growth options could be a way to mitigate this.
- **Supply chain** – the supply chain must be put in place, e.g., ensuring supply of all necessary inputs and credit. As outlined above, in many areas available inputs are not always tailored to

the needs of the *kebele* (in terms of crop choice and agro-ecology), and credit is not available to all farmers who need it to use fertilizer.

- **Monitoring, evaluation, and continuous improvement –** development of a system that will allow independent evaluation and analysis of results (success and shortcomings of proposed intervention) by a third party before full-scale implementation. It will be important to capture and share lessons learned from early sites to refine the approach for scale-up.
- **Full-scale implementation** – rollout across the remaining *kebeles.*

3.2.3 Recommendation C – A sustainable, market-oriented extension system, integrated with strong local institutions

There is a strong need for a locally needs–driven and sustainable extension system, with the needs of specific agro-ecologies and farming practices driving extension priorities, and support for staple crops balanced with market-oriented products that drive farmer incomes and livelihoods.

This recommendation builds on the extension diagnostics from 2009, which aimed to strengthen the existing public system. With information from the additional diagnostics conducted recently, the following recommendations seek to build on the initial extension recommendations to consider innovations that could increase effectiveness and sustainability of the extension system more broadly. The focus here is on two broad concepts: (a) co-ordination and integration of extension within the many other actors at the local level; and (b) sustainability and market orientation through testing innovations in extension operations.

At the local level, coordination is needed among different institutions to reach smallholder farmers based on the priorities identified by local communities and to deliver the sets of interventions outlined above. Research and extension must work in tandem to meet farmer needs, and to offer solutions that balance staple crop production with market-oriented products that drive farmer incomes and livelihood improvements, and that maximize the potential of all agro-ecological and farming areas. Currently, knowledge dissemination is relatively poor, and research findings and conclusions largely remain within journals, and not in the hands of extension workers or smallholder farmers. For example, field visits to farmers in Debre Zeyit and Bahir Dar uncovered that few farmers were aware of what soil fertility issues are relevant to them[7].

Building and strengthening effective linkages among key institutions in agricultural development at all levels (national, regional, *woreda,* and *kebele* levels) is therefore crucial to ensure research is effectively coordinated and disseminated to the frontline. Key institutions that must be linked include research, extension, input providers and marketers, and higher education (including vocational training).

[7] Refer to the soil fertility diagnostic for more details

From a research perspective, there are over 20 universities with agricultural facilities, which could be a powerful tool and nuclei for agricultural development in the regions, integrating research, extension, and education. For example, Haramaya, Hawasa, and Mekele universities effectively combine these three functions that should be replicated in all the other faculties of agriculture. It is also important to note strategic linkages with non-extension actors (NGOs, private sector entities) that impact how farmers are served through the system.

Capacity building needs for these local institutions were identified across the diagnostic work and must be an integral part of local implementation[8]. For example,

- **Cooperatives** - the maize diagnostic work identified management and governance challenges in cereals cooperatives, for example, weak management capacity and lack of role clarity between the board and managers. Through the provision of integrated interventions at the *kebele* level, cooperatives should be strengthened to become effective primary input and off-take channels. The focus should be on simple transactions to streamline the management and decision-making required. Capacity building and/or business training may also be needed in many cooperatives to strengthen the institutional, human resource, and financial capacities. Qualified NGOs such as ACDI/VOCA, Technoserve, and other national or international players could be identified by the federal cooperative promotion department and/or corresponding regional cooperative offices and invited to collaborate on this endeavor. The Agricultural Technical and Vocational Educational Training (ATVET) Centers, located in each region of the country and which played a major role in training all the Development Agents in the country, could also play an important role.

> *"Coops do not know how to trade: they kept expecting price to increase, lost chance to sell for a profit, and are still holding their maize stock after more than one year"*
>
> — Trader interviewed on a field visit to Bako

- **Research institutions** – the soil fertility diagnostic highlighted a need to train more soil scientists/agronomists and retool many existing ones; the equivalent issue was seen in irrigation. Specific recommendations can be found in the later sections, but these examples highlight the need for broader capability building to ensure a vibrant and effective agricultural research function.

Experimentation with possible models is recommended to improve the effectiveness, performance and financial sustainability of the extension system, as well as links to other institutions. The current set-up is a substantial financial burden on the government. Given an estimated basic outfitting cost of USD 80,000 to 10,000 per FTC, the full capital expenditure of setting up 18,000 FTCs will be in excess of USD 140 million. This is before considering maintenance costs, DA salaries (up to USD 54 million *per annum*[xxvii]) and other operating costs

[8] Refer to section 3 – Implementation for more details of proposed capacity building approach

(estimated in the range of USD 20 to 50 million *per annum*). The lack of adequate operating funds was a major and continuing constraint for nearly all FTCs visited, substantially reducing the extension and training activities at the FTCs.

The extension diagnostic revealed that many DAs struggle to gain the confidence of farmers due to their young age, a lack of practical or "hands on" experience and skills, and a narrow subject-matter focus. As well as recommended improvements to DA training and career paths (based on performance-based evaluation), farmer-to-farmer training models could also be leveraged, with model "millionaire farmers" used to disseminate new approaches through experiential learning. DAs could be seen as facilitators rather than trainers, and FTCs more as resource centers rather than training centers, where farmers can learn as much from each other as from the DAs (a simple change of the name of Farmer Training Centers to Farmer Resource Centers could signal this shift from DA focus training to farmer to farmer information dissemination with the DA acting as the facilitator). Cooperatives are also not effectively leveraged to bring innovation and expertise to support extension activities.

Efforts could thus be considered to test a few of the following models to better understand their effectiveness. For example, the Rural Capacity Building Program (RCBP) has been implementing institutional innovations such as decentralization and participatory financing mechanisms in a few select *woredas*. Other potential models to test sustainability include:

- Revenue generation from the demonstration farm. Demonstration farms at FTCs can serve as both effective teaching/demonstration centers and, at the same time, generate sufficient funding to create FTCs that are more sustainable. These centers can then serve the long-term needs of farmers within each *kebele* without being a burden on the *woreda*'s budget (excluding DA salaries). Examples in Ethiopia show that revenue generation and training are not in conflict with each other, but rather represent a win-win situation in terms of financing and demonstration (see Atsibi case study above for examples).
- Partnership with cooperatives to form a "hybrid" extension system. GOE could sign an agreement with well-organized cooperatives through which the DAs and FTCs are transferred from the *kebele* administration to the cooperative union administration. This could be done under a time-based contract, with clear deliverables. A possible incentive could be for GOE to fund all or part of the DA salaries for the first few years, with a gradual phase out (although administrative and operational costs for the FTCs should be born by the cooperative union from the beginning. Given the current low membership of cooperatives (30 percent of smallholders are members[xxviii]) the issue of how to ensure access to extension services for non-members would need to be addressed in any "hybrid" model.

Case study – New Kenya Cooperative Creameries (KCC) Provides Extension Service to Dairy Farmers

The New Kenya Co-operative Creameries (KCC), with 11 dairy processing factories and cooling plants, is the largest dairy business in East Africa. KCC operates throughout the dairy value chain from purchasing raw milk from farmers, to processing it into various premium milk products (e.g., fresh milk, cheese, yogurt, powered milk), to marketing and selling these products.

KCC provides extensive educational and training services to the dairy farmers from which it sources raw milk. Field officers train farmers in clean, hygienic milk production and quality management (including on-farm testing of raw milk). These extension services not only benefit farmers – enabling them to produce a high-quality product that KCC will purchase, thereby improving their incomes – but also KCC, as it ensures the quality and quantity of their supply of raw milk.

SOURCE: KCC website

- Seconding DAs to research centers and/or universities to ensure better alignment of extension advice with input research and supply, and to provide a more financially sustainable model to support farmers holistically. These universities and research centers could then serve as hubs for agricultural development in their immediate surroundings (e.g., 100 km radius). In this model, all research and extension workers should come under a single command (e.g., the local university) so that all agricultural development efforts in the area are implemented in an integrated manner. Efforts would need to be made to build the capacities of the universities to take on this role.
- Fee-for-service extension (e.g., for artificial insemination, grain threshing) as demonstrated in other countries in the case study below.

Case study – Fee-for-Service Extension Models in Other Developing Countries

Faced with the issue of a costly public extension system lacking in market-orientation, several countries in Asia and Central and South America have started to experiment with either providing public extension services against compensation, or shifting from a public to a private extension system. In Ethiopia such a system would need to ensure equity issues are carefully considered, but the experiences from these other countries are highly instructive.

China is e.g., piloting a system of contract extension services in selected provinces. In the pilots, the government set up Agro-Technical Extension Centers (ATECs), which are partly government funded but also need to partly fund themselves. To do this, the ATECs offer farmers technical advice and inputs and promise minimum performance improvements based on previous fields visits. ATECs then receive 20 percent of crop value above the agreed upon minimum improvement as a compensation. If the agreed upon minimum compensation is not reached, only a small "base fee" is due.

In Ecuador, selected extension agents co-invest with farmers. Farmers provide land and labor, extension agents provide agricultural inputs and advice, and hired labor and other costs are shared. Profits of the harvest are also shared based on standardized agreements made up front. In addition, the "joint plots" are used as demonstration sites for other farmers.

In Chile, the government created the Agricultural Development Institute (INDAP) within the Ministry of Agriculture; it has funding and the mandate to select private extension service providers and assign them to farming communities upon request. Extension agents have to deliver pre-agreed minimum targets, which are monitored by INDAP. Farmers are in turn expected to contribute 30 percent of the costs of private providers.

Finally, in Costa Rica, a program has been started to develop a private for-fee extension system by giving out "technical assistance vouchers" to selected farmers. Farmers can use these vouchers to acquire extension services from private consultants. The target of the program is to migrate as many farmers as possible to private extension service providers.

SOURCE: Indian Institute of Agricultural Extension Management

3.2.4 Recommendation D –Strengthen incentives for farmers to invest in the land

Many of the interventions needed to realize the full productivity of agriculture potential in Ethiopia require farmers to invest in the land and take a longer-term perspective rather than focusing solely on the next harvest. Examples of such investments include longer-term-oriented land management practices, micro or small-scale irrigation, and planting of perennial crops (e.g., fruit trees) or fuel wood.

Through the diagnostic work, a number of opportunities to further strengthen the current incentives for farmers to invest in the land were identified. Primary among them is the availability of a consistent and profitable market for their outputs. Farmers must have confidence that they will be able to reliably sell their produce and make a profit from it. The challenges in this area, and specific recommendations to address them, are covered elsewhere in the report[9]. Continued GOE support through the facilitation of input supply, extension, and credit provides further incentive for smallholders to take advantage of market opportunities and thus invest their own time and resources into the land.

However, other factors also come into play, primarily land tenure security. Smallholder families must be assured of their continued access to specific parcels of land for them to invest in that land. Trust in the system is thus central to translating land rights into improved productivity. In some regions, tenure security has been weakened due to: limited clarity in the policy and legal framework; growing population pressure and increasing land scarcity; subjective interpretation of existing policies at the local level leading to extra-legal decisions affecting land matters; and the lack of knowledge on the part of farmers of their rights and their inability to defend these rights.

In the near-term, there could be significant benefit from strengthening existing land tenure security by expanding and enhancing the ongoing work on land certification, and refining and

[9] Please see the frontline productivity and industry structure sections for further discussion

clarifying existing land tenure policies[10]. Government recognition of land rights through registration programs is an important step toward securing continued access rights. With guidance from the federal level, a number of regional governments have made commendable progress through the first phase of land registration and certification. Further work is now required to make land registers updatable, and to include cadastral maps of holdings to minimize the chance of conflict.

Meanwhile, the current land tenure policies, although well intended, leave significant amounts of leeway and are therefore subject to interpretation. They are thus inconsistently and sometimes unfairly applied to some of the most vulnerable segments of the population (i.e., women, children, widows, and orphans). Refining and clarifying a number of these policies would increase overall trust in the system. Some examples of areas that could benefit from such strengthening measures include:

- **Conditionality of land tenure** – a smallholder's tenure on the land is dependent on him/her employing "proper" land management practices, including, for example, soil and water conservation efforts, planting suitable tree species on or around their plot, or constructing flood control measures. However, this provides wide discretionary power to local authorities as it is not clear who defines "proper" management, how it is defined, and whether an "improper" user will be taken to court or be subject to immediate confiscation of the land.
- **Inheritance by widows** – it is not uncommon for widowed women to lose the rights to land on the grounds that they do not have the ability to farm it.
- **Inheritance** – in some regions, inheritance of land is only permitted by heirs that are dependent on their parents, and who reside in the area – heirs that either have land of their own or who derive "sufficient" livelihood from non-agricultural activities are not entitled to inherit land. There are also implementation challenges which can prove challenging for widowed women to retain rights to land on the grounds that they may not have the ability to farm it properly.
- **Land transactions** – although rental of farming land is allowed, enabling productive and entrepreneurial smallholders to expand their efforts, there are also a myriad of restrictions that reduce the effectiveness of these transactions and prevent farmers from being employed off-farm for extended periods which discourages the supply of labor to the industrial sector.

Alongside consideration of broader policy strengthening issues, there are also key cultural issues to address. All laws stipulate that land rights are provided equally to both men and women. In practice, rural women are disadvantaged in many ways, depending on local tradition, cultural norms, historical circumstances, and the marriage contract. This is aggravated by the fact that most women do not know their rights or the provisions for use of the land. For example, upon the

[10] Note that increased tenure security can have other unintended consequences in population flows (e.g., rural to urban), so the social stabilization impacts should be considered carefully with any land policy

death of the husband, there may be controversy over whether the widow is indeed the rightful wife, and there may be no effective channel to settle disputes. Also, in communities where polygamy is practiced, complex issues arise, such as land rights only being attributed to the first wife.

In the medium to long term, as Ethiopia's agricultural productivity improves, the overall economy expands, and population growth continues to put different types of pressure on land resources, the GOE will need to continually evaluate its land tenure system to adapt to the stage of development the country faces. Although a level of continuity and stability in land tenure policies is critical to ensure that farmers have faith that the system will not continually change, thus removing the incentives from investing in the land, the GOE must also adapt to the needs and challenges faced by the country as it transitions through various stages of development and addresses different macro, social, and economic concerns.

Case study – Land Reforms in Vietnam

In 1986, the Vietnamese government initiated a set of "doi moi" reforms that sought to gradually deregulate and liberalize the economy in light of the challenges of central planning. Included in these reforms was the 1993 Land Law, which sought to increase the equitability of land allocation among the country's 11 million smallholder farmers, and to improve the efficiency of the land through measures such as increased long-term land use rights.

This law was one piece of legislation among many years of efforts to transition from the collectivized agriculture prevalent in the 1950s to 1970s into an agricultural economy that fostered farmer households as the main unit of agricultural production. A key component of the 1993 legislation was granting farmers long-term land use rights – 20 years for land used for annual crops and 50 years for land used for perennial crops. In addition, the land law gave households decision-making rights related to the purchase and use of inputs, the sale of outputs, and limited decision-making around the use of land. Land rights could be transferred, exchanged, leased, inherited, and mortgaged, and to ensure the equitable distribution of land, a ceiling was placed on the amount of land that each household could own. In the central and northern provinces, households could own two hectares, and in the southern provinces households could own three hectares. Revisions to the Land Law in 1998 aimed to further the process of allocating once collectively owned land to smallholders.

As a result of the land reforms, and specifically of the development of long-term land tenure, farmers have invested in productivity improvements for their land. For example, in the northern province of Hai Duong, farmers have transformed over 5,700 hectares of low-lying rice paddy fields into fish-breeding ponds. These farmers plan to convert an additional 10,000 ha into land to cultivate trees and raise more fish. Such investments have promoted broad-based improvements in production and thus in smallholder livelihoods. For instance, since the 1993 land reform, Vietnam has transitioned from a rice importer to the world's second largest rice exporter. In addition, coffee, cashews, peppers, and aquaculture products have been introduced as export goods, and, increasingly, low profitability cash crops have been abandoned in favor of high- value crops such as fragrant rice and horticulture.

SOURCE: Sally Marsh and Gordon MacAulay, "Land reform and the development of commercial agriculture in Vietnam: policy and issues"

3.2.5 Gender considerations

Gender mainstreaming is a comprehensive approach to change the way of thinking and action to address the underlying causes of gender inequalities in the society, in all sectors and at all levels. Alongside consideration of other cultural issues, it must be a key part of all interventions, particularly at the local level. Women's empowerment through gender mainstreaming into agricultural and rural development will be central to achieving initiatives aimed at improving production and distribution of food and agricultural products, raising levels of nutrition, and enhancing the living conditions of rural populations.

In order to address the root causes of persistent poverty and food insecurity among rural women and the families they support, there is a need to achieve three main strategic objectives:

- Promote gender-based equity in the access to, and control of, productive resources.
- Enhance women's participation in decision- and policy-making processes at all levels.
- Promote actions to reduce rural women's workload and enhance their opportunities for remunerated employment and income.

For example, in spite of training and mainstreaming, there is insufficient attention to crosscutting issues such as gender, culture, youth, HIV/AIDS, etc. in extension programs. Women are often not very involved in extension and cooperatives' activities, and more systemic gender sensitization is required. In the context of extension, DAs should specifically target women's groups (see case study), and this could be supported by the encouragement of recruitment of female extension workers (currently only 12 percent of the 63,000 DAs who have been trained are women[11]).

Increasing Extension's Focus on Women

An important factor to be considered in broadening extension's priorities is the important role of women in increasing farm household income and wellbeing. In most cultures, including Ethiopia, rural women are primarily responsible for agricultural activities carried out close to their homes, such as backyard gardening, poultry production, and beekeeping. To increase farm household income, the emerging market-demand for many high-value crop and livestock products fall within the traditional roles and responsibilities of rural women. It should be noted that when small-scale and women farmers begin diversifying into high-value crop and livestock enterprises, then the marketing of those products soon becomes an important constraint. The most effective way of both solving these marketing problems and enabling small-scale farm households to capture most of these revenues is by organizing interested farmers into specific types of commodity-based producer groups that are suitable for these different enterprises. Therefore, some of these emerging producer groups in Tigray are actually composed of and led by women farmers who are starting to produce fruits, vegetables, eggs, broilers, and other high-value products. In short, engaging women farmers in the production and marketing of high-value crop and livestock products is an excellent strategy to increase farm and pastoral household income.

SOURCE: Extension diagnostic report

[11] Refer to the extension diagnostic report for more details

Cooperatives can be a way in which women (either wives of farmers or women heading households) can come together to pursue specialized, income-generating activities such as production and packing of sun-dried fruits and vegetables to supply local markets, or horticultural and fresh fruit production. They can receive financial and technical support through the cooperative system, including marketing (even export) of their produce. Capacity building for women and women's groups is also important.

Finally, introduction and adoption of improved technologies that can reduce household drudgery and the burden on rural women will be important (e.g., improved or mechanized farm tools, small-scale processing devices, and improved access to water and fuel). However, it is important to note that initiatives that focus on women's productivity and income-generation capacity must also take into account constraints such as time available, care of family and children, and health and nutrition issues, all of which affect women's ability to work.

3.2.6 Implementation and sequencing

Bringing these recommendations together into a coherent plan requires effective prioritization and sequencing. Figure 4 outlines a preliminary high-level view on potential sequencing of activities for this priority area. Since each of these sectors is mutually dependent, the recommendations and sequencing of activities for this priority area must be seen within the context of the other priority areas as well.

To implement these recommendations, senior GOE leaders must translate these into detailed action plans and timelines; increase financial, human, and technical resources; and coordinate efforts between MoARD, other ministries, regions, development partners, and other stakeholders. In particular, the government needs to make a deliberate effort to: **(a)** dedicate staff to detailing the selected priorities into action plans and assign work-stream teams; **(b)** integrate actions into broader agricultural action steps where synergies exist; **(c)** mobilize required resources; and **(d)** implement, monitor, and adjust the activities where needed. The Implementation section at the end of this report recommends and provides details on the creation of an Acceleration Unit that can support MoARD and other relevant stakeholders to drive this process.

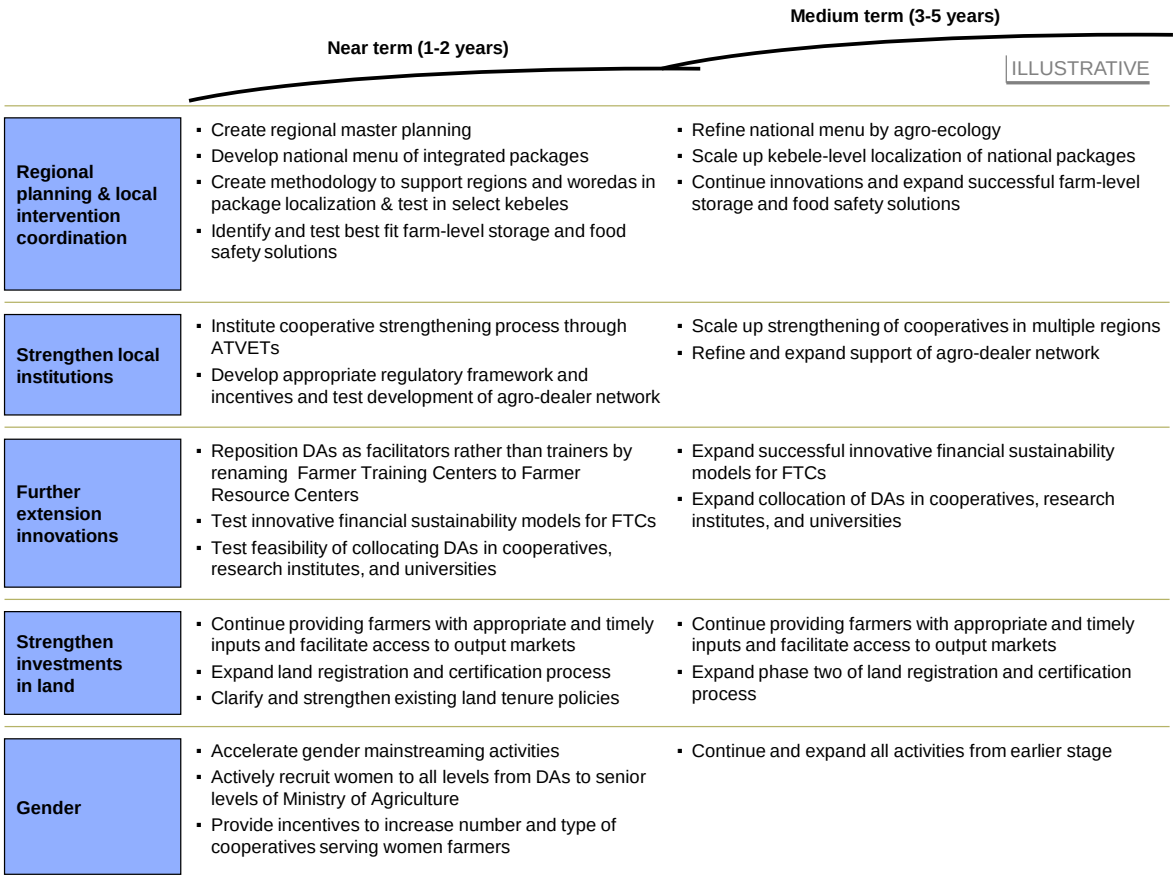
Interventions in this area should also take into consideration the upcoming Agricultural Growth Program (AGP), which has a considerable focus on strengthening extension and improving frontline productivity. AGP plans to address many of these frontline recommendations through a focus on:

- Research, extension and cooperative linkages (via *woreda* Agricultural Rural Development Partners Linkage Advisory Councils (ARDPLACs))

- Aggregation issues through promotion of out-grower schemes and contract farming; linkages from cooperatives to input providers, traders, and processors; and business training for coops, unions, traders, farmers' groups, processors, and exporters
- Extension through capability building, demonstration material for FTCs (e.g., improved seed varieties), and training on water use in irrigated areas and improved water control/capture in rain-fed areas

The AGP approach is a menu of specialized projects available to farmer groups, ensuring quality control and standardization across outputs. Further strengthening the AGP program design by incorporating the remaining recommendations, including testing market orientation/financial sustainability strategies, particularly those that focus on partnerships with cooperatives, could be an important testing ground for all frontline interventions. If this is successful, the program could be extended to other *woredas* afterwards. The AGP Community Level Participatory Planning process can also be leveraged to extend the "W-shaped" dialog used in regional planning.

Figure 5: Potential sequencing of activities



3.3 PRIORITY AREA II: IMPROVE INDUSTRY STRUCTURE OF HIGH PRIORITY VALUE CHAINS BY CREATING EFFECTIVE PARTNERSHIPS BETWEEN PUBLIC AND PRIVATE SECTOR PARTNERS

One of the most striking features of the Ethiopian agricultural sector today is the need to strengthen all actors along the entire agricultural value chain, from input research, supply, and distribution, through aggregation of smallholder production and trading, to downstream processing and export. Actors cover public and private institutions (such as local private companies, state owned enterprises, or public institutions), including seed enterprises, farmer cooperatives and unions, agricultural processors, traders, aggregators, and rural credit providers, among others, who require resources, technical skills, and a favorable enabling environment to operate effectively. These actors are needed to realize the full potential of Ethiopia's natural endowments and to bring efficiency and quality to the value chain.

Currently, the majority of actors across the value-chain are small and informal, with limited resources and gaps in funding and technical skills. This imposes myriad barriers to agricultural growth: inefficient scale of activities, high transaction costs, and insufficient information flow from end market to producer. This means that upstream, the input needs of farmers are unmet, both in terms of volume and coverage. Highly fragmented midstream aggregation and trading impairs the links between farmers and markets. Currently, coops trade little volume due to management and governance challenges and insufficient access to working capital; besides, only 30 percent of households are members[xxix]. Meanwhile, private traders are also fragmented and small. Downstream, outside of flagship crops (e.g., pulses), the export sector is limited, and there is minimal processing or meat industry (e.g., dairy, poultry) at scale. Similarly, there is a lack of strong players and overall capacity in the water sector (e.g., drilling and construction companies), which slows the expansion of irrigation schemes and increases cost.

A key driver of this fragmentation is the public sector's overemphasis on operational activities versus policy formation and regulatory interventions, which stretches the government's limited financial and human resources into too many disparate activities and also crowds out viable small, medium, and potentially larger-scale local private sector partners. While significant engagement of the public sector is necessary to drive agriculture growth, particularly at this stage of development, tactical decisions need to be made by MoARD on where its limited resources could best serve in playing a strong regulatory role rather than an operational/implementation role. Furthermore, the GOE's policy intent explicitly encourages private sector growth (some results of which have already been seen).

> *"The government has the right to protect the consumer but interventions make it risky for me to buy and hold a large quantity of grain"*
>
> — Grain trader in Addis Ababa

However, lack of transparency and consistency in implementation leads to an ongoing perceived risk of government intervention by potential private sector players.

Examples highlighted in the diagnostic work include the following[12]:

- **Hybrid seed** – there is a national shortage of hybrid maize seed due to chronic under-production (farmers use hybrids on only 20 percent of maize cropland[xxx] in spite of high awareness and demand). Despite GOE's stated goal of fostering private sector engagement in seed production, the private sector remains weak and appears in some ways hindered. The policy environment discourages entry, constrains the growth of existing private players, and provides insufficient safeguards for long-term investment. Key obstacles include unreliable basic seed supply, limited access to breeder seed, insufficiently robust seed certification, and public domination of seed commercialization (e.g., branding, pricing, and distribution). On the other side, local seed companies need to instill better confidence in farmers and the government that they can responsibly provide quality services to end clients without extorting exorbitant profits or distorting the market.
- **Maize** – there is no well functioning maize market. Price volatility for maize[13] in Addis Ababa is 40 percent higher than in Kampala, and 50 to 60 percent higher than in port locations such as Mombasa or Dar Es Salaam[xxxi]. The risk to smallholders is amplified by the large band between the export and import parity, which means the local price stays within this band and the full volatility is passed to the farmer. Most trading occurs in the three months after harvest (when prices are lowest), and before harvest it is difficult to buy. Traders, mostly very small, deal in small lots with fast turnaround times, due to a lack of financing and the perception that holding grain is highly risky due to price volatility, lack of adequate storage capacity, and fear of ad-hoc government interventions. As a result, farmers have less incentive to invest in productivity; a good crop brings a price collapse (as in 2002), and unreliable supply discourages investment by potential downstream players (e.g., processing, poultry).

[12] Refer to the diagnostic reports for more details

[13] Based on standard deviation of monthly prices (USD per ton) from January 2000 to November 2009. Note that the volatility of maize was found to be significantly higher than the aggregate volatility of cereals in Ethiopia.

Case study – Crash Program

Faced with a severe shortage of hybrid maize foundation and breeder seed during 2009, MoARD launched the highly ambitious Crash Program, with the objective of producing 700,000 quintals of hybrid maize seed.

The bases of this intervention were understandable and the efforts to execute extraordinary, with the program yielding some success. Land available for hybrid maize basic and pre-basic seed production was increased, and through use of irrigation, allowed for multiplication twice per year. However, from the perspective of certified seed production, the ambitious targets were not met – of the 4,000 hectares at Tendaho, only 2,400 were planted, while Ethiopian Seed Enterprise (ESE) raised less than 10 percent of the ETB 450 million needed to repurchase seed from out growers, leading to production of only 37,000 quintals (5 percent of the target). In addition, since all basic seed available was allocated to this program, local private sector seed companies, who are a key aspect of the government's long-term seed strategy, were crowded out and neglected in a key aspect of their business.

A public sector–led program such as this may indeed be the only effective way to meet the demand needs of farmers in a near term, emergency situation. However, design considerations to address such challenges require more prior planning. Furthermore, more sustainable and cost effective alternatives that leverage the strengths of other partners should be considered. These include the public sector developing a mechanism with a series of appropriate incentives, a transparent and supportive enabling environment, and, most vitally, the regulatory and governance framework that would mobilize other partners, particularly local private sector seed companies, to undertake some of these multiplication activities under the supervision of the public sector. This would focus the public sector's limited resources in areas of upstream research and regulatory activities, where it could make the most significant impact, while simultaneously bringing other partners into the equation to meet the demand needs of farmers throughout the country.

SOURCE: Field visits, expert interviews

- **Livestock** – the feedlot sub-sector has grown rapidly but remains marginal and now faces severe bottlenecks for access to feed, water, land, financing, and export markets. Feedlots can bring considerable value by aggregating export volumes, ensuring higher quality consistency, increasing off-take from pastoralists and farmers and creating consistent demand for feed. They also transmit end customer needs along the livestock chain. For example, when asked "what buyers want" from key buying attributes, actors along the value chain gave hugely different responses, with only feedlots and butchers correctly identifying condition and health as a priority.
- **Pulses** – only one company has managed to establish the scale and skills for consistent access to foreign markets, i.e., relationships with foreign customers, an understanding of their quality requirements, and the operating know-how and equipment to deliver on these requirements. This company is now facing significant difficulties due to government intervention (see case study). Stronger pulse export players would create the demand signals required to stimulate production, which is currently insufficient to ensure consistent export volume. Without more strong players and deeper supply, Ethiopia will remain a marginal supplier to international markets, called upon only when more established producers run short or when prices reach record levels.

Similar challenges could also be highlighted in other sectors, e.g., oilseeds, spices; however, the focus here is on the value chains within the sub-sector diagnostics.

The recommendations intended to strengthen the industry structure in key value chains are: (a) reinforce and strengthen existing public institutions; (b) develop joint public/private development programs by sector; and (c) drive new entry by private actors (or scale-up of existing actors) through targeted incentives and support.

3.3.1 Recommendation A – Reinforce existing public institutions

Despite government policies and plans to rely more on the private sector to drive agriculture development, in the near term, there will continue to be multiple areas where the GOE will need to undertake an implementation as well as a regulatory role. In these areas, GOE should engage in ways that enable an incremental transition from government to private sector actors once viable sub-industries are established. Key examples of this from the diagnostic work include the Ethiopian Seed Enterprise (ESE) and the Ethiopian Grain Trade Enterprise (EGTE).

- **ESE**. ESE and two nascent Regional Seed Enterprises (RSEs) are responsible for a large part of hybrid maize seed production (60 percent) and the vast majority of open pollinated varieties (OPV) production[xxxii]. ESE is the largest actor in the seed sector, and controls most of the assets and flows. However, recent history has shown that there is a wide capability gap and some ambiguity around the respective roles of the private sector and ESE.
- **EGTE**. The mandate of EGTE is to purchase grain from farmers and sell into local and (primarily) export markets, and contribute toward market stabilization to encourage farmers to increase their outputs[xxxiii]. However, the volumes traded by EGTE are small, their interventions are *ad hoc* without clear and transparent rules, and they have a conflicting mandate between their social role and the need for profitability. They also experience capacity constraints in terms of handling crops other than maize.

For institutions such as these, GOE could engage with appropriate vehicles and governance to strengthen their operational effectiveness. In many situations around the world, including the example of Ethiopian Airlines locally, capable, well-resourced, and well-mandated State Owned Enterprises (SOEs) can have massive positive impact on development. As a result, it is important to make the most of these institutional vehicles in the Ethiopian context, particularly in situations where other partners, including the private sector, lack the capacity to play a leading role.

There is a need to reinforce the existing public institutions in three key ways[14]:

- **Re-clarify their mandate** and communicate this to all stakeholders. For ESE, this should, over time, be a focus on OPVs while enabling the private sector to take a leading role on

[14] Refer to the seed and maize diagnostic reports, respectively, for more details of specific issues experienced and measures required for ESE and EGTE

hybrid maize. As outlined in the maize diagnostic, EGTE could also play a more active role in the stabilization mechanism recommended in the maize diagnostic report, whereby market interventions would be clear and transparent, so that there are no extreme price fluctuations or supply shortages or excesses, and actors in the value chain have a clear and transparent understanding of how and when market failures will be addressed[15].

- **Improve governance and performance management**, building on the efforts of the recently introduced Business Process Re-engineering initiative, to introduce an effective target setting mechanism and performance management to ensure delivery against those targets.
- **Provide the resources and capabilities** needed to act on this mandate and deliver against the targets (e.g. senior management talent, expertise, funding etc.). In the case of ESE, they will need additional funding support as they transition towards a different business model to compensate for any decrease in hybrid maize sales.

3.3.2 Recommendation B – Develop joint public/private development programs by sector

GOE should prioritize their role as catalyst and regulator, and undertake implementation strategically, seeking to drive programs that build self-sustaining momentum in the agricultural chain. Meanwhile, active support could be given to facilitate and accelerate private sector activity and effectiveness within a well-regulated structure, in order to reduce the burden of execution on the government. The private sector also brings additional advantages to the agricultural sector, such as skills and expertise (including the potential for skills and technology transfer, investment, and the ability to counterparty with banks. Competition can also drive down prices for the end users. This approach is well in line with current GOE policy and PASDEP II aspirations.

The industry strengthening journey could be initiated sector by sector (e.g., grains, seeds, livestock) by establishing a joint vision and development program among key existing public and private actors in each sector, to align all players around a common goal. Development of this program would bring together all key players, including government entities, private companies, industry associations, cooperatives, unions, and development partners. This development program would consist of several key components:

- **Sector vision and objectives** (i.e., a blueprint for the next five years).
- **Clearly defined roadmap, roles, responsibilities and realistic production targets** for all key public and private actors (e.g., public seed enterprises to focus primarily on commercial seed for orphan crops, in line with current policy, and private sector entry to be encouraged in hybrid maize seed).

[15] Refer to the maize diagnostic report for details of the stabilization mechanism

- **Joint governance and coordination**, potentially through annual reviews by a third party to help to ensure adherence to the plan. Establishing a discussion forum for all stakeholders can also help to jointly highlight and address issues in the sector. Industry associations could be strengthened as a potential vehicle for this coordination.
- **Government intervention on specific enablers** for the sector, including support mechanisms and incentives for private sector growth (e.g., risk sharing, land leasing, planning permission, tax incentives, financing with favorable terms, technical assistance).

Key benefits of such an agreement would be stimulation of a stronger cadre of private sector actors, through reduction in the perceived risk to private sector players and appropriate proactive interventions by the government. This should bring increased efficiency, as the private sector has a financial interest to deliver, while maximizing the benefit from the use of private sector skill and execution and delivery expertise. It would also establish accountability for the private sector in terms of working toward agreed development goals (as demonstrated by the success of the Ethiopian Horticulture Producer Exporters Association (EHPEA)).

Inclusion of women-only cooperatives and/or the Ministry of Women's Affairs in these discussions as appropriate could also help to advance the resolution of gender concerns, and advance the inclusion of women in key value chains.

It is also likely that for each sector a number of sector-specific enabling initiatives will be required to create the conditions for success and achieve the objectives agreed in the joint development program. An example of this from the seed sector would be the need to expand access to source seed (or parental lines for hybrids) for all private companies that meet the necessary standards, through enforcement of an open and transparent breeder seed application process and a training/secondment program for maintenance of parental lines[16].

Key policy refinements, some of which have already begun or are under discussion, could also be initiated to support some sectors as identified in the diagnostics[17]:

- **Seed** – variety registration and release; breeder seed application process; allow independent branding, pricing, distribution; seed certification regulations
- **Maize** – lift local procurement ban for food aid, lift cereal export ban, policy changes required for stabilization mechanism
- **Business environment** – more supportive business environment for private sector growth, e.g., reduction of foreign exchange and tariff barriers for imports of trucks and cold chain equipment, more supportive policies for foreign investors

[16] Refer to seed diagnostic report for more details
[17] Refer to the relevant diagnostic reports for more details

Case study – Ethiopian Horticulture Producer Exporters Association (EHPEA)

The Ethiopian Horticulture Producer Exporters Association (EHPEA) was established in 2002 with the mission of promoting and safeguarding the sustainable competitive position of the Ethiopian horticulture sector within the global market. It has 83 licensed members, all of whom are registered producer exporters, and affiliations and partnerships with GOE (e.g., Ministry of Trade & Industry), other private sector players and state owned enterprises (e.g., Ethiopian Airlines, banks), and key development partners (DFID, CBI, Netherlands, French Development Corporation). Key activities of the association include facilitation of market access and linkages; supporting implementation of responsible production practices that protect employees and the environment; organizing, supporting and delivering capacity building for members and implementing a floriculture Code of Practice.

All stakeholders participate regularly in a discussion forum to surface and mitigate the issues faced by what was an infant industry. Government support has included: a 70 percent capital loan for infrastructure; duty and tax-free status for capital items and inputs; a five-year tax holiday; acquisition of land; quick customs processing for importing inputs and exporting flowers; access to foreign exchange for inputs; and cold storage at the airport. Meanwhile, Ethiopian Airlines improved air transport frequency, and reduced charges, while the media provided coverage of the potential and constraints in the industry.

The sector has seen enormous success since establishment of the association. The number of exporters has increased from five to over one hundred, foreign exchange earnings have increased from USD 1.5 million to USD 125 million, and more than 50,000 employment opportunities have been created in the sector. Key success factors have included: high market demand, the effective role of the private sector and foreign direct investment, effective government support, commitment to a common goal, and quality assurance through the Code of Practice.

SOURCE: EHPEA website, expert interviews

3.3.3 Recommendation C – Drive new entry by local private actors through targeted incentives and support

In the context of these sector programs, the government could drive entry of new local private sector actors, or the scale-up of existing partners, through a transactional approach, whereby opportunities (e.g., dairy processing farms, cereal production or processing units) are auctioned off to private sector players, who are given the right to develop these enterprises with the necessary government regulation and public sector support (e.g., access to land, finance).

The diagnostics identified a number of areas where capable, well-resourced private sector actors could have impact in key value chains, including:

- **Upstream** – efficient, well regulated, and socially responsible input suppliers and distributors, e.g., about 20 additional hybrid maize producers, bringing total production to around 400,000–500,000 quintals per year (demand estimates based on maize land area not MoARD collected demand[18]). Private input agro-dealers (as a complement to cooperatives)

[18] Refer to the seed diagnostic report for more details

could improve distribution networks, bring competition, and thus improve overall services and provide a choice of service providers and partners to farmers.

- **Midstream** - scale players in aggregation and trading, as economies of scale can be realized, particularly in storage and balance sheet strength – e.g., 10 to 20 large regional grain traders/wholesalers, bringing an additional two million tons or more of traded grain per year. This is in line with the strategy of the ECX[19]. Strong, self-standing cooperative unions could also have the potential to aggregate similar volumes of grain and market it directly to end users (e.g., agro industry) reducing transaction costs and passing on the savings to producers. Some cooperatives or unions could even process the grain into balanced diets for livestock feed (meat and poultry).
- **Downstream** – strengthen the capability of market-shaping exporters and processors, e.g., increase the number of partners able to export pulses at scale from the current situation of one partner to four or five (or as many as market demand may support). This could increase the size of exports to more than 500,000 tons of pulses each year[20]; introduce 5 to 10 active feed mills, thus producing 250,000 tons per year additional maize demand[21]; increase poultry producers to nearly 30, thus supporting 2,000 to 4,000 out-growers in a USD 500 million industry; and within the livestock sector, there is also significant benefit from exploring expansion of the number of feedlots to a few hundred and the number of dairy processors to double digits[22].

Alongside creation of the development programs outlined above, targeted incentives and support could stimulate private sector entry in the areas identified by the sector program. Support and incentives could include financing at preferential rates, tax holidays, access to land, etc.

In terms of implementation, AGP plans to support public breeder seed and private basic seed, lime and bio-fertilizer production, and soil testing laboratories and livestock multiplication centers. It is suggested that close coordination with AGP be ensured in terms of implementing these industry structure recommendations. Key donors may also be involved in the public/private program development and/or stakeholder discussion forums by sector, and this may be the best way to ensure alignment.

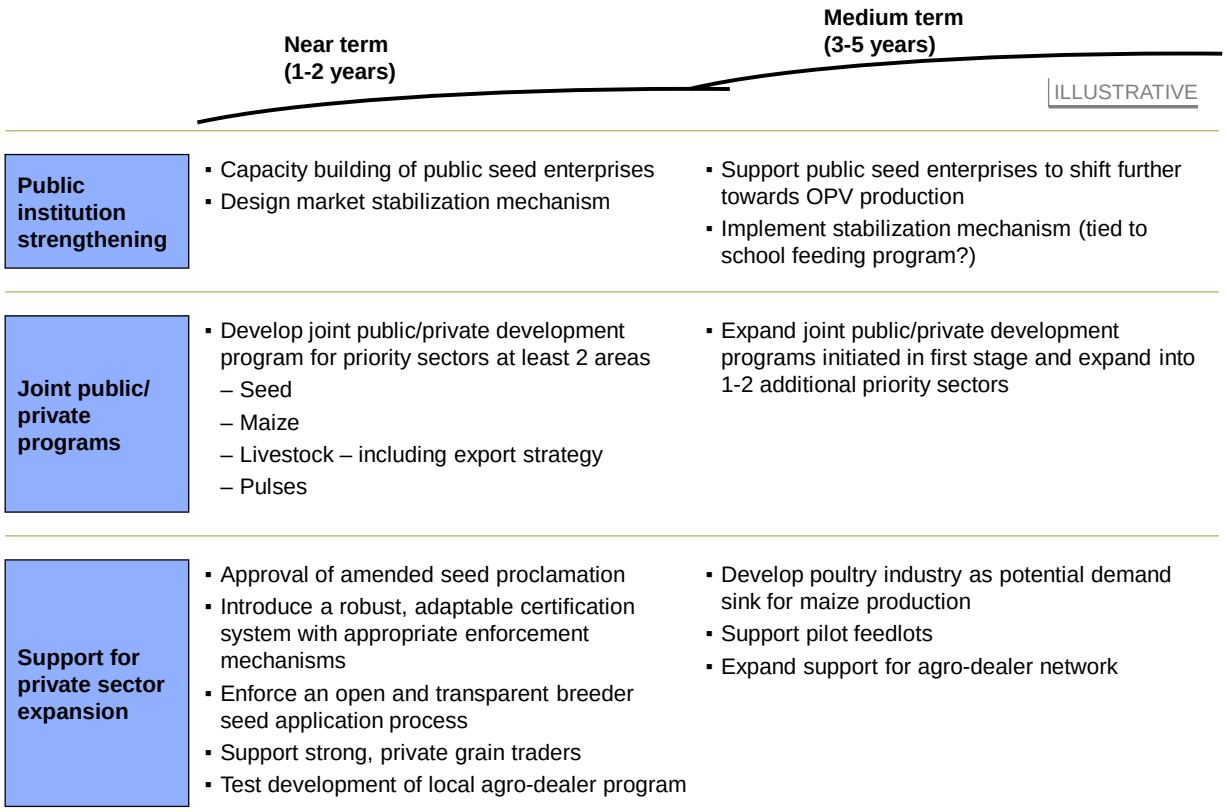
3.3.4 Implementation and sequencing

As with the previous priority area, bringing these recommendations together into a coherent plan needs effective prioritization and sequencing. Figure 6 outlines a preliminary high-level view on potential sequencing of activities for this priority area. As above, this must be seen in the context

[19] Refer to the maize diagnostic report for more details
[20] Refer to the pulses diagnostic report for more details
[21] Refer to the maize diagnostic report for more details
[22] Refer to the livestock diagnostic report for more details

of the overall program, and there is a need to translate these recommendations into detailed action plans and timelines, in collaboration with all key stakeholders.

Figure 6: Potential sequencing of activities



3.4 PRIORITY AREA III: ACCELERATE IRRIGATION DEVELOPMENT BY SCALING UP LOCAL BEST PRACTICES AND FOCUSING ON FINANCIAL AND ENVIRONMENTAL SUSTAINABILITY[23]

Water resource management in agriculture is a critical contributor to the economic and social development of Ethiopia. If successful, irrigation in Ethiopia could represent a cornerstone of the agricultural development of the country, contributing up to ETB 140 billion to the economy and potentially delivering up to 6 million households into food security[xxxiv].

Ethiopia faces two horizons in the scale-up of its irrigation sector. In the near term – over the next five years of the PASDEP – it will need to scale irrigated agriculture to 1.8 million hectares

[23] Refer to the irrigation diagnostic report for more details on all of these topics

of land (from 410,000 hectares under water management today[xxxv]). It will be able to accomplish this mostly through small-scale schemes. In the longer term – beyond the next five years – Ethiopia will have to sustainably expand its irrigation sector to cover a larger area, scaling up medium and large-scale surface schemes, and exploring and developing its groundwater potential.

Recent years have seen significant progress in addressing the delivery of irrigation schemes, but have also underscored the persistence of some fundamental challenges: targeted development plans for the past PASDEP I were for 820 thousand ha of irrigated land, but only 640 thousand ha have been irrigated (and less are operational); scheme performance is estimated to be an average of 30 percent below design, implying a further loss of about 230 thousand hectares of irrigated land, and about 1.9 billion tons of topsoil[xxxvi] are lost annually, which negatively affects water and land resources and agricultural productivity. These performance gaps will have to be overcome if Ethiopia is to achieve its short- and long-term objectives.

The critical challenges to overcome over the next five years will be to build the capacity to plan, deliver, and maintain at scale the aspirations set out in PASDEP in the face of significant skills and equipment constraints. In addition, limited resources for managing information, planning, and execution make this task even more difficult. If successful, Ethiopia will be able to harness its considerable labor resources in the delivery of a vast system of small-scale irrigation schemes, creating opportunities for labor employment while extending the reach of its water infrastructure.

Case study – Borena Groundwater Pumping Project Brings Benefits for Pastoralists, Women, and Girls

Borena Groundwater Pumping Project is aimed at supplying water to sustain the lives of both people and livestock, with a view to realizing the objective of food security and improved earnings, thereby improving the quality of life. It is estimated that 400,000 ha of the land will be covered by the Project Phase 1 and will benefit communities in the area with a total population of 1.15 million people.

Despite the fact that the project is not yet completed, it has already positively impacted the communities. For instance, there is now reduced seasonal movement of the pastoralists, which has increased their involvement in other agricultural and income generating activities, including trade. This has in turn considerably increased their incomes. In addition, the travel time for fetching water has been reduced significantly, particularly for women and girls, whose role is dominant in collecting water. The saved time is spent for domestic work and schooling.

However, the most considerable negative impact is the damage of the vegetation cover by the livestock while traveling to watering points.

Source: Borena project review.

Beyond the next five years, Ethiopia's considerable endowment of water resources could help it achieve its long-term aspiration of becoming a middle-income country. However, similar challenges to those described above face Ethiopia's longer-term plans. These are further amplified by the scale of the ambition, which, under some scenarios, could exceed 5 million hectares under irrigation (3.7 million hectares of gravity-fed surface water irrigation, 1.1 million hectares of groundwater, and 0.5 million hectares of rainwater harvesting)[24]. In the face of such ambition, the complexity of Ethiopia's hydrogeology, its limited access to foreign exchange and to international investors, and its need to mobilize the international community to provide the financial resources needed at scale, imply a critical role for effective planning, delivery, and execution.

Environmental constraints must also be considered: salinity problems caused by water logging have already caused parts of medium and large schemes to be abandoned. Ethiopia's groundwater potential remains as yet uncharted and undeveloped. Pioneering agricultural groundwater development projects, such as in Borena, can transform livelihoods, but their sustainability must be ensured, by increasing knowledge on the location of groundwater and recharge amounts, and introducing regulations to prevent its exploitation. Watershed and environmental management must be an integral part of all irrigation development. Expansion of irrigable land also has implications for land use and allocation for smallholder farmers. Past examples show both best practice by regional and federal government as well as instances where safeguards are needed to ensure appropriate resettlement of displaced people and access for smallholders to irrigated land.

The irrigation recommendations are the basis for an action plan that will support the planned scale-up described in PASDEP and will set the foundations for sustainable long-term expansion of Ethiopia's irrigation potential. They focus on four critical themes: (a) improving scheme delivery; (b) overcoming scheme under-performance; (c) addressing scale-up constraints; and (d) ensuring the long-term sustainability of irrigation schemes. It is important to note that access to improved seeds and the appropriate soil fertility techniques alongside irrigation is essential for improving productivity and maximizing returns on investments in irrigation, as highlighted in section 3.2– Enhance Frontline Productivity by Effectively Deploying Extension Workers and Coordinating Local Interventions. This also reinforces the need to take a holistic approach to agricultural development.

3.4.1 Recommendation A – Improve scheme delivery

To standardize data collection and management of all existing and planned irrigation schemes and monitor their performance, the GOE could set up an inter-ministerial/-regional agricultural water task force. This task force would have a short-term life span and a clear set of deliverables and would sit within the Office of the Prime Minister. The main goal is to monitor irrigation

[24] Refer to the irrigation diagnostic for further detail

schemes and develop reliable information management and decision-making mechanisms, including a harmonized and efficient reporting process with incentives for accurate reporting, and reliable and consistent baseline information at all levels. The task force should include representatives from the MoWR, MoARD, and MoFED and should build strong links with the regional Bureaus for overall coordination. It would eventually become a shared services unit within the MoWR or the River Basin Authority whose mandate would be to disseminate information and manage ongoing projects according to guidelines set by the task force.

As a first step, the task force would: create a national baseline of irrigation projects with accurate information on the performance of existing schemes; develop a standardized reporting methodology for irrigation data; design a process and communication strategy to share the methodology and baseline data; and outline accountabilities and incentives for gathering and managing this baseline data.

To enable stakeholders to focus on the most important, efficient, and high impact irrigation projects, the GOE could also develop and introduce a system to prioritize small-scale, medium-scale, and large-scale schemes at the federal, regional, and *woreda* levels. This system would help the GOE to improve transparency on irrigation projects, consolidate projects by removing overlaps, reschedule or defer projects that cannot be implemented immediately, and cancel projects that do not fulfill minimum criteria. Establishing this system would involve developing project investment decision criteria (e.g., resource availability, cost-benefit ratio, political fit, and project alternatives/trade-offs), including this prioritization system in regular budgeting cycles, and using the system as a basis to discuss prioritization with donors.

3.4.2 Recommendation B – Overcome scheme under-performance

First, improving scheme performance (especially small-scale) requires enhancement of applied research on irrigated agriculture, water agriculture, water resources, and climate change impact, with a focus on diagnosing problems with existing poorly performing schemes. To institutionalize research on irrigated agriculture at the federal and regional levels, the GOE should engage all stakeholders, including the private sector. The key components include: demand driven action research programs, institutionalization of research, and management of the sharing and dissemination of the generated knowledge and funding. There is a need to identify short-term and long-term strategic research priorities, incorporate irrigated agriculture into regional research centers, and encourage interaction and knowledge sharing between DAs, farmers, and regional and federal researchers. To do this, research institutions must be adequately equipped and funded and coordinated by a central research institution.

Second, there is a need to train farmers and DAs on irrigated agriculture skills to improve productivity and increase sustainability. This requires development of relevant modules and curricula, and the introduction of a standard business case tool at federal and local levels, with training for all users (e.g., ministry personnel, DAs, *woreda* staff, etc.). This will mean that

woredas or *kebeles* can make proposals or requests for funding for irrigation investment based on business cases, and smallholders can have long-term certainty of the worthiness of irrigation investments. The GOE could use existing platforms such as Technical and Vocational Education and Training (TVET) centers, extension systems such as Farmer Training Centers (FTCs), microfinance, agricultural days, and field trips to provide training and share irrigated agriculture best practices between farmers, DAs, other farmer based groups, and *woredas*. Key activities may include: identifying a delivery partner (e.g., NGO, research institute) to develop the training manuals, streamline the new curricula in TVETs, and staff *woredas* with qualified irrigation experts.

Finally contract management for medium and large schemes must be reconfigured to increase delivery cost efficiency and timeliness in the current irrigation system. A contract task force could be established to develop transparent, standardized bidding and contract management procedures leveraging public and corporate best practices, e.g., random contract auditing. Capacity building of federal and regional GOE employees will be needed, potentially alongside establishment of a contract competence center. Expected impacts from this effort include: **(a)** reduced project costs overall, with reductions in cost overruns and project delays; **(b)** increased project lifetime due to higher construction quality; and **(c)** typical savings of 20 percent of project costs realized from improved contracts (roughly ETB 300 million annually for federal projects alone)[25].

3.4.3 Recommendation C – Address scale-up constraints

To scale up the irrigation system, GOE needs to ensure a sustainable funding pipeline by developing business cases for water schemes on all levels and pursuing cost recovery opportunities (e.g., full cost recovery, water fees, revolving loan fund for pumps/generators, operations and maintenance (O&M) cost recovery, and farmer self-financing). This should also improve ownership of projects (reducing the risk of under-/non-performance) and increase profitability of investments, freeing up resources for other interventions (e.g., sustainability). Several promising examples of cost recovery schemes exist in Ethiopia, such as in Fantale. The main action points include: establishing business cases to recruit investors, business partners, and farmer involvement; strengthening collection mechanisms and accountabilities; and investigating options for establishing a revolving fund.

Ideally, irrigation schemes would be commercial self-funding projects with strong market linkages wherever possible, although public service schemes may be needed where social stakes are high. New models for irrigation schemes could be tested, e.g., where schemes are owned and run by either the community (e.g., water user association), a private company, or by regional government. In low potential areas these models could apply with financial support from donors or regional government.

[25] Refer to the irrigation diagnostic for further detail

Ensuring that Ethiopia has highly skilled personnel to implement its irrigation infrastructure plans requires many qualified staff such as engineers, surveyors, agronomists, trainers for farmers/DAs and Water User Associations (WUAs), and management professionals to implement projects efficiently. Developing and retaining this staff is essential to implementing the country's irrigation infrastructure. This could be done through: increasing graduate numbers in engineering at universities and introducing specialized programs, introducing retention efforts in waterworks enterprises, conducting knowledge sharing programs among waterworks enterprises, and increasing private sector outsourcing where required.

There is also a need to increase the participation of the private sector in Ethiopia's irrigation development. Irrigation would be a key sector for the development of a joint public/private development program as outlined in section 3.1. Regulation and standardization of the industry will help to ensure quality and sustainability of private sector developments. For example, a public/private partnership with a clear groundwater regulatory framework is needed for deep and shallow drilling to develop hydro-geological mapping and share risk. Supporting formation of the agricultural water industry will require development of a regulatory framework and establishment of industry associations. Small business capabilities can also be built through TVETs.

3.4.4 Recommendation D – Ensure the long-term sustainability of irrigation schemes

Scheme sustainability demands an ambitious groundwater resource research and regulation program to understand groundwater resource potential and sustainability limits, and address a range of sustainable development issues, such as standardizing equipment, codes of practice, and monitoring procedures. The following activities are proposed: develop clear terms of reference for groundwater research; conduct full penetration test drilling and pumping at test well sites to model groundwater and estimate recharge; establish a MoWR unit to issue drilling permits and monitor the central groundwater database, study quality, and borehole rehabilitation needs; standardize drilling equipment, control material quality at the regional level, and develop codes of practices (e.g., distance between boreholes, and volumes of extraction as dictated by recharge data); introduce pumping fees to cover electricity costs and reduce the risk of over-exploitation; actively promote recharge enhancement (e.g., watershed management around boreholes); and offer training in sustainable use (e.g., rainfall monitoring).

Further crucial sustainability measures include linking watershed and environmental measures to irrigation project design, including drainage and salinity management, watershed rehabilitation, and provision for environmental flows. This should apply to all new projects and over time to prioritized existing watersheds. The main action points include: linking watershed management (WSM) interventions to irrigation development and rolling out innovative initiatives (e.g., afforestation, beehives, and other livelihood diversification measures); reversing degradation &

rehabilitate watersheds, including drainage and salinity management measures, and soil quality assessment in project design; developing a salinity management strategy by measuring salinity and sodicity levels for prioritized schemes; including environmental flows and downstream water use demands in project design; and mitigating the health impacts of irrigation, by linking WSM interventions to health concerns, e.g., drainage for malaria control. Examples of successful, sustainable community-level soil and water conservation projects could be identified to roll out nationally.

Case study – Kilte Awlalo and Atsbi Womberta (Tigray) Integrated Watershed Management

The project objective is to ensure food security and eradicate poverty through natural resource rehabilitation and development of crops and livestock. Affordable water harvesting infrastructures and appropriate irrigation technology are prerequisites to achieving this objective.

The regional government has been working on soil and water conservation issues, to reduce land degradation and reverse the food insecurity problem of the area. The interventions have been successful, mainly due to the adoption of integrated watershed management guidelines.

Some of the tangible results include: graduation of 500 households from Productive Safety Net Program (PSNP), increased recharge of groundwater (raising the water level depth from over 10 meters to 2–3 meters), and an increase in livestock feed and agricultural production resulting in an increase in incomes.

However, constraints include budget shortages, an inability to measure groundwater recharge, lack of provision of hand tools, and inadequate site extension services.

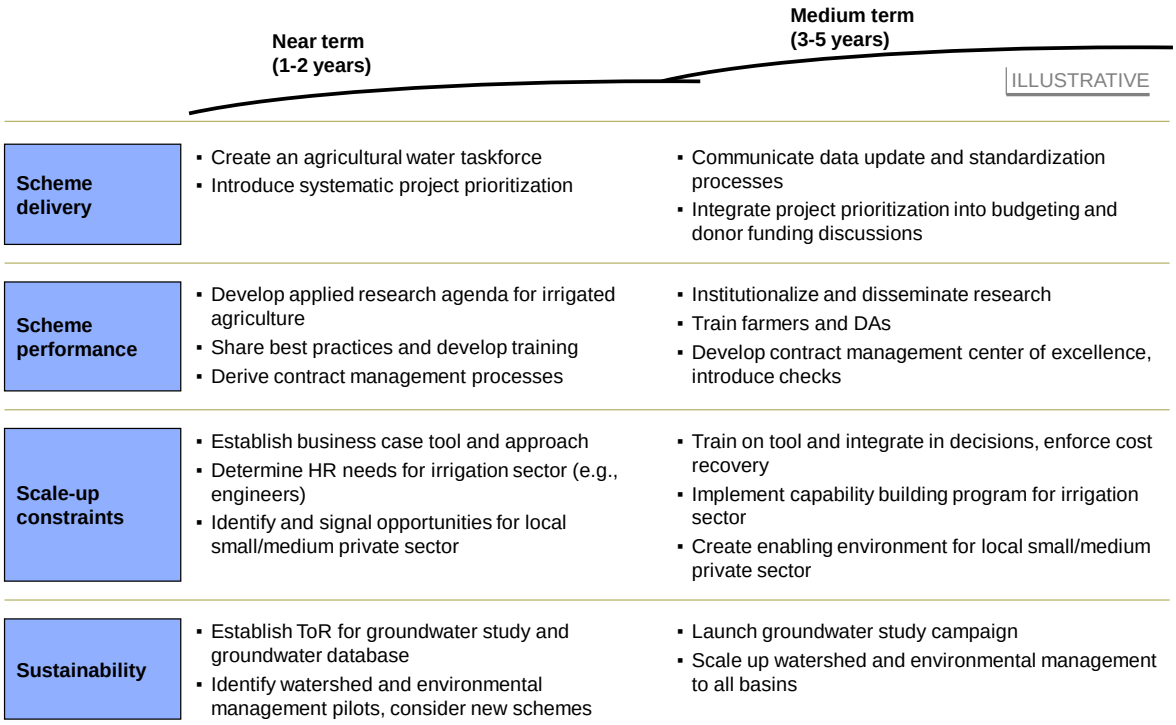
SOURCE: Tigray project review

In terms of implementation, AGP also includes support for small-scale irrigation schemes and agricultural water management, and community-based irrigation managed by water users association and irrigation cooperatives for high-value commodities. The program plans financial institutional strengthening, the establishment of credit coops, and support for construction of market sheds, rural roads, and value-added processing programs for women's groups. One approach would be to drive and test these approaches through AGP in the high-potential *woredas*, before further scale-up, if necessary.

3.4.5 Implementation and sequencing

As with the previous priority area, bringing these recommendations together into a coherent plan needs effective prioritization and sequencing. Figure 7 outlines a preliminary high-level view on potential sequencing of activities for this priority area. As above, this must be seen in the context of the overall program, and there is a need to translate these recommendations into detailed action plans and timelines, in collaboration with all key stakeholders.

Figure 7: Potential sequencing of activities



3.5 PRIORITY AREA IV: IMPROVE PRODUCTIVITY OF LAND CURRENTLY UNDER CULTIVATION AND ADOPT A SYSTEMATIC AND SUSTAINABLE APPROACH TO EXPAND CULTIVATED LAND

Within the context of the diagnostic on soil fertility/fertilizer, the importance of analyzing a broader set of issues related to the development and management of cultivable land in the achievement of Ethiopia's national food security and growth objectives becomes apparent. While this report can provide some preliminary recommendations on one aspect of the issues (soil fertility), other issues are raised as areas for consideration and further discussion. Two areas in particular that should be considered with respect to land development and management are: (a) improvement of productivity on currently cultivated land by addressing various soil health and other concerns; and (b) exploration of expansion of cultivated land by possibly 10 million ha or more[xxxvii] while addressing challenges such as infrastructure, health issues, and sustainability.

3.5.1 Recommendation A – Improve productivity of cultivated land through soil fertility interventions[26]

Although peer comparisons do not account for the diversity of Ethiopia's agro-ecological characteristics, Ethiopia's yields and fertilizer application rates are currently in line with or above its peers'. However, yields in Ethiopia have increased very little over the last 15 years, despite improved inputs[xxxviii], and forecast population growth combined with scarce additional cultivable land highlights the urgent need to improve yields. Soil fertility is a required enabler for yield increases that other inputs (e.g., fertilizer, seed) can bring. However, at least 24 percent of Ethiopia's soil faces moderate to very severe fertility constraints[xxxix], affecting key farming regions.

Unfortunately, soil health issues are not well understood outside of research institutions, and currently soil fertility management is severely lacking. Major soil fertility issues range beyond chemical fertilizer use and include depleted organic matter, depleted macronutrients, depleted micronutrients, topsoil erosion, acidity, and salinity. If left unchecked, these will limit future output and growth across the country.

The issue of chemical fertilizer availability, while a concern, should be viewed within the context of constraining factors related to soil fertility. As such, this report, as well as the narrower diagnostic on fertilizer/soil fertility, recommends a primary focus on improving soil health while simultaneously improving the fertilizer value chain to ensure appropriate fertilizers are available and used where appropriate.

Ethiopia faces three types of challenge with respect to soil fertility across the country (other interventions are discussed in the frontline productivity priority area):

- On-farm practices:
  - **Severe organic matter depletion**, driven by competing uses for crop residues and manure as livestock feed and fuel. The use of dung as fuel instead of fertilizer is estimated to reduce Ethiopia's agricultural GDP by 7 percent[xl].
  - **Severe topsoil erosion** of roughly 10 mm *per annum* or 137t/ha/year[xli], driven by the limited use of basic practices and benefits, e.g., minimum tillage and soil and water conservation. This is due to weak knowledge dissemination and limited enforcement of land management guidelines, rather than a lack of identified technologies and practices, and exacerbated by the structural issue of

> *"We are seeing land degradation in many areas due to mono-cropping. Farmers understand the value of rotating crops but they are concerned about maintaining food for the family so they will plant more cereals, even if it is not good for the land"*
>
> — Pulses expert from Debre Zeyit

[26] Refer to the soil fertility diagnostic report for more details on all of these topics

overcrowding of fertile lands. In many areas of the country, the latter dis-incentivizes investment in long-term soil management through large-scale erosion management (e.g., agro-forestation, terracing), and instead encourages focus only on next year's food supply from limited existing land resources.

  - **Limited crop rotation**: current rotation practices under-use legumes within the cycle, and improved fallowing and intercropping are nearly nonexistent. This is driven by small land holding sizes and a need to secure the family's food supply year to year.

  - **Limited integration of soil and water management practices**, despite the fact that water harvesting is essential for improving the efficiency of soil fertility interventions.

- **Soil data*:*** there is a lack of up-to-date, comprehensive and actionable soil data. Almost all national-level recommendations date from the 1950s–60s or FAO studies from the 1980s and are not regionally tailored. Much of this data is based only on N and P nutrient levels and yield response, with very little information available on other aspects of soil health (e.g., other macronutrients, micronutrients, organic matter, and physical properties). Recommendations to lime acid soils are particularly lacking. There is no centralized source of soil health status or soil research, and experts suggest that networking among soil scientists, both in Ethiopia and abroad, could be improved to avoid reinventing the wheel.

> *"Acid soils are a problem in this area, but we only know when the government tells us. Other than that and the fertilizer recommendations, we don't have any soil health data"*
>
> — DA from Awi

- **Bio-fertilizer** is constrained by limited understanding of the appropriateness of the product, lack of awareness, and limited production capacity or commercialization. Further evaluation is needed to assess full potential for scale-up.

The diagnostic highlighted five areas of recommendations to improve Ethiopia's current soil fertility situation at a national level (other recommendations included in the frontline productivity recommendations) including:

- **Mitigate severe nationwide organic matter depletion** by increasing the amount of manure and crop residues used as organic fertilizer. Specific actions center on reducing competing needs for organic matter (by increasing the supply of fuel and feed alternatives, e.g., wood and forage respectively, and increasing the efficiency of cooking stoves to reduce fuel requirements) and scaling up efforts to promote compost preparation and application.

- **Mitigate severe topsoil erosion in cultivated highlands** through enforcing farm-level measures, and scaling up examples of successful, sustainable community-level soil and water conservation projects to roll out nationally. Adoption of land management measures requires

farmers to have a certain level of security in their tenure on the land, as it is a long-term investment[27].

Case study – Soil and water conservation project in Tigray

In the 1970s and 1980s, conservation efforts in Tigray were limited, due to lack of economic or labor capacity to implement the necessary measures, and the short-term perspective of the farmers.

However, huge efforts were undertaken through government-led projects focusing on widespread implementation of conservation measures such as: construction of stone bunds to conserve both soil and runoff; rehabilitation of steep slopes, through, e.g., afforestation, recovery of vegetation (vegetation strips), or better terracing; and "exclosure" development, i.e., areas set aside to allow regeneration of natural vegetation.

Today significant improvements can be noted. Sheet and rill erosion rates have decreased - average soil loss is estimated at around 68 percent of the 1975 rate. Groundwater recharge, vegetation cover, and biomass production have increased, along with crop yields.

This success could be scaled up to many other highland areas, bringing significant productivity and environmental benefits.

SOURCE: Esser et al. (2002); Nyssen et al. (2007)

- **Establish a soil data and research taskforce** led by the Natural Resources directorate at MoARD. This could include representatives from all major institutions (e.g., research centers, universities, NGOs, etc.) and have a dedicated office and budget. Basic responsibilities of the taskforce would include: creation of a national soil database to be centrally available within three to four years, simplification of the data for maximum end-user access, definition of institutional responsibilities and links for soil data to strengthen institutional linkages, and setting and communicating national research priorities. The taskforce can also link data consolidation efforts with ongoing data collection projects, e.g., Africa Soils mapping, and collate legacy data in a format compatible with new tests, maximizing breadth of data as opposed to detail. Focused capacity building at all levels would be needed to enable this. Soil testing in the regions must also be scaled up, e.g., through additional resources for research centers or establishing mobile labs.
- **Identify locally relevant and cost effective soil health tools** for soil fertility testing and identification of common issues, e.g., acidity, organic matter, and macro-nutrient deficiency problems. These tools could be rolled out in parallel to Integrated Soil Fertility Management (ISFM), to support farmers with facts for constant evaluation and action.

[27] Refer to section 3.2.4 for discussion on how to incentivize farmers to invest in their land

Case study – Leaf Color Charts for Lowland Rice in Bangladesh

Nitrogen fertilizer, while essential for high rice yields is often managed inefficiently by Asian rice farmers. A leaf color chart has been developed as a simple tool for improving the time and rate of nitrogen fertilizer use in farmers' fields (where there is no limitation in water supply) in southwestern Bangladesh.

Use of the color chart for nitrogen management consistently increased grain yield and profit, without any other change in the farmers' fertilizer or crop management. This corresponded to an average added net return of USD 41 to 65 per hectare per season. Use of the leaf color chart is now ready for wide-scale promotion in Bangladesh.

SOURCE: Leaf color chart for managing Nitrogen fertilizer in lowland rice in Bangladesh (Alam et al., 2005)

3.5.2 Recommendation B – Ensure a systematic and sustainable approach to expand cultivated land

Although the question of additional cultivable land is not an area into which the diagnostics conducted any meaningful analysis work within Ethiopia, experiences from other countries provide some best practices and issues to consider that could be informative for policy makers as they tackle the issue of strategically expanding Ethiopia's cultivable land potential.

It is understood that there are at least 10 million hectares of potentially cultivable land that represents a unique opportunity to increase output faster than productivity growth, bringing in new players and investors, alleviating highland overcrowding issues, introducing new technologies and practices into the sector, and partially addressing the country's overall food security concerns. However, this development should explore a portfolio of approaches as significant investment is needed to realize this potential, and pure commercial large-scale farming may only create a small number of jobs (e.g., mono-cropping of high-value eucalyptus trees for the export market in Brazil creates an estimated one job per 185 hectares due to high levels of mechanization[xlii]), resulting in mediocre social impact (only about 50,000 full time farming jobs for 10 million hectares developed).

Examples from Asia, along with best practice in Ethiopia, could help to inform a set of strategic options to facilitate a broad-based and multi-sector policy framework to inform this effort. Preliminary observations highlight several key principles to consider in addressing this question:

- There is a need for a detailed understanding of available cultivable land. This mapping could include productivity potential, environmental profile, and barriers to development (such as health risks, infrastructure gaps, environmental costs, etc.),
- National and regional land use strategies will need to be developed and implemented in an iterative top-down/bottom-up approach,

- Land choices should be made based on holistic considerations, balancing economics (e.g., exports, GDP), sustainability (e.g., carbon footprint), and social impact (e.g., job creation, food security),
- A range of farming models could be explored aiming for a synergistic mix between commercial and smallholder farms. At one extreme, this could include large-scale commercial farming contracts, which have the benefit of high levels of mechanization and productivity but limited social and economic impact for local communities. On the other extreme are models that develop cultivable land potential by mobilizing the country's vast smallholder farmer population. This approach has the benefit of providing local communities with employment opportunities, but on the down side experiences low productivity and output levels. There are however, many other models, such as out-grower schemes and nucleus farms, which can have the benefit of both bringing high productivity levels along with significant social and economic benefits to local communities.
- Bringing new land under cultivation must be integrated with other infrastructure development (e.g., irrigation, roads, market access, etc.),
- Development must be driven through profitable schemes that attract private investors and mobilize local people (especially young graduates and women)

Case study – Nucleus Farms: Integrated Tamale Fruit Company (ITFC) in Ghana

The ITFC consists of a nucleus farm of 155 ha, supported by 1,400 out-growers, to grow certified organic mango. The ITFC supports the smallholders through loans, technical support, and supporting services and processing. Smallholders receive a long-term loan in the form of inputs, 30 percent of which is paid back through income, and the rest at harvest (after 15 years). Technical advice is provided, including for example encouraging inter-cropping with groundnuts, both for good farm management and as an intermediate income source. Other supporting services include: disease and pest control, tree pruning, water provision in the dry season, transport to the packing station, cleaning, sorting and packing, record keeping (e.g., for organic certification), and marketing.

In return, smallholders commit to providing labor to farm one acre, holding 100 trees (digging, weeding, fencing, bucket irrigation, etc.). As a registration fee and sign of commitment, each smallholder must provide one bag of maize. The program has also been supported by donors through partial financing to ITFC for set-up, grant assistance, and improvement of educational facilities in the area

This inclusive model provides smallholders with a sustainable source of income and transfer of skills (e.g., organic agricultural methods), while also providing employment opportunities for workers on the nucleus farm itself. From a commercial perspective, the nucleus farm brings scale and expertise advantages.

SOURCE: ITFC website

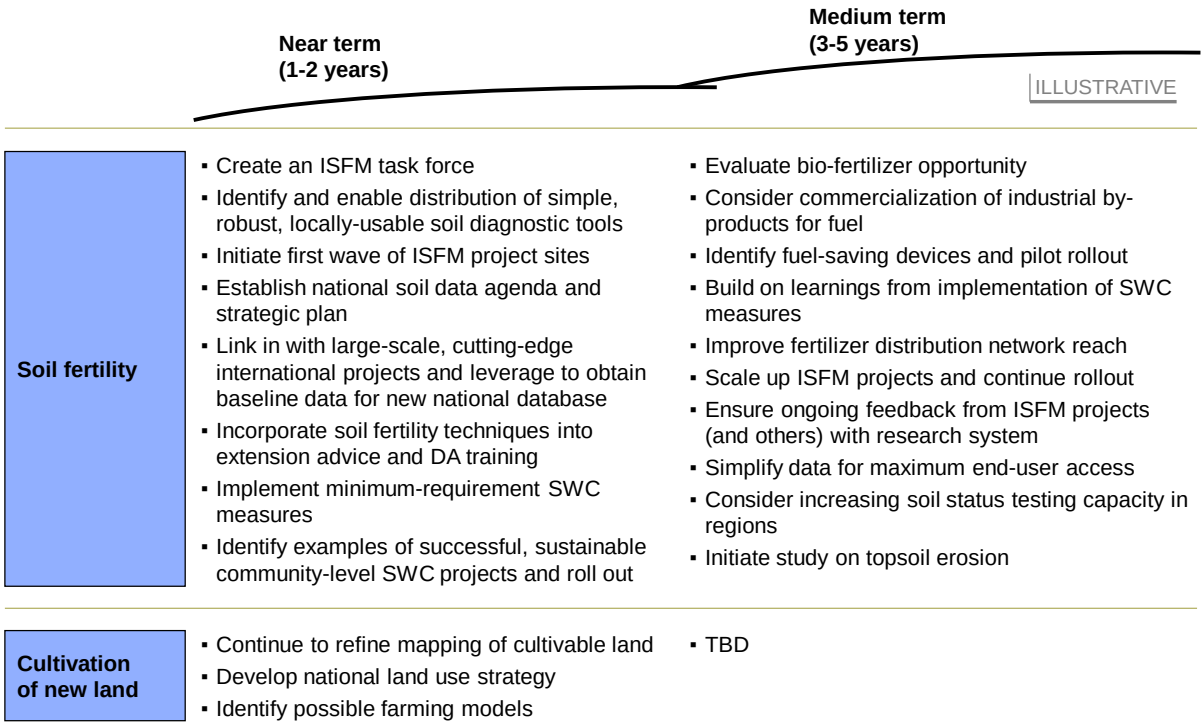
It is also important to consider the potentially negative social and environmental impact of clearing land for development:

- **Impact on rights and livelihoods of pastoralists –** mobility is central to pastoral livelihoods, and pastoralists often move from one area to another based on the seasons and the condition of the natural resources. It is important to consider the impact that cultivating new land may have on pastoralist groups, potentially through displacement, blocking their access to water and feed, or putting excessive pressure on the natural resources.
- **One-time carbon emissions –** the decomposition or combustion of existing surface growth, root and soil mass leads to CO_2 emissions. These emissions can be extremely large – 43 percent of Africa's total CO_2 emissions come from land clearing for agricultural use, including croplands[xliii] and shifting cultivation. Greenhouse gas emissions from conversion of grasslands to active croplands are around 140 tons of CO_2 per hectare, and even for abandoned cropland, this can be up to 65 tons per hectare.
- **Value of the lost eco-system and other eco-services** – the eco-system may hold significant value, for example, through: erosion prevention, production of non-timber forest products (e.g., honey, fiber, mushrooms, and medicinal plants), maintenance of biodiversity, disease protection, pollination, decomposition, and eco-tourism.

3.5.3 Implementation and sequencing

As with the previous priority areas, bringing these recommendations together into a coherent plan requires effective prioritization and sequencing. Figure 8 outlines a preliminary high-level view on potential sequencing of activities for this priority area. As above, this must be seen in the context of the overall program, and there is a need to translate these recommendations into detailed action plans and timelines, in collaboration with all key stakeholders.

Figure 8: Potential sequencing of activities



3.6 PRIORITY AREA V: UNLOCK KEY SECTOR-WIDE ENABLERS: AGRICULTURAL FINANCE AND RURAL FINANCIAL INCLUSION, INFRASTRUCTURE, INFORMATION AND COMMUNICATIONS TECHNOLOGY, RESEARCH AND GOVERNMENT CAPACITY

The previous recommendations must be set in the context of a program to address broad-based bottlenecks in the enabling environment. Each diagnostic identified a set of enabling factors necessary to realize the growth and food security potential of the sub-sector. While these factors are required to unlock the potential of the agricultural sector, their benefits will extend far beyond agriculture. To varying degrees, addressing these enablers may fall within the scope of MoARD, yet decision-making authority is likely to rest in a number of other ministries, requiring high-level coordination across government.

Apart from agricultural finance, where a specific diagnostic was undertaken, each of these enabling areas highlighted below will require further refinement to reach a finite set of recommendations. Given that these enablers apply across multiple sectors, a staged process of

testing them first in agriculture and then in secondary sectors can enable near-term impact in agriculture while providing time to refine and improve delivery before rollout to additional sectors.

3.6.1 Agricultural finance and rural financial inclusion[28]

Financial services are a critical enabler for sustainable economic growth and therefore poverty reduction and food security in Ethiopia in general and in the agricultural sector in particular. Credit is used for investments to increase the productivity of agricultural operations or to diversify the economic activities of rural households. Savings products ensure a safe and productive "storage" of liquid assets and ensure excess capital can be channeled to its most productive use. Payment products facilitate the ease of exchange of agricultural goods and insurance products help to spread risks of agricultural players in an efficient way. Thus, in short, financial services are essential for protecting and improving the livelihoods of the rural population.

However, the financial service offering to agricultural sector players in Ethiopia faces significant gaps in terms of access to financial services, product quality, and quantity of options. In terms of access, only a few financial institutions serve rural areas in Ethiopia, leading to low levels of financial inclusion. In terms of product quality, gaps exist for all major product categories, including credit, savings, insurance, and payments, and all major types of agricultural players, including producers, traders, and manufacturers of all sizes. Key issues include lack of input credit and weather insurance for smallholders, lack of inventory financing for traders, lack of export financing for exporters, as well as lack of long-term credit, cash-flow-based lending, attractive deposit products, and reliable payment products for all players. In terms of product quantity, the overall Ethiopian economy is significantly credit constrained, with credit supply roughly USD 3 billion short of credit demand and agriculture relatively strongly affected by this crunch compared with other sectors of the economy.

The agricultural finance diagnostic identified a set of root causes for these constraints that are grounded in three interdependent elements of the agricultural finance "ecosystem":

- **General characteristics of the financial sector:** Echoing findings on industry structure from other diagnostics on the maize and pulses value chains, the diagnostic showed a diverse but small sector, dominated by public institutions, with many subscale players and low levels of competition. Such an industry structure is in itself not conducive to the development of customer-oriented financial products for any industry. A lack of both bank-specific and general ICT infrastructure to support the build-up of remote banking channels, gaps in agricultural finance regulation, e.g., a lack of a dedicated regulatory framework for financial cooperatives, and a recent high inflationary environment, exacerbate the problem.

[28] Refer to agricultural finance diagnostic report and financial inclusion concept note for more details

- **Agriculture-specific constraints:** In addition to financial sector characteristics, several characteristics of the agricultural sector make it less attractive to serve for financial institutions than other sectors. This includes low levels of profitability due to lacking economies of scale and use of best practices in farming as well as high transactions costs for financial institutions when serving the sector. The latter, in turn, are determined by small transaction sizes, "lumpy" repayments, illiquid and perishable collateral, risky cash flows with high covariance across borrowers, physically dispersed clients living in difficult to reach locations, and diverse sub-businesses with distinct dynamics.
- **Capabilities of financial players:** As a consequence of the prevailing industry structure, financial sector players in Ethiopia show skill gaps in some banking key processes with weak risk-management skills standing out as a key issue across institutions. National Bank of Ethiopia (NBE) should be commended for having identified this issue and proactively seeking to address it. This leads to lending practices based on higher collateral than in benchmark countries, which is one key reason for lack of access to credit.

The GOE and key development partners are already addressing some of these issues. Ongoing measures include stimulation of competition by providing "easy entry" conditions for domestic private banks, infrastructure build-up including the development of a credit bureau and national payment system, capability-building programs with a focus on microfinance institutions (MFI)s, and credit guarantees for agricultural players, MFIs, and Savings and Credit Cooperatives (SACCO)s to mitigate credit shortages.

Nine further potential interventions have been identified around four critical themes to further boost the provision of agricultural finance. These themes are: **(a)** improving incentives and regulatory environment to increase financial services in the rural sector, **(b)** expanding financial inclusion through strengthening rural financial institutions by using them as a channel for government cash flows, **(c)** accelerating the introduction of new product offerings, and **(d)** improving the overall "fitness" of the financial sector.

- **Improving incentives and regulatory environment to increase financial services in the rural sector:** Key initiatives include **(1)** setting the right incentives for financial institutions to serve the rural sector. These encompass fiscal incentives (e.g., tax reduction for banks active in rural areas or co-investments with financial players), temporary monopolies for serving the rural sectors, or well-designed credit guarantee schemes with first-loss-absorption schemes. This should be supported by **(2)** improving the regulatory environment for rural financial institutions, e.g., by putting in place a dedicated framework for the regulation of SACCOs under the oversight of the National Bank of Ethiopia (NBE).
- **Expanding financial inclusion through strengthening rural financial institutions by using them as a channel for government cash flows:** Key initiatives include **(3)** providing input credit (primarily for fertilizer) through SACCOs or MFIs. In combination with skill-

building programs for these institutions and using well-designed credit guarantee schemes, this could decrease the risk of non-performing loans (NPLs) in the input credit business, increase the supply and uptake of fertilizer credit, and strengthen rural financial institutions by providing them with new profitable market opportunities and **(4)** increasing financial inclusion (see box).

Rural financial inclusion – a transformative opportunity[29]

Recognizing that expanding financial inclusion to a broader percentage of the Ethiopian population is a top priority, an intervention is being designed that achieves such a goal in an efficient, effective manner. The intervention both improves and leverages the Productive Safety Net Program (PSNP) by creating an electronic platform to deliver the PSNP payments. The same platform will serve as delivery channel for financial services, especially savings, by financial institutions, such as MFIs.

The PSNP distributes payments, usually in exchange for work, to 7.8 million individuals in chronically food insecure areas of Ethiopia. At present, the program funds are delivered manually using envelopes. The electronic delivery channel developed under the intervention is sustainable because of the substantial transaction volume the PSNP provides. Once in place, this channel will allow for other financial services to be added and delivered using the same platform. Services offered will be a function of market demand, with financial institutions deciding to what extent and how to offer financial services.

This recommendation is being developed in collaboration with an initiative commissioned by the Food Security Coordination Directorate (FSCD) within MoARD, MoFED, and the development partners supporting PSNP, to assess the ideas for improving the timeliness and predictability of PSNP transfers. The transformative innovation incorporating technology, initially on a small-scale implementation basis, complements recommendations for manual system improvements and the introduction of electronic reporting, as program-wide improvements, which could be implemented in the short run largely with existing resources.

The use of technology to deliver payments and offer financial services in the PSNP-recipient *woredas* is likely to generate substantial and rapid impact in terms of: (a) predictability of PSNP payments and reduction of transactions costs for the PSNP beneficiaries, (b) access to affordable and safe savings services with the immediate effect of increasing rural savings mobilization, and (c) access to a variety of other financial services such as remittances and micro-insurance.

This approach will also have the potential to increase the impact of PSNP payments. Studies show that distributing payments with financial services increases the impact of those payments and further improves the livelihoods of participants.

- **Accelerating the introduction of new product offerings:** Key initiatives include **(5)** putting in place the right conditions to increase the offering of insurance products, starting with index-based weather insurance. In several parts of Ethiopia, index-based weather insurance has already been successfully piloted. In order to scale up these efforts, governments and donors need to upgrade the meteorological technical infrastructure as well as the capabilities of the meteorological personnel, in order to collect the required weather data quickly and reliably. Additionally, a regulatory framework for micro-insurance should be put in place, the welfare-enhancing effect of government-subsidized insurance premiums needs to be

[29] Refer to Appendix 1, financial inclusion concept note for more information

assessed, and cooperatives should be trained to act as potential distribution agents for insurance schemes. **(6)** Scaling up the current warehouse-receipt system so all market participants have best access to the system. **(7)** Fostering the build-up of IT infrastructure and mobile banking technologies to increase the level of financial inclusion.

- **Improving the overall "fitness" of the financial sector:** Key initiatives include: **(8)** Putting in place a coordinated capability-building program for financial institutions and customers. This should include leveraging existing educational institutions such as the extension system to increase capabilities specifically for rural financial institutions and customers. **(9)** Increasing "system readiness" for possible further liberalization of the financial sector. Over time, most countries consider expanding the liberalization of their banking sector from domestic partners to possibly include international players. While this option might be some time away in Ethiopia, a concerted effort to begin strengthening the systemic readiness of the financial sector to compete with regional and international players is a process that takes some time and should be adopted in a systematic manner. To keep this option open, while addressing the inherent risk involved with such a move, the GOE could increase the level of "systemic readiness" of the Ethiopian banking sector by developing a target sector vision, merging subscale institutions, further strengthening regulatory skills, and at some future time designing proper incentive structures for the possible introduction of international banks.

3.6.2 Information and communication technology

The lack of technology infrastructure, such as a widespread telecommunications network, is negatively impacting information access (e.g., getting price information to producers) and sector performance. For example, returning to the agricultural finance sector, the lack of telecommunications infrastructure inhibits financial access through channels such as Point of Sale (POS) and mobile banking solutions. Benefits from such channels may be particularly relevant for women, as their farming activities tend to be located closer to their home, meaning that they are less well connected to financial services and output markets.

The potential for greater use of technology to drive development has also not been sufficiently captured, e.g., providing price information available on mobile phones, or supporting extension advice through radio broadcasts or multimedia training tools.

GOE could focus on investigating and fully leveraging catalytic technologies such as the following:

- Use existing technologies such as radio to enhance the activities of the extension system.
- Upgrade the telecommunications infrastructure.
- Outfit FTCs with ICT/multimedia equipment and support extension advice with radio broadcasts.

- Provide price information on mobile phones, e.g., via ECX.

Case study – Examples of ICT Use in Agricultural Development

Kenya and Uganda are using mobile phone services to provide "cheap" messages directly to farmers about crop price information via text messaging.

In Tanzania, there are "market spies" or farmers who visit local markets and remain in direct contact with other farmers in the village using mobile phones.

SOURCE: Davis, 2008

3.6.3 Infrastructure, logistics, and transport sector

The necessary infrastructure needs to be in place for agricultural growth. About 50 percent of cropland and 40 percent of pasture land has high agricultural potential and is home to about 50 percent of the rural population, yet has low market access. Despite investments in transportation infrastructure, only 17 percent of Ethiopia's rural population lives within two kilometers of an all-weather road, compared to 44 percent in Kenya and 38 percent in Tanzania[xliv]. Commercialization of lowland livestock is constrained by rural road linkages. Improved rural infrastructure is required for market access for key value chains, both crops and livestock. While the reach of road networks and cooperatives to most high-production areas has improved significantly in recent years, access to very remote areas is limited; accordingly, distribution costs may make fertilizer (and potentially other inputs) unaffordable or simply unavailable in these hard-to-reach areas.

For agricultural development it is vital to reduce logistics bottlenecks, e.g., port access, road access to rural and/or high-endowment areas, rail links, storage (normal and cold), abattoirs, and livestock dips. The transport sector (e.g., trucks) must also be strengthened.

3.6.4 Capacity constraints in the public sector

Capacity issues highlighted through the diagnostic work are three-fold:

- Government talent development and retention is a key challenge, with recurring loss of mid-level and senior public servants, often to NGO roles with limited decision-making authority. The situation is distorted by the large salary gap between GOE and development partners.
- In many areas of government, there is a lack of the necessary capabilities, skills and mindsets required to meet the ambitious targets set by GOE. For example, there is little or no capacity to collect, manage, and analyze data for evidence-based monitoring, evaluation, and planning.

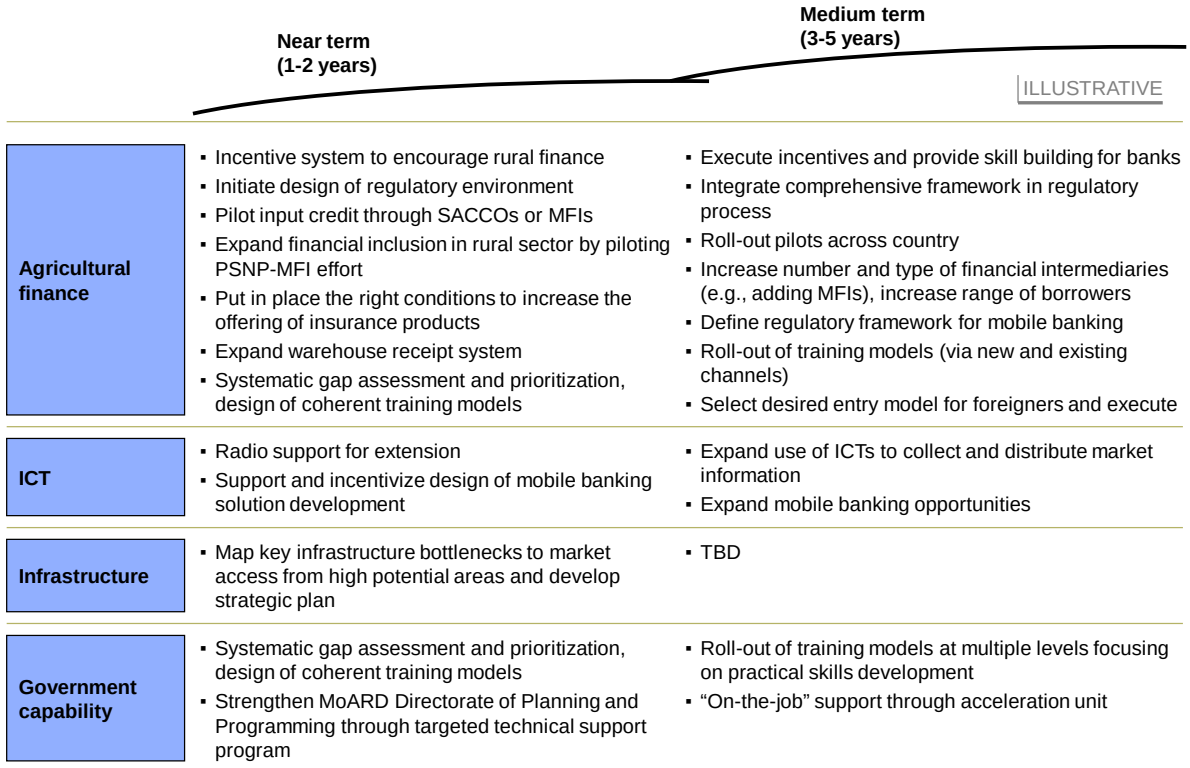
- Gender concerns also come into play here, with very few women in middle management or senior positions in the ministries.

GOE should pay special attention to providing the necessary incentives to attract and retain Ethiopia's best talent to continue to drive agricultural development. This is a large and difficult task. Ways to address the issues include: **(a)** provision of on-the-job training and coaching support, e.g., project management, technical assistance for strategy development; **(b)** effective role models and change agents in key GOE organizations; **(c)** specific talent recruiting and deployment; **(d)** an independent, effective and gender-sensitive monitoring and evaluation system; **(e)** gender awareness and sensitization sessions; **(f)** increased focus on entry and retention of talented women within the system; and **(g)** a review of the public sector compensation and benefits structure.

3.6.5 Implementation and sequencing

As with the previous priority area, bringing these recommendations together into a coherent plan needs effective prioritization and sequencing. Figure 9 outlines a preliminary high-level view on potential sequencing of activities for this priority area. As above, this must be seen in the context of the overall program, and there is a need to translate these recommendations into detailed action plans and timelines, in collaboration with all key stakeholders.

Figure 9: Potential sequencing of activities



4. Implementation

4.1 THE CHALLENGE OF IMPLEMENTATION

As outlined above, the integration of the sub-sector diagnostics in this report has led to the identification of a set of holistic recommendations centered on a portfolio of initiatives across five key priority areas: enhanced frontline productivity, strengthened industry structures, expansion of irrigation potential, improved land use, and enabling factors. These initiatives could be catalytic drivers in accelerating the achievement of the targets of PASDEP II, supporting complementary initiatives of the government and donors, such as the CAADP Compact, AGP, or FSP and realizing the vision of Ethiopia achieving middle-income status by 2025.

The critical question is how to turn this large and complex portfolio of accelerating activities, covering multiple regions and value chains, into a coordinated and well-executed effort delivering tangible, "on-the-ground" impact. Stakeholders, ranging from MoARD's senior leadership to smallholder farmers, consistently described three key challenges to most implementation efforts in Ethiopia. These have prevented previous strategies and programs from reaching their full potential and include:

- **Coordination and integration has been difficult to achieve across a broad set of diverse stakeholders**, including MoARD, other ministries, regional governments, local communities, donors, the private sector, and NGOs. Interviewees stressed that, despite several earlier efforts, a mechanism to ensure such broad participation, coordination, and problem solving is not yet established. There are currently a number of efforts MoARD has initiated, particularly with the participation of donors. However, these have been limited in reach and scope.
- **Significant gaps of capacity, capability, and mindsets** to drive initiatives, across many of the involved organizations, resulting in limited resources, skill, or will to do things differently. Monitoring and evaluation capabilities are a key gap that will have to be bridged for effective program management, both in terms of availability of consistent data, and effective processes for using it as a basis for decision-making.

> *"Despite several efforts to change this, our Ministry still faces a serious gap in terms of people, skills, and the right mindset"*
>
> — Senior MoARD official

- **MoARD is already highly stretched and constrained**, and therefore currently unable to assume a primary driving role in multiple new initiatives without sacrificing quality and delivery in other mission critical efforts. Most of the recommendations are centered around MoARD, or at least require significant MoARD involvement, which will therefore have a pivotal role in implementation. However, in a resource-constrained environment where even "business-as-usual" activities can pose

challenges, additional support will be required to drive the acceleration effort outlined in this report forward.

Unless carefully addressed, these challenges could hamper the most well-conceived program of action, no matter how detailed.

4.2 REQUIREMENTS FOR SUCCESSFUL IMPLEMENTATION

To identify the best approach to addressing the challenges above, case studies from other countries that have attempted sectoral or countrywide reform with transformation- and development- acceleration programs were studied. These covered both successes and failures from 15 countries, with a particular focus on Asia (such as Taiwan, Malaysia, and Korea), other African countries (such as Namibia, Kenya, and Senegal), more developed countries (such as the UK and Bahrain), and recent change programs in Ethiopia (such as the Business Process Re-engineering (BPR) program, the Engineering Capacity Building Program (ECBP), and the change management unit within Ethiopian Airlines). In many instances, insights into these programs came from in-depth discussions with involved government officials and other senior program leaders. Three particularly interesting and relevant examples – the cases of South Korea, Taiwan, and Namibia – are outlined below. Details of these case studies and others can be found in Appendix 2.

Case study – The South Korean Economic Planning Board

In 1961, the Government of South Korea established the Economic Planning Board to support key stakeholders in implementing the country's economic growth plan, reporting directly to the Prime Minister. The plan focused on agriculture, mining, manufacturing, and business services, and consisted of a large set of government-driven initiatives, each with a dedicated owner, typically at the minister level. The government used the Board as a mechanism to support initiative owners in several ways. First, the unit was responsible for managing the overall program, including transparent monitoring of individual initiatives and enabling performance dialogues at the cabinet level. The unit also facilitated discussions between about 20 involved ministries, other government institutions, and the private sector and managed the process of prioritizing and phasing initiatives with the responsible initiative leaders. The Board had dedicated funds to allocate, and offered its own experts to initiative drivers requesting implementation support. Finally, the unit was responsible for a set of foreign economic policy measures, which fell outside the scope and capacity of the Ministry of Industry and the Foreign Ministry at that time.

South Korea's development program was hugely successful, with an average annual GDP *per capita* growth rate of over 9 percent, industrial production growth of up to 25 percent *per annum,* and export increases of up to 45 percent *per annum* during the program. In the 1990s, the unit was dissolved into existing ministries, which were by then, also due to the support by the Board, strong enough to execute stand-alone.

Case study – The Sino-American Joint Commission on Rural Reconstruction in Taiwan

The Joint Commission on Rural Reconstruction (JCRR) was established in China in 1948 by the China Aid Act, and moved to Taiwan in 1950, where it continued to operate until 1979. Led by a steering committee of senior initiative owners, the JCRR drove a major agricultural transformation, including agricultural productivity improvements, land reform, and education projects such as extension. During its lifetime, the commission supported over 700 agencies and approved nearly 6,500 projects.

Key support provided by the unit to agencies and projects included technical assistance, financial support, and problem solving guidance to initiative owners. The unit also offered capacity and capability building programs to both public and private sector organizations. Finally, the JCRR was responsible for channeling donor resources effectively against program priorities – instead of aid directing the program, the JCRR directed foreign assistance in line with government strategy.

The approach was highly successful in bringing about economic and social stability and equity, developing local leadership, and improving levels of education. Programs were kicked off very rapidly, and the JCRR achieved a reputation for fairness and human concern that aided them in their efforts.

Case Study – Capacity Development in the Namibian Health Sector

Launched in 2008, the African Public Health Leadership & Systems Innovation Initiative is tasked with building capacity in the Namibian Ministry of Health and Social Services and introducing best practices across the system. The initiative drives a set of innovative reform projects to increase the access, quality, and demand for antenatal care services in the country. Innovation projects include a range of elements, including transportation systems, nurse training, community health workers, public media, hospital workflow changes, and new models of clinic design and deployment.

The initiative first established a "Leadership Development Forum" consisting of the top 25 leaders in the ministry, each personally accountable for a reform initiative, as a high-level forum for discussion and decision-making. Significant leadership building support has been provided to the group through an intensive series of workshops and coaching activities related to their specific initiatives, greatly improving the forum's leadership, alignment, capacity, and strategic ability. "Frontline" change leaders were also supported by the initiatives, both with dedicated experts to provide analytical support as well as with capability building efforts. Finally, the initiative provides transparency across several projects through a monitoring and reporting function on the regional level to ensure monitoring and support happens "where the action is".

The initiative has already led to significant improvements in health outcomes, is regarded as a major success, and is currently being scaled up.

4.3 OBSERVED SUPPORT MODELS

Analysis of these case studies highlighted five broad types of support model that have been used to provide the necessary implementation support. The models selected for use in each case have been based on the specific needs identified, the capacities available within implementing partners, and other case-specific issues that determined suitability and likelihood of success.

- **Change management unit within an existing government institution** as used by Ethiopian airlines (see Appendix 2 for case study). The unit drives specific reform projects for which

the institution is responsible, and at the same time, helps to build capability and drive mindset change throughout the organization. This is particularly successful for programs within an existing ministry, particularly where change can happen fairly slowly and gradually.

- **Delivery unit or Program Management Office (PMO) within an existing ministry**, similar to the Unit for Coordination and Monitoring Economic Policy that was set up in the Senegalese Ministry of Finance (see Appendix 2 for case study). This unit takes on typical program management activities to coordinate the program within (and potentially outside) the ministry, and to monitor and communicate progress. For this to be successful, the ministry and other stakeholders must already have the capacity to execute well, and if coordination outside the ministry is required, the ministry must have some degree of authority over the other stakeholders.
- **Transformation unit within an existing ministry**, similar to the unit set up within the Libyan Central Bank to support financial sector reform in the country (see Appendix 2 for case study). Beyond the PMO functions outlined above, this unit would also support the key stakeholders with expert resources (when requested by the project owners) and capability and capacity building. This is particularly appropriate where the ministry is the most effective actor in the system and has some degree of authority over other stakeholders involved (if coordination and support of other organizations is required).
- **Delivery unit or PMO reporting to the Prime Minister's office (or equivalent)**, similar to the UK Prime Minister's Delivery Unit or the delivery unit set up in Namibia (see Appendix 2 for case studies). This unit is similar to the delivery unit within the ministry, but if a range of organizations are involved, the coordination task is made easier by its position outside the key ministries, and usually a more direct mandate "from the top". This model still pre-supposes that all key stakeholders have the capacity and capability to execute well with minimal support.
- **Transformation unit reporting to the Prime Minister's office (or equivalent)**, as seen in the country reforms of South Korea and Bahrain (see Appendix 2 for case studies). As in the transformation unit model in the ministry, this unit not only provides the PMO functions across the various organizations involved in the program, but also provides expertise (again on a demand-driven basis) and drives capability and mindset building programs with key stakeholders. As before, coordination of a range of institutions is often made easier by its position outside the ministry. However, a prerequisite for this model to be successful is that it is seen to have a clear value-add to the stakeholders involved.

4.4 SUCCESS FACTORS

Based on these case studies, seven common success factors have helped other countries to overcome implementation challenges similar to the ones Ethiopia currently faces in the agriculture sector. These are:

- **Government ownership** of key initiatives and the overall effort at a senior level. As highlighted in the Korea example, to ensure sustainable mindset change and capacity building, sponsorship, leadership, and governance must reside at the highest levels of government. Only then will individuals driving specific projects or sub-initiatives be responsible for execution and accountable for outcomes. Furthermore, this ensures close alignment with overall national strategies and priorities.
- **A permanent discussion and decision forum** for program leadership to agree on priorities and initiative phasing, align crosscutting initiatives and resolve any conflicts that arise. The Taiwan example demonstrates the benefits this can bring.
- **Strong program management function** responsible for overall master planning and best-practice performance monitoring and management across all initiatives in the program. This ensures effective execution against targets across the effort, and helps to capture synergies and learnings across projects for effective scale up across the country.
- **Problem solving on core issues** with the mandate of senior Ethiopian leadership at the federal and regional levels to drive toward consensus and a joint vision in key areas can remove critical bottlenecks toward success. Recommendations for industry structure, in particular, require problem solving with multiple actors to achieve potential in input and output markets.
- **Coordinated effort on capacity and capability building and mindset change** for initiative owners and key stakeholders to empower them to drive initiatives independently and effectively. The intensive series of workshops held in Namibia is one example of how this can be done.
- **Additional, dedicated, high-caliber expert resources and funding support** for initiative drivers, through additional resources, until they have built the required capabilities themselves. Otherwise there is a risk of detracting from the resources available in the line ministries.
- **The existence of a dedicated entity as the center of support for the overall program.** If the overall program involves different ministries or includes both regional and federal stakeholders and the "lead ministry" has limited capacity and executive authority over other players, the dedicated entity is best set up as a new, stand-alone unit, as the Korea example demonstrates.

4.5 INITIAL HYPOTHESIS OF IMPLEMENTATION APPROACH FOR ACCELERATION OF AGRICULTURAL DEVELOPMENT IN ETHIOPIA

The success factors outlined above seem highly applicable to the Ethiopian case, while the types of support structure implemented by other countries can usefully inform design of a locally appropriate solution. The proposed set of accelerating priority areas outlined in this report aim at a step change in a sector that accounts for over 40 percent of the gross domestic product and involves multiple ministries as well as federal and regional players. Meanwhile, while MoARD could be seen as a "lead ministry" for this effort, it has several capacity constraints and limited implementation and executive authority over the various partners involved directly or indirectly in the sector. Tight program management and capacity building, especially in MoARD, would be a priority in the proposed effort – but probably even more so the bridging of capacity gaps in the short term to ensure projects can start immediately

An analysis of the path taken by other countries in similar efforts illustrates that a parallel process along two pathways is critical to start the program in Ethiopia: (a) plan a sequenced rollout of activities, focusing initially on priority projects that yield quick successes and build momentum and learnings, and (b) design and implement the necessary support structure to ensure that the above success factors are in place.

Based on insight from case studies as well as extensive discussions with senior officials at MoARD and other stakeholders on "how to make it work" in Ethiopia, presented below is a preliminary perspective, both on the sequencing of potential initiatives as well as on the most appropriate support structure to support MoARD, the regions and other partners in implementation.

4.5.1 Perspective on project sequencing

Within the five priority areas outlined in this report are encapsulated many different activities and projects, based on the detailed sub-sector diagnostic recommendations. Due to the capacity gaps highlighted above, and the need for sustainable change, these cannot all be executed at once, but must be phased in over 10–15 years. Prioritization and sequencing are important, as there is a need to demonstrate early success to build momentum and capture learnings from early activities, particularly in the case of new or innovative interventions.

A high-level sequencing could split projects between near-, medium-, and longer-term horizons – the examples shown in Figure 10 illustrate the first three horizons. This is illustrative and not exhaustive, and would need to be reviewed in detail during a detailed planning phase at the start of the program. Detailed implementation planning could then match projects to resources, taking into account interdependencies and critical constraints such as budget, human resource pool to drive projects, and foreign exchange reserves.

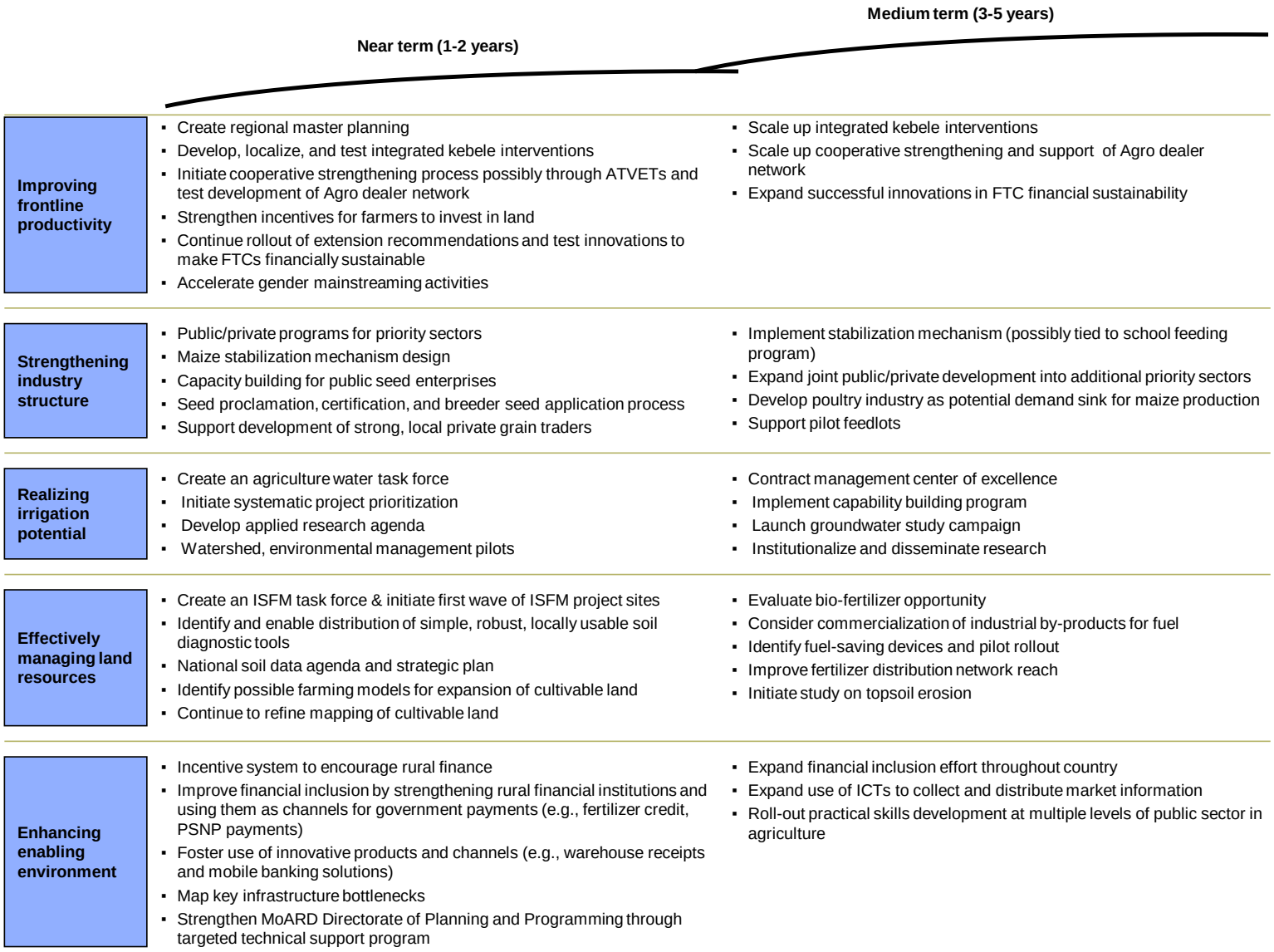
Some of these projects are nationwide priorities, which could be driven at a federal level fairly quickly, with the necessary support to fulfill any capacity gaps. Examples of these federal projects could include changes to the seed policy to allow independent branding, pricing, and distribution for private companies, or establishment of an agricultural water task force to improve accountability and decision-making on irrigation priorities.

Other projects require different stakeholders to be brought together, in a more experimental, consultative, and bottom-up approach (for example, development of a joint public/private sector development program for the livestock sector, with a focus on exports) (see case study on delivery labs). In some cases there is a need to identify innovative "proof of concept" models for scale-up, particularly at the regional level (e.g., more sustainable and market-oriented extension models, or effective models for local institutional linkages). The first wave of initiatives would pave the way for more rapid scale-up as new implementation approaches are tried and tested, and the support entity is ramped up.

There is a need to support leadership teams to co-design and co-own these initiatives. This has been done successfully in the case examples by assembling cross-sectoral teams from national and regional government bodies, business, civil society, and communities, in an intense process of leadership development and problem solving to identify execution priorities (see case example on delivery labs). This process will make the sector more effective by cultivating managerial, technical, and problem-solving skills and also by addressing the mindsets, attitudes, relationships, and core values that shape commitments, drive behavior, and inspire others.

This dual-pronged rollout strategy would enable GOE to move forward quickly (i.e., within three months) on some of these high priority projects, which will immediately begin to address growth and food security concerns, and build momentum. At the same time, it allows a deliberate and consultative approach on other issues that require broader stakeholder ownership and implementation capacity.

Figure 10: Preliminary prioritization of implementation over horizons



Case study – "Delivery labs" for rural basic infrastructure development in Asia

In mid 2000, an Asian country decided to address significant gaps in development of basic rural infrastructure. The target for the next three years was to provide access to electricity for 140,000 rural households, to clean treated water for an additional 360,000 households, and build 7,000 kilometers of new paved roads as well as 50,000 homes for low-income rural families. The planning process for such projects had been hampered by several problems, including lack of a central project database, cost and logistics issues in serving rural areas, and frequent project delays, caused by a lack of alignment between several involved federal and regional agencies.

To address these problems, the government decided to plan and execute the initiative based on a so-called "delivery lab" approach. The "delivery lab" consisted of a full-time cross-function dedicated team of senior officials from the involved agencies that had the task to develop a detailed implementation plan for the project in only six weeks. The team was facilitated by a group of experts in using innovative problem-solving and collaboration tools and did regular check-ins with the Prime Minister, who made the project a personal priority. Next to developing a "doable and detailed" implementation plan, the purpose of the lab was to break down silos between agencies, catalyze internal capability building, and help to identify "hidden talent" in the existing agencies.

The lab turned out to be a full success: The team managed to develop the required plan in time. Three months later, the construction of 500 road kilometers and 10 housing projects, as well as electricity connections to 25,000 houses and water connections to 70,000 houses, were already on the way. In addition, the project had identified over USD 120 millions in savings by identifying alternative water supply solutions and new contracting processes that reduced lead times for major projects from 15 to 8 months. "Delivery labs" are now a frequently used tool in the country for large and important "multiple-stakeholder" projects.

SOURCE: PEMANDU website

4.5.2 Perspective on program support structure

"If we are to do this we need a strong supporting unit - and we need it outside the current ministry structure"

— Senior government official

For successful implementation of the activities outlined above, there seems to be consensus among local stakeholders about the need for a new dedicated support entity, similar to the Korean Economic Planning Board. This entity, the Acceleration Unit, would provide various types of support to MoARD and other initiative drivers in implementing the activities that aim to accelerate overall agricultural development. The Acceleration Unit would not own or drive initiatives (each initiative would have a partner in MoARD or in the regions driving it. Instead, similar to the Korean case, this unit could be the focal point for coordination across the different involved Ethiopian ministries and regional players as well as the central provider of professional support to individual initiatives.

More specifically, the following support could be provided by the Acceleration Unit:

- **Overall program management** across initiatives, including initiative monitoring, best practice performance management, and master planning. Master planning would include facilitating the process of further activity prioritization and phasing of initiatives and managing conflict resolution, as well as alignment of donor resources against program priorities.
- **Support to key stakeholders in capacity and capability building and mindset change** "on the job". For example, the accelerator might help to identify and staff critical resources, provide training, and assist in the design of effective incentive systems. They would also share the vision of a compelling "change story" and act as role models, further supporting the process of change management. These activities would leverage existing processes, such as the BPR. A significant part of this support could be provided to MoARD to ensure it can become a strong leader of the overall effort. Capacity building efforts could include gender awareness and sensitization sessions to build shared understanding and broadened ownership of gender equality issues at all levels in the government, potentially unlocking additional talent.
- **Provision of additional resources to initiative drivers,** such as additional funding and expertise in planning, irrigation, or setting up public/private partnerships, to bridge existing gaps. Again, a significant part of this support could be provided to MoARD and the BoARDs.
- **Temporarily drive critical initiatives** where no natural owner can be found among the existing ministries, through the contractual engagement of third parties.

To provide this support in the most effective way given the local context, the following setup for the Acceleration Unit is recommended:

- **A new public entity with a clear corporate structure,** e.g., ECX in Ethiopia. Setting up the Acceleration Unit outside of the current ministries in this way would allow the team to operate outside current constraints of the existing ministerial structure, such as the ability to attract critical key talent from the private sector or the Ethiopian diaspora, at competitive salaries. ECX also serves as a good example of the professionalism and efficient operations that would be required of such an entity.
- **Governance through a Board of Directors** as the key decision-making body. This Board would have senior representation from all relevant, key government institutions and the regions, as well as potentially a small number of ex-officio (non-voting) members from the private sector or development community. The recommended setup would be for the Prime Minister to chair the Board, with a strong vice-chair role for the Minister of Agriculture, given the pivotal role of MoARD in the overall effort. Thus the Minister of Agriculture would chair regular "operational" Board meetings, while the PM would lead less frequent (e.g., semi-annual) executive Board meetings to guide overall strategy discussions. This

approach would facilitate the highest level of government sponsorship and ensure deeper buy-in across the broad set of stakeholders, while maintaining a strong role for MoARD. The Board of Directors could be complemented by an Advisory Board, bringing perspectives from key non-government players such as development partners, NGOs, private sector players, universities, civil society, and professional associations to the table. Technical working groups could also be used to advise on particular issues, e.g., pastoralist concerns.

- **Dedicated additional funding and high-caliber resources,** including an experienced, action oriented, business-minded and professional, high-performing "CEO". Funding and resources must be incremental to existing resources, to ensure an attractive value proposition to initiative drivers, and to avoid taking critical resources away from the ministries. Hiring should be entirely merit-based and focus on ensuring the right mix of skills, tenures, and backgrounds to maximize impact.
- **Regional teams** within the Acceleration Unit to address Ethiopia's federal and decentralized operational structure and to ensure that monitoring, support, and capacity building toward implementation activities is also available at the regional level, where a majority of initiatives would be carried out.

Case Study – The Bahrain Economic Development Board

Bahrain's Economic Development Board is a dedicated unit supporting the implementation of the country's National Vision 2030, an ambitious countrywide reform and growth program. It monitors the overall implementation of the Vision and supports its "client Ministries" upon request with dedicated internal consultants as well as a support budget. Its strong values-driven performance culture, policy of hiring only top-notch local university graduates or experienced Bahrainis and Expats, and significant success in making selected ministers "reform stars" by supporting their lighthouse initiatives (e.g., the Minister of Education) have led to a high demand for their support services. The Board of the entity is chaired by the Crown-Prince of Bahrain and includes all key members of the cabinet.

Bahrain is looked upon as a model case for country reform in the Middle East, having already implemented a large set of measures to liberalize the labor market, including a new regulatory authority; established a new conference center; over-delivered on its growth targets in its core sectors, tourism, logistics, and finance; and built three new major educational institutions.

SOURCE: Desk review (see Appendix 2)

4.5.3 Risks and risk mitigation strategies

The approach outlined above is not without risks, especially with regard to the proposed support structure. The unit could be established either as "too strong" or "too weak" a player in the overall system.

A unit that is too strong could be perceived as a competing "Super Ministry" by existing ministries, particularly if it takes effective control of their initiatives or resources, or takes credit for achievements away from the line ministries. This could lead to a lack of ownership and

sustainable impact. However, a unit setup that is too weak would be unable to deliver the required support and would become redundant bureaucracy in the system. This has been seen in some case examples where the incremental resources provided for the unit were insufficient to address the constraints experienced by the initiative owners, the unit's governance mechanism did not foster decision-making, and/or the way in which support was provided was not professional and service-oriented enough.

Case study – The Unit for Coordination and Monitoring Economic Policy in Senegal

In 2003, Senegal started implementation of recommendations laid out in its Poverty Reduction Strategy Paper (PRSP), an effective National Strategy co-created with the World Bank that focused on five industries (agriculture, aquaculture, tourism, textiles, and ICT) and five transversal themes (education, health, water, disaster response, and governance).

To support program implementation, the Unit for Coordination and Monitoring Economic Policy was set up inside the Ministry of Finance. The Unit was tasked with monitoring the overall program and coordinating key program participants (especially the ministries of agriculture, economy, finance, education, health, and water), including the IMF, the World Bank, several NGOs, and players in the private sector. The unit was also mandated to provide support on specific initiatives as required.

The program lasted until 2005, and while the first phase achieved several successes, evaluations both by the implementing parties and by independent researchers concluded that the program did not achieve its full potential. Key reasons identified included a lack of ownership by Senegalese ministries (that perceived the program as an external agenda being imposed on them from outside) and the setup within the Ministry of Finance that, while powerful, did not have executive powers to align the other line ministries involved. Also, evaluations stated that line ministries saw the new unit as an additional administrative burden that did not support them concretely in their reform priorities, and thus reduced interaction with it to a minimum.

SOURCE*:* Desk review (see Appendix 2)

To avoid a "too strong" setup, it is essential that support from the Acceleration Unit is not mandated but demand-driven. Initiative drivers are accountable for the success of their initiatives, and should decide themselves if and when they want support from the Unit. The Acceleration Unit's leadership and personnel must be seen as competent professionals who can bring value to the initiative drivers, rather than as political appointees or bureaucrats who drive their own agenda. In addition, the Acceleration Unit should be given the mandate to ultimately make itself redundant and dissolve, by empowering the line ministries, and be regularly evaluated on this goal.

Avoiding a "too weak" setup requires providing sufficient funding and a strong mandate from government, ensuring the Board of Directors provides direct guidance on key decisions, and again, putting in place a professional, "unbureaucratic" service organization.

Again the Korean case illustrates that such risks can be overcome with careful organizational design and tailoring of the model to the local context. In this example, the Economic Planning Board (EPB) was set up not as an owner, but as a neutral "supporter" and was staffed with the best available professionals. The unit had a strong funding base, was set up outside the existing ministries, and reported to the Prime Minister, who could foster decision-making across program participants. If the local context can be successfully accommodated in the unit design, a similar unit could also be a critical enabler for successful delivery in Ethiopia.

5. Next Steps

The recommendations outlined in this report and in the other sub-sector diagnostic reports are not an explicit roadmap of the activities the Bill & Melinda Gates Foundation is best positioned to solely resource; they reflect a set of findings to support MoARD and all donors in the planning and implementing strategies to accelerate growth and food security in the context of Ethiopia's nationally stated objective to achieve middle-income status by 2025.

In facilitating the diagnostic work across eight sub-sector areas and in preparing this synthesis report, the foundation has engaged with a wide range of stakeholders, from ministry officials to smallholder farmers and development partners. Throughout these discussions, the team has seen great local interest and momentum for this work, and huge enthusiasm for the concept of acceleration. Preliminary discussions with development partners suggest that many could be very supportive of such a program.

Subject to approval by the GOE and securing the necessary support from major development partners, this acceleration program could be operational and delivering results within a period of six to nine months. The most important steps are:

- **Stakeholder alignment.** Further alignment on the way forward will be needed among a broad set of stakeholders, including MoARD and other ministries, regional governments, local communities, development partners, the private sector, and other implementing partners.
- **Master planning**. There is also a need to develop a master plan for implementation, including both effective prioritization and sequencing of the initiatives (a preliminary outline is provided in Figure 10 above), and an assessment of the need for financial and technical support. Detailed sequencing will require an analysis of the critical constraints, such as available funding, human resources to drive change, or potential bottlenecks such as foreign exchange reserves. As outlined above, this could be carried out through an intensive multi-stakeholder process conducted over two to three months.
- **Development of partner commitment.** Agreeing with development partners on their support, including additional financing for the unit and new projects, as well as alignment of ongoing initiatives.
- **Unit design.** The detailed master plan would inform the design of the new unit, considering elements such as organizational structure, terms of reference, potential candidates, processes, governance, and the ramp-up plan. Support would be needed to establish the new unit and to staff key management positions.

6. Conclusion

The recommendations and the roadmap for implementation contained in this report build on the momentum of an encouraging set of trends in Ethiopia's agricultural sector. Agricultural growth rates of more than 8 to 10 percent *per annum* sustained during PASDEP I and the rapid expansion of key programs such as agricultural extension provide a foundation for strong returns on investment in the coming years. The combination of GOE and donor strategies and financing commitments for 2010–2014 also provide the framework to drive continued growth in the agriculture sector.

However, these efforts need to be enhanced, coordinated, and accelerated to achieve GOE's objective of sustained growth, food security, and attainment of middle-income country status by 2025. The "acceleration" program outlined in this report proposes a different approach to reach Ethiopia's agricultural development objectives. Rather than suggest another program, focused on a specific sub-sector of the agricultural field, this approach seeks to tackle the root causes of the gap between the strong strategies and policies in place with the reality of sub-optimal delivery and achievement against plans.

It does this by recommending a series of actionable and integrated activities in five focal areas that cover the agriculture sector across the breath of the country. The approach will strengthen the public systems and implementation partners as a way to ensure the sustainability of the effort. If implemented in a coordinated and systematic manner, with a mandate from senior Ethiopian leadership, the "acceleration" program can create a step change in agricultural development by enhancing the impact of several billion dollars of already planned investment and accelerating the trajectory of the largest sector in Ethiopia.

While the structure for implementation and the approach does represent a shift from business-as-usual, there is vast evidence that the recommended approach has potential to yield remarkable returns. The recommended program builds on this evidence, both in Ethiopia through examples such as ECX and the change management unit at Ethiopian Airlines, as well as in national agricultural transformation programs in other countries, particularly in East Asia. In the short-term, the approach can support MoARD and the regions to accelerate achievement of the objectives contained in PASDEP II, and in the long-term, the approach may be a critical factor in accelerating Ethiopia's path to reach middle-income status by 2025.

Appendix 1 – Rural Financial Inclusion

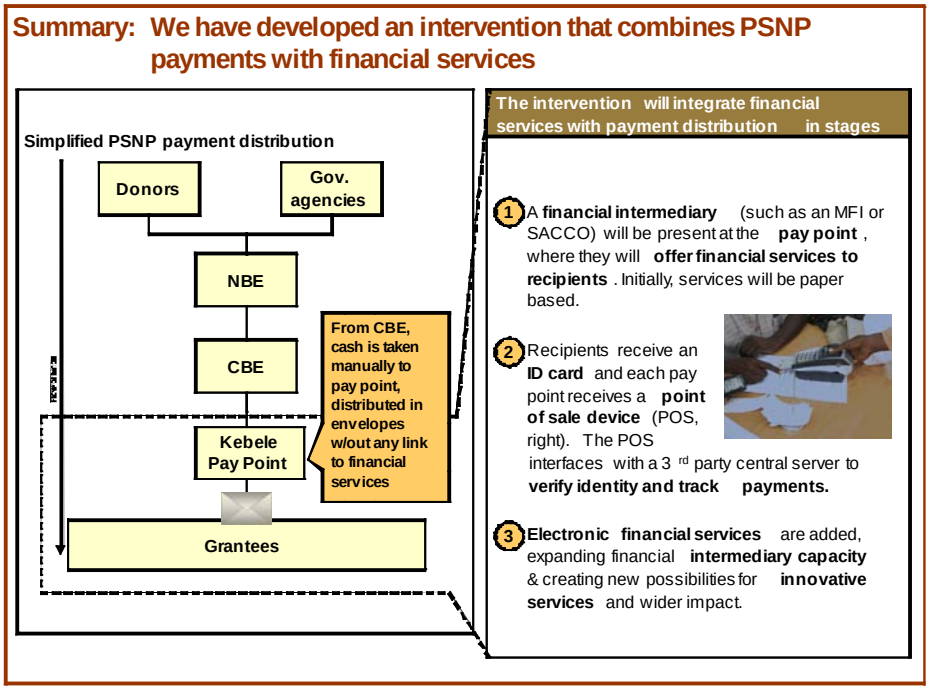
FINANCIAL INCLUSION IN ETHIOPIA: A TRANSFORMATIONAL INTERVENTION COMBINING PSNP PAYMENTS WITH FINANCIAL SERVICES

As part of the work of the Bill & Melinda Gates Foundation in Ethiopia, the foundation sought to ascertain the potential to significantly expand financial inclusion to a large percentage of the Ethiopian population. A team of international experts and consultants performed the review in conjunction with local stakeholders and experts. Activities included field visits, interviews with 30+ stakeholders, data gathering, and analysis. After developing a hypothesis for a potential intervention, the team undertook a feasibility analysis, including developing and refining the intervention model proposed here. We believe it is a transformational intervention that can have a large impact on the rural poor – expanded access to financial services has been shown to help households better prepare for emergencies, plan for life-cycle events (marriage, elderly care), and integrate into the overall economic activity.

The intervention both improves and leverages the Productive Safety Net Program (PSNP) by creating an electronic platform to deliver the PSNP payments. This electronic platform will benefit PSNP by allowing for more efficient payments that are timely and more predictable than they are at present. At the same time, the electronic platform will serve as delivery channel for financial services, especially savings, by financial institutions, such as MFIs.

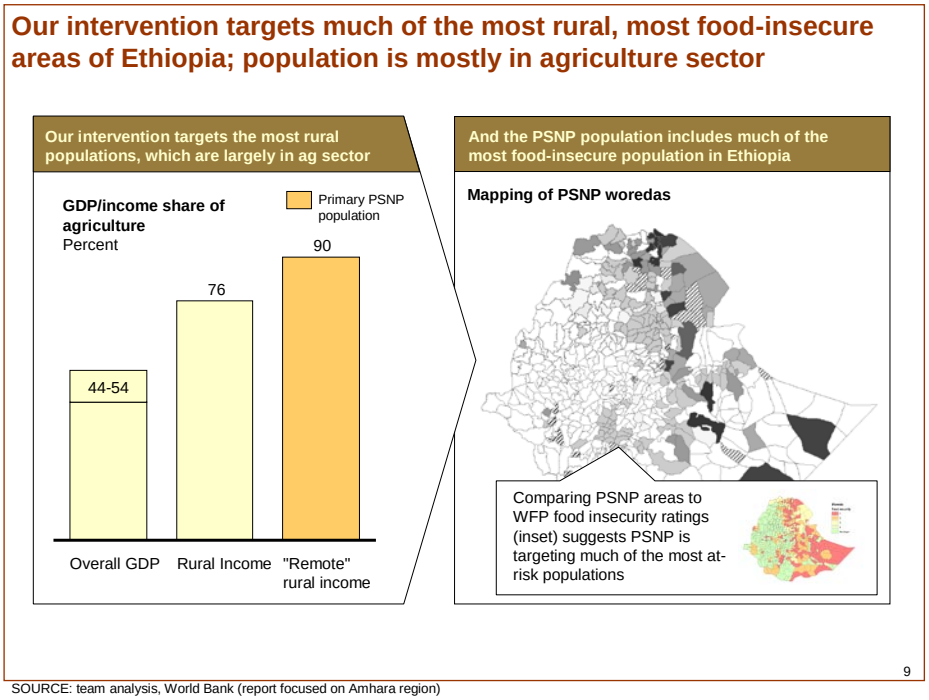
The PSNP distributes payments, usually in exchange for work, to 7.8 million individuals in chronically food insecure areas of Ethiopia. At present, the program funds are delivered manually using envelopes. Under the intervention, a financial intermediary such as an MFI will be paid a fee for its role in the distribution and will offer financial services simultaneously with the payment. Services offered will be a function of market demand, with financial institutions deciding to what extent and how to offer financial services.

The following diagram describes the current distribution mechanism and how the intervention would improve the flow from the *woreda* Commercial Bank of Ethiopia (CBE) to recipients:



The electronic delivery channel developed under the intervention is sustainable because of the substantial transaction volume the PSNP provides. Once in place, this channel will allow for other financial services to be added and delivered using the same platform.

The recommendation coordinates well with the agriculture interventions since it largely targets populations who work in the agriculture sector. Also, because PSNP targets the most food insecure *woredas*, this intervention focuses on the most at-risk areas, as described in the figure below.



SOURCE: team analysis, World Bank (report focused on Amhara region)

This recommendation is being developed in collaboration with an initiative commissioned by the Food Security Coordination Directorate (FSCD) within MoARD, MoFED, and the development partners supporting PSNP, to assess the ideas for improving the timeliness and predictability of PSNP transfers.

The joint intervention proposed is currently being discussed with a range of stakeholders and comprises three main initiatives:

A. *Manual system improvement.* Several reforms and incentives to improve the efficiency and effectiveness of the current manual-based payment system, mainly in communications, reporting, and performance management.

B. *Electronic reporting.* Introduces electronic reporting to expedite and improve the accuracy of the payment rosters that determine the periodic transfers. This aims to address current bottlenecks that result in delayed payments.

C. *Payments with financial services.* Creates a number of pilots with selected financial intermediaries and technology providers to test the electronic delivery of PSNP payments that could significantly improve the predictability of payments while providing access to financial services in several regions of the country.

A key feature of the intervention is that this is a coordinated, sequenced effort that will result in significant synergies. The proposed set of interventions aims to introduce reforms that will streamline processes, simplify lines of communication, and lay solid foundations for the deployment of a payment system that allows financial inclusion and opens the door to the benefits that derive from it. While components A and B are likely to be implemented with

existing PSNP resources, the foundation would support component C with funding and technical assistance.

Among the multiple benefits of the broader intervention, the use of technology to deliver payments and offer financial services in the PSNP-recipient *woredas* is likely to generate substantial and rapid impact in terms of: (a) predictability of PSNP payments and reduction of transactions costs for the PSNP beneficiaries; (b) access to affordable and safe savings services with the immediate effect of increasing rural savings mobilization; and (c) access to a variety of other financial services such as remittances and micro insurance.

Appendix 2 – Case Studies

CASE STUDY – COUNTRY REFORM IN BAHRAIN

Context

In 2007, the Kingdom of Bahrain, a small island nation in the Persian Gulf with roughly 1 million inhabitants and a *per capita* GDP of USD 27,000, was in a strong economic position. Its traditional openness to foreign direct investment, liberal socio-cultural environment and favorable geographical position close to Saudi Arabia had led to consistent real GDP growth rates of over 6 percent *per annum* in the last decade. This made Bahrain one of the fastest-growing economies in the MENA region. However, the country also faced several economic challenges, including a need to create a large number of jobs for new Bahraini labor market entrants (driven by Bahrain's demographics and increased female participation), growing regional competition, and large and expensive public sector that employed almost half of the local population.

Program overview

To address these challenges, Bahrain developed a National Vision 2030 for the country and a corresponding five-year plan with specific initiatives, performance targets, and owners to implement the vision[30]. The National Vision and the plan, which incorporated the strategic thinking of all 15 key ministries, was officially announced and published in 2008. It consisted of 135 specific reform initiatives that addressed social, economic, and government reform, including major programs in the fields of national budgeting, labor market liberalization, healthcare, and education. In addition, it also encompassed sectoral growth strategies in the fields of finance, tourism, and logistics. Even though initiatives often required the cooperation of multiple stakeholders, each initiative had a primary owner selected among the key government institutions.

Support unit

To support the implementation of the vision and the strategy, the Bahrain Economic Development Board (EDB) was set up. Multiple tasks were assigned to the unit[31]. First, it was set up as the “watchdog” of implementation that measured success of the various initiatives. Since the unit had already led the development of the vision and the strategy, it was also tasked to update the planning on a regular basis in coordination with relevant stakeholders. The key function of the EDB was to provide specific support on reform projects to other ministries through its more than 40 dedicated internal consultants. Support for client ministries included

[30] Country of Bahrain (2008)
[31] McKinsey Quarterly (2007)

helping them to address capacity or skill issues in order to make them stronger and more self-standing project owners going forward. Finally, two key tasks in the strategy, namely country marketing and the attraction of foreign direct investment (FDI) were not supported but owned by the EDB. This was due to the fact that, at the time of launching the strategy, no appropriate owners for these tasks could be identified.

Organizationally, EDB was set up as a government entity with special status. Its board of directors was chaired by the Crown Prince of Bahrain and included the ministers and heads of all involved government institutions as well as selected private sector players. The board met on a monthly basis and provided a forum for the Crown Prince and ministers to discuss progress on strategy implementation. EDB itself was led by a former top diplomat of the country in a de facto ministerial rank, supported by a strong chief operations officer, who managed the everyday business. Apart from the dedicated internal consultants, EDB also had a large business development department (responsible for FDI attraction) and marketing and communication department (responsible for the country image campaign), leading to a total organization size of over 120 full-time equivalents. Its staff was recruited among former government and private sector top talent, including several experienced expatriates, as well as many young Bahraini high potentials. While its special status allowed EDB to pay salaries significantly above standard government levels, salaries were only part of the talent attraction strategy. Another part was its setup and external positioning as a highly values-driven organization that quickly made serving in the EDB a matter of national pride and duty among many Bahrainis.

Outcomes of the program

While the first five-year plan of Bahrain is still under implementation, the reform program has already shown several significant successes, including the implementation of a new approach for expatriate labor management, the setup of a new major conference center targeted at MICE (meetings, incentives, conferences, and exhibitions) tourism, a comprehensive judicial reform program, and the setup of various new educational institutions, including a Polytechnique, Teacher's College, and an Educational Quality Assurance Authority. These lighthouse successes have been achieved and were fully credited to the driving ministries but had received strong EDB support. This model of turning client ministers into “stars” in the cabinet has led to a strong increase in demand for EDB's services.

Key learnings

Several learnings and success factors for the implementation of country reform emerge from the Bahrain case. A first is that setting up a support unit as a new and independent entity, governed by a board that includes all involved key ministries and led by the countries highest authority, can strongly facilitate the coordination among the involved government institutions. Another key learning is that setting up a relatively powerful and big support unit such as the EDB requires careful organizational design, in order not to have other ministries perceive it as a competing

"super ministry." In the case of EDB, this was prevented with the strong support character of the unit and the approach to turn its clients into "stars," combined with the fact that support by EDB was fully demand driven. Another success factor was talent. Recruiting both local and international top talent was instrumental for creating a strong value proposition for the supported project owners. This was facilitated by EDB's merit-based recruiting policy and its ability to pay non-government salaries. However, its values-driven business model that helped to attract "patriotic" national top talent has also played a strong role. In addition, the assignment of selected key tasks for which no appropriate owner could be found to the unit also turned out to be successful. Finally, the case demonstrates the importance of creating early successes in implementation in order to sustain momentum and increase buy-in for reforms.

Sources

Kingdom of Bahrain (2008): Economic Vision 2030, Manama.

McKinsey Quarterly (2007): Meeting Bahrain's challenges. An Interview with the Crown Prince Salman Bin Hamad Al-Khalifa, New York.

CASE STUDY – COUNTRY REFORM IN KENYA

Context

In 2007, Kenya could look back on some economic successes: It had seen four consecutive years of GDP *per capita* growth after a significant decline between 1999 and 2002, was one of the major destinations for foreign direct investment (FDI) in the region, and was widely seen as the financial center of Central Africa. However, while growth in recent years had been positive, it had also been extremely low with under 2 percent annually. In addition, the country had also lost its position as Africa's leader in terms of FDI attractiveness since the mid-1990s and suffered from a set of structural issues including lack of a diversified economy, low investments, poor infrastructure, high levels of inflation, regulatory issues in the financial sector, and underperforming healthcare and education sectors[32]. The government therefore developed a national vision for the country in 2030 with the ambition to become a middle-income country providing a high quality of life to all its citizens in 2030." In order to implement the vision, a five-year plan called National Economic Strategy was developed.

Program overview

While the vision – and the derived strategy – covered economic, political, and social reform, a focus was put on economic aspects and the overall goal to achieve a real GDP growth target of 10 percent *per annum*. To reach this goal, both economy-wide improvement areas and focus sectors were defined. Overarching topics included macroeconomic stability, governance reforms, infrastructure, energy, security, and land reform, while focus sectors encompassed agriculture, trade, manufacturing, business process off shoring, and financial services[33]. Specific measures to reach these targets included a stronger focus on coastal, premium-segment, and business tourism, a higher focus on cash crops in agriculture, infrastructure investments to strengthen trade, FDI attraction in the field of business process off shoring, and a set of legal and institutional reforms in banking. Across sectors, the plan also prominently featured the idea of special economic zones. All measures were assigned to specific owners in relevant government organizations such as ministries or the Central Bank.

Support unit

To support the implementation of the Vision 2030 and National Strategy, the government set up the Vision Delivery Secretariat (VDS). The unit was tasked with monitoring the implementation of the strategy, facilitating the cooperation of key government owners for the defined initiatives, and providing hands-on support for them. With regard to the latter, the VDS had four to five dedicated "consultants" available per key sector to provide content and methodological support

[32] Kenya Institute for Public Policy Research and Analysis (2009)
[33] Government of the Republic of Kenya (2007)

to stakeholders. The unit was also responsible for the overall communication of the strategy progress. Organizationally, the organization was set up inside the Ministry of Planning.

Outcomes of the program

So far, the economic reform program of Kenya has not achieved its high aspirations. With an average real GDP growth of around 4.5 percent, economic growth has been solid but far below the target rate. While this has been partly due to the economic crisis from which Kenya has only slowly recovered as well as unforeseen political violence and instability after the 2007 elections, it has also been attributed to issues with regard to both the reform program itself and the setup of the support unit[34]. Issues brought up with regard to the reform program include overambitious targets and a lack of prioritization. With regard to the unit, identified issues included an insufficient monitoring and evaluation system and the setup inside an existing ministry. This reportedly led to a suboptimal program management, issues with regard to the coordination across ministries, buy-in of project owners, and quality of support provided by the VDS.

Key learnings

The Kenya example shows that the setup of a support unit within an existing ministry – if that entity does not have a certain level of executive power over other program participants and is not sufficiently strong in terms of capacity itself – can have adverse consequences for a growth program.

Sources

Kenya Institute for Public Policy Research and Analysis (2009): Kenya Economic Report 2009, Nairobi.

Government of the Republic of Kenya (2007): Kenya Vision 2030.

IMF (2010): Kenya: Joint Staff Advisory Note on the Poverty Reduction Strategy Paper, Washington.

[34] For this and the following, IMF (2010)

CASE STUDY – FINANCIAL SECTOR REFORM IN LIBYA

Context

Starting in the late 1990s, the relationship between Libya and the international community of countries – and specifically with the US – improved significantly. In 1999, the United Nations suspended all sanctions against the country; they were then formally removed in 2003. A year later, the US also lifted its trade embargo against Libya. In the context of opening up the country, the Libyan government also decided to allow foreign direct investment into its banking market and put in place relevant regulation in 2005. At the same time, the government had conducted a holistic review of the local financial sector and had identified a set of issues that needed to be addressed to make foreign bank entry a success and generally strengthen the banking sector as an enabler for economic growth in the country[35].

Program overview

Based on the diagnosis performed in 2005, the government put in place a large-scale banking sector reform program starting in the second half of 2006. The three key pillars of this program were (1) strengthening of the financial sector industry structure, (2) improving the capabilities of local players, and (3) improving local systems and technology[36]. Key measures with regard to industry structure were the creation of a "National Champion" through the merger of two large, local government-owned banks in addition to creating optimal entry conditions for foreign institutions. With regard to capability improvement, emphasis was put on improving credit risk management capabilities as well as human resources in the sector. Finally, with regard to systems and technology, the key initiatives were the build-up of a national payment system and installing new core banking systems as well as a countrywide credit bureau.

Support unit

To support the reform program, the government decided to set up a special support unit inside the Central Bank of Libya (CBL). Reasons for setting up the unit inside an existing organization were the large influence that CBL had over all other key stakeholders in the program (primarily public banks that were themselves owned by CBL) and its highly capable and reform-minded governor and staff. The new unit, headed by a Libyan who had been a former top manager in an international investment bank and had just returned to his home country, reported directly to the governor and performed three main functions. First, it monitored implementation and ensured individual project owners were properly coordinated. Second, it provided consulting support, using both internal and hired third-party resources to project owners, including experts on merger and risk management. Third, the unit also owned several system-overarching reform projects,

[35] IMF (2007)
[36] Oxford Business Group (2008)

such as the development of a new credit-risk methodology for all public banks, a national HR improvement initiative, and the national payment system program. Finally, it also helped the involved banks to build capabilities by identifying, hiring, and seconding foreign top talent to them.

Outcomes of the program

The program was a major success[37]. Two years after program start, a new "National Champion" institution had been created from a merger of two large government-owned banks, two large international banks, BNP Paribas, and Arab Bank of Jordan; it had acquired controlling stakes in two Libyan banks; and massive reorganization and performance transformation programs in the remaining state-owned banks had taken place. Also, a new credit risk management process had been developed and rolled out in 2008 in all major government-owned banks.

Key learnings

Four key learnings emerge from the Libyan case. First, setting up a support unit inside an existing government organization can work well if this institution has sufficient power of the other program participants and is a very strong player in the system in terms of capacity and capabilities. Second, with regard to services provided by the unit, a combination of rigorous performance-based monitoring and hands-on support for project owners turned out to be very successful in ensuring that project owners had both sufficient incentives to deliver well and also access to the required skills. Third, in terms of capacity building, while the provided training programs were highly welcomed by the receiving banks, the change brought about by hiring foreign top managers and placing them inside the organizations of the project owners turned out to be an even more powerful measure. A fourth key success factor was the highly capable leaders, both in the Central Bank and in the support unit, as well as excellent "chemistry" between them that contributed significantly to the success of the program.

Sources

IMF (2007): Financial Sector Reforms and Prospects for Integration in Maghreb Countries, France.

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[37] Oxford Business Group (2008)

CASE STUDY – ECONOMIC DEVELOPMENT IN MALAYSIA

Context

In the 1950s, Malaysia had a *per capita* GDP of USD 200, and agriculture complemented by some mining activity was the backbone of the economy. Malaysia also faced significant economic development constraints with regard to capital, skilled labor, and underdeveloped infrastructure for transport, energy, and communication. However, the country could build on a set of strong legal and political institutions that were developed during the British colonialization phase. In terms of overall economic development, that placed the country roughly on a par with Ghana[38]. In order to foster economic growth, diversify the economy, and address growth constraints, the government decided to put in place a strategic planning process to drive economic development. The first national strategic five-year plan was put in place in 1956.

Program overview

Since then, Malaysia has developed multiple long-term visions (e.g., the Outline Perspective Plan for 1971 to 2000 and the Vision 2020, published in 2001) as well as more operational five-year strategic plans that included detailed targets, initiatives, and owners for implementation, primarily from the public sector[39]. The focus of the individual development plans changed: While the first plans focused strongly on infrastructure development, educational reform, and growth in the agricultural sector, later plans focused more on medium and heavy industry development, service sector growth, and lately also high-tech and innovation-intensive industries. However, common themes in all plans have been the idea of the private sector as a growth driver that is guided by the government and enabled by proper regulation, institution, and infrastructure building. Also, the idea that government reform plans should be executed as a coordinated portfolio of projects that are executed by various key ministries and other government institutions and overseen by the Prime Minister has been a constant in every Malaysian development plan to date.

Support unit(s)

To support the implementation of the national visions and national strategies, Malaysia decided to set up two support units in 1960. These were the Economic Planning Unit (EPU) and the Implementation and Coordination Unit (ICU). The EPU was primarily responsible for developing and budgeting the strategic development plans and monitoring their implementation. It also supported stakeholders in developing even more detailed individual implementation plans. In addition, it served as a coordinator between different government entities, as well as donor and the private sector, and channeled government funding to initiatives. To execute its planning,

[38] For this and the following, Asare and Wong (2004) and Zubair (2007)
[39] For this and the following, Economic Planning Unit of Malaysia (2004) and Zubair (2007)

monitoring, coordinating, and funding tasks, it has a dedicated staff of over 100 “elite” economists, lawyers, and sector experts. The ICU in turn provided even more hands-on support to project owners, including building their capacity and also owned selected initiatives that were of special importance to the country. Both units report directly to the Prime Minister. EPU and ICU also frequently cooperated, e.g., to ensure that capacity building and strategic planning went hand in hand. In this context, Malaysia has, e.g., frequently employed the concept of so-called delivery labs. These labs were six- to eight-week-long, full-time, and intense workshops for a set of top decision-makers from different ministries with the task of developing detailed implementation plans for cross-ministerial initiatives and at the same time strengthening the planning capacities of the ministries. EPU and ICU again facilitated these workshops.

Outcomes of the program

Malaysia's economic development has been highly successful. Average real *per capita* GDP grew with above 6 percent *per annum* in the period 1950 to 2007. With a (nominal) *per capita* GDP of over USD 14,000, it ranks today in the top 50 nations worldwide and is Number 2 after Singapore in Southeast Asia. Today, the economy is primarily driven by an advanced service sector (contributing roughly 60 percent of total GDP) as well as a well-advanced manufacturing sector (contributing over 30 percent of total GDP) and exports. It is also considered a regional leader in terms of both its educational and healthcare systems.

Key learnings

The Malaysian case again stresses the benefits of a central unit that supports the implementation of a large-scale, cross-ministry, cross-industry program with dedicated high-quality resources responsible for master planning, program management, “hands-on” support function, and capacity development of project owners. Also, the fact that the support function reported directly to the Prime Minister contributed significantly to a fast and efficient alignment of activities across ministries.

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CASE STUDY – CEREAL MARKET REFORM IN MALI

Context

In the beginning of the 1980s, approximately 70 percent of the total calories in the Malian diet came from cereals, with millet, maize, sorghum, and rice playing a key role[40]. Government food policy thus focused on providing a cheap cereals supply to a strategically important set of urban customers, such as government employees, the military, and students. To archive this, the government fixed the prices of major cereals and required forced deliveries to a national grain board, which then distributed the cereals through urban consumer cooperatives. However, with fixed prices and little incentives for productivity or volume growth, the country quickly turned from a net cereals exporter in the 1960 into a net importer in the 1970s. Faced with an increasing dependency on food imports and the rising costs of its marketing policies – and an increasing unwillingness of donors to pay these – the government initiated the Cereal Market Reform Program (PRMC) in 1981.

Program overview

The stated goal of the PRMC was to increase producer and consumer rents, liberalize grain trade, and improve the operating efficiency of the national grain board. For this purpose, the PRMC defined a set of initiatives, to be implemented by the Ministry of Economy and Planning and financed by donors, that centered around the pillars of "sectoral adjustment activities" (mainly governance and operational improvements of the national grain board), "market strengthening" (e.g., deregulation to allow private sector entry and institution building), and "food crisis prevention and mitigation" (e.g., the build-up of a national security stock, the development of a food crisis early warning system, and improved transport of emergency food aid).

Support unit

To support the reform program, a unit was set up inside the Ministry of Economy, Planning, and Integration that consisted of a steering committee, a management committee, a technical committee, and a joint monitoring committee on finance. The role of the steering committee was to provide a forum for discussion and decision-making for all involved government institutions under the chairmanship of the Minister of Economy, Planning, and Integration. The management committee was a discussion and decision-making forum for donors and an advisory board for the steering committee but also had effective budget control over the program. The technical committee was tasked with master planning and supporting specific initiatives. It also strongly focused on training and institution building for program participants, which included building the Observatoire du Marché Agricole, the market information system, organizing trainings for local experts within donor institutions or abroad, and funding research on effective cereal market

[40] For this and the following, Dembélé and Statz (2002) and USAID (2003)

policies. Finally, the joint monitoring committee was tasked with setting up and running an overall monitoring and evaluation system for the program and communicating results transparently to the other committees.

Outcomes of the program

The PRMC is generally regarded as a major success. Around 2003, average farmer incomes and productivity had significantly increased. The continuous reform process also managed to convince farmers of the long-term commitment of the government to reforms, fostering farmer and trader investments into trucks and warehouses. In addition, higher competition contributed to lower consumer prices. This in turn was a major measure to reduce poverty, since consumers spend on average more than half of their income on food.

Key learnings

Program-wise the combination of heavy, targeted infrastructure investments combined with a long-term commitment to policy change turned out to be extremely successful. With regard to the support model, the Malian model demonstrates the effectiveness of support that builds capacity for market participants by building new critical market institutions and training staff in existing institutions. Also, the effective channeling of donor resources against program objectives that was facilitated by the support structure led to a more bundled and targeted approach to designing and funding measures.

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CASE STUDY – HEALTH SECTOR REFORM IN NAMIBIA

Context

In 2006, a diagnosis on the state of the Namibian healthcare system led by the Ministry of Health indicated that the country's maternal mortality ratio had doubled since 1992[41]. At that point in time, a woman in Namibia was almost 100 times more likely to die during pregnancy than a woman in Europe. While results partly reflected Namibia's high rate of HIV/AIDS infection, other drivers were limited access to health facilities (mostly due to a rural, dispersed population) and the quality of the healthcare system itself. In order to address the maternal-mortality issue, the country's Ministry of Health and Social Services, in partnership with the Synergos Institute (an international NGO), the Presencing Institute (part of the Massachusetts Institute of Technology), and McKinsey (a management consultancy) formed the Maternal Health Initiative that was tasked to develop a program to address the maternal health issue and its implementation.

Program overview

The Khomas region, the most populous of Namibia's 13 regions, was chosen as a pilot for the program. Focus was put on designing and prototyping maternal-health solutions for problems associated with community mobilization, the capabilities of health workers, and health system operations, respectively. Specific interventions, driven by regional health authorities, included improving the quality of care during pregnancy and shortening the waiting times in antenatal units or the response times of ambulances.

Support unit

In order to support the initiative, a delivery unit, modeled after the United Kingdom's Prime Minister's Delivery Unit (PMDU) was set up[42]. Similar to its "big brother," the role of the unit was to monitor results across initiatives, integrate actions across workstreams, and ensure accountability and performance management. It was, however, set up on a regional and not on the federal level in order to ensure that it could collect data and discuss with owners "where the action was." In addition to the program management and monitoring function, heavy emphasis was put on hands-on support for initiative owners and capacity building. Both diagnostics and capability building were based on a comprehensive capability diagnostic of the Namibian Ministry of Health that benchmarked the organization against a comparable set consisting of hundreds of similar government institutions. Targeted capability building support was offered both to the leadership team and the frontline staff of the ministry. For the leadership team, the initiative established a "Leadership Development Forum" consisting of the top 25 leaders in the ministry. Significant leadership building support was provided to the group through an intensive

[41] The ratio had increased from 225 per 100,000 live births in 1992 to 449 in 2006, McKinsey Quarterly (2010)
[42] See the case example on multi-sector reform in the United Kingdom

series of workshops and coaching activities related to their specific initiatives. Frontline capacity building for staff such as nurses and ambulance drivers was, e.g., facilitated through on-the-job training by dedicated experts. More generally, support also included connecting and aligning the various relevant government and non-government stakeholders such as NGOs that needed to cooperate on specific initiatives

Outcomes of the program

While still in its early stages, the program has already generated significant successes. Specific implemented measures that have already reduced maternal-mortality rates in the pilot region included improved trainings for midwives, the introduction of mobile clinics that were set up in rural areas, and the implementation of several awareness-increasing measures for maternal health. Due to these successes, the program in now in the process of being scaled up countrywide.

Key learnings

The Namibia example stresses the importance of capability building support, both delivered to senior leadership as well as to frontline staff for the implementing organizations. A key success factor for the capacity support provided in Namibia was that it was based on a comprehensive capacity diagnostic that revealed several “hidden” capacity issues in the ministry. It also stresses that effective monitoring and performance management goes a long way in incentivizing initiative owners to properly deliver against their targets, but that it needs to be complemented with capacity building support if initiative owners lack the relevant skills, mindset, and manpower to effectively deliver. Finally, the example also illustrates the function of a support unit to facilitate the planning and alignment process between government organizations and the civil society.

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CASE STUDY – COUNTRY REFORM IN SENEGAL

Context

In 2003, Senegal had been through decades of economic performance far below expectations. Real GDP growth has been below 2 percent in recent years. Also, food security, access to healthcare services, and the outcomes of the educational system remained low to critical[43]. Problematically, high levels of foreign debt significantly decreased the options of the government to foster economic development. Debt amounted to more than 70 percent of GDP in 2000, more than half of which it owed to multilateral organizations, primarily the World Bank. Based on this, the World Bank and the IMF set up a scheme to grant the country foreign debt relief. As a prerequisite for this debt relief, the country was supposed to devise a strategy detailing how money that would have been spent paying of the country's debt would now be spent to reduce poverty in the country and foster economic development. The resulting strategy was Senegal's "Poverty Reduction Strategy Paper (PRSP) 2003 to 2005."

Program overview

The strategy, owned by the government of Senegal and co-created by the IMF and the World Bank, and with the involvement of the private sector and NGOs, included sector strategies for agriculture, aquaculture, tourism, textiles, and the build-up of an ICT sector and also stressed the transversal themes of education, health, water, disaster response, and country governance. Proposed measures included land development and restructuring of legal frameworks governing the rural sector as well as infrastructure investments and regulatory and fiscal incentives for the private sector in tourism, textiles, and ICT. All key measures were primarily government driven and assigned to key ministries, whereby the ministries of agriculture, economy, finance, education, health, and water played the leading roles. The strategy was later updated and documented in Senegal's second PRSP, covering the period 2006 to 2010.

Support unit

To support the implementation of the PRSP, the government set up the Unit for Coordination and Monitoring Economic Policy (UCSPE). Tasks of the unit were to set up and run a monitoring and evaluation system to track the implementation of the various program measures. The unit also facilitated the interaction between individual stakeholders and the Ministry of Finance as well as the World Bank and the IMF, which together provided the funding for the developed initiatives. In addition, the unit also had the formal role to serve as a "thought partner" for implementing institutions on key issues but had few actual resources available for this task. Organizationally, the UCSPE was placed in the Senegalese Ministry of Finance.

[43] For this and the following, Republic of Senegal (2002) and World Development Movement (2003)

Outcomes of the program

While the PRSP did achieve successes with regard to real GDP increases, sector growth, and poverty reduction, especially the first Senegalese PRSP program fell short of its targets and suffered from significant delays in implementation. Reasons cited include both issues in the program and in the support unit setup[44]. With regard to program setup, the first PRSP was strongly driven by the IMF and the World Bank, which also significantly influenced the setup and design of the improvement measures. This reportedly led to less than optimal buy-in and ownership of local government organizations. With regard to unit design, setting up the monitoring entity inside the Ministry of Finance that itself suffered from severe capacity and capability issues at the time when PRSP was launched is also frequently reported as an issue that complicated the monitoring and support processes and led to the view among some program participants that the UCSPE was more of an additional administrative burden associated with the program than actual implementation support.

Key learnings

The Senegal case stresses the importance of setting up both the program and the unit in a way that fosters local ownership of measures and execution. In addition, it illustrates the dangers of providing implementation support through institutions that are themselves struggling with capacity and capability issues and setting up a "too weak" support structure that is then viewed as redundant and not value adding, relative to already existing structures.

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[44] For this and the following, USAID (2003) and Philipps (2005)

CASE STUDY – COUNTRY REFORM IN SOUTH KOREA

Context

In 1961, South Korea had been through a decade of political and economic instability. The Korean War (1950 to 1953) had resulted in massive destruction of industrial facilities and hyperinflation. During the postwar reconstruction period, the government tried to push economic development through a combination of import substation and foreign aid, primarily from the United States. While significant successes with regard to, e.g., building up a modern transport and communication infrastructure as well as an educational system were achieved, economic growth was slow and around 4 percent in terms of *per capita* GNI *per annum*[45]. Agriculture continued to be the key sector of the economy, contributing roughly 40 percent of total GDP and more than 60 percent of total employment. Partly as a consequence of stagnant economic development, President Rhee was overthrown by a student revolution in 1960. His successor, Chang Myon, was replaced in 1961 by General Park Chung-hee, who led a military coup against him. The new government quickly declared economic development and industrialization as the national objective. The plan was to bring about rapid development through a series of strategic growth plans and strong central government leadership. This was based on the belief that no other South Korean institution had the capacity or resources to push fundamental change in the economy fast enough.

Program overview

The cornerstones of the government's change program were a set of five-year economic development plans, the first of which launched in 1962[46]. Key themes of the strategy were a shift from agriculture toward industry and businesses services as well as export-led growth complemented by import substitution. The plan also foresaw a strong role for large private conglomerates (so-called *chaebol*) that, however, first needed to be developed and nurtured by the government through incentives such as cheap capital, export promotion measures, or tax incentives. Owners of the projects were mainly government institutions but also key private sector players. The plan also included specific growth targets such as export or production quotas for the private sector. While these key themes were maintained in all subsequent plans, industry focus shifted from agriculture, basic materials, and infrastructure (first economic development plan from 1962 to 1966) to industries such as steel, machinery, and chemicals with a focus on import substitution (second economic development plan for 1967 to 1971) to heavy industries and an export focus (third economic development plan for 1972 to 1976) to high tech (forth and fifth economic development plans for 1977 to 1981).

[45] For details on the Korean postwar period, Lee (2001) and Korean Development Institute (2005)
[46] For this and the following, Savada and Shaw (1990)

Support unit

To support the implementation of the overall strategy and the five-year plans, South Korea set up a new entity called the Economic Planning Board (EPB). The EPB's function was to develop and revise the five-year plans, manage the overall implementation (including monitoring of initiative progress), coordinate the individual project owners (in total more than 20 major ministries, several private sector players and donors) and – most importantly – allocate resources, both from the government and from donors, to projects. While the majority of resource allocation was financial, the EPB also had a large number of dedicated advisors that could if required work with the initiative owners to support them with capacity or expertise. Finally, the unit was responsible for a set of foreign economic policy measures, which fell outside the scope and capacity of the Ministry of Industry and the Foreign Ministry at that time.

The unit was set up as a new, independent entity, reporting directly to South Korea's Prime Minister. Its CEO held the title of Deputy Prime Minister and chaired the regular cross-ministerial meetings on economic development (that sometimes also involved representatives from the private sector). Staffing of the unit was based on a rigorous selection process among applicants that put a strong emphasis on high intellectual capabilities, content expertise on key topics (e.g., specific industry expertise), and a "can do" attitude, rather than seniority or formal educational qualifications only. Because of its cross-ministerial coordination role, strong role in project funding, and staffing with top talent, the EPB was often referred to as the "nerve center" of Korea's economic development[47], and even an effective "Super Ministry."[48] Despite this strong role in economic development, the unit was also not *per se* set up as a permanent institution. Instead, a central part of its mandate was to support project owners to a degree where they were strong enough to no longer need external support and thus ultimately make itself redundant.

Outcomes of the program

South Korea's development program was hugely successful[49]. Average annual GDP growth during the program period increased to over 9 percent *per annum* while industrial production and exports grew by up to 25 percent and 45 percent respectively *per annum* during the same period. This was strongly attributed to the work of the EPB that thus gained a reputation as the "locomotive" of change. The unit also successfully facilitated the creation of other strong private and public institutions, such as the Pohang Iron and Steel Company (POSCO), the Korea Telecommunications Authority, the Korea Electric Power Corporation, the Office of the Railroad, and the Korea Monopoly Corporation. For some of these entities, e.g., POSCO, the EPB effectively served as an incubator. The EPB also succeeded in its mission to empower initiative owners. As a result, in the late 1980s, the power to allocate resources was restored to

[47] Saveda and Shaw (1990)
[48] Korea Development Institute (2005)
[49] For this and the following, World Bank (2010)

the functional ministries. Even later, in the mid-1990s, the EPB was completely dissolved into existing ministries.

Key learnings

One key learning from the Korean experience is that a broad, overarching economic development program that involves multiple ministries is best led by the Head of State himself. A further insight is that a support unit, set up in order to support such a program, should have sufficient power and resources to be an actual help to the supported entities but at the same time be set up as an entity that has a "supporting" mindset. The fact that EPB even had the clear mission to empower the other ministries to a degree that would ultimately make itself redundant was key in this regard. Again the case illustrates the importance of resourcing and staffing the unit sufficiently to provide the best support possible to initiative owners.

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CASE STUDY – AGRICULTURAL DEVELOPMENT IN TAIWAN

Context

In 1950, the recently founded Republic of China, commonly known as Taiwan, faced severe economic issues. Both the Second World War and the Chinese civil war had left large parts of the country destroyed. Also, since the government considered itself at war with the People's Republic of China (PRC) and strongly focused on building up the armed forces, funds for reconstruction and fostering economic development were scarce. In addition, providing food security for the quickly growing population became a serious issue. To jointly address the issues of reconstruction, economic development, and food security, the government decided to put in place a large-scale growth and transformation program for the agricultural sector[50].

Program overview

Overall targets of Taiwan's agricultural growth program were increases in food supply and agricultural exports and decreases in imports in order to generate foreign exchange, improvements in farmer livelihoods, and agricultural GDP growth. In order to achieve this, the program defined initiatives in the key areas food, crops, forestry, fisheries, animal husbandry, and water conservation that included agricultural productivity improvement projects, a major land reform, and education projects for the rural population. By the formal end of the program in 1979, over 700 public and private agencies and companies had carried out almost 6,500 initiatives.

Support unit

The central vehicle to support Taiwan's agricultural growth plan was the Sino-American Joint Commission on Rural Reconstruction (JCRR). The JCRR had been set up in China in 1948 under the US China Aid Act, but was quickly relocated to Taiwan after the victory of the communist regime and the foundation of the PRC. The primary objective of the JCRR was to manage and monitor the overall reform program and provide financial and technical assistance to project owners. This included guidance in problem solving and capacity building programs for governmental and private agencies. Led by a steering committee of senior project owners, the JCRR was also responsible for channeling donor resources against program initiatives.

Outcomes of the program

Taiwan's growth program turned out to be a major success. During the period 1950 to 1970, real *per capita* GDP increased on average by above 4 percent *per annum,* while agricultural sector output, total food production, and agricultural productivity grew faster than in a set of benchmark countries, including Korea and Thailand. With regard to living standards, a key study in 1957 on

[50] For this and the following, Nair (1969) and Joint Commission on Rural Reconstruction (1977)

advancements in the rural sector observed that “a great majority of the farmers have newly built or remodeled dwelling and more modern furniture than [in 1950]. The people now wear much finer clothes and consume better foods […] In addition to an increased supply of life's necessities, there are fast advances in rural electrification, ownership of radio sets and sewing machines, and the opportunity to see movies, listen to modern music, [and] participate in modern recreation …"[51]

Key learnings

The Taiwanese example illustrates that overarching program management as well as a coordination of donor resources against initiatives of agricultural growth programs can be hugely beneficial. Also the case shows that if “hands-on” as well as capacity-building support is required by initiatives owners, a well-funded and -staffed support unit can deliver this efficiently.

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[51] JCRR (1957)

CASE STUDY – AGRICULTURAL SECTOR REFORM IN UGANDA

Context

In 2001, poverty reduction was the key item on the agenda of Uganda's government. Household data indicated that 44 percent of Ugandans were living below the poverty line, roughly half of them could not even meet their daily food requirements[52]. Poverty was mostly a rural phenomenon, with 50 percent of the rural population living below the poverty line compared with "only" about 15 percent of the urban population. As agriculture – with a more than 40 percent share of GDP and 80 percent share of employment – was the key sector of the economy, the government decided to focus on rural economic development first. To address the key constraints of the agricultural sector at that time – among others, lack of transport and communication infrastructure, low agricultural productivity, lack of access to finance, inadequate land tenure policy, lack of cooperatives, environmental degradation, and lacking human resources – the government, together with its development partners the Danish International Development Agency (Danida) and the British Department for International Development (DFID), decided to put in place the Plan for the Modernization of Agriculture (PMA), that aimed to eradicate poverty by creating a profitable, competitive, sustainable, and dynamic agricultural and agro-industrial sector by transforming subsistence into commercial agriculture.

Program overview

To foster the development of the agricultural sector and decrease the share of the population living in poverty to below 10 percent by 2017, the PMA focused on seven programmatic pillars. These were (1) improve agricultural research and technology by building agricultural research centers and a national agricultural research policy, (2) develop a public extension system that was to transition to a private extension system over time, (3) put in place adequate regulation for the microfinance industry, (4) improve regulatory framework to foster private sector activity in the processing and marketing of agricultural products, (5) strengthen agricultural education through educational system reforms, (6) improve natural resources management, and (7) build up physical communication, electricity, and transport infrastructure. The program consisted of 155 specific projects that were assigned to two involved key ministries, namely the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF), and the Ministry of Finance, Planning, and Economic Development (MFPED), as well as eight other ministries involved in selected projects[53].

[52] For this and the following, Government of the Republic of Uganda (2000)

[53] These included the Ministry of Water, Lands, and Environment; the Ministry of Local Government; the Ministry of Gender, Labor, and Social Development; the Ministry of Tourism, Trade, and Industry; the Ministry of Works, Housing, and Communication; the Ministry of Health; the Ministry of Energy and Mineral Development; and the Ministry of Education and Sports

Support unit

To support the implementation of the program, Uganda set up a PMA Steering Committee, Forum, and Secretariat. The 30-person-strong Steering Committee, with MFPED as chair and MAAIF as secretary, included key ministries and donors, had executive powers over financing the program, and was the key forum for aligning actions across stakeholders. The Forum included a broader set of about 100 stakeholders from local governments, the private sector, or civil society organizations and served as a broader stakeholder discussion forum and advisory board to the Steering Committee; also, its advice was not binding. Finally, the tasks of the Secretariat were to facilitate coordination across stakeholders, provide analytic support to stakeholders as required, monitor the program outcomes, and develop and update the master plan of the overall program. For this, it had a professional staff of six in addition to heavy external consulting support and was set up inside MAAIF.

Outcomes of the program

While the program was partially successful, including a drop in the share of rural population living below the poverty line and an increase in the share of commercial farmers, it fell short of its original targets in most dimensions and also suffered significant delays and coordination issues across pillars and implementing institutions[54]. Issues included a negative agricultural growth rate in many years of the program, declining productivity, and only insignificant increases in the access to rural financial services. Key issues identified include a lack of proper implementation support structure at the local level (the Secretariat only operated on a federal level), insufficient funding available for the Secretariat, mainly due to its positioning inside MAAIF and MAAIF funding constraints, lack of alignment between project owners, and, in some instances, a lack of ownership of project owners attributed to a strong "driving" role of donors in the strategy development process.

Key learnings

Learnings from the Ugandan case include a need to create a strong level of local ownership of projects during the design phase and ensure ownership is kept during the implementation phase – even if that means a less active role of donors in implementation governance. The case also stresses the setup of a support unit in a way and with enough resources that meaningful support can be provided to stakeholders. The latter is especially problematic if a unit is set up within an existing ministerial structure that is itself suffering from capacity and capability constraints and without "regional outlets" that can provide support at the frontline, where most of the implementation work usually happens.

[54] For this and the following, Oxford Policy Management (2005) and Makerere University (2008)

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CASE STUDY – MULTI-SECTOR REFORM IN THE UNITED KINGDOM

Context

In the UK general election in 2001, the Labour party and Tony Blair were re-elected with a strong mandate. In the election campaign, Blair had identified improvements in healthcare, education, crime reduction, and public transport as key reform areas for the upcoming term. Immediately after the election, he therefore started a process of identifying specific priority targets within these areas and a discussion on a proper mechanism to ensure delivery. With the September 2001 attacks, the importance of such a delivery mechanism and priority targets gained strong additional importance, as priorization between the old domestic and the suddenly surfaced new foreign policy issues became key for the government.

Program overview

Within the areas of health, education, crime, and transport, the Prime Minister, in consultation with his cabinet colleagues, identified a set of 15 prioritized targets to become part of his personal agenda. These included reduction of heart disease and cancer mortality; reduced waiting times and improved primary care access; better results in literacy, numeracy, math, and English for schoolchildren; reduction of "victim likelihood"; and the quality of the public transport system. For each of these priorities, measurable goals and a deadline were set. Included in these was, e.g., that no one would wait more than four hours to be seen and treated in the emergency room by December 2004, or that there should be a 30 percent reduction in vehicle crime by 2005[55]. After setting these targets, the relevant government departments were asked to prepare detailed delivery plans including milestones, major decision points, and steps toward implementation.

Support unit

To support the reform program, the Prime Minister established a new unit that became known as the Prime Minister's Delivery Unit (PMDU) and that was directly responsible to him. The mission of the unit was to monitor progress of the program and manage the performance of the involved government entities. In order to do this, the unit first spent significant time with the involved ministries in order to formalize their targets in so-called performance contracts that specified in detail what had to be delivered by whom and when, and what resources would be required to enable execution. These contracts were then formally signed by the Prime Minister, the treasury (as the key provider of financial resources), and the respective project owner, and they provided the basis for performance management. To monitor implementation, the unit used a combination of a strongly quantitatively driven data gathering and reporting mechanism as well as formalized discussion routines with the Prime Minister and project owners. These discussions

[55] For this and the following, Barber (2008 and 2009)

were planned, guided, and facilitated by PMDU staff. More specifically, these routines consisted of monthly briefing notes and meetings with the Prime Minister to inform him about progress on the priorities, quarterly "stocktake" meetings with each project owner, in which progress, obstacles, and relevant solutions were discussed as well as half-yearly progress reviews, in which the total program would be evaluated and, if necessary, adjusted. On average, the Prime Minister spent two to four hours with the key PMDU members and initiative owners per week.

In addition to monitoring and performance management, the unit also served as a thought and problem solving partner to the project owners. Problem solving included, at the simplest level, conversations with the relevant officials but could also encompass full-fledged diagnosis support, frontline visits, and analysis support if required. In terms of setup, the unit had a staff of approximately 30 high-caliber people, all former top performers in government or the private sector, organized in working groups around the key program themes[56]. All staff members had capabilities and specialized knowledge that allowed them to interact on a deep content level with the organizations they were monitoring and providing problem solving support to. Staff members were supported by a set of external consultants and some administrative support.

Outcomes of the program

The program as well as the establishment of the PMDU was a full success. Around 80 percent of the targets set in 2001 were achieved by 2005. This included an increase in average school exam results, a reduction in fear of violent crime, and increased train punctuality. The PMDU is still active today and has served as a model for similar units being set up in New South Wales, Los Angeles, and Indonesia. Tony Blair has subsequently described the unit as the best reform he ever made in the government administration.

Key learnings

Several key learnings emerge from the PMDU case study. First, the Prime Minister (or a similar head of government) seems best positioned to coordinate and align key reform programs that involve a large number of government entities – if he has the right level of program management support. Second, if the relevant project owners do not face major capacity and capability gaps, as in the case of the highly capable and well-staffed UK ministries, the support unit's function can be reduced to planning, coordination, monitoring, and performance management. Third, especially monitoring and performance management should be focused, based on well-defined priorities, underpinned by transparent data and controlled in a formalized process, and include regular dialogues between the Prime Minister and other senior government officials. Fourth, with regard to staffing the support unit, focus should be put on high-quality resources that have the right skills and mindset to deeply engage with the relevant project owners instead of "filling out templates."

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[ii] Expert interviews

[iii] "Land Tenure and Technology Improvement in Smallholder Agriculture of Ethiopia" by Workneh Negatu; Addis Ababa University, FSS

[iv] Considering highland regions to include: Amhara, Benishangul-Gumuz, Gambela, Oromiya, SNNP and Tigray; using CSA National Statistics 2005 for population by region, MoARD 2008/09 data for cropland area, and UN Population Division 2008 data for current and future rural/urban population split. Assuming no change in cropped area and no change in family size.

[v] World Bank, 2008

[vi] Data from MoFED quoted in the Policy and Investment Framework

[vii] MoARD, as announced in March 2010

[viii] CIA Factbook (2009 est)

[ix] World Bank PER, 2008

[x] IMF, 2008

[xi] World Bank GNI *per capita* report, Atlas Method, 2008

[xii] Millennium Development Goal Tracking, 2005

[xiii] Interviews with transporter (Maize diagnostic)

[xiv] CSA 2001/02 census

[xv] World Bank and FAO, 2007. Using total arable and permanent crop land figures from FAO

[xvi] Earthtrends (2006); FAOStat (2007)

[xvii] Rough calculations based on extrapolating the forecasts from "Implications of Accelerated Agricultural Growth" by Dorosh and Thurlow.

[xviii] World Bank (1998–2008), constant prices

[xix] Global Insight Country Report (July 2010)

[xx] UN Population division

[xxi] World Bank (1998–2007)

[xxii] FAOStat (1997–2008)

[xxiii] Expert interviews

[xxiv] Food Security Program 2010-2014, MoARD (2009)

[xxv] Aida (2009)

[xxvi] Leaf color chart for managing Nitrogen fertilizer in lowland rice in Bangladesh (Alam et al., 2005)

[xxvii] Expert interviews

[xxviii] Expert interviews

[xxix] Expert interviews

[xxx] "Assessment of the formal seed system in Ethiopia" Wageningen University

[xxxi] FAO (2000–2009), EGTE (2000–2009)

[xxxii] "Assessment of the formal seed system in Ethiopia" Wageningen University; MoARD data

[xxxiii] EGTE website

[xxxiv] Based on 2015 development plans, assuming 80 percent of irrigated land is allocated to smallholders, with five people per household, and an average plot size of 0.7 hectares. Return calculated over 25 years, 2.5 times return on invested capital within five years

[xxxv] Estimated area actually operating under water management; 640,000 hectares have been implemented but are not yet operational, and 820,000 hectares was the original 2010 target – MoWR, MoARD, IWMI, team analysis

[xxxvi] SCRP; Okigbo (1986)

[xxxvii] HarvestChoice; FAO 2007 (Ataman et al); IIASA, MoARD estimates

[xxxviii] FAO

[xxxix] FAO (1984)

[xl] Zenebe (2007)

[xli] SCRP

[xlii] Portuguese Movimento dos Trabalhadores Rurais Sem Terra (MST)

[xliii] TerrAfrica - sustainable land management in Africa
http://www.africaclimatesolution.org/features/TerrAfrica_Climate_brief_2_mitigation.pdf

[xliv] Rural access index: a key development indicator (World Bank, 2006)