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Report No: PAD1052

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 248.3 MILLION  
(US\$350 MILLION EQUIVALENT)

TO THE

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

FOR A

SECOND AGRICULTURAL GROWTH PROJECT

March 5, 2015

Agriculture Global Practice  
Eastern Africa 3  
Africa Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective January 31, 2015)

Currency Unit = Ethiopian Birr (ETB)  
ETB 20.2685 = US\$1  
US\$1.4098 = SDR 1

## FISCAL YEAR

July 8 – July 7

## ABBREVIATIONS AND ACRONYMS

ADPLAC	Agriculture Development Partners Linkage Advisory Council
AECID	<i>Agencia Española de Cooperación Internacional para el Desarrollo</i> (Spanish Agency for International Development)
AGP1	First Agricultural Growth Project
AGP2	Second Agricultural Growth Project
ATA	Agricultural Transformation Agency
AWP&B	Annual Work Plan and Budget
BoA	Bureau of Agriculture
BoW	Bureau of Water
CAADP	Comprehensive Africa Agriculture Development Program
CASCAPE	Capacity Building for scaling up of evidence based best practices in agricultural production in Ethiopia
CBSP	Community Based Seeds and forage Production groups
CDSF	Capacity Development Support Facility
CIG	Common Interest Group
CLPP	Community Level Planning Process
CPAR	Country Procurement Assessment Review
CPS	Country Partnership Strategy
CRGE	Climate Resilience Green Economy
CSA	Climate Smart Agriculture
CU	Coordination Unit
DA	Development Agent
DFATD	Department of Foreign Affairs, Trade and Development of Canada
DSM	Direct Seed Marketing
DOC	Day Old Chick
DP	Development Partners
EC	European Commission
EGTE	Ethiopian Grain and Trade Enterprise
EIAR	Ethiopian Institute of Agriculture Research
EIRR	Economic Internal Rate of Return
EPRDF	Ethiopian People's Revolutionary Democratic Front
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ETB	Ethiopian Birr
FAO	Food and Agriculture Organization of the United Nations
FAR-CU	Federal Agricultural Research Coordination Unit

FCA	Federal Cooperative Agency
FCU	Federal Coordination Unit
FHH	Female Headed Household
FM	Financial Management
FMS	Financial Management Specialist
FREG	Farmer Research and Extension Group
FSC	Federal Steering Committee
FTC	Farmer Training Center
ha	Hectare
HDI	Human Development Index
HHI	Household Irrigation
HQ	Headquarters
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
GTP2	Second Phase of Growth and Transformation Plan
IA	Implementation Agency
IBRD	International Bank for Reconstruction and Development
IC	Individual Consultant
ICB	International Competitive Bidding
IDA	International Development Association
IFR	Interim Financial Report
ISP	Implementation Support Plan
IT	Information Technology
IWUA	Irrigation Water User Association
KDC	Kebele Development Committee
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MHH	Male Headed Household
MHIS	Micro-irrigation and Household Irrigation Systems
MDTF	Multi-Donor Trust Fund
MFI	Micro Finance Institution
MoA	Ministry of Agriculture
MoFED	Ministry of Finance and Economic Development
MoI	Ministry of Industry
MoT	Ministry of Trade
MoU	Memorandum of Understanding
MTR	Mid Term Review
MSP	Multiple Stakeholder Platform
NAIC	National Artificial Insemination Center
NBE	National Bank of Ethiopia
NCB	National Competitive Bidding
NCF	National Cooperative Federation
NNP	National Nutrition Program
NPV	Net Present Value
OFAG	Office of the Federal Auditor General
PAD	Project Appraisal Document
PAP	Project Affected People
PDO	Project Development Objective
PIF	Policy Investment Framework
PIM	Project Implementation Manual
PMIS	Performance Management Information System

PFM	Public Financial Management
PO	Producer Organization
P-RAMS	Procurement Risk Assessment Management System
QCBS	Quality and Cost Based Selection
RAR-CU	Regional Agricultural Research Coordination Unit
RARI	Regional Agricultural Research Institute
RCA	Regional Cooperative Agency
RCU	Regional Coordination Unit
RED&FS	Rural Economic Development and Food Security
RUSACCO	Rural Savings and Credit Cooperative
RPF	Resettlement Policy Framework
RSC	Regional Steering Committee
SA	Social Assessment
SBD	Standard Bidding Document
SC	Steering Committee
SMS	Subject Matter Specialist
SNNPR	Southern Nations, Nationalities and People's Region
SORT	Systematic Operations Risk – Rating Tool
STC	Short Term Consultant
SSI	Small Scale Irrigation
SWG	Sector Working Group
TA	Technical Assistance
TC	Technical Committee
THH	Total Households
TTL	Task Team Leader
UNDP	United Nations Development Program
USAID	United States Agency for International Development
VC	Value Chain
WCU	Woreda Coordination Unit
WDC	Woreda Development Committee
WOA	Woreda Office of Agriculture
WoFED	Woreda Office of Finance and Economic Development
WSC	Woreda Steering Committee
ZOA	Zonal Office of Agriculture

Regional Vice President:	Makhtar Diop
Country Director:	Guang Zhe Chen
Senior Global Practice Director:	Juergen Voegele
Practice Manager:	Tijan M. Sallah
Task Team Leader:	Andrew Goodland



**Ethiopia**  
**Second Agricultural Growth Project**

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**PAD DATA SHEET***Ethiopia**Second Agricultural Growth Project (P148591)***PROJECT APPRAISAL DOCUMENT***AFRICA*

Report No.: PAD1052

<b>Basic Information</b>			
Project ID P148591	EA Category B - Partial Assessment	Team Leader(s) Andrew D. Goodland	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ]		
	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date 26-Mar-2015	Project Implementation End Date 10-Oct-2020		
Expected Effectiveness Date 31-Jul-2015	Expected Closing Date 10-Oct-2020		
Joint IFC No			
Practice Manager/Manager Tijan M. Sallah	Senior Global Practice Director Juergen Voegele	Country Director Guang Zhe Chen	Regional Vice President Makhtar Diop
Borrower: Federal Democratic Republic of Ethiopia			
Responsible Agency: Ministry of Agriculture			
Contact: Telephone No.:	Keberu Belayneh 251116461971	Title: Email:	AGP Coordinator minagr3@ethionet.et
<b>Project Financing Data(in USD Million)</b>			
<input type="checkbox"/> Loan	<input type="checkbox"/> IDA Grant	<input type="checkbox"/> Guarantee	
<input checked="" type="checkbox"/> Credit	<input type="checkbox"/> Grant	<input type="checkbox"/> Other	
Total Project Cost:	581.80	Total Bank Financing:	350.00
Financing Gap:	216.30		

<b>Financing Source</b>	<b>Amount</b>
BORROWER/RECIPIENT	15.50
International Development Association (IDA)	350.00
<b>Total</b>	<b>365.50</b>

### **Expected Disbursements (in USD Million)**

Fiscal Year	2016	2017	2018	2019	2020	2021
Annual	10.00	30.00	80.00	110.00	110.00	10.00
Cumulative	10.00	40.00	120.00	230.00	340.00	350.00

### **Institutional Data**

#### **Practice Area (Lead)**

Agriculture

#### **Contributing Practice Areas**

Environment & Natural Resources, Water

#### **Cross Cutting Topics**

- Climate Change
- Fragile, Conflict & Violence
- Gender
- Jobs
- Public Private Partnership

#### **Sectors / Climate Change**

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Agriculture, fishing, and forestry	General agriculture, fishing and forestry sector	30		
Agriculture, fishing, and forestry	Irrigation and drainage	30		
Agriculture, fishing, and forestry	Agricultural extension and research	20		
Industry and trade	Agro-industry, marketing, and trade	20		
<b>Total</b>		<b>100</b>		

I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

#### **Themes**

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Rural development	Rural services and infrastructure	50
Environment and natural resources management	Water resource management	20
Financial and private sector development	Micro, Small and Medium Enterprise support	10
Social dev/gender/inclusion	Gender	10
Human development	Nutrition and food security	10
Total		100

### Proposed Development Objective(s)

The Project Development Objective is to increase agricultural productivity and commercialization of small holder farmers targeted by the project.

### Components

Component Name	Cost (USD Millions)
Agricultural Public Support Services	129.00
Agricultural Research	51.40
Small Scale Irrigation	218.60
Agriculture Marketing and Value Chains	120.00
Project Management, Capacity Building and Monitoring and Evaluation	62.80

### Systematic Operations Risk- Rating Tool (SORT)

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Low
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	Low
<b>OVERALL</b>	Substantial

### Compliance

#### Policy

Does the project depart from the CAS in content or in other significant	Yes [ ]	No [ X ]
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respects?			
Does the project require any waivers of Bank policies?		Yes [ ]	No [ X ]
Have these been approved by Bank management?		Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?		Yes [ ]	No [ X ]
Does the project meet the Regional criteria for readiness for implementation?		Yes [ X ]	No [ ]
<b>Safeguard Policies Triggered by the Project</b>		<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01		X	
Natural Habitats OP/BP 4.04		X	
Forests OP/BP 4.36			X
Pest Management OP 4.09		X	
Physical Cultural Resources OP/BP 4.11		X	
Indigenous Peoples OP/BP 4.10		X	
Involuntary Resettlement OP/BP 4.12		X	
Safety of Dams OP/BP 4.37		X	
Projects on International Waterways OP/BP 7.50		X	
Projects in Disputed Areas OP/BP 7.60			X
<b>Legal Covenants</b>			
<b>Name</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Procurement Audit	X		Yearly
<b>Description of Covenant</b>			
Government shall select and appoint a procurement auditor, acceptable to IDA, to carry out annual independent procurement audits of AGP 2 and shall submit the report to IDA annually six months after the end of the fiscal year for its consideration.			
<b>Conditions</b>			
<b>Source Of Fund</b>	<b>Name</b>	<b>Type</b>	
IDA	Project Implementation Manual	Effectiveness	
<b>Description of Condition</b>			
The Recipient has prepared and adopted a Project Implementation Manual in form and substance acceptable to the Association.			
<b>Team Composition</b>			
<b>Bank Staff</b>			
<b>Name</b>	<b>Role</b>	<b>Title</b>	<b>Unit</b>
Andrew D. Goodland	Team Leader (ADM Responsible)	Program Leader	AFCE3

Shimelis Woldehawariat Badisso	Procurement Specialist	Senior Procurement Specialist	GGODR
Meron Tadesse Techane	Financial Management Specialist	Financial Management Specialist	GGODR
Achim Fock	Peer Reviewer	Manager	SARDE
Asferachew Abate Abebe	Safeguards Specialist	Senior Environmental Specialist	GENDR
Assaye Legesse	Team Member	Senior Agriculture Economist	GFADR
Chukwudi H. Okafor	Safeguards Specialist	Senior Social Development Specialist	GSURR
Eija Pehu	Peer Reviewer	Adviser	GFADR
Hawanty Page	Team Member	Senior Program Assistant	GFADR
Hayalsew Yilma	Team Member	Irrigation Specialist	GFADR
Ingrid Marie Pierre Mollard	Team Member	Consultant	GSURR
Jose C. Janeiro	Team Member	Senior Finance Officer	WFALA
Mei Wang	Counsel	Senior Counsel	LEGAM
Robert Townsend	Peer Reviewer	Senior Economist	GFADR
Teklu Tesfaye	Team Member	Sr Agricultural Spec.	GFADR
Tesfahiwoot Dillnessa	Team Member	Team Assistant	AFCE3

#### **Extended Team**

<b>Name</b>	<b>Title</b>	<b>Office Phone</b>	<b>Location</b>
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Melaku Feyisa	STC	n / a	Addis Ababa, Ethiopia

#### **Locations**

<b>Country</b>	<b>First Administrative Division</b>	<b>Location</b>	<b>Planned</b>	<b>Actual</b>	<b>Comments</b>
Ethiopia	Amhara	Amhara Region	<b>X</b>		
Ethiopia	Binshangul Gumuz	Benishangul-	<b>X</b>		

		Gumuz Region			
Ethiopia	Dire Dawa	Dire Dawa Region	X		
Ethiopia	Gambela	Gambela Region	X		
Ethiopia	Harari	Harari Region	X		
Ethiopia	Oromiya	Oromiya Region	X		
Ethiopia	Tigray	Tigray Region	X		
Ethiopia	Southern Nations, Nationalities, and People's Region	Southern Nations, Nationalities, and People's Region	X		
<b>Consultants (Will be disclosed in the Monthly Operational Summary)</b>					
Consultants Required ?		Consultants will be required			

## I. STRATEGIC CONTEXT

### A. Country Context

1. Ethiopia is a large and diverse country. It is land-locked and located in the Horn of Africa, with an area of 1.1 million km<sup>2</sup>. Its bio-physical environment includes a variety of ecosystems, with significant differences in climate, soil properties, vegetation types, agricultural potential, biodiversity and water resources. Ethiopia is a country of many nations, nationalities and peoples, with an estimated total population of 87.95 million<sup>1</sup>. Only 17 percent of the population lives in urban centers, the great majority of them in Addis Ababa. At a current annual growth rate of 2.6 percent, Ethiopia's population is estimated to reach 130 million by 2025, and is projected by the United Nations to be among the world's ten largest countries by 2050. Ethiopia is vulnerable to trade shocks from international food and fuel prices, and to large domestic weather-related shocks as demonstrated by the 2011/12 East Africa droughts.

2. Ethiopia has a federal, democratic government system, established in the early 1990s, with nine autonomous states ('regions') and two city administrations. Decentralization of governance to the regional and district (woreda) levels has been actively pursued since 2003. The Ethiopian People's Revolutionary Democratic Front (EPRDF) has been in power in Ethiopia since 1991. EPRDF comprises four regionally-based parties from the four major national regional states (Amhara, Oromia, Southern Nations, Nationalities and Peoples (SNNPR), and Tigray). The long-serving Prime Minister, Meles Zenawi, (from Tigray) died in August 2012 and was succeeded by Hailemariam Desalegn (from SNNPR) who has pursued largely the same policies. The next national elections are scheduled for 2015.

3. Ethiopia has experienced strong economic growth over the past decade. Economic growth averaged 10.7 percent per year in 2003/04 to 2011/12, compared to the regional average of 5.0 percent. Growth reflected a mix of factors, including agricultural modernization, the development of new export sectors, strong global commodity demand, and government-led development investments. Private consumption and public investment have driven demand side growth, with the latter assuming an increasingly important role in recent years. On the supply side, growth was driven by an expansion of the services and agricultural sectors, while the role of the industrial sector was relatively modest. Recently, annual growth rates have declined slightly, but still remain at high single-digit levels. Growth in the export of goods has also moderated in recent years and a decline was observed in 2012/13 for the first time since 2008/09. There have been bouts of high inflation in recent years and, while inflation is currently much lower, keeping it down remains a major objective for monetary policy.

4. Ethiopia is one of the world's poorest countries, but has made substantial progress on social and human development over the past decade. The country's per capita income of US\$570<sup>2</sup> is substantially lower than the regional average of US\$1,257 and among the ten lowest worldwide. Ethiopia is ranked 173 out of 187 countries in the Human Development Index (HDI) of the United Nations Development Program (UNDP)<sup>3</sup>. High economic growth, however, has

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<sup>1</sup> Central Statistical Agency (CSA), 2014

<sup>2</sup> International Monetary Fund, 2014

<sup>3</sup> United Nation Development Programme's Human Development Report, 2014

helped reduce poverty in both urban and rural areas. Since 2005, 2.5 million people have been lifted out of poverty, and the share of the population below the poverty line has fallen from 38.7 percent in 2004/05 to 29.6 percent in 2010/11<sup>4</sup> (using a poverty line of close to US\$1.25/day). However, because of high population growth, the absolute number of poor (about 25 million) has remained unchanged over the past fifteen years. Ethiopia is among the countries that have made the fastest progress on the Millennium Development Goals (MDGs) and HDI ranking over the past decade. It is on track to achieve the MDGs for gender parity in education, child mortality, HIV/AIDS, and malaria. Good progress has been made in universal primary education, although the MDG target may not be met. Reduction of maternal mortality remains a key challenge.

5. The Government of Ethiopia (GoE) is currently implementing its ambitious Growth and Transformation Plan (GTP; 2010/11-2014/15), which sets a long-term goal of becoming a middle-income country by 2025, with growth rates of at least 11.2 percent per annum during the plan's period. To achieve the GTP goals and objectives, Government has followed a "developmental state" model with a strong role for the government in many aspects of the economy. It has prioritized key sectors such as industry and agriculture as drivers of sustained economic growth and job creation. The GTP also reaffirms Government's commitment to human development. Development Partners (DPs) have programs that are broadly aligned with GTP priorities.

6. The World Bank Group's Country Partnership Strategy (CPS, FY13-16) builds on the progress achieved by Ethiopia in recent years and aims to help GoE address structural transformation and assist in the implementation of the GTP. The CPS framework includes two pillars. Pillar One, "Fostering competitiveness and employment", aims to support Ethiopia in achieving: (i) a stable macroeconomic environment; (ii) increased competitiveness and productivity; (iii) increased and improved delivery of infrastructure; and (iv) enhanced regional integration. Pillar Two, "Enhancing resilience and reducing vulnerabilities", aims to support Ethiopia in improving the delivery of social services and developing a comprehensive approach to social protection and risk management. Good governance and state building form the foundation of the CPS. In line with the GTP, gender and climate change have been included as cross-cutting issues to strengthen their mainstreaming across the portfolio. The programs of the International Finance Cooperation and the Multilateral Investment Guarantee Agency are well aligned with the CPS framework, contributing mainly to the strategic objectives under Pillar One.

## **B. Sectoral and Institutional Context**

7. The agricultural sector remains a dominant sector in the Ethiopian economy and an important source of economic growth. Although there is an on-going structural transformation in the Ethiopian economy, predominantly from agriculture to services and manufacturing, agriculture still comprises 45 percent of total output and continues to dominate employment (78 percent). The sector is also a major contributor to export earnings, with over 80 percent of goods exports. Despite its declining share in the economy, the agriculture sector is growing rapidly. Over the past 15 years, the average rate of growth has been around 7 percent per year according

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<sup>4</sup> "Poverty and Growth in Ethiopia (1995/96-2010/11), Ministry of Finance and Economic Development (MoFED), 2013.

to official statistics. Sources of growth have come from an increased area under cultivation and from increased productivity, the latter driven by large public investment in the sector, including agricultural extension, rural roads, and advances in public policy such as improvements in land tenure security. In addition to contributing to economic output and exports, agricultural growth is correlated with poverty reduction for smallholder farmers and with positive impacts on non-farm rural economies.

8. Although Ethiopia has a trend of negative overall balance of trade, the country has consistently had a positive balance of trade in the agriculture sector. Agriculture imports per capita and exports per capita stood at US\$13.28 and US\$18.27 respectively in 2011. The top three agriculture exports have been coffee, oil seeds and pulses while the largest imports have been cereals, edible oils and sugar. In spite of the positive trade balances in the sector, marketing (including intra-regional trade) in the sector is constrained by mixed and often unfavorable policies for input and output markets and poor infrastructure leading to high transaction and transportation costs. There remains considerable potential for both increased exports from the sector and further import substitution, especially for cereals (predominantly wheat) and sugar.

9. The further growth of the agriculture sector is expected to feature prominently in the second Growth and Transformation Plan (GTP2), currently under preparation. Maintaining the current growth rate in the sector will require increased agricultural productivity as opportunities for increased land expansion for smallholder production are limited. Progress requires both investment and policy reform. The general thrust on policy reform is to pursue agricultural transformation by increasing private sector investment and value added in the country to increase the value of exports. In 2012, the GoE agreed to a G8 New Alliance framework for Ethiopia with a number of commitments for policy actions to facilitate the expansion of private investment. Under this framework, the GoE intends to focus its efforts in particular on: i) increasing stability and transparency in trade policy; ii) improving incentives for private sector investment; iii) developing and implementing a transparent land tenure policy; and iv) developing and implementing domestic seed policies that encourage increased private sector involvement in this area. To support the transformation agenda, GoE established the Agricultural Transformation Agency (ATA) in 2011 to support the Ministry of Agriculture (MoA) to advance policy and build capacity. Notable achievements include the new Agricultural Cooperatives Development Strategy, which supports the strengthened governance and regulation of agricultural cooperatives, and the passing of the Seeds Proclamation, which is designed to increase the efficiency of seed markets and increase farmers' access to good quality seed.

10. The GoE's agricultural development strategy focuses on both encouraging large scale investment in commercial agriculture and support to smallholder farmers, who in 2012/13 contributed 96 percent of the total agricultural production according to official statistics. To increase agricultural productivity of smallholders and their transformation to commercial farmers requires a strengthening and focusing of support services and infrastructure, and greater private investment to support input and output value chains (VCs). To drive this transformation, the government is moving towards focused support to specific commercialization clusters targeting areas with the highest potential for the production of commodities for which Ethiopia has a comparative advantage and can stimulate agro-processing and value addition.

11. Despite the large investment into public agricultural services, especially into extension, which has seen a rapid rise in the number of extension workers and beneficiaries served, there are capacity weaknesses which continue to inhibit the identification and dissemination of technologies to support increased productivity. Strengthening research and extension linkages, further expansion and capacity of the extension service and enhancing farmer access to inputs are required to support investments in extension workers. Animal health and production services also suffer from capacity limitations and low outreach, leading to low productivity and quality across a range of animal products.

12. To enhance agricultural productivity, availability of improved technologies and information is critical. Currently, agricultural research is undertaken by the national agricultural research system mainly comprising of the Ethiopian Institute of Agricultural Research (EIAR) and Regional Agricultural Research Institutes (RARIs). Limited availability of agricultural technologies, inadequate capacity in multiplying source technologies and limited on-farm pre-extension demonstration of technologies are key problems hindering the availability of technologies to small scale farmers. It is thus imperative to accelerate the release of technologies (crop, livestock, NRM, agricultural mechanization etc.), adopt technologies from elsewhere (within or outside the country), demonstrate available technologies released by the research system, and develop demand-driven agricultural technologies tailored to specific agro-ecologies and socio-economic conditions of the farming community.

13. Access to and application of agricultural inputs is a decisive factor to improve agricultural productivity and production. In addition to improved seeds, animal breeds and fertilizers, there is considerable opportunity to promote the use of machinery for production and post-harvest activities. Innovations such as row planters for teff have had a considerable impact on productivity. However, input markets in Ethiopia are typically overly dependent on cooperative unions and the agro-dealer market is small and underdeveloped. While cooperatives can play an important role in linking smallholder farmers to input and output markets, they are often hampered by weak management and facilities, and currently only handle a small percentage of agricultural output. There is potential for strengthening cooperatives while also enabling greater private engagement in both input and output markets.

14. Output marketing system and infrastructure in Ethiopia are dominated by traditional, informal exchanges. For a large part of the country, this means trading with limited infrastructure. There are few market structures, storage, loading and unloading facilities, quality checking and banking services in or around most market centers. This has resulted in high trading costs, low product qualities and high post-harvest losses. VCs (other than for coffee which has a relatively efficient market structures) are therefore characterized by an absence of market participants, market inefficiencies and limited value addition. With increasing agricultural surpluses, rapid urbanization and increasing opportunities for agro-industrial investment, there are gaps in the current functioning in a number of VCs which are prioritized under the commercialization cluster approach to achieving transformation.

15. Agricultural water development is crucial to improve smallholders' livelihoods, since irrigation can help farmers increase their crop diversity with high value crops and enable multiple cropping seasons. In Ethiopia, the current land under irrigation is around two million

hectares (ha)<sup>5</sup>, which is sixteen percent of total cultivated land. Beyond the next five years, GoE plans to reach the full irrigable potential of the country of over five million ha. Household Irrigation (HHI) as well as medium- and large-scale schemes will be an important strategy to achieve this goal, in combination with exploring and developing groundwater potential.

16. Future agricultural growth needs to be sensitive to gender. On average, female farm managers in Ethiopia produce 23 percent less (in terms of gross value of output) per ha than their male counterparts. Differences in both the levels of productive factors used and the returns that these factors generate drive this gender gap. Future inclusive agricultural growth should consider: (i) the promotion of labor-saving technologies for women; (ii) the provision of relevant information to female farmers, customized to the needs of female farmers; and (iii) the easing of the time burden of household responsibilities, by providing services to reduce the time that female farmers need to perform household duties to enable them to devote more time to productive farm activities. Recent research demonstrates the potential of women to contribute to agricultural growth and improve outcomes, including improved nutrition.

17. In Ethiopia, forty percent of children under the age of five suffer from stunting as a consequence of chronic and cyclical malnutrition. The National Nutrition Program (NNP) was revised in 2013 to strategically address the nutrition problem in the country to include initiatives that have emerged since the 2008 NNP, including taking into account the multi-sectoral and multi-dimensional nature of nutrition and the linkages among key implementing sectors, one being agriculture. This program, endorsed by MoA, the Ministry of Health and another eight line ministries, includes a strategic objective to strengthen implementation of nutrition sensitive interventions in the agriculture sector. The initiatives focus on improving the consumption of diversified diets at the household level through: (i) diversification of crop, fruit and livestock production; (ii) promotion of appropriate technologies for food production and processing through the handling, preparation and preservation of food supporting nutritious food utilization; (iii) building the capacity of Development Agents (DAs) at community level and agriculture program managers at all levels to implement nutrition sensitive agriculture; (iv) supporting local complementary food production and creating economic opportunities for women through development groups and cooperatives; and (v) supporting agricultural research centers to develop seeds of high nutritional value. Thus, it calls for aligning the agricultural growth programs to improve nutritional status.

18. With the limits of bringing uncultivated land under production being met, the likelihood of climatic variability and the potential degradation arising from more intensive production practices increases, and thus there is an urgent need for agriculture to conserve resources and reduce degradation. In recent years, there has been considerable investment in natural resource conservation and development work. In 2013/14 alone, communities undertook natural resources conservation work on 20.15 million ha of land, according to official statistics. This current momentum of community mobilization in natural resource conservation by pursuing activities such as slope stabilization, watershed approaches to water management, and reduction of tillage should be sustained to make the sector more resilient and sustainable.

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<sup>5</sup> Ministry of Agriculture (MoA), 2014

19. The opportunities for inclusive and sustainable growth in the sector are strong as is the GoE's commitment to achieving ambitious GTP targets. The Agricultural Sector Policy and Investment Framework (PIF), 2010-2020, provides an investment framework to align the investment and policy priorities with higher level goals to transform the sector and is designed to operationalize the Comprehensive Africa Agriculture Development Program (CAADP) Compact signed by the GoE and its DPs. Under the PIF, there have been concerted efforts to collaborate and partner on investments and the current Agricultural Growth Project (AGP1; P113032) was a clear output of this. The project was financed to around US\$350 million, including US\$150 million from International Development Association (IDA), US\$50 million from the Global Agriculture and Food Security Program, a US\$50 million Multi-Donor Trust Fund (MDTF) with contributions from the Netherlands, Canada and Spain, and parallel financing from United States Agency for International Development (USAID) and Italy. Currently, AGP1 operates at kebele levels (the lowest administrative unit) in 96 woredas of the four national regional states of Amhara, Oromia, SNNPR and Tigray and has provided support for improved public agricultural service provision, technology transfer, improved market access and marketing, infrastructure (HHI and small scale irrigation (SSI), feeder roads and market centers) and capacity building. The project further explicitly aims to increase the participation of women and youth in the sector. The proposed project therefore aims to build on AGP1, to scale up the geographical extent, consolidate the investments, and meet the emerging challenges of the sector outlined above.

### **C. Higher Level Objectives to which the Project Contributes**

20. The proposed project is well aligned with the CPS and would primarily support Pillar One by fostering competitiveness and employment in the agriculture sector as well as addressing cross cutting issues of gender, nutrition and climate change. The Second Agricultural Growth Project (AGP2) would be aligned with GTP2, currently under preparation, thereby contributing to the achievement of targets set for agriculture sector growth. The sector is critical for the GoE's development strategy in the current GTP, and in particular to maintaining at least an 11 percent average real growth in the gross domestic product. While the country is pursuing a strategy that foresees a significant expansion of light industry and manufacturing, in the medium term many of the raw materials for this will come from the agricultural sector, including in textiles, leather, and food stuffs.

21. The AGP2 will continue to help achieve the GoE's poverty reduction strategy and achievement of the twin goals of ending extreme poverty and increasing shared prosperity. The recently completed Ethiopia Poverty Assessment (2014) found that the key driver of the impressive rate of poverty reduction in Ethiopia over the past decade has been agricultural growth. It concludes, "Growth in agriculture was particularly inclusive and contributed significantly to poverty reduction. Poverty fell fastest when and where agricultural growth was strongest. For every 1 percent of growth in agricultural output, poverty was reduced by 0.9 percent which implies that agricultural growth caused reductions in poverty of 4.0 percent per year on average post 2005 and 1.1 percent per year between 2000 and 2005."

22. The important role of the agricultural sector in achieving nutritional goals is recognized in the NNP. To increase impact, agricultural growth needs to be nutrition sensitive, as growth by itself may not lead to improved outcomes. In addition to supporting the diversification into more

nutrient-rich foods, for example, through supporting household and small scale irrigation which enables production of horticulture crops, purposeful actions need to be taken to develop, promote and create awareness of nutrition sensitive agricultural technologies in production, post-harvest preservation and food preparation. The project would support this through public agricultural services including research, extension and animal health and production.

23. GoE and the Bank regard climate change and variability as an important challenge for Ethiopia, and the country has significant mitigation potential. Under the GoE's Climate Resilient Green Economy (CRGE) Strategy, Ethiopia aims for a carbon neutral growth trajectory. The agriculture sector will play an important role in the achievement of this goal. AGP2 would contribute to this by mainstreaming Climate Smart Agriculture (CSA) in all components.

## **II. PROJECT DEVELOPMENT OBJECTIVES**

### **A. Project Development Objectives (PDO)**

24. The Project Development Objective (PDO) is to increase agricultural productivity and commercialization of smallholder farmers targeted by the project.

25. Agricultural productivity is defined as yields for selected key crops and animal products. Commercialization is defined in terms of proportion of marketed production of selected key crops and animal products by smallholder farmers.

26. The project would also contribute to the higher level objectives of poverty reduction, improved nutritional outcomes by diversifying and improving dietary consumption and climate change mitigation and adaptation through supported CSA initiatives.

### **B. Project Beneficiaries**

27. The primary target of the project is smallholder farmers, who live in areas of Ethiopia with the highest potential for agricultural growth. Smallholder farmers are defined by the Central Statistics Agency as farmers living in a village, registered as a resident in kebele administration, conducting agricultural production activities (crop production, livestock husbandry and agro-forestry) and owning land of variable size; the average holding sizes of land per household in Ethiopia is around one hectare.

28. AGP2 would be implemented in high potential agricultural areas of the country. Potential for agricultural growth is primary based on agro-ecological conditions and access to markets. Under AGP1, the project has been operating in four national regional states (Amhara, Oromia, SNNP and Tigray), 96 woredas and 2,423 kebeles. AGP2 will cover 157 woredas, which would include all woredas targeted under AGP1 plus an additional 61. The woredas are distributed among the following national regional states and city administration: Amhara, Oromia, SNNPR, Tigray, Benishangul-Gumuz, Gambella, Harari and Dire Dawa city administration. The expansion into the new national regional states and Dire Dawa city administration would consist of two woredas in each of Benishangul-Gumuz and Gambella, and one in each of Harari and Dire Dawa.

29. The target number of direct project beneficiaries is 1.6 million. These will be: farmers hosting on-farm demonstrations, farmers in Common Interest Groups (CIGs) and primary cooperatives supported by the project, farmers benefiting from SSI and HHI including those in Irrigation Water User Associations (IWUAs), and farmers in Farmer Research Extension Groups (FREGs). In addition, the project will reach a significant number of indirect beneficiaries, including household members and farmers benefitting from improved access and quality of public agricultural services (including agricultural extension and animal health services), farmers adopting new technologies as a result of the project, and farmers benefiting from improved input and output markets. The project will also specifically target women farmers with tailor made innovations, activities and technical assistance (TA). The target proportion of female direct beneficiaries (both female heads of household and married female) will be 40 percent.

### **C. PDO Level Results Indicators**

30. The following indicators will be used to measure progress towards achieving the PDO (detailed descriptions provided in Annex 1):

- 1) Percentage increase in yield for selected crops in targeted households (disaggregated by Total Households (THH) and Female Headed Households (FHH));
- 2) Percentage increase in yield for selected animal products in targeted households (disaggregated by THH and FHH);
- 3) Proportion of production sold by targeted households for selected crops (disaggregated by THH and FHH);
- 4) Proportion of animal production sold by targeted beneficiaries for selected products (disaggregated by THH and female (FHH and married females)); and
- 5) Number of direct project beneficiaries.

## **III. PROJECT DESCRIPTION**

### **A. Project Components**

31. **Component 1: Agricultural Public Support Services (US\$129 million, of which US\$98.26 million IDA).** To increase access to public agricultural services for smallholder farmers, the project will support:

- (a) The identification of local priorities for public services through the establishment, operation and strengthening of Agriculture Development Partners Linkage Advisory Councils (ADPLACs), and linkages to other planning mechanisms including community consultation and local strategic planning.
- (b) The strengthening of public services delivery, including for agricultural extension; livestock production and animal health; crop production and plant health; natural resource management; soil fertility management; and agricultural mechanization. This would include supporting the construction and/or rehabilitation as well as equipping of public facilities for local agricultural service providers at kebele and woreda levels,

including Farmer Training Centers (FTCs), with a total of 2,800 to be supported; Animal Health Clinics/Posts, with 800 to be supported, and for mobility of service providers); promotion and demonstration of identified priority technologies at FTCs and model farmers, including for agricultural mechanization; establishing and/or strengthening national and regional level agriculture related public facilities (soil laboratories, etc); and strengthening the capacity of agriculture public service providers through the provision of training and human resources development (DAs, Animal Health Workers). By the end of project, a target of 1,530,000 farmers will have adopted improved technologies promoted by the project, of which 608,800 would be women farmers.

- (c) Support the scaling up of “best” practices of agricultural technologies and management practices in agricultural production and post-harvest activities. This would include the identification (through a community consultation process), validation and verification of local practices. In this regard, the project would align and receive additional support through the proposed Netherlands-financed Capacity Building for scaling up of evidence based best practices in agricultural production in Ethiopia (CASCAPE) project. Screening of technologies will include systematic assessment of nutrition, gender-impact and contribution to climate-smart agriculture.

32. **Component 2: Agricultural Research (US\$51.4 million, of which US\$49.92 million IDA).** To increase the supply of demand-driven agricultural technologies which directly link to the other components, the project will support:

- (a) Identification of prioritized technologies and the release of technologies to the agricultural extension system through: i) the release of selected in-pipeline technologies, including for crop varieties and management practices, poultry breeds, forage crops, irrigated crop management, acid soil and vertisol management, integrated nutrition crop management, and soil and water conservation technologies; and ii) delivery of a research program based on criteria including farmer demand, technology readiness, VC priorities and relevance to cross cutting issues (nutrition, gender and CSA). By the end of the project, a target of 280 new technologies would be promoted to the public extension services.
- (b) Supporting the adaptation and generation of proven agricultural technologies through supporting pre-extension demonstration; participatory research programs, and establishing and strengthening FREGs, with a total of 700 FREGs to be supported;
- (c) Supporting the production of source technologies, including the production of breeder and pre-basic seeds for major crop varieties, multiplication of disease and insect free tissue culture, production of source livestock and forage technologies and multiplication of land and water resources technologies. Under this sub-component, a target of 6,290 quintals of breeder and pre-basic seed would be produced; and
- (d) Capacity development, physical and human, for the agricultural research system to enable both national and regional research centers to effectively respond to emerging critical research needs, including for increased focus on high value crops.

33. **Component 3: Small Scale Irrigation (US\$218.6 million, of which US\$158.36 million IDA).** To increase the access to and efficient utilization of irrigation water by smallholder farmers, the project will support:

- (a) Increased availability of irrigated water through: i) the rehabilitation, upgrading and/or improvement of existing SSI schemes; ii) establishment of new SSI systems integrated with access roads where necessary; and iii) HHI systems. A total of 55,000 ha for 226,206 farmers (87,553 women farmers) would be provided with irrigation water.
- (b) Improved water management services through establishing and/or strengthening IWUAs and the introduction of improved irrigated agricultural management.

34. **Component 4: Agriculture Marketing and Value Chains (US\$120 million, of which US\$15.46 million IDA).** To commercialize smallholder farmers through increased access to input and output markets, the project would support:

- (a) The promotion and distribution of agricultural inputs, specifically seed through support to Community Based Seeds and forage Production groups (CBSPs) and the scale up of Direct Seed Marketing; and strengthening the input tracking system;
- (b) Strengthening the input and output marketing regulation and certification;
- (c) Support to farmers organizations, including formal farmer organizations (Unions, Primary Cooperatives) and informal, commercially oriented farmer groups (informal groups establishment would be focused on women and youth groups). The project would support business plan preparation and implementation, including through the provision of equipment and inputs to qualifying groups. Service providers, including the cooperative agencies, would receive capacity support. Improved access to credit (both rural savings and credit cooperatives (RUSACCOs) and Micro-finance Institutions (MFIs) would be facilitated. A total of 3,236 women and youth farmer groups would be supported under the project;
- (d) The strengthening of selected livestock and crop VCs, to be identified through a market analysis process, including a range of activities including TA to cooperatives and market buyers (including processors and exporters), linkages between VC participants, including from importing markets (such as participation in trade shows); competitive matching grants and innovation grants. This sub-component to be financed through a parallel financing mechanism funded by USAID; and
- (e) Market infrastructure development and management, including (i) construction and modernized management of 131 public market centers at woreda level; (ii) where clear rationale and exit strategy for public sector investment is demonstrated, to support the construction of 135 warehouses, storage and grading facilities; and (iii) 61 foot bridges which address critical market access bottlenecks for communities.

35. **Component 5: Project Management, Capacity Building and Monitoring and**

**Evaluation (US\$62.8 million, of which US\$28 million IDA).** To ensure project implementation, effective monitoring and evaluation (M&E) of results and a consistent and effective approach to capacity development, the project would support:

- (a) Project management and coordination, including (i) financing the staffing of federal, regional and woreda coordination units (CUs) and Steering Committees (SCs); (ii) procurement, Financial Management (FM), safeguard functions and communication; (iii) capacity development for core functions and for cross-cutting issues; and (iv) goods and equipment to support project management and implementation.
- (b) Monitoring, evaluation and learning, including (i) evaluation of outcomes and impact; (ii) gender impact evaluation (iii) regular monitoring of project inputs, outputs, selected outcomes and processes; (iv) safeguards monitoring; (v) internal learning and participatory M&E; and (vi) building capacity for planning and M&E.
- (c) Capacity Development Support Facility (CDSF), which will provide technical support to all human capacity development, throughout the project in order to (i) improve the quality of capacity development interventions; and (ii) strengthen the institutional capacity of Implementation Agencies (IAs). Note that this sub-component would be financed through a parallel financing provided by Department of Foreign Affairs, Trade and Development of Canada (DFATD).

36. **Cross-cutting issues:** The project would support the mainstreaming of cross-cutting issues (gender, nutrition and CSA) throughout the above components as follows:

- (a) **Gender:** The project will specifically target women farmers with tailor-made innovations, activities and TA, including: gender capacity building of IAs, gender awareness, capacity building for women, gender quotas and targets on specific investments and committees, specific investments dedicated to women, and application of no-harm principles for identification of technologies. Piloted gender innovations will be evaluated through an impact evaluation.
- (b) **Nutrition:** The project will support nutrition interventions in line with the NPP, through the diversification of crop and livestock production including under irrigation, the identification, validation and dissemination of nutrition dense crop and livestock technologies, increased attention to storage and processing of foods and awareness of nutritional issues at household level.
- (c) **CSA:** The project would contribute to the implementation of CRGE strategy, through: inclusion of climate advisory service into the existing extension system, dissemination of yield improving CSA technologies and practices, identification of CSA best practices for dissemination, training of various implementers on CSA, promotion by extension services of controlled grazing and the establishment of plots of permanent forages for direct grazing, research on CSA practices and introduction of efficient irrigation water management practices through training and water saving technologies.

## B. Project Financing

37. The total cost of the project is estimated at US\$581.8 million. This would be financed through an IDA allocation of US\$350 million, co-financing from DPs, and beneficiaries' contributions. Co-financing from DPs would be in the following categories: i) joint financing through a MDTF to be established for pooling financing; ii) joint financing through funds directly channeled to GoE by DPs; and, iii) parallel financing of specific sub-components. To date, none of the funds from DPs have been committed, though all DPs have confirmed their support and intent to formalize their commitments following IDA Board approval. The current financing gap is therefore US\$216.3 million, as indicated in the table below, with US\$109.5 million for joint financing and US\$106.8 million for parallel financing.

38. The following DPs have signaled intent to support AGP2: DFATD (approximately US\$17 million for the MDTF and approximately US\$11.9 million parallel financing for the CDSF); USAID (approximately US\$5 million for the MDTF and approximately US\$95 million parallel financing in support of Component 4); the Netherlands (approximately US\$30 million for the MDTF); the European Commission (EC) (approximately US\$45 million for the MDTF), Spanish Agency for International Development (AECID) (approximately US\$6 million joint financing); and Italian Development Cooperation (joint financing, amount to be determined).

39. In addition to financing under this project, there are several “aligned” projects, which are not co-financing the project, but which will indirectly support the project, including the Netherlands-financed CASCAPE technology up-scaling project and the Canada-Netherlands financed Small Scale Irrigation Technical Assistance Project.

## C. Project Cost and Financing

Component	IDA	Joint financing	Parallel financing	Beneficiaries contribution	Total
	US\$ million (% of total)	US\$ million (% of total)			
<b>1. Public Agricultural Services</b>	98.26 (76.17%)	30.74 (23.83%)			<b>129</b> (100%)
<b>2. Agricultural Research</b>	49.92 (97.12%)	1.48 (2.88%)			<b>51.4</b> (100%)
<b>3. Small Scale Irrigation</b>	158.36 (72.44%)	49.54 (22.66%)		10.7 (4.9%)	<b>218.6</b> (100%)
<b>4. Agriculture Marketing and Value Chain</b>	15.46 (12.89%)	4.84 (4.03%)	94.9 (79.08%)	4.8 (4%)	<b>120</b> (100%)
<b>5. Project Management and Monitoring and Evaluation</b>	28.00 (44.59%)	22.9 (36.46%)	11.9 (18.95%)		<b>62.8</b> (100%)
<b>Total Program Costs</b>	<b>350</b>	<b>109.5</b>	<b>106.8</b>	<b>15.5</b>	<b>581.8</b>

#### **D. Lessons Learned and Reflected in the Project Design**

40. The design of AGP2 reflects the current priorities of GoE to increase agricultural growth. It builds on the experience gained from the design and implementation of AGP1, which are drawn from evaluations and assessments conducted under the project. These assessments provide valuable insights into how to improve implementation and maximize the overall impact of AGP2. The key lessons are outlined below.

41. Project implementation is most effective where there is ownership and commitment from the IAs and clear mechanisms for coordination. Under AGP1, there is a good structure of SCs and Technical Committees (TCs) at all levels to effectively monitor, implement and evaluate the project, which will be continued and strengthened under AGP2. However, commitment of IAs has been uneven and there has been inadequate coordination among IAs. For AGP2, the institutional structure is strengthened, including an enhanced role of public institutions at zonal level. In addition, AGP2 activities will be integrated into institutional work plans.

42. SSI and HHI schemes can have a transformational impact on households. Initial results show that these irrigation systems in AGP1 had considerable impact on the ground in terms of enhancing crop productivity as well as encouraging adoption of high value horticultural crops. The effectiveness of micro and household level schemes, which are relatively inexpensive and technically straightforward to implement, has been particularly high, and there will be an increased allocation for funding these schemes under the project. In addition, without effective institutions for operation and maintenance, the sustainability of irrigation schemes is threatened. All infrastructure sub-projects will have management capacity development programs embedded both within the user associations (including IWUA) and within public support services.

43. Capacity development is most effective when it includes rigorous training needs assessments, investing in effective trainers and media for dissemination of knowledge, strong training materials, and ensuring close follow up and a continuation of support. Under AGP1, capacity development that was restricted to general, one-off, short-term trainings was found to have limited impact. A holistic approach to capacity building can lead to addressing capacity gaps in a more efficient and effective manner.

44. Community engagement and participation in planning supports local ownership and the effective allocation of resources. The Community Level Planning Process (CLPP) approach used under AGP1 has resulted in a sense of ownership among the participants, although the experience has been mixed partly because of the lack of expertise (knowledge, skills and information) of facilitators conducting the planning. Under AGP2, greater attention will be given on how community preferences are combined with other planning mechanisms, such as consistency with woreda development plans and agricultural priorities determined by ADPLACs.

45. A key mechanism for increasing access to services and markets is through the support to farmer groups (formal and informal). Supporting group based initiatives is complex and requires long term commitments by group members and support services to maximize the likelihood to group sustainability. Groups are most successful when they have well matched socio-economic

status of members, sound business plans, strong market linkages and, strong management as well as receive consistent and continual TA.

46. Cross-cutting issues require specific interventions and clear targets to gauge progress as general mainstreaming may result in the neglect of these issues. Cross cutting issues of women and youth development, nutrition, CSA and capacity development need close attention, resource allocation (including staffing) and rigorous monitoring. Mainstreaming needs to be accompanied with specific activities such as women and youth CIGs, deliberate selection of nutrition, gender and climate sensitive technologies as well as capacity development and awareness around these issues.

#### **IV. IMPLEMENTATION**

##### **A. Institutional and Implementation Arrangements**

47. Institutional arrangement under AGP2 will build on those established under AGP1. The project will rely on existing government structures, with the exception of parallel funding for market linkage and capacity development activities, which will be channeled through specific implementation arrangements. MoA will have the overall responsibility for the coordination and implementation of the project.

48. To fulfill its responsibilities, MoA will use or will establish in the new targeted national regional states; the institutional mechanisms already established for AGP1 at federal, regional, and woreda levels, as follows: (i) SCs, (ii) TCs, and (iii) the Project's CUs. The existing composition of these Committees will be revised in order to include new IAs such as the EIAR. At the zonal level, the Zonal Offices of Agriculture (ZOAs) will provide technical support, extension services and M&E to the group of woredas under its authority. The ZOAs will coordinate with the Woreda Offices of Agriculture (WOAs).

49. Implementation of the project will be decentralized. Federal IAs will provide guidance and support to regions, spearhead most institutional capacity building activities and undertake monitoring, evaluation and communication activities. At regional and woreda levels, the Bureaus/Offices of Agriculture will assume primary responsibility for execution of the project. Implementation of AGP2 at the regional level will also be supported by relevant service providers and institutions.

50. The annual planning process will follow a two-pronged approach associating: (i) a demand-driven approach based on the CLPP approach adopted for AGP1 in which communities are assuming primary responsibility for identifying and executing the community-based investment of the project, and (ii) a strategic-based approach in which investments are pre-identified through the kebele, woreda and regional development plans or through specific feasibility studies, and implemented in close collaboration with the community after a consultation process. At the woreda and kebele levels, the implementation of the project would be undertaken jointly by WOA through the Woreda Development Committee (WDC), the Kebele Development Committee (KDC), and communities. The WDC and the KDC will be guided by their respective SCs and TCs.

51. The project is a part of a broader program led by MoA to address agricultural growth in Ethiopia. The project will therefore coordinate with aligned projects. The platform for this programmatic coordination will take place within the Rural Economic Development and Food Security (RED&FS) Sector Working Group (SWG) and, more specifically, within the Technical Committee for Agricultural Growth of the RED&FS SWG. When needed and appropriate, the DPs financing aligned projects will be invited to participate in the SCs at all levels to ensure complementarity.

## **B. Results Monitoring and Evaluation (M&E)**

52. **Results framework.** The Results Framework will be used to monitor progress towards achieving the PDO (Annex 1). It includes tailored indicators to capture progress and results in terms of gender, quality of capacity development and M&E, which have been weak under AGP1, as well as attention to the quality of implementation and processes. In addition, gender, nutrition and CSA results are tracked through a consistent disaggregation across relevant indicators. The results framework is one part of the overall M&E system, which will track progress using additional outcome indicators outside the results framework (identified in the M&E manual) and studies/evaluations (quantitative, qualitative, and quality of implementation and processes) targeting specific results including gender, nutrition and CSA results. The responsibility for M&E of AGP2 will take place at four levels (Annex 3): federal, regional, woreda, and kebele/sub-kebele. All IAs will report on performance.

53. **Evaluation of outcomes and impact.** Baseline values for results framework indicators have been established based on secondary data sets from AGP1, Central Statistics Agency and other sources. A comprehensive baseline survey (household survey including qualitative surveys) will be conducted in the first year of the project to be fully representative of the geographic scope and expected project outcomes. This will be followed by a midterm evaluation in FY3 (household survey and qualitative surveys) and a final survey and evaluation in FY5 (household survey and qualitative surveys). In addition, further qualitative surveys will be conducted as required, for example this could include studies on the adoption and impact of agricultural technologies promoted by the program, nutritional impacts in terms of household dietary consumption, profitability and rates of return on investments by CIGs, and qualitative studies on changes in service delivery (extension, animal health, plant health, soil health). For gender, an impact evaluation of gender innovations would be conducted, with technical support from the World Bank.

54. **Monitoring of inputs, outputs, selected outcomes and processes.** The project will maintain a simple and interactive monitoring system allowing regular reporting and learning at all levels. Monitoring data and qualitative information will be entered into a web-based Performance Management Information System (PMIS), which will serve as the major source of information for quarterly and annual reports submitted to SCs at each implementation. To ensure the quality of the monitoring system, regular (biannual) reviews of data quality would be conducted. Prior to and based on these reviews, all responsible agencies will receive trainings to ensure capacity is in place for the system to function reliably.

55. **Safeguards monitoring.** Throughout implementation, the project will support safeguard monitoring to ensure that the project is following the prepared and disclosed safeguard instruments. Safeguard monitoring will include environmental and social performance reviews to assess compliance with safeguard instruments, determine lessons learnt and provide guidance for improving future performance. Reporting formats will also include indicators on safeguards.

56. **Internal learning and Participatory Monitoring and Evaluation (M&E).** AGP2 will promote internal learning by organizing community learning in combination with the annual CLPP exercise, during which farmers will discuss results achieved, progress on intended objectives and implementation problems and/or best practices following simple visual formats. Community learning fora would be organized annually by the kebeles manager and supported by trained community facilitators. It will include cross-farmer monitoring (farmers monitor other farmers’ activities/sub-projects) so as to take advantage of the opportunities that this provides for learning from each other. During implementation, the project will introduce participatory M&E by farmers on a pilot basis.

### C. Sustainability

57. The AGP2 will build the capacity of IAs at various levels on leadership, organizational, managerial, financial, and technical by following a holistic and systematic capacity building approach. The role of these agencies will be enhanced as service providers, which will in turn improve their sustainability. Similar to AGP1, AGP2 will play a critical role in strengthening and supporting the present public M&E system. AGP2 will address capacity gaps for M&E at various levels to foster its sustainable institutionalization.

58. The AGP2 will support IWUAs and marketing center management committees which are critical to the sustainability of SSI schemes and market centers. These local institutions make sure that the infrastructure projects are well maintained and managed, and hence they play an important role in their sustainability.

59. Activities under AGP2 would continue to be screened through Environmental and Social Management Framework (ESMF), thus ensuring that the interventions would continue to be environmentally sustainable. In addition, explicit activities such as support to water harvesting structures and support to activities which improves soil fertility would contribute positively to the environment by conserving soil and water and adaptive capacity during a changing climate.

## V. KEY RISKS AND MITIGATION MEASURES

### A. Overall Risk Rating and Explanation of Key Risks

<b>Risk Category</b>	<b>Rating</b>
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector strategies and policies	Moderate

4. Technical design of project or program	Low
5. Institutional capacity for implementation and sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	Low
<b>Overall</b>	Substantial

60. The Overall Implementation Risk is rated as Substantial. Annex 4 details the risk categories and the corresponding risk ratings given to these categories. The key factors for the Substantial rating are as follows:

(a) Institutional capacity: The on-going AGP1 suffered from initial delays and quality concerns linked to capacity weaknesses, especially at regional and local levels. While a strengthened approach to capacity development is to be adopted under AGP2, including the establishment of a CDSF, and additional staff to be recruited at local levels, this remains a critical area for attention to achieve the project objectives.

(b) Fiduciary: Delays have been observed in preparation and submission of budgets from Federal Coordination Unit (FCU) in AGP1. Audit reports on FM suggest weak internal controls as well as cases in which proper financial procedures were not followed. Procurement and FM capacities at local levels are weak resulting in non-compliance with regular re-bidding cases and agreed procedures respectively. Procurement audits have not been conducted regularly in AGP1. Increased fiduciary staffing, the introduction of interim FM audits and regular procurement audits are measures introduced to address these risks.

(c) Safeguards: OP 4.10 is now triggered by AGP2 and a Social Assessment (SA) has been prepared. The findings of SA highlight the possible overlap of AGP2 with communities supported under the GoE's Commune Program. This raises substantial risk if the project is perceived to be supporting the Commune Program in communities in which the Program has not been well implemented. In agreement with GoE and based on the ongoing Alignment Study, an approach would be applied to ensure that the project is not knowingly active in these, particularly in non-viable commune centers/communities. With regards to OP4.12, the implementation of Resettlement Policy Framework (RPF) under AGP1 was based on voluntary land donation, and there is a risk that social due diligence was not followed. Therefore the Bank will conduct a retrospective due diligence of those sub-projects to ensure compliance with the OP4.12.

(d) Stakeholders: There is currently a financing gap of US\$216.3 million, which would be provided by six DPs. To date, none of the funds have been formally committed, though all DPs have confirmed their support and intent to formalize their commitments following IDA Board approval. There is risk associated with this

sizeable financing gap. Although shortfalls in DP co-financing are not expected, if this occurs the overall project size may need to be reduced. This would be achieved by limiting the geographical coverage of the project and specifically by reducing the number of sub-districts (kebeles) included within the 157 project woredas. The EC is one of the prospective contributors to the project, and co-financing from the EC would need to comply with the Framework Agreement signed between the Bank and the EC in 2014. Mutually acceptable arrangements for handling fiduciary risks associated with the MDTF are under discussion and would need to be agreed.

## **VI. APPRAISAL SUMMARY**

### **A. Economic and Financial Analysis**

61. **Financial Analysis.** Financial analyses were carried out to assess the net benefit to households participating in the project. Several typical (rainfed and irrigated) crop and herd growth models for livestock and HHI/SSI schemes models were developed using detailed technical input and output prices and investment and running cost assumptions. The models show good profitability outcomes and attractive financial internal rates of return.

62. **Economic Analysis.** A cost-benefit analysis was conducted for a 20-year period, transforming financial prices, costs, and benefit streams into economic values by calculating economic import/export parity prices at farm gate, applying conversion factors for each category of costs, eliminating taxes and transfers, and taking into account incremental costs after the project implementation period (notably irrigation infrastructure maintenance). Economic benefits considered in the analysis are those derived from: (i) increased crop production and value added at the producers' level (combined effect of increases in productivity, in prices paid to producers and in reductions in post-harvest losses; while total cropped areas were assumed to remain stable due to land availability constraints); and (ii) increased livestock production and productivity.

63. Considering most project costs (including capacity building as well as coordination and management, but excluding Component 4 costs for which content and expected benefits are yet to be fully defined), the project would yield an Economic Internal Rate of Return (EIRR) of 18 percent and a Net Present Value (NPV) of US\$191 million (at a 10 percent discount rate). The project is therefore highly profitable from an economic standpoint. Considering all project costs, the EIRR would still be 14 percent. The sensitivity analyses indicate some resilience to increases in costs and reductions or delays in benefits. The EIRR, for example, would yield 11 percent and 12 percent respectively, if benefits were reduced by 30 percent or lagged by two years.

64. The added value of the Bank's support includes technical input based on international experience for similar smallholder projects, including support for public service provision, capacity development of farmer groups and other VC actors, small scale infrastructure, knowledge sharing and communication, and project management, including for fiduciary and safeguard functions. As such, the Bank's support will complement national sources of expertise and business advisory support services to farmers/POs, resulting in increased project impact beyond what could be realized by exclusive reliance on GoE institutions or existing national

consulting firms. Further, the IDA financing is leveraging additional DP financing for the project, increasing its overall scale and impact.

## **B. Technical**

65. The project has a modified design based on the lessons learned from AGP1 and also to reflect shifting priorities in the government's agricultural development strategy. Specifically, it would: i) scale-up the achievements of AGP1 into new geographical areas; ii) consolidate the activities conducted in the existing AGP1 areas; and iii) refine and strengthen the approach to provide increased impact. The project has a complex design, addressing a number of critical aspects of the agricultural agenda. The complexity stems from a number of different activities included in the design, though none of the investment areas are, by themselves, technically complex in design or implementation. The challenge is therefore in the implementation structure, including coordination among activities, and the capacity of IAs. In this regard, the project provides an adequate approach and resourcing for capacity development, including the CDSF. The expansion into new national regional states (Gambella, Benishangul-Gumuz, Harari and Dire Dawa) presents an additional implementation challenge, though the extent of expansion has been kept minimal (a total of six woredas out of the total 157).

66. The project design includes an appropriate combination of infrastructure and support to service provision. SSI and HHI have proven effective in transforming rural livelihoods and the investment to expand household access to irrigation should contribute significantly to the achievement of the PDO. The infrastructure investments are to be supported with investment in institutional capacity, including for IWUAs, and to enable farmers to introduce higher value crops into newly irrigated land. The project will strengthen the research system, focusing on the field testing, adaptation and release of new technologies (for crop production and post-harvest handling, and livestock) to meet the demands of small scale farmers. Ensuring the supply of new technologies will be vital in the achievement of the government's goals for productivity and commercialization of small scale agriculture. The research component would link closely with other components, and specifically with the support for agricultural public support services (component 1).

67. The agriculture sector has an important role to play to address the three cross-cutting issues of gender, nutrition and CSA. The design of the project has appropriately mainstreamed in the activities of each component with processes identified for mainstreaming. In addition, the specific cross cutting activities have also been added and budgeted with the implementation arrangements identified for each of these activities. For example, it is envisaged that women CIGs would conduct gender specific activities.

## **C. Financial Management**

68. The FM arrangements for AGP2 (discussed in Annex 3 in detail), follow GoE's Channel 2 fund flow mechanism whereby funds from donors flow directly to the sector ministry, in this case MoA, and are overseen by the same ministry. The main FM arrangements of AGP2 will be similar to AGP1. The assessment looked into the lessons learned and challenges, which remain under AGP1, to ensure that the design of AGP2 addresses the challenges noted.

69. AGP2 will build on and strengthen FM arrangements under AGP1 which require the timely submission of financial reports of good quality, a participatory approach in budget preparation, unqualified audit report opinions and smooth fund flow arrangements, though in practice have had some weaknesses. AGP2 will also build on the country's Public Financial Management (PFM) system. Several aspects of the PFM system function well, such as the budget process, budget classification system, and compliance with financial regulations. AGP2 will also benefit from the country's internal control system, which provides sufficiently for the separation of responsibilities, powers, and duties. It also benefits from the efforts being made to improve the internal audit function.

70. However, challenges noted in the implementation of AGP1 included: (i) delayed budget preparation and approval system with low budget utilization and inadequate variance analysis; (ii) weak community contribution recording coupled with an unclear FM manual in some aspects; (iii) lack of systematic and continuous training; and (iv) delays in the submission of annual audit reports of the project coupled with internal control weaknesses noted in the reports. Accordingly, the design for AGP2 has included an action plan that will address these challenges by introducing: (i) the revision of the FM manual to provide clarification; (ii) introduction of IBEX software into the program to better align the accounting system to that of the country system; (iii) a clear timetable for the preparation of annual financial statements and auditor recruitment; and (iv) mechanisms for ensuring that adequate training is provided at all levels to mitigate the risk of staff turnover.

71. AGP2 funding will be proclaimed as part of the government budget and annual action plans and budgets harmonized with the budget calendar and will use report-based disbursement, which depends on the submission of Interim Financial Reports (IFRs) with two quarters expenditure forecast to the Bank and replenishment of project accounts accordingly. The IFR will be consolidated and submitted by the AGP2 FCU to the Bank.

72. The conclusion of the FM assessment is that the FM arrangements meet the IDA's requirement as per OP/BP 10. The FM risk for the project is rated 'Substantial' after accounting for the mitigating measures, but is expected to reduce once implementation starts and the risk mitigating measures proposed are implemented.

#### **D. Procurement**

73. Procurement for AGP2, under the IDA credit as well as the pooled funds from DP contributions, will be carried out in accordance with the World Bank's "Guidelines: Procurement under International Bank for Reconstruction and Development (IBRD) Loans and IDA Credits", dated January 2011 and revised July 2014; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers", dated January 2011 and revised July 2014, "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, (the Anti-Corruption Guidelines)", dated October 15, 2006 and revised January 2011, and the provisions stipulated in the Financing Agreement.

74. Procurement shall be carried out centrally by MoA / FCU for strategic goods, at regional

levels by Bureaus of Agriculture (BoAs)/Livestock Development Agencies, Bureaus of Water (BoWs) /Irrigation Development Agencies, Cooperative Agencies, and Marketing Development Agencies, depending on regional structures and at woreda level by the Woreda Office of Finance and Economic Development (WoFEDs). Between December 2014 and January 2015, a capacity assessment of the IAs was carried out using the procurement risk management system, i.e. Procurement Risk Assessment Management System (P-RAMS) questionnaires. The assessment showed that there are challenges in areas of organization and staffing in procurement, capacity problems of the procurement staff and high level of staff turnover, among other things. Mitigation measures have been designed to address these, as detailed in Annex 3.

75. The different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and timeframe are agreed between the borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually, or as required.

#### **E. Social (including Safeguards)**

76. AGP2 will benefit smallholder farmers. The project design builds on the lessons from AGP1 and includes activities to target and include women and youth farmers with tailor made innovations, activities and TA. Through community consultation, a socially-inclusive and participatory development planning approach, the project will focus on activities at the kebele and field level, based on investment priorities identified by participating local communities.

77. The social development challenges that face the rural areas of Ethiopia are inequality and deprivation, which is manifested in the weak social infrastructure, and poor quality of basic services such as health care facilities, schools, and access roads. The knowledge of these social development challenges informed the design and operational relevance of this project.

78. The proposed project will not undertake any sub-projects that will displace people. However, it would support small-scale rural infrastructure that might affect land holdings of individual farmers. While individual sub-projects are not yet identified, there will be support for activities such as small scale infrastructure to improve productivity as well as other rural infrastructure such as feeder roads. Therefore, as a precautionary measure, OP4.12 is triggered and the project has prepared and disclosed a RPF addressing issues which might arise from economic displacement, and or restriction of access to communal natural resources. The preparation of the RPF was based on consultative processes that involved representatives from participating communities and public, non-governmental, cooperative and community actors. These stakeholders provided useful feedback that was incorporated into the design of the project.

79. Based on the screening conducted by the World Bank, the target population meets the criteria for OP4.10; therefore, issues relating to OP4.10 have been defined in detail through an enhanced SA and Consultation to identify social issues and economic opportunities for the underserved groups. Key stakeholders were consulted in the woredas, kebeles and communities, including identified vulnerable and undeserved groups to seek their broad support for the project and the importance of the project to themselves and their families. The findings of the SA, including measures to ensure the provision of grievance redress; benefit sharing issues; and the identified mitigating measures have been incorporated into the design, and detailed in the Social

Management Plan (Annex 6).

80. **Grievance Handling Mechanisms (GRM):** In the case of grievances arising in the course of project implementation, traditional and quasi-formal dispute settlement arrangements would be invoked to deal with the issues. Under these arrangements, in the first instance, aggrieved parties would be encouraged to bring their complaints to the attention of local elders, who would consult with the parties involved to resolve the dispute in an amicable fashion. Complainants not satisfied with the decision of village leaders are advised to resort to quasi-formal structures of kebele judicial tribunals, whose verdicts on the matters will be final. The project would ensure that such traditional and quasi formal structures are consistently resorted to, in order to ensure smooth and fair settlement grievances.

#### F. Environment (including Safeguards)

81. The Safeguard Category assigned to AGP2 is Category B and has triggered eight out of the ten safeguard polices:

Safeguard Polices	Yes	No
Environmental Assessment (OP/BP 4.01)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Natural Habitats (OP/BP 4.04)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pest Management (OP/BP 4.09)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Physical Cultural Resources (OP/BP 4.1 1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Involuntary Resettlement (OP/BP 4.12)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Indigenous Peoples (OP/BP 4.10)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forests (OP/BP 4.36)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Safety of Dams (OP/BP 4.37)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Projects in Disputed Areas (OP/BP 7.60)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Projects on International Waterways (OP/BP 7.50)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

82. Activities with environmental concerns to be financed by AGP2 include ground water development, SSI schemes, construction of feeder roads, establishment of product storage facilities and large-scale adoption of agricultural and livestock productivity-enhancing technologies. Likely environmental risks may be associated with pre-construction, construction/rehabilitation and operation of storage facilities, use and disposal of agrochemicals, and inappropriate use of groundwater resources (through over-use, agrochemical seepage, etc.) could result in aquifer depletion and contamination, affecting water quantity and quality in neighboring communities and downstream.

83. MoA has prepared an ESMF that describes in broad terms how potential project related environmental risks and impacts would be mitigated and addressed before and during implementation of project activities. In addition, it describes the institutional responsibilities, capacities, financial resources and monitoring needs essential to implement mitigation measures. Environmental and Social Safeguard Specialists are recruited at federal and regional CUs for following up the proper and day-to-day implementation of the ESMF. The effective implementation of the ESMF would be regularly reviewed as part of the M&E system for AGP2.

84. Since the project triggered the Pest Management Policy, a Pest Management Plan has been included as part of the ESMF. The ESMF has been disclosed in-country and in the Info Shop in accordance with Bank requirements on February 9, 2015.

85. The safeguard policy OP 7.50, “Projects on International Waterways”, is triggered on the basis that the SSI sub-projects would abstract water from streams or rivers that are tributary to rivers crossing international borders. In accordance with this policy, the following riparian countries were notified: Sudan, South Sudan, Egypt, Eritrea, Kenya, Somalia, Democratic Republic of Congo, Rwanda, Tanzania and Uganda. The World Bank’s assessment is that no appreciable harm will be caused to any of the riparian countries concerned.

## Results Framework and Monitoring

**Country: Ethiopia**

**Project Name: Second Agricultural Growth Project (P148591)**

### Results Framework

#### Project Development Objectives

PDO Statement

The Project Development Objective is to increase agricultural productivity and commercialization of smallholder farmers targeted by the project.

These results are at

Project Level

#### Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	YR 5 End Target
1. Percentage increase in yield for selected crops in targeted households benefiting directly from the project (Percentage)	Cereals/pulses (quintals per ha): - THH: 15.3 - FHH: 13.7  Vegetables/Fruits: (quintals per ha) -THH: 67.42 -FHH: 55.79	--	--	11.1% 11.9%	--	21.8% 22.9%
2. Percentage increase in yield for selected animal products in targeted households benefiting directly from the project (Percentage) (liters day/cow)	-THH: 0.70 -FHH: 0.71	--	--	11.1% 11.9%	--	21.8% 22.9%
3. Proportion production sold by targeted beneficiaries for	Cereals/pulses:					

selected crops (Percentage)	- THH: 17.08% - FHH: 15.29%	--	--	22.36% 21.11%	--	26.55% 25.49%
	Vegetables/Fruits: -THH: 37.19% -FHH: 30.77%			41.29% 36.21%		44.49% 39.97%
4. Proportion of animal production sold by targeted beneficiaries for selected products (Percentage)	- THH: 26.97% - Female: 27.36%	--	--	31.27% 31.89%	--	34.67% 35.30%
5. Direct project beneficiaries (Number) - (Core)	0	--	--	--	--	1,597,730
Female beneficiaries (Percentage - Sub-Type: Supplemental) - (Core)	N/A	--	--	--	--	40

### Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	YR5 End Target
6. Percentage of farmers using public agricultural services (male farmers and female farmers) (Percentage)	- Male: 26.9% - Female: 20.1%	--	--	39.45% 31.35%	--	50.56% 40.56%
7. Number of gender sensitive technologies demonstrated in the project area (Number)	0	7	20	60	90	101
8. Percentage increase in crop diversity (no. of HH cultivating 3 or more crops) in targeted households benefiting directly from the project (Percentage)	26.5%	--	--	36%	--	39.75%
9. Clients who have adopted an improved agricultural technology promoted by the project	0	--	--	700,000	1,400,000	1,530,000

(Number) - (Core)						
Clients who adopted an improved agricultural technology promoted by project – female (Number - Sub-Type: Breakdown) - (Core)	0	--	--	300,000	500,000	608,800
10. Number of technologies promoted to public extension services (total and disaggregated by gender sensitive, nutrition and climate smart) (Number)	Total: 0	20	50	120	240	280
	Gender sensitive: 0	7	20	60	90	101
	Nutrition: 0	7	15	50	80	80
	Climate smart: 0	4	10	14	16	20
11. Number of demand-driven improved agricultural technologies under research (total and disaggregated by gender sensitive, nutrition and climate smart technologies) (Number)	Total: 0	--	20	60	110	140
	Gender sensitive: 0	--	3	10	30	40
	Nutrition: 0	--	3	10	30	40
	Climate smart: 0	--	3	10	30	40
12. Collaborative research sub-projects under implementation/completed (Number) - (Core)	Total FREGs: 0	200	450	600	700	700
	Total Women FREGs: 0	100	200	240	280	280
Collaborative research sub-projects - under implementation (Number - Sub-Type: Breakdown) - (Core)	Total FREGs: 0	150	250	150	100	0
	Total Women FREGs: 0	75	100	40	40	0

Collaborative research sub-projects - completed (number) (Number - Sub-Type: Breakdown) - (Core)	Total FREGs: 0 Total Women FREGs: 0	50 25	200 100	450 200	600 240	700 280
13. Volume of breeder seeds and pre-basic seeds for crops produced by research centers (quintals)	0	1,258	2,516	3,774	5,032	6,290
14. Water users provided with new/improved irrigation and drainage services (number) (Number) - (Core)	0	20,000	86,000	172,000	190,000	190,000
Water users provided with irrigation and drainage services - female (number) (Number - Sub-Type: Breakdown) - (Core)	0	8,000	36,400	80,553	71,000	78,000
15. Percentage of functional IWUAs managing effectively irrigation and drainage infrastructures (Percentage)	N/A	--	40%	50%	60%	70%
16. Area provided with irrigation and drainage services (ha) - (Core)	0	5,000	21,500	43,000	55,000	55,000
Area provided with irrigation and drainage services - New (ha) (Sub-Type: Breakdown) - (Core)	0	5,000	20,215	41,715	45,000	45,000
Area provided with irrigation and drainage services - Improved (ha) (Sub-Type: Breakdown) - (Core)	0	0	4,000	8,000	10,000	10,000
17. Percentage increase in volume of seeds supplied through diversified channels (disaggregated per supplier)	Total: N/A Private agents: N/A	-- --	9% 9%	12% 12%	13% 13%	15% 15%

(Percentage)	Farmers groups: N/A Cooperatives: N/A	--	9% 9%	12% 12%	13% 13%	15% 15%
18. Number of commercial partnerships or market contracts signed between producer groups or cooperatives (supported by the project) and domestic/international agribusiness actors (processors, wholesalers, retailers, exporters, etc.) for selected value chains (Number)	Number: 0	--	--	23	--	45
19. Percentage of CIGs undertaking a viable business activity (disaggregated by youth and female) (Percentage)	Female CIGs: N/A Youth CIGs: N/A	-- --	-- --	50% 35%	60% 40%	65% 50%
20. Percentage of trainings delivered using AGP2 agreed capacity development approach (Percentage)	N/A	--	70%	80%	85%	90%
21. Annual progress reports meets World Bank quality and timely delivery requirements (Yes/No)	N/A	Yes	Yes	Yes	Yes	Yes

### Indicator Description

#### Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Percentage increase in yield for selected crops in targeted households benefiting directly from the project  Cereals/pulses:	Assess agricultural productivity with yield for selected key crops in targeted households (MHH and FHH). The proposed key crops at this stage are the following: horticulture (fruits (TBD), vegetables (onions, tomatoes and potatoes)), wheat, maize, coffee, sesame, chickpea, teff, sorghum, barley and fava beans. Two indexes	Baseline, mid-term and end of project	Household survey/ evaluation	Consulting firm/university under responsibility and supervision of CU M&E Officer and Technical Committee (TC)

<p>- MHH: - FHH:</p> <p>Vegetables/Fruits: -MHH -FHH</p>	<p>will be developed based on the selected crops ((i) cereals and pulses and (ii) vegetables/fruits). The current list of crops will be further defined.</p>			
<p>Percentage increase in yield for selected animal products in targeted households benefiting directly from the project</p> <p>-MHH -FHH</p>	<p>Assess agricultural productivity by a proxy with yield for selected key livestock products in targeted households (MHH and FHH). The proposed selected key livestock products at this stage are the following: poultry (meat), honey, cattle milk, cattle and shoats (meat). An index will be developed based on the selected livestock products and the current list of products will be further defined.</p>	<p>Baseline, mid-term and end of project</p>	<p>Beneficiaries survey/evaluation</p>	<p>Consulting firm/university under responsibility and supervision of CU M&amp;E Officer and TC</p>
<p>Proportion production sold by targeted households for selected crops</p> <p>Cereals/pulses: - MHH: - FHH:</p> <p>Vegetables/Fruits: -MHH -FHH</p>	<p>Assess the level of commercialization of the crop production by targeted households (MHH and FHH) for selected key crops. The proposed key crops at this stage are the following: horticulture (fruits (TBD), vegetables (onions, tomatoes and potatoes)), wheat, maize, coffee, sesame, chickpea, teff, sorghum, barley and fava beans. The current list of crops will be further defined. The indicator is disaggregated by cereals/pulses and vegetables/fruits.</p>	<p>Baseline, mid-term and end of project</p>	<p>Household survey/evaluation</p>	<p>Consulting firm/university under responsibility and supervision of CU M&amp;E Officer and TC</p>
<p>Proportion of animal production sold by targeted beneficiaries for selected products</p> <p>-Male -Female</p>	<p>Assess the level of commercialization of the livestock production by targeted beneficiaries for selected key livestock products. At this stage, the livestock products are the following: poultry (meat), honey, cattle milk (cow), dairy products (yogurt, butter, cheese, etc.), cattle and shoats (meat) and hide and skins. The current list of livestock products will be further defined.</p>	<p>Baseline, mid-term and end of project</p>	<p>Beneficiaries survey/evaluation</p>	<p>Consulting firm/university under responsibility and supervision of CU M&amp;E Officer and TC</p>

Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., farmers benefiting from specific trainings at FTCs, farmers in CIGs, farmers in IWUAs, farmers in FREGs, farmers being linked to the market by the project, farmers using animal health services, farmers members of cooperatives supported by the project, etc.).	Annually, starting year 2.	Baseline, mid-term and end of project	M&E Officers (FCU, Regional Coordination Units (RCUs) and IAs)
Female beneficiaries	Female beneficiaries directly derive benefits from an intervention (as above)	Annually, starting year 2.	Baseline, mid-term and end of project	M&E Officers (FCU, RCUs and IAs)

### Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Percentage of farmers using public agricultural services (male farmers and female farmers)	The percentage of farmers using public agricultural services (male and female) will be analyzed per type of services: (i) extension services (through (a) farmers training and demonstration at FTCs by DAs; (b) farmer field days; (c) advice/demonstrations by DAs (crops, livestock, NRM) on farmers plots and other site); (ii) animal health services (farmers using animal health clinics and animal health posts); and (iii) farmers benefiting from insemination services for their livestock.	Baseline, mid-term and end of project	Household survey/evaluation	Consulting firm/university under responsibility and supervision of CU M&E Officer and TC
		Mid-term and end of project	Qualitative study extension services	Consulting firm/university under responsibility and supervision of CU M&E Officer and TC
Number of gender sensitive technologies demonstrated in the project area	This indicator assesses the number of gender sensitive technologies demonstrated by the project. Gender sensitive technologies are defined as: (i) technologies based on needs and interest of female farmers; (ii) technologies that reduce time and labor for women farmers; and (iii) technologies that are accessible and	Annually, starting year 2	Progress Reports	M&E Officers, (FCU, RCUs and IAs)
		Annually starting year 2	Qualitative survey/study	Consulting firm/university under responsibility and supervision of CU M&E

	affordable by women farmers.			Officer and TC
Percentage increase in crop diversity (no. of households cultivating 3 or more crops) in targeted households benefiting directly from the project	A crop diversity index will be constructed from the AGP2 production data collected through the household survey.	Baseline, MTR and end of project	Household survey/evaluation	Consulting firm/university under responsibility and supervision of CU M&E Officer
Clients who have adopted an improved agricultural technology promoted by the project	Adoption refers to a change of practice or change in use of a technology that was introduced/promoted by the project. The term technology includes a change in practices compared to currently used practices or technologies. It will assess the proportion of technologies adopted per type: (i) gender sensitive; (ii) nutrition; and (iii) CSA.	Annually, starting year 2  MTR and end of project	Progress Reports  Qualitative study/survey	M&E Officers, (FCU, RCUs, IAs)  Consulting firm/university under responsibility and supervision of CU M&E Officer and TC
Clients who adopted an improved agricultural technology promoted by project – female	As above, disaggregated by gender.	No description provided.	No description provided.	No description provided.
Number of technologies promoted to public extension services (total and disaggregated by gender sensitive, nutrition and CSA)	Assesses if technologies reach the stage of being promoted to public extension services. Total technologies includes: (i) multi-purpose technologies (that cannot easily be categorized as gender, nutrition or CSA but contribute overall to the project objective.); (ii) gender sensitive technologies; (iii) nutrition technologies; and (iv) CSA technologies. Gender sensitive technologies are defined as: (i) technologies based on needs and interest of female farmers; (ii) technologies that reduce time and labor for women farmers; and (iii) technologies that are accessible and affordable by women farmers. Technologies for nutrition refers to technologies: (i) increasing production and consumption for a range of	Bi-annually, starting year 2	Progress Reports	EIAR, RARIs, and M&E Officers

	diverse nutrient dense food; and (ii) improving post- harvest handling, preservation and processing to improve availability of good nutritional quality and safe food. CSA technologies under the project refer to technologies that increase productivity and resilience (adaptation). Not all technologies are gender sensitive or contributing to improved nutrition or climate smart, but it is still critical to know for the project how many are being promoted to public extension services.			
Number of demand-driven improved agricultural technologies under research (total and disaggregated by gender sensitive, nutrition and CSA technologies)	It is an indicator to assess the quality of the processes that led to the selection of technologies under research. The terms demand-driven and improved refers to the quality of the processes to have the technology under research: (i) the identification of technologies under research is demand-driven: based on farmers, extension services and other actors demand to address specific issues; (ii) the technologies under research contributes to productivity and commercialization; (iii) the choice of technologies under research take into account mainstreaming of gender, nutrition, and climate smart; and (iv) the choice of technologies under research is in line with the VCs of the project. Break-down by technology type is as above.	Annually	Qualitative study/Desk review (process and potential impact)	EIAR, RARIs, M&E Officers and TC
Collaborative research sub-projects under implementation/completed (Disaggregated by total FREGs and women FREGs)	This indicator refers to the FREGs and shows the growth in formal collaboration among the public research, extension services and farmers. “Under implementation” is defined as a FREG for which a contractual arrangement has been established.	Bi-annually, starting year 2  MTR and end evaluation	Progress Reports  Qualitative study	EIAR, RARIs and M&E Officers  Consulting firm/university under responsibility and supervision of CU M&E Officer and TC

Collaborative research sub-projects - under implementation (Disaggregated by total FREGs and women FREGs)	This indicator refers to the FREGs and shows the growth in formal collaboration among the public research, extension services and farmers.	Bi-annually, starting year 2  MTR and end evaluation	Progress Reports  Qualitative study	EIAR, RARIs and M&E Officers  Consulting firm/university under responsibility and supervision of CU M&E Officer and TC
Collaborative research sub-projects - completed (number) (Disaggregated by total FREGs and women FREGs)	This indicator refers to the FREGs and shows the growth in formal collaboration among the public research, extension services and farmers.	Bi-annually, starting year 2  MTR and end evaluation	Progress Reports  Qualitative study	EIAR, RARIs and M&E Officers  Consulting firm/university under responsibility and supervision of CU M&E Officer and TC
Volume of breeder seeds and pre-basic seeds produced for crops by research centers	This indicator assesses the capacity of research centers to provide breeder seeds and pre-basic seeds.	Annually	Progress Reports	EIAR, RARIs and M&E Officers
Water users provided with new/improved irrigation and drainage services (number)	This indicator assesses the expansion in access to irrigation and drainage of farmers. Water users refer to farmers who are recipient of irrigation and drainage services from the project. “New irrigation and drainage services” refers to the provision of irrigation and drainage services in an area that has not had these services before. “Improved irrigation and drainage services” refers to the upgrading, rehabilitation, and/or modernization of irrigation and drainage services in an area with existing irrigation and drainage services.	Bi-annually, starting year 2  MTR and end of project	Progress report  Qualitative evaluation	M&E Officers, FCU, RCUs and BoW  Consulting firm/university under responsibility and supervision of CU M&E Officer and TC
Water users provided with irrigation and drainage	This indicator assesses the expansion in access to irrigation and drainage of women farmers. Water	Bi-annually, starting year 2	Progress report	M&E Officers, (FCU, RCUs and BoW)

services - female (number)	users refer to farmers who are recipient of irrigation and drainage services from the project.		Qualitative evaluation	MTR and end of project
Percentage of functional IWUAs managing effectively irrigation and drainage infrastructures	This indicator assesses the functionality IWUAs and their effective management of irrigation and drainage infrastructures of the project—as a proxy for measuring their efficient use of irrigation water. Functional IWUAs refer to an association with: (i) registered with supervising body (to be designated by each national regional states); (ii) trained members; (iii) has bylaws (rules for consumption of irrigation water and collect fees); (iv) collect fees; and (v) 30 percent women members (if sufficient women have land use right in the specific irrigation scheme). Managing effectively refers to (i) effective maintenance and operation of the irrigation and drainage system; (ii) development of specific scheduling of water delivery; and (iii) delivery of water to farmers plots in the right quantity and at an appropriate time.	Bi-annually, starting year 2  MTR and end of project	Progress report  Qualitative evaluation (including evaluation of efficiency use of water)	M&E Officers, (FCU, RCUs and BoW)  Consulting firm supervised by M&E Officer
Area provided with irrigation and drainage services (ha) (disaggregated by SSI and HHI)	Irrigation and drainage services refers to the better delivery of water to, and drainage of water from, arable land, including better timing, quantity, quality, and cost-effectiveness for the water users. The data are disaggregated by SSI and HHI, as women farmers are mostly beneficiary from HHI.	Bi-annually, starting year 2	Progress report	M&E Officers, (FCU, RCUs and BoW)
Area provided with irrigation and drainage services - New (ha) (disaggregated by SSI and HHI)	As above, for new services.	Bi-annually, starting year 2	Progress report	M&E Officers, (FCU, RCUs and BoW)
Area provided with	As above, for improved services	Bi-annually,	Progress report	M&E Officers, (FCU,

irrigation and drainage services - Improved (ha) (disaggregated by SSI and HHI)		starting year 2		RCUs and BoW)
Percentage increase in volume of seeds supplied through diversified channels (disaggregated per supplier)	This indicator measure the percentage increase in volume of seeds produced per VCs per type of channels (private agents; farmers groups; and cooperatives). Seeds are defined as grain crops.	Annually, starting year 2	Progress report	USAID and CU M&E Officer
Number of commercial partnerships or market contracts signed between producer groups or cooperatives (supported by the project) and domestic/international agribusiness actors (processors, wholesalers, retailers, exporters, etc.) for selected VCs	This indicator assesses the effectiveness of component 4 at improving market access and establishing commercial linkages between farmer groups or cooperatives and domestic, regional and international agribusiness actors such as processors, wholesalers, retailers, exporters, etc. Producer groups are defined as CIGs.	Bi-annually starting year 2	Survey/Evaluation	USAID and CU M&E Officer
Percentage of CIGs undertaking a viable business activity (disaggregated youth CIGs and female CIGs)	It assesses the sustainability of the business for the CIGs. It means that: (i) the members make profit with the activity they undertake as an individual in the CIG; (ii) the CIG itself makes profit; and (iii) the reserves of the group are increased until they are sufficient to cover the costs of a full business cycle.	Annually, starting at MTR	Progress report  MTR and Final Evaluation	M&E Officer, (FCU, RCU and USAID) Qualitative evaluation
Percentage of trainings delivered using AGP2 agreed capacity development approach	This indicator measures the quality of the capacity building under the project. The definition of capacity development approach will be defined once AGP2 has developed a detailed capacity development approach for the overall project.	Annually	Qualitative evaluation of a sample of trainings	TA for capacity development supervised by M&E Officer and Capacity Building Officer
Annual progress reports	This indicator measures whether or not the M&E	Annually	Progress	M&E Officers

meets World Bank quality and timely delivery requirements	system is achieving its basic function of providing quality and timely data. Quality requirements refer to the agreed format for reporting (data, analysis, recommendations, etc.) and the required data (such as results framework and other critical indicators/data agreed upon).		reports/Review	/World Bank
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## Annex 2: Detailed Project Description

### ETHIOPIA: SECOND AGRICULTURAL GROWTH PROJECT

#### COMPONENT 1: AGRICULTURAL PUBLIC SUPPORT SERVICES

1. The objective of this component is to increase access to public agricultural services for smallholder farmers. The component has been divided into two sub-components; (i) Institutional strengthening and development; and (ii) Scaling up of best practices.

##### **Sub-component 1.1: Institutional Strengthening and Development**

2. The objective of this sub-component is to improve public agricultural delivery services to make more effective, efficient and demand-driven. Activities under this sub-component are thematically discussed in the following sections.

3. **Establishing and Strengthening Agriculture Development Partners Linkage Advisory Councils (ADPLACs).** This activity would establish and strengthen ADPLACs at regional, zonal and woreda levels. Existing ADPLACs will be strengthened, while new ones will be established in the new national regional states and zones where councils were not established under AGP1. The project would support the review and updating of ADPLAC guidelines to provide clarity on roles, responsibilities, accountability and functional processes, and increase awareness of the guidelines. The project would finance costs associated with meetings, workshops, experience sharing, and preparation or revision of guidelines.

4. **Agricultural Extension Services.** This would primarily focus on promotion of technologies using a demand-driven approach in all areas of agricultural development. The project will support:

- i) **Rehabilitating and equipping Farmer Training Centers (FTCs).** AGP2 will support the strengthening of FTCs with an aim to take FTCs to the next advancement level (in line with the draft Agricultural Extension strategy). The project will focus on equipment (including classrooms) and supplies, demonstration and audio-visual materials.
- ii) **Demonstration of improved agricultural technologies.** The project will support costs associated with the demonstration of improved technologies both at FTCs and on farmers' plots including inputs, training and experience sharing visits. Demonstrations would cover technologies identified in line with the planning process under each component, including research proven yield increasing crop and animal technologies, including for irrigated lands, CSA practices, mechanization, promotion of nutrition dense crops, labor saving technologies for women and post-harvest technologies including for food preparation and preservation, and water use management.
- iii) **Capacity Development of extension services.** The activity will focus on bridging physical and skill gaps for smallholder farmers, FTC's Management Committees, DAs and Subject Matters Specialist (SMS). In a first step, the project will finance a detailed human and physical needs assessment to ensure that the extension services are responsive to farmer's needs. On the basis of the needs assessment, a human and physical capacity development

program will be prepared and financed by the project. Short-term training of farmers, DAs and SMSs will focus on practical skills in subject such as participatory extension management, improved climate smart crop and livestock technologies, agronomic practices, efficient irrigation water management, postharvest handling, promotion of farm mechanization and natural resource management. Specific attention and trainings will be given to the cross-cutting issues, i.e., nutrition, gender and youth, and CSA. The project will also finance the creation of a website and support information databases, and provide an interactive mechanism for DAs, SMSs, staff and other key stakeholders to share best practices and lessons learned. It will support the establishment of Information Technology (IT) centers and ensure internet connectivity to enable extension services to access knowledge database.

5. **Animal Production & Animal Health Services.** To increase productivity and production of animals, increase the supply of feed as well as reduce the prevalence of animal diseases, key areas of project interventions are as follows:

- i) **Animal Production Services.** The project will support activities aimed at improving the smallholders' access to improved livestock production services. Investments would be based on detailed feasibility and management plans, which would be financed under the project if required. Potential identified investments include: the establishment of small-scale modern bee queen rearing demonstration and training centers; support to assist the National Artificial Insemination Center (NAIC) to develop a milk performance recording system in order to allow the identification of superior dairy sires to be selected for semen collection and breed improvement; and the establishment of a fish hatchery center in the Amhara region.
- ii) **Animal Health Services.** The project will assist in improving the animal health status in smallholder farming systems in order to reduce animal mortalities and morbidities as well as improve production and reproduction parameters. Support would address physical and human capacity gaps through financing goods and staff training, based on detailed needs' assessments, supported by the project. These would provide detailed plans for how facilities and equipment would be operated, managed and maintained and, in relation to this, clear staffing plans, including a commitment of the public "owner" to provide resources for staffing, and if necessary a plan for human capacity development. Dependent on these assessments, the project would support the following institutions and systems:
  - a. **National & regional laboratories.** (i) Improving poultry disease diagnostic capacities; (ii) strengthening the Central Veterinary Drug and Feed Quality Control Laboratory; (iii) strengthening the diagnostic and analysis capacities of the National Tsetse and Trypanosomiasis Control Institute; and (iv) strengthening diagnostic capacities of the NAIC to ensure appropriate testing of the quality of semen according to the recommendations of the World Organization of Animal Health.
  - b. **Regional animal health laboratories, clinics and health posts.** These would be supported through the provision of essential equipment.
  - c. **Disease surveillance:** The support costs associated with the disease information system for major transboundary, zoonotic diseases would be covered.

d. **Human resources and physical capacity development.** The capacity development will have a special focus on training of trainers on animal production and product processing, animal disease surveillance and health management, animal health climate adaptation and mitigation practices, good manufacturing and control practices of veterinary drugs and animal feed, machines and equipment maintenance (e.g., maintenance of semen and liquid nitrogen equipment). The project could also finance short term trainings, experience sharing and study tours (abroad), and workshops on adapting production's quality to market requirements. It will finance the production of training manuals and the production of video film for extension services.

6. **Crop Production & Plant Health Services.** Interventions under this activity will aim at improving crop productivity through access to improved crop technologies and plant health services. The project will finance activities to assist in developing good agronomic practice packages for release to extension services. A strong emphasis will be given to gender sensitive, nutrition sensitive (nutrient dense crops, postharvest handling techniques) and CSA technologies and practices such as organic agriculture, composting, crop rotation, intercropping, bio fertilizers and agro-forestry. Activities will also support the up-scale of the integrated pest management practices implemented under AGP1 with the support of Food and Agriculture Organization of the United Nations (FAO).

- i) **Establishment of nurseries:** The project will use approaches developed under AGP1 to promote and support the establishment of coffee, vegetable and fruit nurseries. It will provide the critical equipment and supplies for the nurseries and support on-site demonstrations, training and technical advice to farmers.
- ii) **Strengthening Plant Health Services:** This intervention is targeting plant health services with an aim to reduce smallholder crop losses, ensure the supply of safe food for the citizens and support plant health for domestic and international trade of plants, plant materials and their products. Activities will focus on addressing the physical and human capacity gaps identified through a detailed needs' assessment and detailed plans for how facilities and equipment would be operated, managed and maintained and, in relation to this, a clear staffing plan needs, including a commitment of the public "owner" to provide resources for staffing, and if necessary a plan for human capacity development. Activities that could be considered within the needs' assessment could include:
  - a. establishment of plant quarantine stations, plant health clinics and the supply of critical equipment such as clean and healthy seeds and pesticides;
  - b. support to the establishment of crop loss data-base through the provision of consultancy services for the establishment of the data base in the Plant Health Regulatory Directorate;
  - c. the purchase of critical laboratory equipment and supplies for the establishment of an International Standard Pesticide Laboratory;
  - d. strengthening the Federal Plant Protection Laboratory and regional plant health clinics through the provision of the critical equipment and supplies; and

- e. support to the national seeds quality analysis laboratory through the provision of the critical equipment and supplies.

iii) **Capacity development for crop production and plant health services.** Activities will initially include the assessment and identification of training needs including workshops, awareness creation activities, and experience sharing visits (local and abroad). Focus will be given on improving the capacity of agronomists, entomologists, pathologists, crop production and protection professionals. Emphasis will be made for equal participation of men and women farmers, DAs and SMS.

7. **Natural resources and soil fertility management services.** The project would support the strengthening of services to build the productive assets of rural communities in selected community watersheds, to sustainably increase productivity and curtail degradation of fragile lands and ecosystems. In areas where the Sustainable Land Management Project and other similar programs are operating, this intervention will be coordinated and linked. The planning and implementation processes and procedures of watershed management would be carried out based on the widely used Community Based Participatory Watershed Development Guideline. Key activities to be supported would include:

- i) **Local Level Participatory Land Use Planning.** The project will contribute to the preparation of local land use plans in selected areas to assist the local community in decision making on the best uses of the land and its resources for improved, alternative, sustainable and productive development at the local level and individual plots. Main activities to be financed by the project will include data collection, land use mapping and preparation of local land use plan;
- ii) **Productivity Enhancing Interventions of Community Watersheds.** Activities will support implementation of best practices for soil and water conservation to reduce soil erosion, improve soil fertility and soil moisture in the system at farm land and communal land management levels. Soil and water conservation activities will support farm and communal land management including construction of soil bunds, stone bunds, artificial waterways, cut-off drains, check dams (gully rehabilitation), bench terraces, hillside terraces, trenches, area closures, plantation of multipurpose trees, groundwater recharge interventions in areas where groundwater development is ongoing or planned;
- iii) **Soil Fertility Management Services.** The activities will focus in addressing the capacity gaps in supporting and improving soil fertility practices and services. Activities will be based on a detailed needs' assessment providing evidence of the gaps that the project could address. This will provide a detailed plan for how facilities and equipment would be operated, managed and maintained and, in relation to this, a clear staffing plan needs, including a commitment of the public "owner" to provide resources for staffing, and if necessary a plan for human capacity development. Possible activities to be consider in the study could include: (i) strengthening Soil Testing Laboratories (critical equipment and supplies, technical support, and skill development); (ii) strengthening soil mapping capacities; (TA, critical equipment, IT and software, network); (iii) promoting acid soil management (promotion of lime production); and (iv) promotion of bio-fertilizer production (promotion of rhizobia inoculates).

iv) **Capacity Development for natural resource management and soil fertility management.** The activity will focus on contributing to bridge physical and skill gaps in natural resource and soil fertility management. On the basis of the recommendation of a needs' assessment, the project will support capacity building interventions to local communities in natural resources management through different combinations of the following activities: (a) awareness creation and training; (b) provision of field and office equipment and critical supplies; and (c) provision of extension services such as demonstrations, field days, 'hands-on' exercises, exposure visits and study tours.

8. **Agricultural Mechanization Services.** The aim of the agricultural mechanization intervention is to develop and promote appropriate tools and machinery for pre and post-harvest agricultural production systems that can result in labor efficiency and effectiveness which would lead to sustained adoption of the yield-increasing technologies, reduce post-harvest losses and create value addition. Specific attention will be given to the cross-cutting issues, i.e., nutrition, gender and youth, and CSA including labor saving technologies, post harvest handling, animal feed processing technologies to improve nutritional value, and processing technologies to improve human nutritional quality of the products. Agricultural mechanization activities that would be implemented include:

- i) **Support the development of standards mechanization technologies.** This activity will support the development of standards, regulatory guidelines and a framework for standards enforcement of agricultural mechanization technologies based on Agricultural Mechanization Strategy and international experience. It involves introduction, socialization and promotion of standards through different medium. It also support training on guidelines for different technologies produced locally and imported.
- ii) **Train manual pump manufacturers.** Activities will include an assessment to identify potential manual pump manufactures in the project woredas where ground water is available for irrigation and intensive training to the manufacturers on the design and manufacturing of the pumps. Attention will be given to solar-energy equipment.
- iii) **Provide technical support for agricultural machinery producers, distributors and service providers.** Agricultural machinery producers and distributors will be identified and given technical support by technical staffs from mechanization directorate of MoA, ATA, regional agriculture bureaus, mechanization research centers and partners. Different trainings on design, manufacturing processes, quality control issues, service delivery so that the task of bringing the technologies to end-users will be achieved.
- iv) **Organize and support operators and maintenance service providers.** The experience of machine maintenance service providers will be assessed and scaled up through training and provision of maintenance kits.
- v) **Provide training for spare part providers.** The project will therefore support identification of the type of spare parts required and provide training and awareness creation to interested potential private sector participants providing spare part services.

## **Sub-Component 1.2: Scaling up of best practices**

9. The objective of this sub-component is to ensure the identification and wider use of best practices and proven technologies to enhance and intensify agricultural production. In consultation with key stakeholders, the extension service will identify improved technologies and management practices in a range of thematic areas related to production, post-harvest handling, value addition and marketing. Best practices are defined in terms of both proven technologies to increase productivity and value added, and proven gender - nutrition - and climate change-sensitive/friendly technologies. The project will support the screening of identified technologies and the preparation of clear and detailed implementation guidelines for each best practice. The screening process will include consideration of cross cutting issues of nutrition, gender impact and CSA. The activities will be implemented in close collaboration and with the support of the aligned Netherlands supported CASCAPE project which will provide support such as provision of evidence based to validate the technologies. Identified and validated best practices would be promoted by the project's activities through extension, demonstrations, trainings, etc.

## **COMPONENT 2: AGRICULTURAL RESEARCH.**

10. The objective of the component is to increase the supply of demand-driven agricultural technologies which directly link to the other components.

### **Sub-component 2.1 - Technology adaptation and generation**

11. The project will support the adaptation and generation of improved and innovative technologies to enhance agriculture productivity and commercialization of small scale farmers. The component will focus on release-ready technologies that are in final or test stage (with duration to release the technology to extension of a maximum of two years) or on technology that has been released in other regions and that could be tested and introduced in the project wordas. The intervention will comprise of two main groups of activities: (i) support to accelerate release of selected in pipeline technologies and management practices; and (ii) support to adaptation and generation of demand-driven technologies.

12. **Support to accelerate release of selected pipe-lined technologies.** Under this group of activities, the project will support the accelerated release of the following pre-identified in pipeline technologies:

- i) **Improved crop varieties and management practices** including the accelerated release of crop varieties and agronomic and integrated pest management technologies such as crop varieties with high quality, resistant/tolerant to biotic and abiotic stress;
- ii) **Improved dual purpose poultry breeds** focusing on the accelerated release of existing dual purpose local poultry breeds;
- iii) **Forage varieties and management practices** including high quality varieties resistant/ tolerant to biotic and abiotic constraints;
- iv) **Irrigated agriculture management technologies** such as (a) the determination of crop water requirement and local crop coefficient ( $K_c$ ) for major crops; (b) the assessment of

the response of major crops to deficit irrigation, soil moisture stress and supplementary irrigation; (c) the evaluation of efficient water use technologies (deficit, drip and alternate furrow irrigation); (d) the integration of water harvesting and micro irrigation for efficient water use; (e) the characterization and monitoring of salt affected soils and irrigation water in major irrigated areas; and (f) the development of irrigation agronomy practices for major crops and determination of leaching requirements for saline soils;

- v) **Management technologies for acid soils and vertisols** such as (a) identification of superior Nitrogen-fixing strains under limed and non-limed conditions; (b) evaluation of acid tolerant food and industrial crops; (c) determination of appropriate rates of lime and nutrient requirements of acid soils; (d) evaluation of different cropping patterns, drainage systems and drainage implements for improving the productivity of selected crops on vertisols; and (e) adjustment of crop calendar for double cropping and diversification of high value crops on vertisols;
- vi) **Integrated nutrient and crop management technologies:** (a) development of soil test based fertilizer recommendation packages for major crops and soil types; (b) identification of method, time and frequency of Nitrogen fertilizer application for enhanced fertilizer use efficiency; (c) identification of effective Nitrogen-fixing strains for improving major pulse crops; (d) evaluation of different Phosphate solubilizing organisms for major crops; (e) evaluation of green manure crops for soil health and crop productivity improvement; (f) development of suitable cropping systems (cereal-pulse rotation, intercropping) for diversification and intensification; and (g) evaluation of different crop residue management systems, tillage practices and moisture retention methods;
- vii) **Soil and water conservation based agro-forestry technologies:** (a) evaluation of technological options for landscape diversification of ex-closures through introduction of best bet multipurpose tree species for soil and water conservation, feed and income generation, and (b) evaluation of physical soil and water conservation technologies (bench terracing, water harvesting structures) that enhances the survival and adaptation of multipurpose tree species.

13. **Support to adaptation and generation of demand-driven technologies.** The process for the identification of demand-driven research technologies to be supported by the project will take place during the first year of the project. The process will be detailed in the Project Implementation Manual (PIM). It will lead to the preparation of a four-year demand-driven research program to be financed and implemented under the overall responsibility of the EIAR. Eligibility criteria that will be considered by TC will include consideration such as (i) technologies prioritized through the local planning participatory and demand-driven process; (ii) technologies that are defined as ready for on-farm testing and release; (iii) technologies which directly support smallholder irrigated agriculture; (iv) technologies targeting the VCs identified by the project (component 4); and (v) technologies defined as nutrition-, gender- and climate change- sensitive.

## **Sub-component 2.2 - Pre-extension Demonstration and Participatory Research Schemes**

14. This sub-component will aim at enhancing the adoption of the new improved agricultural technologies by adopting a participatory approach involving farmers in research demonstrations and popularization of new technologies. Activities supported by the project will include:

15. **Technology pre-extension demonstration and popularization.** Under this intervention, the project will support pre-extension demonstrations to farmers of newly recommended agricultural technologies in order to assess their technical, social and economic viability and prepare a wider and rapid diffusion and adoption of the new technologies. Typical pre-extension demonstration will be carried out in specific locations of project's woreda for a period of 1 to 2 years depending on the uptake and nature of the technology. The project will finance the planning process, inputs procurement, field supervision, routine M&E, farmers training, field days, and documentation (printing, audiovisual).

16. **Establishing and strengthening of Farmers' Research and Extension Groups (FREGs).** The project will support the establishment and strengthening of FREGs anticipating that the active participation of smallholder farmers in research development will contribute to improve their crops and livestock productivity and enhance the commercialization of products. FREGs will be established at local levels based on farmers' priority problems that may require different technological and management solutions. It will involve different farmer groups (men and women), research, district agricultural offices, cooperatives, and other DPs. The FREGs will be strengthened with the support of the project through training, experience sharing and facilitation of regular meetings, workshops, and information and communication activities.

## **Sub-Component 2.3 - Source Technology Production**

17. The objective of this sub-component is to support the production of breeder and pre-basic seeds and planting materials and animal breeds for further multiplication and on farm technology pre-extension demonstration.

18. **Production of breeder seed and pre-basic seeds of major crop varieties.** The project will support the identification of crop varieties and seed demand of the AGP2, the production of purified breeder seeds and pre-basic seeds of the identified released crop varieties, the multiplication of seeds with due emphasis on seed quality (viability, germination and genetic purity), and assist the supply of the multiplied high quality pre-basic and basic seeds to multipliers in AGP2 woredas for the production of high quality seeds to be sold to smallholders.

19. **Mass multiplication of disease and insect free tissue culture materials.** The project will support the production of disease free and true to type seeds/planting materials of high value horticultural crops. To this end, the project will support (i) the identification of type and quantity of planting material based; (ii) the multiplication of plantlets/mini-tubers in tissue culture labs; (iii) the acclimatization of tissue culture derived materials in screen houses; (iv) the establishment of nursery and multiplication of mini-tubers/plantlets under field conditions; and (v) the dissemination of the tissue culture materials to research centers, commercial vine/mini-tuber multipliers and farmers.

20. **Production of source livestock and forage technologies.** The objective of this group of activities will be to contribute to the production of pre-basic forage seeds, planting materials and animal breeds for further multiplication and on farm technology pre-extension demonstration. The project will support the following activities: (i) production of pre-basic forage seeds as source for on-farm forage technology pre-extension demonstration by research entities; (ii) production of selected local dual purpose poultry breeds as source for on-farm technology and supply to Day Old Chicks (DOC) poultry producers and multiplication centers in project's woredas; and (iii) production of dairy heifers and rams/bucks as source for on-farm dairy technology pre-extension demonstration activities.

21. **Land and water resources technology multiplication.** The project will support the production of source bio-fertilizers technologies (fava bean, soya bean, common bean, chickpea and lentil) as well as soil and water conservation based agro-forestry species such as moringa, jatropha, sesbania and tree lucerne.

#### **Sub-component 2.4 - Capacity development to enhance technology adaptation, generation, maintenance and promotion**

22. The activity will focus on physical and skill gaps in research institutions to effectively deliver the research program based on a detailed human and physical needs assessment of key research institutions at federal and regional level. The needs assessment will provide a detailed plan for how facilities and equipment would be operated, managed and maintained and, in relation to this, a clear staffing plan needs, including a commitment of the public "owner" to provide resources for staffing, and if necessary a plan for human capacity development. It would take into account other initiatives supporting similar activities to avoid overlap. Possible investment that could be considered within the needs' assessment could include for example:

- i) **Physical capacity** including, mobility and machineries such as farm machineries (tillage, planting, harvesting), development/rehabilitation of irrigation facilities (pivot, drip, pump borehole), and establishing/strengthening of cold stores.
- ii) **Critical equipment and facilities** for the crop protection and quarantine laboratories, the soil analysis laboratory, the agronomy-physiology/seed laboratory, the post-harvest and quality laboratories, the animal health and nutrition laboratory, the biotechnology/tissue culture laboratory, the Geographic Information System and remote sensing laboratory, the establishment of automatic agro-meteorological stations, and cold stores, green, net and lath houses.
- iii) **Human capacity development** including short term trainings for researchers and technical assistants, workshops and knowledge sharing activities, trainings of trainers to strengthen links between research and extension.

#### **COMPONENT 3: SMALL SCALE IRRIGATION.**

23. The objective of this component is to increase the access to and efficient utilization of irrigation water of smallholder farmers.

### **Sub-component 3.1 – Small Scale Irrigation Infrastructure Development and Improvement**

24. The project will respond to requests of smallholder farmers or IWUAs to rehabilitate/improve existing or establish new SSI infrastructures as well as promote Micro-irrigation and Household Irrigation Systems (MHIS). The main objective of this sub-component is to increase area of irrigated land for smallholder farmers by developing SSI infrastructures to improve the availability of and access to irrigation water.

25. **Rehabilitation and/or improvement of existing SSI systems.** The objective of this intervention is to make existing SSI fully functional to its design capacity and/or beyond through rehabilitating, improving and/or extending of existing irrigation infrastructure and keeping the operable infrastructure functional. During the project, 50 existing SSI systems amounting to about 10,000 ha will be rehabilitated, upgraded and/or improved. The project will finance the rehabilitation and improvement of head works, conveyance systems, on-farm irrigation structures, water application methods and others to provide the higher standard of water control necessary to improve yields and increase cropping intensity. Main activities to be implemented will include: (i) development of guidelines for SSI rehabilitation and revitalization; (ii) preparation of an inventory of existing SSI subprograms for rehabilitation and/or improvement including operation and management; (iii) diagnosis of the existing schemes and the design of the rehabilitation/improvement of prioritized implementation schemes; (iv) the rehabilitation and/or improvement including expansion/extension of existing modern SSI system; and (v) upgrading and/or improvement of existing traditional SSI systems.

26. **Micro-Irrigation and Household Irrigation Systems<sup>6</sup> (MHIS).** The objective of this activity is to increase smallholders irrigated area by promoting and establishing on a demand-driven basis MHIS such as small stream diversions, ponds, hand-dug shallow wells, shallow tube wells, engine and manual pumps, check dams, and springs, water harvesting and micro-irrigation technologies/structures. Under this activity, it is envisaged to equip about 25,000 ha of land with MHIS. Main activities will include the following: (i) water resource identification for SSI development to assist in defining the shallow groundwater potential design of the appropriate MHIS; (ii) the development of small stream diversions and springs; (iii) development of shallow groundwater (<30m) including shallow hand dug wells and shallow tube wells on the basis on available data; (iv) promotion of water-harvesting technologies using methods such as plastic sheeting, introduction and construction of different ponds, surface and sub-surface water tanks, and ground water recharge structures (percolation tanks); (v) promotion of low cost water-lifting technologies such as portable diesel/petrol, electric irrigation pumps, manual pumps, and other water lifting mechanisms; effort will be made to implement the recommendation of pump supply chain study conducted during AGP1; (vi) promotion of low cost drilling technologies including the promotion of different types of drilling equipment such as portable manual and motorized drilling technologies; and (vii) promotion of water-saving technologies including drip, micro sprinkler, bubbler, mulching with plastic sheets and/or micro jet irrigation systems.

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<sup>6</sup> Micro Irrigation Systems comprise command area less than 20 ha for plots of greater than or equal to ten households. HHI systems comprise command area less than 5 ha, for plots of fewer than ten households.

27. **Establishment of New<sup>7</sup> Small Scale Irrigation Systems.** The objective is to expand area of irrigated agriculture for smallholder farmers by establishing new SSI systems (with command area greater than or equal to 20 ha) to enhance smallholder production and productivity. Under this intervention, it is planned to design and construct 100 new SSI sub-projects with irrigation command area of about 20,000 ha of land. The project will finance: (i) the surface water availability assessment to identify indicative irrigation development potential; (ii) the design and the construction quality assurance and control guidelines; (iii) the establishment of new gravity diversion SSI systems from surface water sources; (iv) the establishment of pump irrigation from surface water sources; (v) the establishment of new pump irrigation systems which draws water from ground water sources (depth less than or equal to 100m); and (vi) the establishment of small dams (less than 15m) of gravity SSI systems. Access roads would be built, where needed, for the construction and efficient operation of irrigation systems.

28. **Capacity development.** As for the other component, this activity will focus on bridging physical and skill gaps in BoW/Irrigation Development Authority at regional, zonal and woreda offices to effectively deliver the expected results. To this end, the project will finance a detailed human and physical needs assessment. Capacity building activities that could be considered to be financed under the project could include: (i) critical equipment such as office equipment and facilities, field equipment, vehicles, technical books, etc.; (ii) preparation, multiplication and diffusion of technical training materials on irrigation design and management; (iii) training, knowledge and skill development at all levels including technicians and smallholder farmers; (iv) experience sharing tours; and (v) short-term overseas study tours. In addition, the project will support TA to reinforce capacities of the specialized SSI IAs including the recruitment of national technical assistants to assist IAs in planning, engineering design, procurement, construction management and technical monitoring of SSI systems. For example, training of consultants and contractors on procurement, contract management and design work. These activities will be conducted in close collaboration with the aligned project, “SSI Technical Assistance Project” financed by Canada and the Netherlands.

### **Sub-component 3.2 - Integrated Crop and Water Management**

29. The objective of this sub-component is to improve irrigated agricultural productivity and management of selected SSI systems and enhance institutional capacity for integrated irrigation water and crop management through the introduction of improved on-farm irrigation water management, agronomic practices and capacity building interventions for smallholder irrigation systems. Overall, this sub-component would seek to provide a package of appropriate agronomic and water management practices as well as investment support as appropriate.

30. **Formation of Irrigation Water Users Associations (IWUAs).** The project will contribute to improve the use and management of irrigation system through the formation of around 400 IWUAs and the strengthening of 100 existing ones. Main activities will include: (i) supporting publicity, communication and awareness campaigns for the implementation of the newly IWUA Proclamation; (ii) strengthening and formation of the IWUAs as per the newly enacted IWUA proclamation; (iii) development of IWUAs training guidelines; and (iv) training IWUA committee members and personnel in leadership, irrigation water management, supply

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<sup>7</sup> Converting unused land and rain fed fields into irrigated ones.

procurement and property management/warehousing, legal matters (dispute management, etc), personnel matters and record keeping/documentation.

31. **Introduction of Improved Irrigation Agriculture Management.** The main objective of this activity will be to introduce new on-farm irrigation water management and agronomic practices in order to diversify the cropping pattern and enhance productivity. The intervention will also provide support for community or group level investments in productive infrastructure (including access and water-use related) assets and equipment that will serve to enhance efficient water use, crop production/productivity and/or marketability of the produce, and thus increase the income of smallholder farmers. Illustrative examples for this intervention will include support for: (i) the introduction of improved on-farm irrigation water management practices/technologies including adoption/expansion of improved irrigation water application methods (sprinkler irrigation, drip irrigation) through on-farm demonstrations; (ii) the introduction of site specific improved technologies of irrigation agronomic practices relevant to local needs and market opportunities through on-farm demonstrations including a focus on the production of nutrient dense crops and vegetables; (iii) the introduction and establishment of community on-farm storage, small market yards or collection/sale centers and processing facilities for selected SSI systems; and (iv) the realization of an irrigation performance assessments to cover M&E of the SSI subprograms performance and impact.

32. **Human Resources Capacity Development.** The project will support a human resources needs assessment focusing on bridging skill gaps of farmers, DAs, and SMSs at the woreda, zonal, regional, and federal levels in improved irrigation water management and agronomic practices. Capacity building activities that could be considered to be financed under the project could include: (i) training of farmers, DAs, and SMSs at the woreda, zonal, regional, and federal levels in improved irrigation water management and agronomic practices; (ii) training of IWUA committees on improved methods of managing available water resources, settle disputes over water, and keep proper records; and (iii) practical training and experience sharing tours to experts and farmers.

#### **COMPONENT 4: AGRICULTURE MARKETING AND VALUE CHAINS.**

33. The overall objective of this component is to commercialize smallholder farmers through increased access to input and output markets.

##### **Sub-component 4.1 - Support Agricultural Input Supply System**

34. The main objective of this sub-component is to create access to sufficient quantity and quality of crop and animal inputs through farmer groups, cooperatives and public institutions as well as develop and update guidelines related to input regulation and certification system.

35. **Support to promotion and distribution of improved agricultural inputs.** Under this intervention, the project will strengthen crop and livestock input supply through the introduction of alternative supply channels. Main activities will include:

- i) **Establishment and strengthening of Community Based Seeds and forage production groups.** To create self-sustaining CBSPs that fulfill current unmet seed demand (specifically on self-pollinating varieties), reach remote areas, and effectively produce quality seeds adapted to the diverse agro-ecologies. To implement this activity, the project will build on the lessons learned from the Integrated Seed Sector Development project in the Ofla Woreda of Tigray region.
- ii) **Support Animal input supply and distribution.**
  - a) **Provision of new parent stock for poultry multiplication centers.** Support purchase from research (see component 2) of DOCs of dual purpose poultry parent flocks to replace the old stock in the government poultry multiplication centers.
  - b) **Strengthening liquid nitrogen production plants.** The project will finance a detailed study to assess current capacity of liquid nitrogen production in the country, needs of liquid nitrogen for artificial insemination and distribution capacity. The project will then assist in reducing the gap by rehabilitating existing liquid nitrogen machines and/or purchase of new ones for the semen collection centers located in the project's woredas.
- iii) **Strengthening Information Technology (IT) based input tracking system.** This will ensure that agricultural inputs, fertilizer and certified seeds, reach the farmers on time. The system will track the movement of inputs across the distribution chain, centralize the data, and create clear visibility at the federal, regional, zonal, woreda and at each seed producer level. The implementation will be guided by the ATA pilot operation.
- iv) **Support to Direct Seed Marketing (DSM).** This support will establish a market-based seed distribution system that enables all qualified seed producers to directly market seeds to farmers through multiple outlets in a competitive manner. The pilot operation conducted by the ATA showed that direct seed marketing is able to shorten the supply chain and help improve choice, timeliness, and accountability of operators. Moreover, real-time management of inventory by producers ensures supply meets demand effectively. The target of the project is to scale up direct seed marketing throughout the project area as a reformed seed marketing and distribution system. In this intervention, specific attention will be given to the CBSPs supported by the project.

36. **Input and output regulation and certification.** Under this intervention, the project will assist in developing, reviewing and updating of various regulations with regard to agricultural inputs. Activities to be supported by the project will be confirmed and detailed during implementation on the basis of a feasibility/needs assessment. Activities may include: (i) development of regulatory guidelines for agricultural mechanization technology imports, manufacturing and distribution; and (ii) preparation of residue monitoring plan for honey.

37. **Capacity Development:** The project will conduct a human resources needs assessment to inform the capacity development activities to be undertaken. Activities might include (i) training of regional SMS on improved crop and forage seed production technology, and planting material multiplication; (ii) TA, advisory services and experience sharing visits for formal farmer's organization, involved in seed production and distribution; and (iii) training and regional/zonal workshops on inputs tracking.

## **Sub-component 4.2: Support Farmer Organizations**

38. The sub-component objective is to boost collective bargaining power as well as efficient and sustainable service delivery.

- i) **Establishing and strengthening of Common Interest Groups (CIGs).** The objectives of the CIGs will be to: (i) promote group enterprise as a means of income generation; (ii) empower women and youth by improving their access to resources and assets; and (iii) promote the introduction of new technologies. In addition to further strengthening formerly established CIGs in AGP1, the project will support the establishment and strengthening of 3,236 additional CIGs (two per kebeles) on different agri-business activities. For the new CIGs, the project will assist groups of 10 to 20 women or youth to prepare and implement business plans (farmers' group sub-projects) that will be co-financed by the project through the provision of inputs. The contribution of the beneficiaries will be in kind or cash. Detailed guidelines will be included in the PIM, including the selection of beneficiaries, operational modalities of the CIGs and the implementation of the project support including cost sharing modalities, investment ceiling and eligibility criteria. The project will also finance advisory services, trainings and exchange visits among CIGs to promote group-to-group and farmer-to-farmer learning. Training for the women and youth CIGs will include activities on strengthening skills relating to business development, financial planning, credit management, marketing, post-harvest handling, processing of agricultural commodities, etc. The implementation of these activities will be the responsibility of the Federal Cooperative Agency (FCA).
- ii) **Farmers' Primary Cooperatives and Cooperative Federation.**
  - a) **Primary cooperatives.** Based on interests and willingness of its members, the informal farmer groups (CIGs) will be supported to upgrade into primary cooperatives, whether multi-purpose or commodity-specific cooperatives or RUSACCOs. The project will finance experience sharing visits for cooperatives focusing on financial and accounting management, warehouse management, and internal control systems to learn best practices for improving their performance. On the basis of a needs assessment, the project will conduct training for federal, regional, zonal, and district cooperative promotion agencies to increase their capacity.
  - b) **National Cooperative Federation (NCF).** The project will support the establishment of a NCF, by assisting the FCA to conduct a feasibility study for the establishment of the NCF as well as consultative workshops and meetings. The project will also finance the preparation of bylaws and a business plan for the NCF.
- iii) **Improving access to financial services.** Under this activity, the project will finance the support of consultancy services to assist in the design of a mechanism linking agricultural cooperatives with RUSACCOs and MFIs through a partnership agreement. The project will also finance the facilitation of workshops.
- iv) **Capacity building.** The project will finance the preparation and implementation of a needs assessment aimed at reinforcing the human and physical capacity of cooperative unions and agricultural cooperatives support services. Activities that could be supported

by the project could include regular technical and managerial trainings and experience sharing of board of directors, union managers, and cooperatives members. The project could also support the preparation of training modules and materials, workshops and consultative forum, exchange visits, awareness and trainings on nutrition and CSA, and regular trainings on agriculture gender mainstreaming and leadership to support inclusion of women in the leadership position of farmers' organizations.

### **Sub-component 4.3: Support Agribusiness Development**

39. The main objective of this sub-component is to increase small scale farmer market access, market efficiency, and value adding products and services along selected VCs. Most of the activities under the component will be implemented with Ministry of Trade (MoT), MoA, Ministry of Industry (MoI) and ATA support, in collaboration with the subordinate institutions at regional and woreda level through a parallel financing mechanism funded by USAID.

40. The choice of VCs would be made on the basis of an assessment reviewing and analysing VCs in terms of impact on improving proportion of products sold by AGP2 beneficiaries, opportunities for improved market efficiencies and value addition, economic impacts, including export potential, and impact on cross-cutting issues (nutrition, gender and CSA). The final list of VC will be detailed in the PIM together with the description of the mechanisms and modalities for the implementation of the activities financed through the parallel mechanism funded by USAID. An indicative long list of possible VCs has been developed (below):

**Table 1: Possible Value Chains**

<b>Product Category</b>	<b>Value chains</b>
<b>Cereals</b>	Teff, Wheat, Maize, Barley and Sorghum
<b>Pulses</b>	Chickpea and Fava Bean
<b>Oil crops</b>	Sesame
<b>Stimulants</b>	Coffee
<b>Vegetables</b>	Tomato, Potato and Onion
<b>Fruits</b>	Banana and Mango
<b>Livestock</b>	Dairy, Poultry, Live animals, Cattle Meat, Shoats Meat, Hides and Skins, and Honey

41. Activities to be supported under this sub-component are as follows (to be confirmed through the USAID-parallel financing design process):

- i) **Support to the coordination of value chain (VC) actors.** Under this activity, the project will assist in establishing and strengthening Multiple Stakeholders Platforms (MSPs) at federal and regional levels. The MSPs will be sectoral in nature and their number will be determined in accordance to the selected VC commodities. The main activities that the project could contribute to finance could include: (i) identification of key VC actors; (ii) collection and analysis of basic data about MSP actors; (iii) preparation of the MSP programming, regulations and plan of work; (iv) establishment and facilitation of national and regional MSP committees; (v) implementation of the MSP meeting decisions related

to contracts, delivery of quality product and market information issues, etc.; (vi) follow up on decision of the MSP; and (vii) technical and managerial assistance to the committee.

- ii) Technical support to strengthen competitive agribusiness actors. The following interventions to strengthen the agribusiness actors could be considered:
  - a) **Facilitate linkages among agribusiness associations, farmers, cooperatives and small business groups.** This will be achieved by supporting agribusiness associations through the provision of technical support with concrete deliverables. Equal opportunities will be created for men and women producers, processors, traders and exporters in agribusiness with a special emphasis on women entrepreneurs through capacity building efforts focusing on developing viable business ideas and plans as well as linkages to financial institutions.
  - b) **Support Quality, Traceability and Certification of Crops and Livestock.** AGP2 will support the establishment of a certification system that applies for both crop and livestock commodities that will enable small scale farmers to receive premium prices for their products; access local, regional and international markets; protect natural resources; and support local economies. The support will be mainly directed to facilitation of national and regional level certification centers, initially with strategic crop and livestock commodities that will be scaled up later in the life of the AGP2.
  - c) **Support through Innovation Competitive Grant and Demonstration Fund.** The Innovation and Demonstration Fund is designed to unleash innovation and investment. Through this grant mechanism, VC actors will be offered the flexibility to invest in opportunities as they arise and address key VC constraints. A key function of the fund will be to reduce the risks for VC actors to innovate. Grants will not be invested to develop distorted markets, and thus all recipients will be required to provide significant matching funds prior to any grant award. Detailed guidelines for the administration and operation of the fund will be detailed as part of the PIM.
  - d) **Domestic and foreign trade fairs.** The project will support domestic trade fairs as well as participation of relevant actors in foreign trade fairs and promotional campaigns.

#### **Sub-component 4.4 - Support Market Infrastructure Development and Management**

42. The objective of the sub-component is to improve market access through development of market infrastructure.

43. **Construction and modernized management of market centers.** The project will finance the feasibility studies and business plans for regulated primary markets (crop and/or livestock), design and construction of the selected markets, preparation of guidelines on the utilization and management of the market centers and provision of technical support such as advisory services and short term trainings to promote effective use and management of market centers. Main infrastructure that will be considered under this intervention will include primary crops, fruits and vegetables market centers, primary animal market centers, milk and honey collection and processing centers, and road side market shades.

44. **Construction and management of warehouses as well as storage, grading and packaging facilities.** The activity would address the problems of improper post-harvest handling and storage that will lead to increase in the nutritive value of produce, reduce post-harvest losses, increase storage capacity, and create reliable market linkages. Moreover, the interventions will enable the cooperatives to increase the volume of grains purchased from smallholder farmers and store; rather than sell immediately after harvest as well as implement grading and packaging for better price.

45. Prior to proceeding with the investments, the project will finance the preparation of detailed analytical work in order to assess the feasibility of the public intervention. This work would include an evidence-based justification for public investment (e.g., market failure), define clear modalities for support under the project which would not crowd out private investment; and describe a clearly stated exit strategy. It would evaluate the pilot supported under AGP1 to draw lessons. In addition, proposals would include a detailed plan for how facilities and equipment would be operated, managed and maintained; and in relation to this, a clear staffing plan needs to be prepared, including commitment of the public “owner” to provide resources for staffing, and if necessary a plan for human capacity development.

46. It is anticipated that the project would support the construction of up to 100 primary cooperatives out of 4,264 and up to 35 cooperative unions out of 185. In addition to the construction, the project will finance critical supplies of packaging materials for demonstration of selected commodities to improve the quality and prices as well as finance the preparation of guidelines to promote effective use and management of warehouses. Infrastructures will be financed by the project on a cost sharing basis. The cost sharing will be 30 percent for cooperative unions and 10 percent for primary cooperatives. Guidelines for administration and implementation of the cost sharing mechanisms will be detailed in the PIM.

47. **Construction of small bridges.** Footbridges remains the top priority of the community as was shown by the CLPP conducted during the AGP1. Thus, AGP2 would consider construction of footbridges as one of its key interventions to improve access to market. The program would support two recommended standard widths : i) 1.2m for pedestrians, bicycles, livestock, pack animals, wheelbarrows, handcarts, and motorcycles for suspension bridges, and ii) 2.5m to also include occasional light motorized vehicles for RCC bridge.

48. **Support the development of market information systems.** Small-scale farmers face major challenges in meeting quality standards and responding to market demand. Market information system enables smallholder farmers to increase their income by allowing them to reduce their dependency and costs associated with obtaining information from large traders and brokers. Specific activities will include:

- i) **Establishing national and/or local market information systems.** This will include price forecasting, market actor information, etc.;
- ii) **Supporting diagnostic study of existing market information status, ownership, efficiency and gaps.** This would also include review of capacities and gaps of institutions that are engaged in collection and dissemination of market information; and

- iii) **Providing technical support to design, test and implementation of market information system.** This will serve all market actors particularly smallholder farmer so as to improve agricultural market information, analyses and forecasts at national and international levels.

## **COMPONENT 5: PROJECT MANAGEMENT, MONITORING, EVALUATION AND LEARNING.**

49. The objective of this component is to ensure project implementation, effective M&E of results as well as a consistent and effective approach to capacity development.

### **Sub-component 5.1: Project management and institutional arrangements**

50. The purpose of this sub-component is to ensure well-functioning institutional arrangements and mechanisms to ensure the effective coordination and management of the project. This sub-component will support and enhance the capacity of relevant institutions to deliver the project. It will support institutional arrangements and implementation mechanisms described in Annex 3. More specifically it will finance: i) CU staff salaries at federal, regional, woreda and research levels; and ii) project's FM and safeguard functions. The project will support and enhance capacity of the project CUs at all levels through financing vehicles and operating costs related to technical backstopping by project staff as well as office equipment and supplies. Under this sub-component, the project will also finance the planning activities related to the preparation of the Annual Work Plans and Budgets (AWP&Bs). It will finance capacity building of project staff as well as project's sensitization and awareness activities and workshops, including launching workshop. Finally, the project will finance the costs of various SCs and TCs as well as routine community level consultations and meetings.

### **Sub-component 5.2: Monitoring and Evaluation (M&E)**

51. The AGP2 M&E system will assess and document achievements of outputs as agreed in the annual work plans and progress towards objectives outcomes, and intermediate results. It will serve to identify implementation gaps and challenges for proactive corrective actions as well as to document and incorporate lessons learned into program implementation. The system will generate, aggregate, systematically record and analyze information/data from various implementation levels (regions, woredas, and kebeles) as well as from qualitative and quantitative surveys related to AGP2 outcome indicators/results. It will analyze relevant data to evaluate impacts and outcomes, track progress, monitor how agreed upon processes are being carried out, and identify implementation bottlenecks to be resolved directly by IAs or through discussion by SCs at each level.

52. **Evaluation of outcomes and impact.** Achievements and progress towards results will be measured by indicators of the results framework, additional outcome indicators and various studies/evaluations. To capture outcomes and impact, a comprehensive baseline survey is planned for the first year which will be followed by a midterm evaluation in FY3 and a final survey and evaluation in FY5. The evaluations could also include: (i) household surveys of direct beneficiaries; (ii) qualitative studies of extension services and adoption of technologies; (iii)

qualitative studies of research processes (including process, product and potential impact); (iv) qualitative studies of the FREGs; (v) qualitative evaluation of efficiency use of water combined with technical audit and cost benefit analyses of infrastructures; and (vi) qualitative evaluation of a sample of trainings. The assessments will be agreed at the Federal Steering Committee (FSC) at the outset of each fiscal year.

53. **Gender impact evaluation.** A rigorous impact evaluation of gender innovations under AGP2 and other complementary initiatives for scale up in the latter years of the project will be carried out. The impact evaluation will help determine whether pre-identified constraints limiting the project beneficiaries' and in particular women's ability to realize their agricultural and commercial potential were effectively improved by the project's activities/innovations. Possible innovations for support include: (i) testing new and innovative types of extension service delivery: training tailored to the needs and requirements of female farmers (in terms of timing and location of training sessions as well as the content of the training) offered at FTCs versus a more decentralized training mode during which trainings are provided by female model farmers to women's groups; (ii) assessing the effectiveness of technologies specifically designed to enhance and benefit tasks frequently performed by women in the agricultural VC (such as food processing and weeding); and (iii) evaluating the impacts of introducing labor saving, mechanized technologies to female farmers (both spouses and head of households). The final selection, definition and design of the impact evaluation studies will be determined during the initial phase of project implementation. The research and survey design, and the organization and management of the impact evaluations will be supported by the World Bank.

54. **Monitoring of inputs, outputs, selected outcomes and processes.** The project will still focus on keeping the monitoring system simple and interactive allowing regular reporting and learning at all levels. All IAs (through their focal persons) will report on performance. Nevertheless, the FCUs, Regional Coordination Units (RCUs) as well as woreda focal persons will be responsible for the overall monitoring of the project (Annex 3). Monitoring data and qualitative information will be entered into a web-based PMIS, currently being developed under AGP1. This will be updated to reflect the new design and hierarchy of objectives of AGP2. It will serve as a major source of information for quarterly and annual reports submitted to SCs at each implementation level (also to identify trends and issues across components and woredas).

55. **Safeguards monitoring.** The quality implementation of safeguards has been an issue under AGP1. Therefore, AGP2 will carry out safeguard monitoring throughout the implementation to ensure that the program brings intended benefits. It will ensure that potential adverse environmental and social impacts are avoided or minimized. Safeguard monitoring will include environmental and social performance reviews on a regular basis to assess compliance with safeguard instruments, determine lessons learnt and provide guidance for improving future performance. Reporting formats will also include indicators on safeguards.

56. **Internal learning and Participatory Monitoring and Evaluation (M&E).** AGP2 will promote internal learning by organizing community learning fora (possibly combined with the CLPP), during which farmers, in communities where AGP1 is active, will discuss results achieved, progress on intended objectives and implementation problems and/or best practices following simple visual formats. Community learning fora would be organized annually by the

kebele managers and supported by trained community facilitators. It will also include cross farmers monitoring (farmers monitor other farmers' activities/sub-projects) so as to take advantage of the opportunities that this provides for learning from each other. During implementation, the project will introduce participatory M&E by farmers on a pilot basis.

57. **Building capacity for planning and Monitoring and Evaluation (M&E).** AGP2 will have a strong program through CDSF for building capacity for effective M&E. Training on basic M&E skills, methods and approaches will therefore be provided to federal and regional CU technical staff; AGP2 focal persons of federal and regional IAs; woreda Coordinator /woreda Planning and M&E Officers; woreda implementers; DAs; community learning facilitators; and selected farmers (participatory monitoring for FREGs).

### **Sub-component 5.3: Capacity Development for Cross-cutting issues**

58. Human resource development support will be provided to cross cutting issues. It is well recognized that agricultural development programs have to give proper consideration to nutrition, CSA and gender in technology development, technology promotion, scaling up of best practices as well as in market and VC development. Mainstreaming of gender, nutrition and CSA practices within agriculture is a critical aspect in recognition of their substantial contribution to agriculture development. It is also imperative that climate, gender and nutrition sensitive programs have to be combined with capacity development trainings that promote empowerment and behavioral changes.

### **Sub-component 5.4: Capacity Development Support Facility,**

59. AGP2 will adopt a more systematic approach to capacity development reflecting lessons learned from AGP1 and international best practice. An integrated approach addressing capacity issues at individual, organizational and enabling environment levels will be adopted and implemented by all IAs using an agreed four-stage<sup>8</sup> model. This involves a shift away from the traditional emphasis on training and equipment purchase to a more systematic, comprehensive and holistic approach that is also being adopted by other flagship programs within MoA.

60. To support the application of this new approach across AGP2, a designated CDSF will be established within component 5. The facility will largely focus on strengthening capacity at the individual and organizational levels. Capacity issues identified at the enabling environment level will be addressed by the entire program with support from the CDSF as required. The CDSF will have two main objectives:

- i) Improve the quality of capacity development interventions within AGP2; and
- ii) Strengthen the institutional capacity of IAs to manage AGP2

61. The first objective will focus on ensuring adequate capacity is in place within the IAs to design and deliver quality capacity development interventions planned under other components. This will involve developing the skills, knowledge and attitudes of IA staff to plan, design,

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<sup>8</sup> The four stages are i) consensus building; ii) capacity strengthening; iii) application and follow up; and iv) institutionalization.

deliver and follow up on capacity development interventions in their areas of specialization, as well as ensuring the systems and process are in place to enable this. Some specialized support in jointly selected key technical areas, other than capacity development, may be provided to strengthen program implementation.

62. The second objective will focus on strengthening the capacity of AGP2 IAs to manage and implement the program effectively. This will involve developing the skills, knowledge and attitudes of individuals on all aspects of program management, and ensuring IAs have adequate systems and processes in place to fulfill their management functions.

63. The facility will work in close collaboration with the AGP2 CU and all AGP2 IAs and be responsive to the capacity related needs of the program as they arise. The facility budget will cover costs such as professional capacity development and technical expertise at various levels, selected physical resources and operational costs. The AGP2 core program will cover direct costs related to capacity development interventions such as training costs.

## Annex 3: Implementation Arrangements

### ETHIOPIA: SECOND AGRICULTURAL GROWTH PROJECT

#### Overall implementation and institutional arrangements.

1. As in AGP1, the implementation of the AGP2 will rely on the existing government structures, with the exception of parallel financing by the USAID (VC coordination) and DFATD (for capacity building) that will be channeled through specific implementation arrangements.
2. It will continue to operate in the 96 woredas of the four national regional states targeted in AGP1 (Amhara, Oromia, SNNPR and Tigray) and will expand to 61 new woredas of similar agro-ecological conditions to reach a total number of 157 woredas in the four AGP1 regions and three new national regional states, i.e., Benishangul-Gumuz, Gambella and Harari and Dire Dawa city administration. In the new national regional states and woredas, similar structures to AGP1 will be established with some modifications to take into account the smaller number of woredas.
3. The project will be implemented within the existing government structures at different administrative levels: federal, regional, zonal, woreda and kebele. MoA will be the lead executing agency with the overall responsibility for coordinating all aspects of the project. The main responsibilities of MoA will include: project oversight, coordination, planning, technical support, financial management, procurement support and M&E. MoA will be accountable for authorizing and verifying all project transactions and will work closely with the World Bank's project Task Team during project implementation. To fulfill its responsibilities, MoA will use the institutional mechanisms established for the implementation of AGP1: SCs, TCs, and CUs. The composition of these committees will be similar to AGP1 with little modification to include new IAs such as the EIAR. The composition and specific roles of the various committees will be detailed in the PIM.
4. **Project coordination with aligned projects.** Project's coordination with aligned projects including CASCAPE Project (financed by the Netherlands) and the SSI Technical Assistance Project (financed by the Netherlands and Canada) will take place within the RED&FS SWG, and more specifically, within the Technical Committee for Agriculture Growth of the RED&FS SWG. When needed and appropriate, the DPs financing aligned projects may be invited at all levels by the head of the SCs to participate. Representatives of the DPs financing parallel or aligned projects will be members of the TCs.
5. **Project oversight.** As in AGP1, the project's oversight and strategic direction will be performed at federal, regional, and woreda levels respectively, by FSC, Regional Steering Committee (RSC), and Woreda Steering Committee (WSC). Across the different project levels, SCs' key roles and functions will include: (i) establishing policy guidelines and providing overall oversight and strategic guidance; (ii) review of project's progress towards the PDO; (iii) review and approval of the AWP&Bs submitted by the respective CUs; (iv) review and approve annual

implementation performance report prepared by the CUs, and overseeing the implementation of corrective actions; and (v) ensure inter-ministerial coordination, harmonization and alignment among donors.

6. The FSC will be chaired by the Minister of Agriculture or his representative. The FSC will meet bi-annually focusing on review and approval of annual plans and monitoring of performance on the basis of annual reports. It will comprise of high level key officials from relevant line ministries, agencies and stakeholders as well as DPs financing the project. It will include the relevant Directorates of the Ministry such FCA as well as heads (or their representatives) of other line ministries, such as the MoI, the Ministry of Finance and Economic Development (MoFED), and the MoT. Given the new project's focus on research, EIAR will also be active member of the FSC. The FSC will also include the relevant regional institutions such as Heads of BoAs of the region targeted by the project.

7. At the regional level, the RSC will comprise of the heads of all relevant sectors including: BoA, the RARI located in the region, the Bureaus or Offices of Women Affairs, the Livestock Agencies, BoW/Irrigation agency, the Bureaus of Cooperative Promotion, and participating MFIs. The zonal administrator and the head of the zonal BoA will also be the members of the RSC. The RSC would meet quarterly to review performance and provide the necessary guidance on project implementation, as well as endorse the progress reports and AWP&Bs.

8. At Woreda level, the WSC will be chaired by the woreda administrator and will comprise of the Heads of WOA, WoFED, and all line offices engaged in the implementation of the project as well as representatives from the cooperative sector. The WSC will meet monthly and provide close follow up of the implementation.

9. In the new national regional states of Benishangul-Gumuz and Gambella, SCs will be established at regional and woreda levels. In Harari region and Dire Dawa city administration, only one RSC will be established.

10. **Project coordination.** To coordinate and ensure timely and effective execution of the activities of AGPI, CUs has been established within MoA at federal, regional and woreda level. The existing AGPI CUs will continue to ensure day-to-day coordination and management of the project. In the national regional states of Benishangul-Gumuz and Gambella, CUs will be established at regional and woreda level. In Harari region and Dire Dawa city administration, only one CU will be established at regional level. The FCUs will ensure the overall coordination of the project and will be directly accountable to the Minister of Agriculture or his representative.

11. Across the different project levels, CUs will have the overall responsibility to coordinate and ensure the timely and effective execution of the project. More specifically, the CUs will ensure: (i) the overall coordination of the project; (ii) the annual planning and the preparation of consolidated AWP&Bs and progress reports; (iii) the follow up and reporting on project implementation (including the M&E and learning), the supervision and monitoring of the activities and the evaluation of project impacts; (iv) the fiduciary management and reporting (FM and procurement); (v) the liaison and coordination with other stakeholders; (vi) the project

communication; and (vii) the overall knowledge management, and the strategic staff capacity building and mobilization.

12. At federal, regional and woreda levels, the existing AGP1 and new AGP2 CUs will comprise of project's recruited staff and will be strengthened with equipment, vehicles, and trainings to address the expanded project scope and increased workload. The composition and specific roles of the various FCUs, RCUs and Woreda Coordination Units (WCUs) will be detailed in the PIM. The recruitment of the project's staff will be carried out by MoA, BoA and WOA. FCU and RCU's coordinators and key CUs' positions will be filled by suitably qualified and experienced personnel.

13. To ensure the effective coordination of the research component, a Federal Agricultural Research Coordination Unit (FAR-CU) will be established at the EIAR comprising of one national coordinator for the agricultural research, one financial specialist, one accountant and one procurement specialist. The coordinator will be accountable to the EIAR. In addition, Regional Agricultural Research Coordination Unit (RAR-CUs) comprising of one regional coordinator for the agricultural research and one financial specialist will be established in each of the five national regional states where the RARIs are located<sup>9</sup>. The FAR-CU and RAR-CUs will have the same mandate as that of the other CUs and will be supported by the project with the required logistics. As for the other CUs, they will be filled by suitably qualified and experienced personnel.

14. **Technical support.** In addition to the existing TCs established during the AGP1 at federal, regional, and woreda levels, new TCs will be established at regional and woreda levels in the national regional states of Benishangul-Gumuz and Gambella, and at regional level in Harari region and Dire Dawa City administration. In all TCs, additional staff will be added in order to address new technical aspects, including cross-cuttings issues. Across the different project levels, TCs will be responsible for providing technical advice to CUs on the quality of implementation reports and special studies, guidelines, documentation of best practices, and M&E reports. More specifically, the TCs will be responsible for: (i) reviewing, providing recommendations and advising on improving the AWP&Bs submitted by the respective CUs, (ii) providing technical advisory services on implementation modalities, (iii) providing institutional capacity building to CUs and relevant implementation entities, (v) reviewing and analyzing all documents prepared under the project's responsibilities; and (vi) providing recommendations and advising on general improvement. The TCs will support the AGP2 CUs and AGP2 focal persons in technical backstopping and supervision at lower levels, to coordinate AGP2 implementation within their respective institutions (including institutional capacity building as appropriate); and to provide advice to SCs on AGP2 activities; as well as to produce reports on implementation progress.

15. At the zonal level, the ZOA will provide technical support, extension services and M&E to the woredas under its authority. In this respect, the ZOAs will coordinate with the WOAs.

16. The composition and specific roles of the TCs will be detailed in the PIM. As in AGP1, the federal TCs will be made up of senior technical staff from relevant IAs. At the regional,

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<sup>9</sup> Amhara, Oromia, SNNPR, Tigray and Gambella.

zonal and woreda levels, the TCs will be established with high level experts from the relevant IAs.

17. **Planning and Implementation.** The planning of the project's activities will be conducted following a two-pronged approach associating (i) a demand-driven approach based on the CLPP approach adopted for AGP1 and in other World-Bank-financed projects<sup>10</sup> in which communities assume primary responsibility for identifying and executing the community based investment of the project, and (ii) a strategic-based approach where strategic investments are pre-identified in the woreda/regional/national development plans or through specific feasibility studies, and implemented in close collaboration with the community following consultative process. Some investments such as the demonstration of new technologies or training in a certain topic, may be both requested by the community or proposed by the public services. In addition to these three types of investment (strategic, community, or both), the activities related to the coordination and management of the project (e.g. M&E, fiduciary management, etc.) will be identify by the CUs at all levels. A list of main project's activities with indications of the type of investments, and when appropriate expected contribution of both project and beneficiaries will be provided in the PIM.

18. As in AGP1, the annual planning process will follow a bottom-up approach starting from the grass-root level. The CLPP approach will be the main tool for community consultation on project activities at kebele level. The woreda level will be the primary and main planning level of the project.

19. In the initial part of first year of project, an exhaustive consultative process will be conducted at kebele level to identify community priorities in terms of community-based investment and development activities. On the basis of these priorities, the community will prepare a kebele AWP&Bs with the support of the KDC. After approval by the kebele council, the kebele AWP&B will be proposed to the WCUs to be consolidated in close collaboration with the woreda IAs, WDC, and woreda TC. The consolidation exercise will imply a screening process to be conducted by the WDC in close collaboration with the IAs, WCUs and TC. The screening mechanisms and eligibility and/or priority criteria will be detailed in the PIM. Among others, the criteria will consider the technical feasibility of the proposed activities, the social and environmental impacts and the synergic effect among the components. High consideration will also be given to the cross-cuttings issues of gender, nutrition and CSA. The results of the screening process will be restituting to the relevant communities and an appeal mechanism will be included in the PIM.

20. After the above screening process, the woreda AWP&B will be finalized by consolidating the kebele AWP&Bs of the woredas, integrating the woreda strategic investment and development activities and WCU's activities. After approval by the WSC, the woreda AWP&Bs will be transmitted to their respective RCUs.

21. At regional level, similar process will be conducted. It will involve the regional development committee, regional IAs, regional TC, and RCUs. The woreda AWP&Bs of the

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<sup>10</sup> Such as the Pastoral Community Development Project and the Regional Pastoral Livelihood Resilience Project.

region will be consolidated with the regional strategic investments and development activities, and the RCU's activities. The resulting regional AWP&Bs will be transmitted to the FCU after approval by the RSC.

22. At federal level, each project's federal IA will prepare an AWP&B to be transmitted to the FCU for consolidation into project's AWP&B. To synchronize the project with the Ethiopian fiscal year<sup>11</sup>, the AWP&B will have to be submitted for review and approval by the FSC no later than mid May.

23. For the subsequent years, a consultative planning process will be conducted and centered at woreda level after conducting consultations with the WDCs and leaders of the communities at kebele and sub-kebele levels. These consultations will be appropriate occasions for the project and the IAs to report to the communities on their activities, review the progress done and suggest the priorities for the AWP&B for the coming year. It will also serve as occasions to collect lessons learned as well as discuss failures, successes and best practices. As in the first year, the planning process will involve WDC, IAs, woreda TC and WCU to implement a similar screening process at woreda level. The same process as that of the first year for consolidation and approval by SCs will be followed.

24. The planning process at kebele and woreda levels for the first year of project will also include RARIs for the national regional states under the AGP2. The identification of research needs will happen with the community through the CLPP. Research needs identified at kebele level will then be screened and consolidated at woreda and regional level under the overall responsibility of the EIAR. The screening mechanisms and eligibility / priority criteria will be detailed in the PIM. Among others, the criteria will consider commodities targeted in the VC (Component 4) and irrigated agriculture. A high consideration will also be given to research activities closely related to the cross-cuttings issues.

25. The research needs identified at woreda level will be consolidated by the relevant RARIs and a 4 year regional plan for the research activities will be prepared under the overall coordination of the RAR-CUs. The 4 year regional plan for the research activities will then be consolidated by the EIAR in a 4 year national plan and submitted to the FSC by the FCU for review and approval. Once approved, each RARI will prepare its AWP&Bs on the basis of the approved 4 year national research plan and send it for review to the RAR-CUs. The various AWP&Bs from the concerned national regional states will then be reviewed and consolidated by the FAR-CU and submitted to the FCU to be included in the project AWP&B.

26. **Implementation of activities.** The implementation of the AGP2 will be decentralized with regional and woreda Bureaus/Offices of Agriculture assuming primary responsibility for the execution of the project.

27. At the federal level, different partnership among government institutions will be established. These partnerships will include arrangements among MoA, MoFED, ATA, FCA, MoT, MoI, and EIAR. Similar arrangements will be established at the regional and local level.

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<sup>11</sup> From 8th July to 7th July .

28. The federal IAs will provide guidance and support to regions, spearhead most institutional capacity building activities and undertake monitoring, evaluation and communication activities. The AGP2's federal IAs will include various Directorates of MoA<sup>12</sup>, the National Soil Laboratory, the Central Statistics Agency, the National Institute for the Control and Eradication of Tsetse and Trypanosomosis, the Veterinary Drug and Feed Administration & Control Authority, the National Animal Health Diagnostic and Investigation Centre, and the NAIC.

29. Whenever possible and appropriate, a Memorandum of Understanding (MoU) defining activities, responsibilities, implementation arrangements and expected results will be signed between the relevant CUs and IAs that will be responsible to implement specific activities under the overall oversight of the CUs.

30. At regional and woreda levels the Bureaus/Offices of Agriculture will assume the primary responsibility for the execution of the project. Other key IAs, will include the regional and woreda BoW/Irrigation Agency, the regional and woreda Bureaus/Office of Cooperative Promotion, the regional Livestock Agencies, Bureau of Trade and Industry/Marketing Agency. The IAs will be guided by the RSCs and supported by the RCUs and regional TCs.

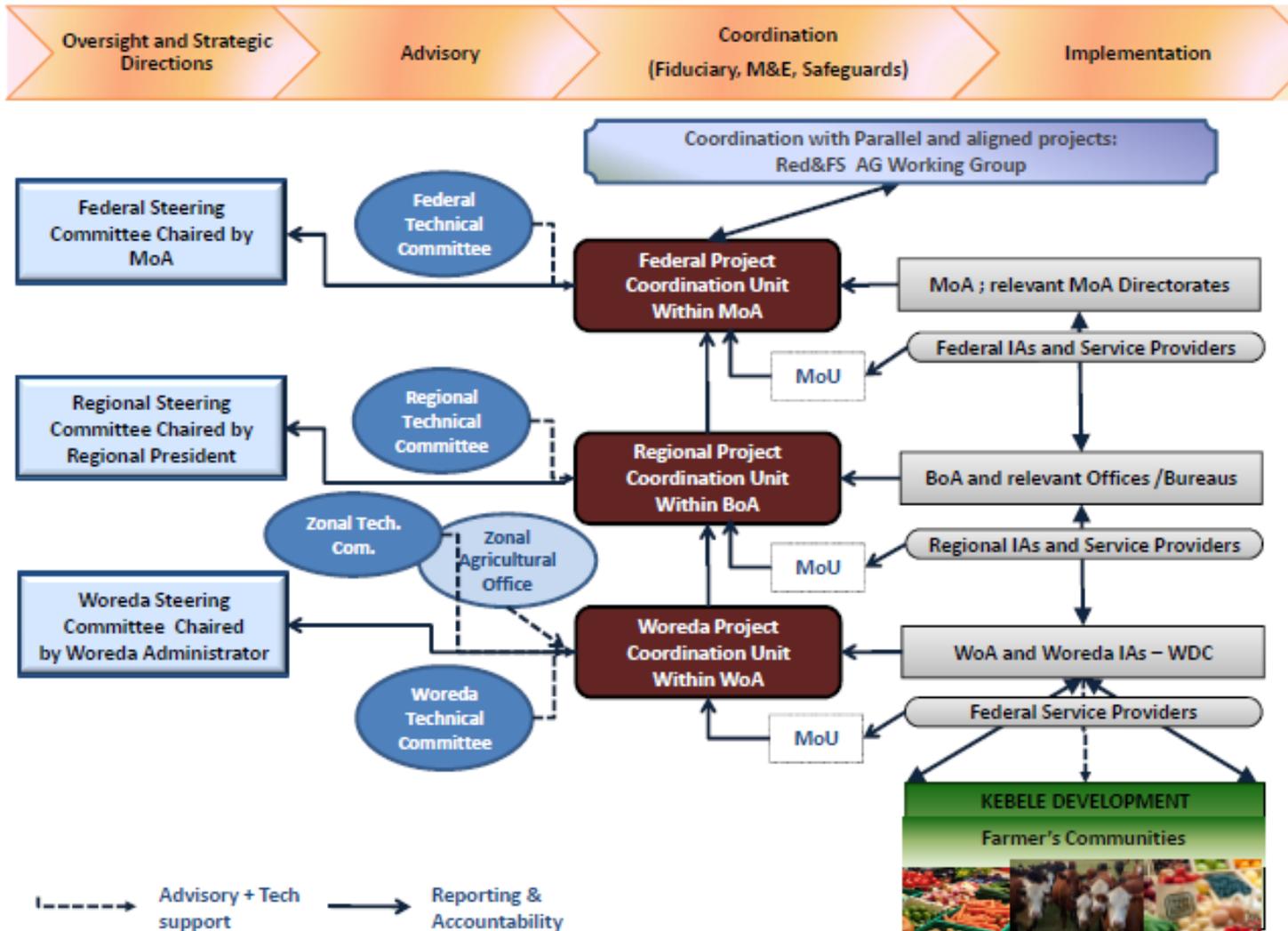
31. At the woreda and kebele levels, the implementation of the project would be undertaken jointly by WOAs through WDC, KDC, and the communities. WDC and KDC will be guided by their respective SCs and TCs. The WDC and KDC will assist communities in: (i) developing AWP&Bs; (ii) facilitating community participation in the planning and the implementation of the activities; (iii) training; and (iv) M&E. The KDC is chaired by the kebele chairperson and the lead DA will ensure the secretariat of the KDC. The KDC will also have representation from the primary cooperatives and a maximum of two representatives from any other agriculture sector based farmers groups.

32. Before effectiveness, the project team will prepare a PIM which will detail the institutional arrangements and implementation mechanisms of the project including the project coordination mechanisms, the project's oversight, the planning and the implementation of the activities, M&E and other learning aspects. The PIM will also detail the mechanism and procedures for the establishment and the administration of the matching grant for the CIGs as well as the implementation of the SSI and HHI activities. It will also summarize the social and environmental safeguards management issues as well as the procurement and financial issues.

33. The figure of the next page provides a schematic presentation of the AGP2 institutional arrangements.

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<sup>12</sup> Including the Extension Directorate, the Animal Production & Feed Resources Development Directorate, the Core Directorates in charge for the multiplication centers, the Animal Health Directorate, the Plant Health Regulatory Directorate, the Protection and Seed Quality Control Directorate, the Natural Resources Management Directorate, and the Agricultural Mechanization Directorate.



## Financial Management, Disbursements and Procurement

1. A FM assessment was conducted in accordance with the FM Practices Manual for World Bank financed investment operations issued by the FM Sector Board on March 1, 2010 and supporting guidelines. The objective of the assessment was to determine whether the IAs have acceptable FM arrangements to ensure: (a) that funds are used only for the intended purposes in an efficient and economical way; (b) that accurate, reliable, and timely periodic financial reports are produced; and (c) that IAs' assets are safeguarded.

2. In conducting the assessment, the Bank team visited various government offices and implementers of AGP2<sup>13</sup>. Supervision reports, FM reviews, IFRs and audit report reviews of AGP1 were taken into account for the design of AGP2. Furthermore, a two days FM Assessment workshop was conducted with Financial Management Specialists (FMSs) of the four implementing national regional states of AGP1 namely, Oromia, SNNPR, Tigray and Amhara. Lessons learned from other projects implemented by MoA and EIAR were taken into consideration and used in designing the risk-mitigating measures.

3. **Country Context.** GoE has been implementing a comprehensive PFM reform with support from DPs, including the Bank, for the last twelve years through the Expenditure Management and Control sub-program of the government's civil service reform program. This has been supported by the closed IDA financed Public Sector Capacity building Support Program, the ongoing Promoting Basic Services (PBS) program and other donor financing as well as government's own financing. These programs have focused on strengthening the basics of PFM systems: budget preparation, revenue administration, budget execution, internal controls, cash management, accounting, reporting, and auditing.

4. The 2014 Ethiopia Public Expenditure and Financial Accountability PFM performance measurement framework assessment has been conducted for the federal as well as Addis Ababa city administration, Oromia, Amhara, Tigray, Somali and SNNPR national regional states. However, the final reports are not yet issued.<sup>14</sup> The 2010 Expenditure and Financial Accountability PFM performance measurement framework assessment covered the federal government in the form of ministries and agencies as well as five national regional states. It found that Ethiopia has made significant progress in strengthening PFM at both federal and regional levels, especially in budgeting and accounting reform. The budget is reasonably realistic and is reasonably implemented as intended. Other areas of improvement are: increased budgetary documentation submitted to House of Peoples' representatives, strengthened reporting on donor projects and programs, improved transparency in inter-governmental fiscal relations through longer timeliness in the provision of information to regional governments on the size of the budget subsidies that they will receive, and improved access by the public to key fiscal information through audit reports. Overall performance of external audit has improved due to increased coverage and a lessening of the time needed to audit annual financial statements. Audits conducted by Office of the Federal Auditor General (OFAG) generally adhere to International Organization for Supreme Audit Institutions auditing standards and focus on

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<sup>13</sup> MoA, Gambella BoA, Gambella BoW, Benishangul Gumuz BoA and BoW; Dire Dawa BoA and BoW; Harrar BoA and BoW; MoA and EIAR.

<sup>14</sup> As the reports are not yet finalized, the findings are not included in this assessment.

significant issues. The government needs to make available to the public information on the incomes and expenditures of extra-budgetary operations.

5. Weaknesses were noted in internal audit which necessitate increased focus on systems audit and increasing management response to audit findings. Further strengthening of the internal audit function is a key challenge. The full roll-out of IBEX has helped to strengthen the quality of in-year budget execution reports by including information on revenues and expenditures, financial assets and liabilities, but excluding information on donor-financed projects and programs.

6. **Lessons learned.** Given that AGP2 is a follow up from AGP1, the assessment has tried to reflect on the lessons learned which could be reflected in the design process of AGP2. It has been noted that most of the FM functions operated well in AGP1, including the timely submission of financial reports with good quality, participatory approach of budget preparation, unqualified audit report opinion and smooth fund flow arrangements. However, challenges were noted consistently including i) delayed budget preparation and approval system with low budget utilization and inadequate variance analysis; ii) weak community contribution recording coupled with unclear FM manual in some aspects; iii) lack of systematic and continuous training; and iv) delay in the submission of annual audit reports of the project coupled with internal control weaknesses noted in the reports.

7. In order to mitigate these challenges and to address the new areas that AGP2 will be working on, the design for AGP2 has included i) need for the revision of the FM manual which will clearly lay out the budget preparation timetable along with the calendar and clarify the vague areas in the FM manual to better address internal control weaknesses and other recording problems including community contribution; ii) introduction of IBEX into the program to better align the accounting system to that of the country system; iii) clear timetable for the preparation of annual financial statements and auditor recruitment; and iv) mechanisms for ensuring that adequate training is provided at all levels to mitigate the risk of staff turnover. Each section below will highlight the design of AGP2 in light of the lessons learned so far.

## **Project Financial Management (FM) Arrangements**

### **Budgeting**

8. **Budget preparation.** The program will follow the government's budget system<sup>15</sup>, recorded in the government's budget manual. The budget preparation process of the project both in the regional and woreda levels will be clearly defined and participatory that enhances commitment of the various stakeholders. Budget preparation will continue to start from the woreda level. The kebele plan will be prepared and submitted the woreda TC. The woreda TC reviews the plan submitted by each kebele for consistency and prioritization. Plans reviewed by

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<sup>15</sup> The Ethiopian budget system is complex, reflecting the fiscal decentralization structure. Budget is processed at federal, regional, zonal (in some national regional states), woreda and municipality levels. The budget preparation procedure and steps are recorded in the government's budget manual. The budgets are reviewed at first by MoFED then by the Council of Ministers. The final recommended draft budget is sent to parliament around early June and expected to be cleared at the latest by the end of the fiscal year.

the woreda TC will then be submitted to the WSC for approval. Once approved by the WSC, it is submitted to region for review, approval and consolidation. Each regional BoA reviews the budgets submitted by the woredas, BoW and other IAs for consistency with the program objectives and components, and prepares a consolidated AWP&B of the region by incorporating its own plan and having it approved by the RSC for submission to MoA. EIAR will be responsible for consolidating the AWP&B for the research component from all the RARIs and submitting the same to MoA for final consolidation. MoA consolidates the budget it received from regions, incorporates its own plan as well as that of EIAR and prepares one final AWP&B for the project. MoA has a responsibility to ensure that the budget prepared are realistic and in line with the development objectives of the project. The final AWP&B will be approved by the FSC. The FM manual for the project as well as the PIM will incorporate the AWP&B preparation calendar at all levels.

9. **Budget proclamation.** The budget for AGP2 will be proclaimed at the federal level under MoA with detailed budget breakdown for the component to be implemented by EIAR together with the RARIs.

10. **Budget dissemination.** In AGP1, it has been noted that the approved budget dissemination to the lower level was delayed. In some circumstances, it was also noted that the accountants working in some of the IAs were not provided with the approved budget for the project. Hence under AGP2, the federal AGP CU has the responsibility to ensure that all implementers at federal and regional levels have the approved budget of the project. Regional AGP2 CUs have a responsibility to disseminate the budget to the woreda and regional implementers' level.

11. **Budget control.** In AGP1, it has been noted that year after year, the project's budget utilization was low. To address this, accountants should ensure the availability of budgets before payments are affected. In addition, the budget versus actual expenditure comparison should be made every quarter at all levels. Management should also use the information as a decision making to monitor the program implementation. The budget variances will continue to be adequately explained and justified through the quarterly IFRs.

## **Accounting**

12. The GoE's accounting policies and procedures<sup>16</sup> will be largely used for the accounting of the project. The project has a detailed FM manual which will be revised and updated due to some limitations it has. The revisions will mainly focus on the areas of budgeting (budget codes, treatment of roll over budgets, budget calendars, etc.), chart of account (revising the codes to better align to the governed accounts, proper allocation of codes for components and expenditure categories), accounting (recording of fund transfers between IAs, recording of community contribution, transaction coding and reporting aspects); and the introduction of EIAR and RARIs as IAs of the program and the changes required to reflect that in the manual.

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<sup>16</sup> The GoE follows a double entry bookkeeping system and modified cash basis of accounting. This is documented in the government's Accounting Manual. This has been implemented at the federal level and in many national regional states. The government's Accounting Manual provides detailed information on the major accounting procedures.

13. **Accounting system.** MoA, BoAs and woredas use the government’s accounting system IBEX for recording and reporting on government’s fund whereas EIAR uses the in house developed FM system. For AGP1, all IAs used “Peachtree” accounting software to record the project transactions and produce reports. However, with the aim of using the government’s own country system, a standalone IBEX system will be developed for the project and rolled out to regions and woredas as well as other IAs. For this to materialize, MoA will work closely with MoFED to ensure that the proper standalone system is designed for the project. Furthermore, intensive training will be provided for all implementers on IBEX. Until the system is up and running, the project will continue to use Peachtree accounting software.

14. **Staffing.** AGP1 has recruited and maintained a significant number of accountants at federal (two FMSs and an accountant), regional (Amhara and Oromia: one FMS and one accountant each; SNNPR: one FMS and Tigray: one FMS) and woreda levels (1 accountant per each woreda). AGP2 will maintain the current level of staffing for the existing regions and woredas. However, for the national regional states that are included in AGP2, the CU in each of the regions will have one FMS for Gambella and Benishangul-Gumuz whereas Dire Dawa and Harari will use their own accountants in their respective BoAs. For the new woredas to be added to AGP2, it has been agreed for woredas that are overlapping with the Sustainable Land Management Project, the accountant recruited for Sustainable Land Management Project will be looking over the accounts of AGP2. If there are woredas that will not overlap, then new accountants will be recruited to look after the accounts of AGP2. The staffing level needs to be monitored at all levels to ensure that vacant positions are filled in a timely manner.

15. At EIAR, based on the assessment conducted, there is a need to recruit one FMS and one accountant to look after the project’s FM given that significant resources will be channelled for implementation of component 2. Each RARI will be working on the existing capacity and should a need arise during project implementation at some of the institutes, additional recruitment could be managed through the project.

16. **Supervision and monitoring capacity at Federal and regional AGP2 CU.** There is a great need to further strengthen the supervision and monitoring roles of the federal and regional AGP2 CUs given that now around 61 new woredas will be added to the project and the scope of the project will increase. The federal and regional AGP2 CUs have a responsibility to visit the regions and woredas respectively to supervise on FM implementation, to identify capacity building gaps, follow up on audit report findings and resolve any bottlenecks.

17. **Accounting centers.** Accounting centers for project funds include: i) MoA; ii) EIAR; iii) FCA; iv) regional BoAs; v) regional BoWs; vi) RARIs; vii) Regional Cooperative Agencies (RCAs) and viii) WoFEDs. All these institutions will maintain accounting books and records as well as prepare financial reports in line with the system outlined in the FM manual. Arrangements for consolidation of the program financial information are discussed under financial reporting below.

18. **Community contribution:** Under AGP2, communities are expected to contribute to infrastructure investments in kind. Recording such contributions appropriately has been a

challenge for AGP1. The FM manual will be developed further to include an appropriate, robust system to measure, record and report community contributions.

19. **Capacity building/training:** Focused and continued FM training is essential for the success of the project given that it operates in a decentralized environment. The project will have a CDSF to be financed by DFATD which will work on strengthening the capacity of the implementers in various areas, one of which is financial management. The AGP2 CU will identify the main capacity gaps and follow up on the capacity building plan to be prepared for FM. The AGP2 CU will continue to provide annual trainings to its finance staff. Once the project becomes effective, the newly recruited accountants will be trained to the basics of the program including FM manual, Peachtree accounting software, Bank policies and procedures, preparation of IFRs, among others. Furthermore, the World Bank will train the project staff about Bank FM policies and procedures and will involve the project during the various trainings it conducts both at the federal and regional levels.

20. **Retaining documents:** Each IA is responsible for maintaining the project's records and documents for all financial transactions occurred in their offices. These documents and records will be made available to the Bank's regular supervision missions and to the external auditors. Detail procedures for maintain and retaining documents are discussed in the FM manual.

### **Internal control and internal auditing**

21. Internal control comprises the whole system of control, financial or otherwise, established by management in order to: i) carry out the project activities in an orderly and efficient manner; ii) ensure adherence to policies and procedures; iii) ensure maintenance of complete and accurate accounting records; and iv) safeguard the assets of the project. Regular government systems and procedures will be followed, including those relating to authorization, recording and custody controls. The project's internal controls, including processes for recording and safeguarding of assets, are also documented in the FM manual which will be updated. These procedures will continue to be applicable.

22. **Internal audit.** The government civil service reform program is building the internal audit capacity in the country. So far, Internal Audit Manuals have been issued and training has been provided to internal auditors. The internal audit department of MoA uses the Internal Audit Manual issued by MoFED. The department is severely understaffed, i.e., it has five audit staff, whereas MoA, a ministry with an equally large capital, recurrent budget and more than 90 projects from different donors, manages significant resources. It encompasses thirteen public bodies and five Technical Vocational Educational and Training Colleges. The understaffing problems have prevented projects from being included in the annual audit program. The department's request for 16 additional staff has been approved but the department has been unable to fill the positions as there are no applicants present. On the other hand, the internal audit directorate at EIAR has nine auditors all with a Bachelors of Art (BA) degree except two staff members who have diplomas. Furthermore, the research centres under EIAR have twelve audit staff members all with a BA Degree.

23. Despite the challenges, the internal audit directorate of MoA and BoAs have reviewed the accounts of AGP1 by incorporating the same into their annual work plan and program. However, the reviews were conducted on an *ad hoc* basis. Given the significant resources that the project will have, based on the risk assessments to be conducted by the internal audit units, the internal audit department of MoA, EIAR, RARIs and BoAs will include in their work plans activities of the AGP2 to ensure that internal control aspects of the project are strengthened. Since there are only five auditors within the internal audit department, it is expected that coverage of the project activities will initially be small; with subsequent expansion when more staff are hired and their capacities built. It is expected that MoA will increase the staff numbers of internal audit department within one year of the project's effectiveness. Reports of project activities produced by internal audit will be shared with senior officials of the ministry for their action.

### **Financial reporting**

24. **Reporting requirements.** The project will continue quarterly preparation of consolidated unaudited IFR. These will be submitted to the World Bank and DPs within 60 days of the end of the quarter. The format and the content, consistent with the World Bank's standards, were agreed with MoFED and MoA during project negotiations. A common single IFR will be used for all the finances of the program by all DPs. In the quarterly IFR, MoA will ensure that advances received as well as documentation of expenditure for each financier are separately identified and reflected. At a minimum, the report will include: a statement of sources and uses of funds and opening and closing balances for the quarter and cumulative; a statement of uses of fund that shows actual expenditures, appropriately classified by main project activities (categories, components, and sub-components) and actual versus budget comparisons for the quarter and cumulative will also be included; a statement on movements (inflows and outflows) of the project Designated Account, including opening and closing balances, expenditure forecast for the next two quarters together with the cash requirement; and notes and explanations, other supporting schedules and documents.

25. **Reporting timetables and quality.** MoA has submitted the IFRs for the existing phase timely and with good quality. Progress is still required on areas of budget variance analysis, reporting in community contributions and securing reports from all IAs. Duties of each IAs in preparing regular financial reports are described in the FM manual. However, in general,

- a) Based on the regular reports received from the seven BoAs, FCA and EIAR, it is the responsibility of MoA to prepare consolidated quarterly unaudited IFRs, consolidate annual accounts, and facilitate the external audit of the consolidated accounts;
- b) BoAs will be responsible for submitting regular financial reports to MoA on a quarterly basis by consolidating the woreda, zone, RCA and BoW financial reports; and
- c) Woreda finance offices will be responsible for preparing and submitting quarterly reports to BoAs.

26. In compliance with International Accounting Standards and IDA requirements, MoA will produce annual financial statements similar to the contents of the quarterly IFRs. The annual financial statement will be similar to the IFRs with some modifications as to be indicated in the

audit terms of reference. These financial statements will be submitted for audit at the end of each fiscal year.

## **External auditing**

27. Annual audited financial statements and audit reports (including Management Letter) will be submitted to IDA within 6 months from the end of the country's fiscal year. The annual financial statements will be prepared in accordance with the standards indicated in the audit terms of reference agreed during negotiation. The audit will be carried out by the OFAG, or a qualified auditor nominated by OFAG and acceptable to IDA.

28. The audit will be carried out in accordance with the International Standards of Auditing issued by the International Federation of Accountants. The auditor will prepare a work plan to ensure adequate coverage of the various institutions that receive project funds and cover all the major risk areas. Given the large number of institutions and to meet the timetable for completion of the annual audit, the auditor will carry out interim audit semi-annually following the audit plan. The interim audit is not a separate exercise, but is intended to facilitate the process of the annual audit, and also provide early information to project management to enable them to take corrective actions. The auditor will submit the interim audit report to project management and to the World Bank and DPs for follow up. The interim audit is included in the terms of reference for the audit.

29. The last audit of AGP1 was submitted with a delay of more than two weeks. The audit report had an unqualified audit opinion. However, the audit reports revealed a number of internal control weaknesses mainly of a systemic nature such as lack of fixed asset registers at some woredas, documents not stamped "Paid", lack of cash count certificates, incomplete transaction register books, petty cash system not properly established, holding significant cash on hand balances, etc.

30. Based on lessons learned from AGP1, the following mechanisms are proposed to systematically monitor the timing of audit reports and the timely action on audit findings: i) the interim audit will cover the period from July 8 to January 7 and the report will be due to DPs before April 7 of each year. The audit needs to cover a reasonable number of woredas and regional implementers with particular review of the internal control system; ii) the annual audit report will incorporate the interim audit together with the audit from January 8 to July 7; iii) federal AGP2 CU has the responsibility to prepare audit action plans through its internal auditors within one month of the receipt of the interim as well as the annual audit report. The prepared action plan will be disseminated to regional AGP2 CU who will be responsible for sending out the detail action plan to woredas; and iv) within one months of the receipt of the action plan (two months after the receipt of the audit report), each region must consolidate the actions taken by the woredas, verified by the internal auditors at the regional level and submit the status report to MoA. MoA will submit the consolidated status report three months after the receipt of the audit report. The status report must address all the findings in detail.

31. In accordance with the Bank's policies, the Bank requires that the borrower disclose the audited financial statements in a manner acceptable to the Bank; following the Bank's formal

receipt of these statements from the borrower, the Bank makes them available to the public in accordance with The World Bank Policy on Access to Information.

### **FM-related costs**

32. Included in the program work plans and budget includes the costs of: i) accountants noted above; ii) audit costs; iii) related logistics and supervision costs (e.g., transportation, per diem and accommodation while travelling); iv) providing FM Related trainings; and v) rolling out of IBEX Software, etc.

### **Financial management (FM) risk assessment, strengths, weaknesses, lessons learned and action plan**

33. **Risk assessment.** The residual FM risk of the project is Substantial. The mitigating measures proposed in the action plan will help to reduce the risk of the project once implemented and applied during project implementation.

34. **Strength and weaknesses.** The program will inherit the various strengths of the country's PFM system. As discussed earlier, several aspects of the PFM system function well, such as the budget process, classification system, and compliance with financial regulations. Significant ongoing work is directed at improving country PFM systems through the government's Expenditure Management and Control sub-program. The government's existing arrangements are already being used in a number of projects, including Promoting Basic Services, which are under implementation. The program also benefits from the country's internal control system, which provides sufficiently for the separation of responsibilities, powers, and duties, and it benefits from the effort being made to improve the internal audit function. Additional strength for the program is MoA's and EIAR's extensive experience in handling Bank-financed projects. The availability of SCs both at the federal and regional levels is an advantage to the project in enhancing its internal control.

35. The main weaknesses in FM arrangements continue to be high turnover and a shortage of qualified accountants and auditors (mainly at the woreda level), delays in taking appropriate action on audit report findings, persistent internal control weaknesses across the program, weak community contribution recording, limited focus of internal audit, and low budget utilization on a yearly basis.

## Financial Management (FM) Action Plan

36. Factoring in the above strengths and weaknesses, the inherent and control risk of the project is rated as substantial. However, the following actions are agreed to be performed in view of mitigating the identified risks in the project.

### FM Action Plan

	Action	Due by	Responsible
1	Revising the FM manual in terms of budgeting (budget codes, treatment of roll over budgets, budget calendars), chart of account (revising the codes to better align to the governed accounts, proper allocation of codes for components and expenditure categories), accounting (recording of fund transfers between IAs, recording of community contribution, transaction coding and reporting aspects) and also the introduction of EIAR and RARIs as IAs of the program and the changes required to reflect that in the manual.	Before effectiveness, as part of the PIM	MoA
2	Internal audit: Increased engagement of internal auditors at all levels to identify control weaknesses early. In this respect, workshops or capacity building activities/training will be conducted for auditors at federal and regional level.	Ongoing/ training will be done at least annually together with AGP2 accountants	Federal and regional AGP2 CUs
3	Recruit the following staff i) FMSs at the 2 new national regional states (Gambella and Benishangul-Gumuz), and one FMS and one accountant at EIAR ii) FMSs for the new woredas (if not overlapping with SLMP)	Within two months after project effectiveness (until that time – focal person would be assigned from the respective offices)	Federal and regional AGP2 CUs
4	Adopt a standalone IBEX system for the project i) Train all federal, regional and woreda level implementers ii) Roll out of the system	i) Within three months after effectiveness ii) Within six months after effectiveness	MoA/ MoFED
5	Initial training to all accountants with emphasis on new accountants will be provided	Three month after project effectiveness	MoA/EIAR
6	External audit for AGP2 i) Recruitment of external auditors at early stages of the project. ii) Closing annual financial statement iii) Ensure that the external auditor has complied with the audit terms of reference provided to it. iv) Submission of the interim semi-annual audit report v) Submission of the annual financial audit report vi) Prepare audit action plan for all findings reported	i) Within three months of effectiveness. ii) Three months after the end of the fiscal year iii) Ongoing on yearly basis iv) April 7 of every year v) January 7 of every year vi) One month after receipt of the audit report	MoA

	<b>Action</b>	<b>Due by</b>	<b>Responsible</b>
	by the auditor vii) Preparing status report on action taken on audit report findings viii) Disclosure of the audit report as per the World Banks Access to Information policy.	vii) Four months after the receipt of the audit report viii) Annually	
7	Capacity building : i) Ongoing FM training will be conducted (Budget analysis, basics of AGP2 FM, IFR preparation, IBEX and other themes to be covered.)	Annual trainings for IAs by region. During such time, review of each region's FM performance will be discussed and tailored training will be given to each region.	MoA
8	Budget: i) Annual budget for the project proclaimed at federal level with breakdown for EIAR component ii) Follow the budget calendar to prepare budgets iii) Prepare detailed budget variance analysis to identify bottlenecks and challenges	Every year following the government budget calendar	MoA
9	Federal and regional AGP2 CUs should conduct regular field visits to support and monitor the performance of regions and WoFEDs.	Every six months	Federal and regional AGP2 CUs
10	Submit quarterly IFRs	Quarterly	MoA

### **Financial Management (FM) covenants and other agreements**

37. FM-related covenants include:

- (a) Maintenance of a satisfactory FM system for the program;
- (b) Submission of IFRs for the program for each fiscal quarter within 60 days of the end of the quarter by MoA; and
- (c) Submission of annual audited financial statements and audit report within six months of the end of each fiscal year; semiannual interim audit, within three months after the end of the semester at January 7.

### **Supervision plan**

38. The FM risk for the program is rated substantial. The project will be supervised twice per year. After each supervision, risk will be measured and recalibrated accordingly. Supervision will be carried out in coordination with other DPs and will include onsite visits, review of IFRs, audit reports, and follow up on actions during FM Task Force meetings.

## **Funds Flow and Disbursement Arrangements**

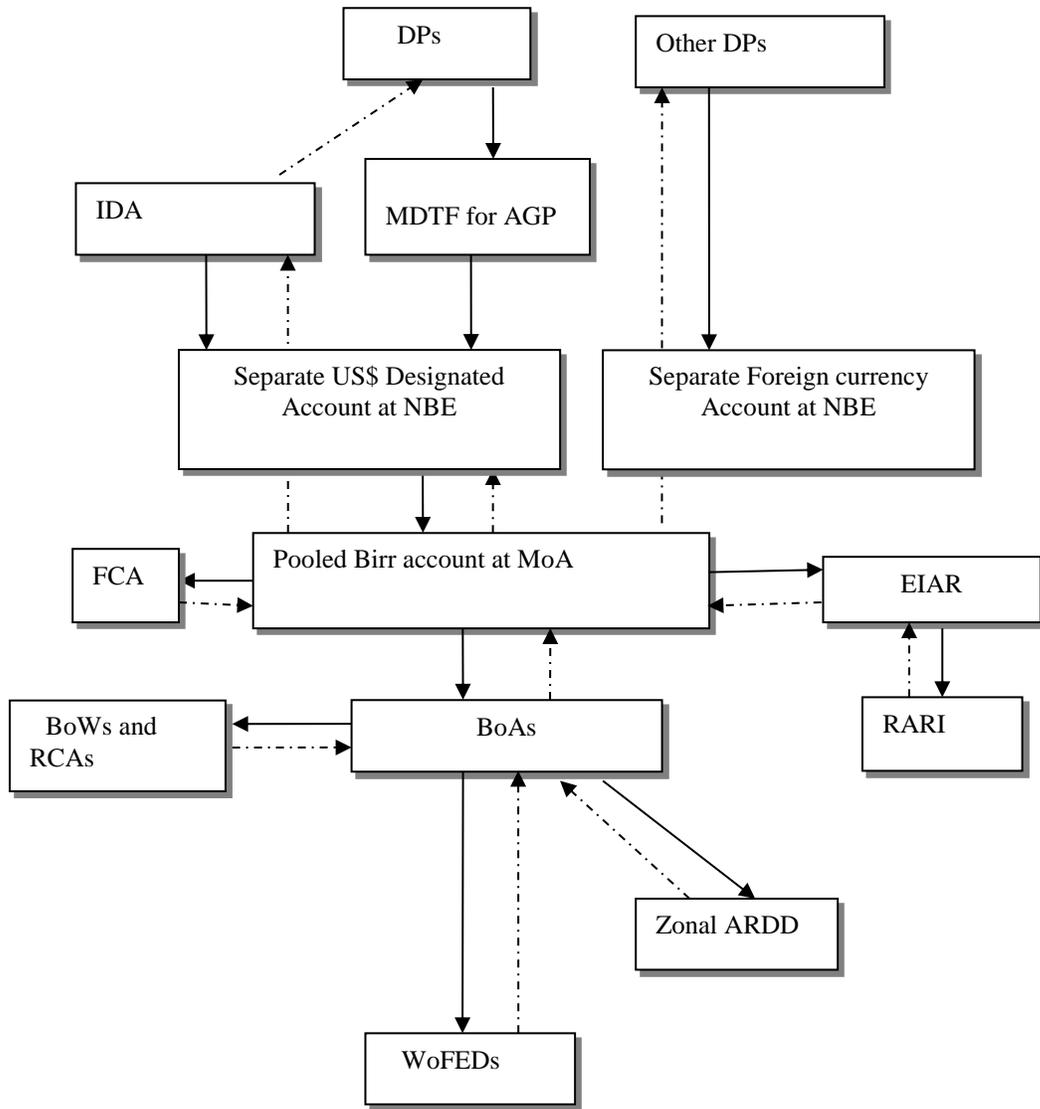
### **Designated Account and Disbursement Method**

39. Funds flow into the project and within the project among various institutions is depicted in the Figure below. IDA funds and other DPs funds will be deposited into a separate Designated Account to be opened at the National Bank of Ethiopia (NBE). The authorized ceiling of the Designated Account would be two quarters forecasted expenditure based on the approved AWP&B. Funds from the various separate accounts will be further transferred in to pooled ETB account to be held by MoA. From the pooled local-currency account, MoA will transfer funds to separate local-currency accounts to be opened by EIAR and the regions. One cash forecast for the program will be used which will be consolidated at MoA after getting the relevant inputs from EIAR and the other IAs.

40. Each of the BoAs and existing woreda finance offices will open separate bank accounts for the program to ensure that expenditures of the new phase are reported in their appropriate period. BoAs will transfer funds to woredas and regional IAs. All the new woredas under the program, if there are any, will open separate local-currency accounts to receive funds from their respective regions. The fund flow to each IAs will be made according to its respective AWP&B. Any IA that does not report in a timely manner on how the advance is expended will not receive additional funds until the initial advance is reasonably settled. The FM manual will indicate in detail the fund flow to each tier of IA. MoU will be signed with other service deliver entities such as Central Statistics Agency and ATA on a need basis.

41. Before transferring any money to the lower level, MoA, EIAR and BoAs will ensure that separate bank accounts have been opened for the project and there are adequate FM systems including FM staff capable of producing the required financial deliverables.

42. The fund flow arrangement for the project is summarized in the following chart.



Fund Flow ←  
Reporting - - - →

43. **Disbursement mechanism and Methods.** The project may follow one or a combination of the following disbursement methods: Designated Account, Direct Payment, or Reimbursement and Special Commitment. The program will continue to use report based disbursement method with two quarters forecast.

44. **Managing Expenditure for the overlap period.** Given that there may be an overlap between AGP1 and AGP2, the following mitigating measures have been agreed to be implemented: i) all IAs will open separate bank accounts for AGP2; and ii) until AGP1 is closed, AGP2 will only be financing the research component (component 2) and activities under the other components for the new national regional states and woredas which are under AGP2 only.

45. The allocation of the various financiers will be based on the project components. This will facilitate the monitoring of the project performance indicators as well as financial aspects since expenditures are directly allocated to components. Requests for replenishment of the Designated Account for expenditures incurred under each component will be based on expenditures incurred at the IAs for which justification of utilization has been provided.

46. The financing shares of the respective partners to finance the AWP&B will be determined by the Task Team Leader (TTL) in consultation with the various donors. The TTL will advise the World Bank's team of the share of financing to be disbursed by the World Bank for the project by linking it to the project cash flow as part of quarterly IFRs. Additional information with regards to disbursement such as minimum value of application for direct payments, reimbursement and special commitments will be indicated in the disbursement letter of the project.

## **Procurement**

47. **General Procurement environment.** For federal budgetary bodies, public procurement is regulated by the Public Procurement and Property Administration Proclamation No. 649/2009. The Proclamation establishes the Federal Public Procurement and Property Administration Agency which is responsible for regulation and monitoring of federal public procurement activities. The nine national regional states and two city administrations do have their own procurement proclamations and directives which are drafted using the federal procurement proclamation as prototype.

48. The Ethiopia 2010 Country Procurement Assessment Review (CPAR) identified weaknesses in the country's procurement system and recommended actions to address these areas. The government has implemented many of the CPAR recommendations, but challenges remain in the areas of: coordination of procurement reforms, shortage of qualified procurement staff, high level of procurement staff turnover, lack of proper institutional structures for procurement management, weak institutional capacity, inordinate process delays, absence of systematic procurement performance M&E, and lack of organized effort in capacity building in the area of procurement. Many of the weaknesses identified in the 2010 CPAR are prevalent in the FCU of MoA, the focal organization for the implementation of AGP2, as well as the sub-national IAs including the regional BoA, water, livestock agencies, cooperatives development agencies, zones and woredas, as well as federal agencies such as the EIAR.

49. **Applicable Procurement Guidelines.** Procurement for AGP2, under the IDA credit as well as the pooled funds from DPs contributions, would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated January

2011 and revised in July 2014; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated January 2011 and revised in July 2014, "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, (the Anti-Corruption Guidelines)" dated October 15, 2006 and revised in January 2011 and the provisions stipulated in the Financing Agreement.

50. The general descriptions of items under different expenditure categories are described below. For each contract to be financed by the Credit, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frames are agreed between the borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

51. Bank's Standard Bidding Documents (SBDs) will be used for procurement of works and goods under International Competitive Bidding (ICB); and the Standard Request for Proposals will be used for consultants' contracts. In addition, IA will use Standard Bid Evaluation Form for procurement of goods and works for ICB contracts, and Sample Form of Evaluation Report for Selection of Consultants. National SBDs acceptable to the Bank may be used for procurement of goods, works and non-consulting services under National Competitive Bidding (NCB) procedures subject to the exceptions indicated below. Alternatively, the Bank's SBDs would be used for NCB with appropriate modifications.

52. The Bank has reviewed the SBDs issued by the Federal Public Procurement and Property Administration Agency and has found them acceptable with some modifications. NCB shall follow the Open and Competitive Bidding procedure set forth in the Ethiopian Federal Government and Procurement and Property Administration Proclamation No. 649/2009 and Federal Public Procurement Directive issued by the MoFED dated June 10, 2010, provided that such procedure shall be subjected to the provisions of Section I and Paragraphs 3.3 and 3.4 of the "Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" (January 2011) (the "Procurement Guidelines") and the following additional provisions:

- i) The Recipient's SBDs for procurement of goods and works acceptable to the Association shall be used. At the request of the Recipient, the introduction of requirements for bidders to sign an Anti-Bribery pledge and/or statement of undertaking to observe Ethiopian Law against fraud and corruption and other forms that ought to be completed and signed by him/her may be included in bidding documents if the arrangements governing such undertakings are acceptable to the Association;
- ii) If pre-qualification is used, the Association's standard prequalification document shall be used;
- iii) No margin of preference shall be granted in bid evaluation on the basis of bidder's nationality, origin of goods or services, and/or preferential programs such as, but not limited to, small and medium enterprises;
- iv) Mandatory registration in a supplier list shall not be used to assess bidders' qualifications. A foreign bidder shall not be required to register as a condition for submitting its bid and if recommended for contract award shall be given a reasonable

opportunity to register with the reasonable cooperation of the recipient, prior to contract signing. Invitations to bids shall be advertised in at least one newspaper of national circulation or the official gazette or on a widely used website or electronic portal with free national and international access;

- v) Bidders shall be given a minimum of thirty (30) days to submit bids from the date of availability of the bidding documents;
- vi) All bidding for goods shall be carried out through a one-envelope procedure;
- vii) Evaluation of bids shall be made in strict adherence to the evaluation criteria specified in the bidding documents. Evaluation criteria other than the price shall be quantified in monetary terms. Merit points shall not be used, and no minimum point or percentage value shall be assigned to the significance of price, in bid evaluation;
- viii) The results of evaluation and award of contract shall be made public. All bids shall not be rejected and the procurement process shall not be cancelled; a failure of bidding declared, or new bids shall not be solicited, without the Bank's prior written concurrence. No bids shall be rejected on the basis of comparison with the cost estimates without the Bank's prior written concurrence; and
- ix) In accordance with para.1.16(e) of the Procurement Guidelines, each bidding document and contract financed out of the proceeds of the Financing shall provide that: i) the bidders, suppliers, contractors and subcontractors, agents, personnel, consultants, service providers, or suppliers shall permit the Association, at its request, to inspect all accounts, records and documents relating to the bid submission and performance of the contract, as well as to have them audited by auditors appointed by the Association; and ii) Acts intended to materially impede the exercise of the Association's audit and inspection rights constitutes an obstructive practice as defined in paragraph 1.16 a (v) of the Procurement Guidelines.

#### **A. Applicable Procurement Methods**

53. **Scope of Procurement.** The implementation of the AGP2 project entails procurement of goods, works and services of various types but it generally comprises: i) Goods including vehicles and motor cycles, office furniture and equipment, IT equipment (i.e., computers, computer software, servers, and scanners), improved breeds, hormones, and other agricultural inputs; ii) Consulting Services (TA, studies, project audits including financial and procurement, baseline surveys and impact assessment, impact evaluations, etc.); and iii) Training and Workshops. At sub-national level, the project makes provisions for the upgrading and construction of SSI systems, pump stations, water harvesting schemes, market centers, stores, access roads and bridges, etc.

54. **Procurement of Works and Goods.** The procurement of works and goods will be done using the Bank's SBD for all ICB contracts and national SBD agreed with or satisfactory to the Bank for NCB contracts. Contract packages for works estimated to cost US\$7 million equivalent per contract and above, and contract packages for goods estimated to cost US\$1 million equivalent per contract and above will be procured through ICB procedures. Works contracts estimated to cost less than US\$7 million equivalent per contract and goods contracts estimated to

cost less than US\$1 million equivalent per contract would be procured through NCB procedures. Small works contracts estimated to cost less than US\$200,000 equivalent per contract and goods contracts estimated to cost less than US\$100,000 equivalent per contract may be procured through Shopping procedures by comparing quotations received from at least three (3) reliable contractors or suppliers. In such cases, request for quotations shall be made in writing and shall indicate the description, scope of the works, the time required for completion of the works and the payment terms. All quotations received shall be opened at the same time. As a general rule, a qualified supplier who offers goods or materials that meet the specifications at the lowest price shall be recommended for award of the contract. Limited International Bidding for goods may exceptionally be used when there are only a limited number of known suppliers worldwide.

55. Direct contracting and single source selection can be used when it is considered beneficial to the borrower. Under AGP2, there might be circumstances which justify direct contracting by IAs, where there is only a single supplier, labor contractor or service provider for the provision of small value goods, works and services. For such contracts which fall below an estimated cost of US\$5,000, the IAs can undertake direct contracting but have to provide detailed justifications underlying the selection of such a procurement method and have to obtain approval from the head of the IAs as per the procedures provided in the Procurement Directives of the federal government and the respective national regional states. Documentations of the justifications provided and the approval by the head of agencies shall be maintained for review by the Bank staff or consultants during post procurement reviews and independent procurement audits. Direct contracting below US\$5,000 will require internal government review; between US\$5,000 and US\$100,000 will require TTL review; and above US\$100,000 will require full Bank review.

56. **Procurement of Agricultural Inputs.** Market studies carried out as part of the procurement capacity assessment for AGP2 as well as other projects indicate that the market for agricultural inputs in Ethiopia is highly regulated. According to the findings of the assessment, the market outlets for agricultural inputs, which include improved seeds and fertilizers, are government owned enterprises and farmers' unions and farmers' service cooperatives. It should be acknowledged, however, that attempts are being made to arrange for sales of improved seeds through a competitive process. However, such an attempt is currently at pilot stage in limited Woredas only. Thus in general, in Ethiopia, the procurement of improved seeds and fertilizers through a competitive process is not feasible at the local level, where it is needed under the project. According to the data from AGP1, the total amount expended on these inputs is insignificant and such inputs are required in a decentralized manner for demonstration purposes at FTCs as well as the consolidation of the procurement of these inputs would not be efficient. Hence, the procurement of improved seeds and fertilizers under AGP2 shall be carried out through direct contracting from farmers' unions or farmers' cooperatives with due diligence with regards to reasonableness of cost, efficiency and quality of goods or through Shopping procedures, whenever possible. Moreover, basic seeds which are of proprietary nature and available only in federal and regional research centres shall be procured on a direct contracting basis from the research centres as per the procedures outlined in Paragraph 3.7 of the Guidelines.

57. **Procurement of mass media broadcasting.** IAs of AGP2 may require to broadcast radio and television programs to disseminate information on the objectives and achievements of the

project, use of new technologies, etc. In Ethiopia, radio and television programs with a wider coverage are limited to Ethiopian Broadcasting Corporation, some regional radio and television stations which are state owned enterprises. A study of the media outlet in the country clearly indicates that there are no private sector alternatives in the provision of air time services with wider coverage to reach the clientele of the project. In view of this, the project IAs may procure air time for broadcasting services from EBC and Ormoiya Television on a direct contracting basis as per the procedures outlined in Paragraph 3.7 of the Guidelines.

58. **Procurement of non-consulting services.** Depending on the nature of the services, procurement of non-consulting services, such as transport services, will follow procurement procedures similar to those stipulated for the procurement of goods. NCB procedures acceptable to the Bank would be used for contracts above an estimated monetary amount of US\$100,000. Contracts valued at less than US\$100,000 equivalent shall use Shopping procedures in accordance with the provisions of paragraph 3.5 of the Bank's Procurement Guidelines. The procurement of non-consulting services shall follow the existing Bank's SBD for ICB, or national SBDs for NCB, with appropriate modifications.

59. **Selection of consultants.** The project will make use of consultant services for TA, capacity-building activities, studies, design and supervision of SSI systems and roads, and annual financial and procurement audits of project activities. Contracts above US\$200,000 will be awarded through the use of the Quality and Cost-Based Selection (QCBS) method described under Sections 2 of the Consultant Guidelines. Consulting services for audit and other contracts of a standard or routine nature may be procured under the Least Cost Selection method described under Section 3.6 of World Bank Consultants Guidelines. Consulting services of small assignments may be procured through the Selection Based on the Consultants' Qualifications method. Shortlists of consultants for services estimated to cost less than US\$300,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

60. **Individual Consultants (IC).** ICs will be selected on the basis of their qualifications by comparison of resumes of at least three candidates from those expressing interest in the assignment or those approached directly by the IA in accordance with the provision of Section V of the Consultants Guidelines.

61. **Training and Workshops.** The project will fund training activities including capacity building. The training plan of the project shall be approved by the Bank. The training plans would include details on: i) type of training to be provided; ii) number of beneficiaries to be trained, duration of training, and estimated cost; iii) institutions selected based on their expertise; and iv) expected learning outcomes. Workshops shall be prior reviewed as part of the annual work-plans of the project.

62. **Operating Costs.** Incremental operating costs include expenditures for maintaining equipment and vehicles; fuel; office supplies; utilities; consumables; workshop venues, materials and per diems, travel costs, and accommodation for staff when travelling on duty during implementation of this project; but excluding salaries of civil/public servants. These will be procured using the borrower's administrative procedures, acceptable to the Bank. Operating

expenditures are neither subject to the Procurement and Consultant Guidelines nor prior or post reviews. Operating expenditures are verified by TTLs and FMSs.

63. **Record Keeping.** The FCU of the AGP2 as well as all IAs of the project, at regional, woreda and federal level shall be responsible for record keeping and filing of procurement records for easy retrieval of procurement information. Each contract shall have its own file and should contain all documents on the procurement process in accordance with the requirements of the Bank and as described in the national procurement law.

64. **Margin of preference for goods and works.** In accordance with paragraphs 2.55 and 2.56 of the Procurement Guidelines, the borrower may grant a margin of preference of 15 percent in the evaluation of bids under ICB procedures to bids offering certain goods produced in the country of the borrower, when compared to bids offering such goods produced elsewhere. Similarly, the borrower may grant a margin of preference of 7.5 percent in the evaluation of bids under ICB procedures to local contractors when compared to foreign contractors.

65. **Coordination of procurement activities.** The FCU at MoA, which is the focal organization for the implementation of AGP2, shall coordinate all procurement activities of the project and be responsible for communicating with the Bank on requests for prior reviews. Responsibilities of the FCU will also include the following: procuring strategic goods and equipment, consolidating Procurement Plans for all contracts requiring use of NCB and above, placing adverts for ICB contracts on UNDB online, supervising other IAs at sub-national level, as well as coordinating procurement audits and following up on its findings. Regional IAs will be responsible for the procurement of goods and works which are procured through NCB and Shopping procedures. Regional IAs shall also carry out ICB contracts as well as selection of consultants as deemed necessary. Procurement at woreda level shall be limited to procurement of goods and works through Shopping procedures.

## **B. Assessment of the agency's capacity to implement procurement**

66. A procurement capacity assessment of the IAs of the proposed project was carried out in December 2014 and January 2015. The procurement capacity assessment was carried out at the FCU, and at the BoA, BoW, Livestock Development Bureaus, Cooperative Development Agencies, and Market Development Agencies in Amhara, Oromiya, Tigray and SNNP national regional states. The capacity assessment was carried out using the P-RAMS questionnaires. The findings of the capacity assessment and the recommended actions are posted in the P-RAMS of the Bank's project portal. The assessment reviewed the lessons learned from AGP1 implementation, organizational structure for implementing the proposed AGP2 project, the staff responsible for procurement in the IAs including the FCU, the regions, woredas and other federal level IAs. The assessment also looked into the legal aspects and procurement practices, procurement cycle management, organization and functions, record keeping, planning and the procurement environment.

67. Experiences from implementation of AGP1 indicate that i) procurement planning was deficient with high recourse to direct contracting; ii) excessive delays were experienced in the procurement process; iii) weak complaints addressing mechanism; iv) there was high

procurement staff turnover; and v) the function of the FCU to coordinate procurement activities was weak. Lack of qualified and procurement proficient procurement staff remains a major challenge in all the IAs visited. Most of the procurement staff in all IAs visited was not proficient in the procurement procedures of the Bank and government. This lack of qualified procurement staff appears to be compounded with the challenge of high level of staff turnover which is prevalent in all sub-national IAs. Although efforts are made by the regional procurement coordinators to provide procurement clinics to regional and woreda procurement staff, this effort is undermined by the high level of procurement staff turnover in these IAs. The organization and staffing for procurement under the IAs of the project does not appear to be harmonized. In some IAs, there are dedicated staffs responsible for procurement under the project whereas in others procurement is streamlined in other functions. This clearly indicates the need for harmonization of the organization and staffing which is critical for the procurement process.

68. Other key issues and risks for implementation of procurement under the proposed project include lack of adequate capacity and lack of space for procurement record keeping; inadequate staffing of the procurement units at the regional IAs and woredas; lack of skill development schemes for procurement personnel; the level of pay scale for procurement personnel, which is relatively low to attract qualified procurement personnel; lack of systematic procurement planning and follow up in procurement; lack of experience in contract administration and management; and the inadequacy of the procurement environment for implementation of projects. Moreover, the fact that new national regional states and woredas – including Benshangul, Harari, Dire Dawa and Gambella, with lack of experience in procurement under Bank financed projects, are included under AGP2 increases the risk of procurement under the project. The overall risk for procurement under AGP2 is rated ‘High’.

69. Key issues and associated mitigation measures have been discussed and agreed as follows:

### C. Action Plan to Mitigate Procurement Risks

#### Summary of Findings and Actions (Risk Mitigation Matrix)

No	Major findings/issues	Actions proposed	Responsibility	Targeted date
1.	Inadequate procurement capacity in the regional and woreda IAs particularly in the new regions and woredas to be included under AGP2	<ol style="list-style-type: none"> <li>1. Employment of qualified and procurement proficient staff acceptable to the Association in the regional IAs (additional staff);</li> <li>2. Maintain procurement capacity at woreda level and commensurate with procurement workload;</li> <li>3. Provide basic procurement training offered at equal monthly installment in the procurement of goods and equipment, works and consultancy services to procurement staff of federal and regional implementing agencies as appropriate;</li> <li>4. Staff involved in the implementation of procurement activities such as tender committee members and tender award committee members should be provided procurement clinics on procurement procedures under the Bank financed projects; and</li> <li>5. Provide procurement staff at the FCU, RCUs and woredas with the necessary facilities to create conducive working environment including mobility to enable them support procurement activities in the regions and woredas.</li> </ol>	MoA/FCU, regions and woredas	Within three months after effectiveness (applies to only action 1)
2.	Inadequate procurement planning and monitoring, and follow up of procurement activities (including delays in preparation of terms of reference and specifications)	<ol style="list-style-type: none"> <li>1. Make procurement planning a requirement as part of the AWP&amp;B;</li> <li>2. Train procurement staff in the preparation, updating and monitoring of Procurement Plans at all levels;</li> <li>3. Make the use of simplified Procurement Plans mandatory for use in the woredas; and</li> <li>4. Assign specific staff to lead preparation of terms of references and specifications</li> </ol>	MoA/FCU, RCUs, woredas, and other federal IAs	During project implementation

No	Major findings/issues	Actions proposed	Responsibility	Targeted date
3.	Written procedural manuals/systems in place including code of ethics	<ol style="list-style-type: none"> <li>1. Revise the procurement manual as part of PIM of AGP1 which provides detailed step by step procedures for the implementation of the procurement activities of the project to reflect changes in procurement procedures and the current revisions in thresholds;</li> <li>2. Include procurement code of ethics in the procurement manual; and</li> <li>3. Disseminate the procurement manual to all implementing agencies of the project.</li> </ol>	MoA/FCU	During project implementation
4.	<p>Lack of capacity in procurement data management and maintenance of procurement audit trail</p> <p>Inadequate facility for storage of procurement records</p>	<ol style="list-style-type: none"> <li>1. Procurement clinic on procurement records keeping to be provided to procurement staff of the AGP2;</li> <li>2. Establish satisfactory procurement data management system; and</li> <li>3. Provide adequate facility, including office space, shelves and lockers, for safe keeping and storage of procurement records.</li> </ol>	MoA/FCU, RCUs/regional IAs/woredas/other federal IAs	During project implementation
5.	High level of procurement staff turnover	<ol style="list-style-type: none"> <li>1. Make employment in all IAs of AGP2 attractive to procurement staff by providing the necessary incentives.</li> <li>2. Train more staff and require handover among staff</li> </ol>	MoA/FCU	During project implementation
6.	Lack of experience in contract administration and management in the focal organization and RCUs	<ol style="list-style-type: none"> <li>1. Establish a CM system in the major IAs including FCU and RCUs;</li> <li>2. Recruit and employ contract management staff at the FCU and RCUs to manage the contract administration activities of the project; and</li> <li>3. Provide training to staff in contract administration at equal monthly installment.</li> </ol>	MoA/FCU	During project implementation
7.	Lack of oversight bodies in the regions and woredas to monitor and audit procurement activities	Government shall select and appoint an independent consultant, acceptable to IDA, to carry out the Independent Procurement Audit of the project annually	MoA/FCU	Annually at the end of each fiscal year

#### D. Procurement Oversight and Supervision Plan

70. The Bank will provide oversight over procurement activities through “Prior” and “Post Reviews”. Prior reviews will be based on the risk level assessed by the Bank during appraisal and updated annually. Post reviews will be carried out by Bank staff or independent auditors in 20 percent of the Woredas (about 31 Woredas), FCU and all implementing regional bureaus annually covering at least 15 percent of contracts awarded by each entity in a given year. Based on the initial risk rating, which is ‘High’, the borrower shall seek Bank prior review for equivalent value of contracts as detailed in the table below:

##### Procurement Methods and Prior Review Thresholds

Category	Prior Review Threshold (US\$)	ICB Threshold (US\$)	National Shortlist Maximum Value (US\$)
Works	≥ 5,000,000	≥7,000,000	NA
Goods	≥ 1,000,000	≥1,000,000	NA
Consultants (Firms)	≥200,000	NA	<300,000
Consultants (Engineering and works supervision)	≥ 300,000	NA	< 300,000
Consultants (Individuals)	≥100,000	NA	NA

#### E. Readiness for Implementation and Procurement Plan

##### Procurement Plan

71. The borrower has prepared a Procurement Plan for the first 18 months of the project life for project implementation which provides the basis for the procurement methods. This plan is agreed between the borrower and project Team, and will be available at the project implementation unit at FCU of MoA. It will also be available in the project’s database and in the Bank’s external website. The Procurement Plan will be updated in agreement with the project team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. Details of the procurement arrangements are provided below.

**F. Goods. Works and non-consulting services**

**List of Goods Contract Packages to be procured following International Competitive Bidding and other procurement methods during the initial 18 months of the project**

<b>INDICATIVE PROCUREMENT PLAN FOR GOODS – AGP2 AT FEDERAL LEVEL, EFY 2007 - 2008 (Jul. 2015 - Dec. 2016)</b>						
<b>No</b>	<b>Contract description</b>	<b>Estimated Cost in US\$</b>	<b>Procurement Method</b>	<b>Prior or Post Review</b>	<b>Bid Closing/Opening</b>	<b>Contract Signing</b>
1	156 vehicles	15,900,000	ICB	Prior	Feb.17,2017	April 2,2017
2	3601 Motorbikes	14,404,000	ICB	Prior	April 25,2016	June 2, 2016
3	8098 Pad cycles	1,619,600	ICB	post	April 25,2016	June 2, 2016
4	IT equipment for IT Centers	1,527,600	ICB	prior	March 1,2016	May 2, 2016
5	Equipping Molecular Biology, central quality control	261, 950	NCB	Prior	August 1, 2016	Nov. 7, 2016
6	Procurement of equipment for varies centers (queen rearing &fish hatchery)	636,300	NCB	Post	June 1,2016	July 17,2016
7	Field and office equipment	281,250	NCB	Post	March 14,2016	April 29, 2016
8	Equipping federal plant protection laboratory, seed analysis laboratories, plant health clinics and pesticide laboratories	7,612,961	ICB	Prior	January 9, 2017	March 3,2017
9	Agricultural machineries (tractors, planters, harvesters)	1,200,000	ICB	Prior	March 21, 2016	May 6,2016
10	Equipment for biotechnology, animal health research labs, fishery research labs, food science lab, animal nutrition lab, agronomy & physiology lab, seed lab, and mechanization labs.	6,600,000	ICB	Prior	Feb. 1,2017	March 24,2017
11	Forage seed and seed cleaning and grading equipment	1,250,000	ICB	Prior	May 6,2016	July 15,2016
12	Computational facilities for National Agriculture Research System (crop/climate modeling, Graphical Information System &Remote sensing)	500,000	NCB	Post	July 22,2016	Sep. 23,2016
13	Automated weather station and remote sensing facilities	450,000	NCB	Post	Aug. 15,2016	Oct. 21,2016

## G. Works

### List of Works Contract Packages to be procured during the initial 18 months of the project

No	Contract description	Estimated amount in US\$	Procurement Method	Prior or post review	Bid closing-opening	Date contract is signing
1	Construction of 8 barns & sheds for cattle and goat multiplication centers	110,000	Shopping	Post	April 8,2016	May 31,2016
2	Establishing of 4 queen rearing centers	8,400	Shopping	Post	Nov. 14,2016	Dec. 7,2016
3	Establishing a fish hatchery center	229,500	NCB	Post	Sep. 5,2016	Oct. 28,2016
4	Establishing 4 bio fertilizer centers	400,000	NCB	Post	May 1, 2017	June 20, 2017
5	Poultry house construction	250,000	NCB	Post	June 1,2016	Aug. 1, 2016
6	Construction of crop and horticulture primary markets	4,750,000	NCB	Post	May 18,2016	August 3,2016
7	Construction of animal primary markets	2,700,000	NCB	Post	Feb. 15,2016	April 4,2014
8	Construction of milk collection and processing centers	2,560,000	NCB	Post	July 4,2016	Sep. 12,2106
9	Construction of honey collection and processing centers	120,000	Shopping	post	March 7,2016	May 2,2016
10	Construction of market shades	800,000	NCB	Post	April 25,2016	July 4,2016
11	Construction of warehouses for unions and primary cooperatives	11,000,000	ICB	Prior	June 4, 2016	August 5, 2016

## H. Consulting services

### List of Consulting Assignments to be carried out following QCBS and other selection methods during the initial 18 months of the project

	Contract description	Estimated Cost in US\$	Selection Method	Review by Bank Prior or Post	Expected Proposals Submission Date	Expected Contract Award Date
1	Feasibility study and design for existing schemes	600,000	QCBS	Prior	April 11, 2016	June 13, 2016
2	Feasibility study and design for new schemes	3,500,000	QCBS	Prior	June 13, 2016	Aug. 15, 2016
3	Preparation of design and construction quality assurance and control guide line	80,000	IC	Post	March 1,2016	May 2, 2016
4	Development of SSI rehabilitation and revitalization guideline	45,000	IC	post	January 1,2016	March 1,2016
5	TA for fish hatchery	20,000	IC	Post	March 14,2016	May 16,2016

72. Shortlists composed entirely of national consultants: Shortlists of consultants for services estimated to cost less than US\$300,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 3.7 of the Consultant Guidelines.

73. All consultancy services for the selection and employment of procurement and legal consultants, regardless of the contract amount, shall be subject to Bank's prior review. Terms of reference for all consultancy services shall be cleared by the Bank. The selection of ICs will normally be subject to post review. Prior review will be done in exceptional cases only, e.g., when hiring consultants for long-term TA or advisory services for the duration of the project and prior review of these contracts will be identified in the Procurement Plan.

**74. Conditions**

- i) A revised procurement manual as part of PIM shall be prepared and submitted to the Bank and approved prior to effectiveness.
- ii) The procurement staff of the project shall be in place before two months after project effectiveness.
- iii) Procurement staff shall be provided with basic procurement training before three months after project effectiveness.

**Legal Covenant**

75. Government shall select and appoint a procurement auditor, acceptable to IDA, to carry out annual independent procurement audits of AGP2 and shall submit the report to IDA annually six months after the end of the fiscal year for its consideration.

**Environmental and Social (including safeguards)**

76. The Environmental Category assigned to AGP2 is Category B, predicated on the fact that environmental risks and social impacts may be minimal, manageable and, in most cases, reversible. The proposed operation will largely impact positively on the biophysical environments since it will support land management (improvement of soil and water as well as watersheds). The project has triggered eight World Bank safeguard policies, namely: Environmental Assessment (OP/BP 4.01), related to possible risks associated with the biophysical attributes of the environment; Pest Management (OP/BP 4.09), predicated on the possibility of agrochemical application and disposal; Physical Cultural Resources (OP/BP 4.11), because "chance finds" seem likely; Involuntary Resettlement (OP/BP 4.12), predicated on the assumption that the sub-projects are likely to result in land take, loss of income and sources of livelihood; OP/BP 4.10, because potential impacts on vulnerable and historically underserved people; Safety of Dams (OP/BP 4.37), because although construction of dams above 4.5 meters will not be funded, AGP2 will finance check dams or small dams or finance activities that may rely on the performance of existing larger dams; and Projects on International Waterways (OP/BP 7.50), because although impacts are deemed unlikely, in view of the small amounts of water abstraction for SSI purposes, AGP2 has informed riparian countries in accordance with OP/BP 7.50. Natural Habitats OP/BP 4.04, because some of the project intervention areas may include natural habitats.

77. **Environment.** AGP2 will finance activities such as ground water development, SSI schemes, construction of feeder roads, establishment of product storage facilities and large-scale adoption of innovative agricultural and livestock productivity-enhancing approaches. Likely environmental risks may be associated with pre-construction, construction/rehabilitation and operation of storage facilities, use and disposal of agrochemicals, and inappropriate use of groundwater resources (through over-use, agrochemical seepage, etc.) could result in aquifer depletion and contamination affecting water quantity and quality in neighboring communities and downstream. The government IA, MoA, has formulated an ESMF that describes in broad terms how potential project related environmental risks and impacts associated with all the World Bank safeguard policies would be mitigated and addressed before and during implementation of project activities. In addition, it describes the institutional responsibilities, capacities, financial resources and monitoring needs essential to implement mitigation measures.

78. **Social.** The project's anticipated social impacts have triggered OP4.12 and OP4.10 and in line with the Bank's safeguard policies, this project has to put in place mitigation mechanisms acceptable to the World Bank to mitigate these impacts. For impact on land use and structure, an RPF, has been prepared, consulted upon and disclosed to address any potential impacts, which is expected to be site specific and minor.

79. The Bank's OP4.10 is triggered, based on the screening conducted by the World Bank and reinforced by the constitution of Ethiopia, which indicates that the target population identify themselves as having the characteristics defined under OP4.10. Therefore, SA was conducted to complement the RPF. Specially, the access to and use of common or natural resources need to be safeguarded in a process of "free, prior and informed consultation". Consultations have taken place between all those traditionally inhabiting an area and those external people who made agricultural investments in the area. As was done in AGP1, the project will set up at the kebele level grievance redress mechanism and issues, related to the implementation of sub-projects that affect private and community properties, will be incorporated in participatory sub-project planning guidelines and in screening criteria in the PIM. Substantial numbers of community level sacred and ritual sites of religious and cultural importance (sacred trees, springs, rivers, ritual sites, etc.) have been identified by SA in all target locations, thereby triggering OP4.11 Physical Cultural Resources. Implementation of AGP2's sub-components in the area of small irrigation schemes, water reservoir and dam excavation as well as access roads construction may likely affect physical cultural resources. A set of procedures for ensuring that these resources are considered in the designing process of AGP2 sub-projects is part of the ESMF. Mandatory measures are detailed once a Physical Cultural Resources safeguard is triggered during a sub-project screening process.

### **Monitoring and Evaluation (M&E)**

80. Responsibility for M&E of AGP2 will take place at four levels: federal, regional, woreda, and kebele/sub-kebele. The M&E system will allow the implementation of activities to be reviewed against AWP&Bs and ensure that corrective measures are quickly implemented.

81. **Federal level.** Overall M&E will be coordinated at the federal level from the CU by AGP2 M&E Officers in collaboration with M&E Officers based at the RCU. The coordination of all M&E activities of the AGP2 comprises overseeing data collection, analysis and reporting on the implementation and progress of each component, sub-component, and regions of the AGP2. It also includes managing occasional evaluations and impact evaluations carried out by external firms and supporting M&E staff in the regions, zones, and woredas with regard to M&E requirements, capacity development, and M&E tools (manuals, etc). The FCU will submit quarterly reports for review by the FSC, the World Bank, and other DPs. In addition, the content of the quarterly M&E reports will be summarized in annual reports whose release will be timed to coincide with the completion of the financial year. Tasks also include conducting staff trainings (on basic M&E, reporting formats, M&E manual, etc.) and providing feedback on performance to regional M&E Officers, woreda coordinators, etc.

82. **Regional level.** The M&E Officer at each RCU will coordinate M&E for their respective woredas, ensuring that M&E data are collected regularly in accordance with agreed upon procedures. The M&E Officers will compile and cross-check reports submitted by woreda. They will also provide M&E TA and training. They will advise woredas based on inputs and outputs reported and will provide feedback on performance to regional M&E Officers, woreda coordinators, etc. In addition, the M&E Officers will undertake timely qualitative case studies of activities (such as beneficiary interviews, lessons learned, and pictures of sub-projects) and a yearly qualitative analyses of M&E data. The regional M&E Officers will receive in depth training in M&E and computer skills. The RCU will submit quarterly reports to the FCU M&E Officer.

83. **Implementation Agencies (IAs).** EIAR, BoWs, Soil Fertility Laboratories, Bureaus for Cooperative Promotion, and others IAs will report quarterly on their activities following the required formats to the regional M&E Officers.

84. **Woreda level.** The woreda AGP2 Coordinator will coordinate reporting, compiling and cross-checking data collected by the DAs and IAs. The coordinator will also provide TA, training, and advice based on inputs and outputs reported by DAs and IAs. Woreda AGP2 Coordinator will work closely with SMSs and DAs and conduct regular field visits to kebeles and sub-kebeles to engage directly with DAs and verify that M&E activities are being implemented properly. The woreda coordinators will receive training in M&E (including reporting), facilitation, reporting, use of reporting formats, and computer skills. The woreda coordinators will submit monthly reports to the regional M&E Officers.

85. **Kebele/sub-kebele level.** At the kebele level, DAs will be responsible for submitting the data collected by DAs to woreda coordinators. SMSs will ensure that information from project implementation activities and progress is posted on FTCs' boards. The DAs will receive training on reporting, use of reporting formats, documentation and facilitation. On a weekly basis, DAs will collect project information from beneficiaries using the required reporting format and submit the reports to SMSs. In addition, DAs will create information from project activities and progress available at FTCs. The community learning facilitator with the support of DAs will organize community-learning fora.

86. **Farmers.** Farmers will actively participate in community learning fora.
87. M&E information flows are depicted in the figure on the next page.

### **Role of Partners**

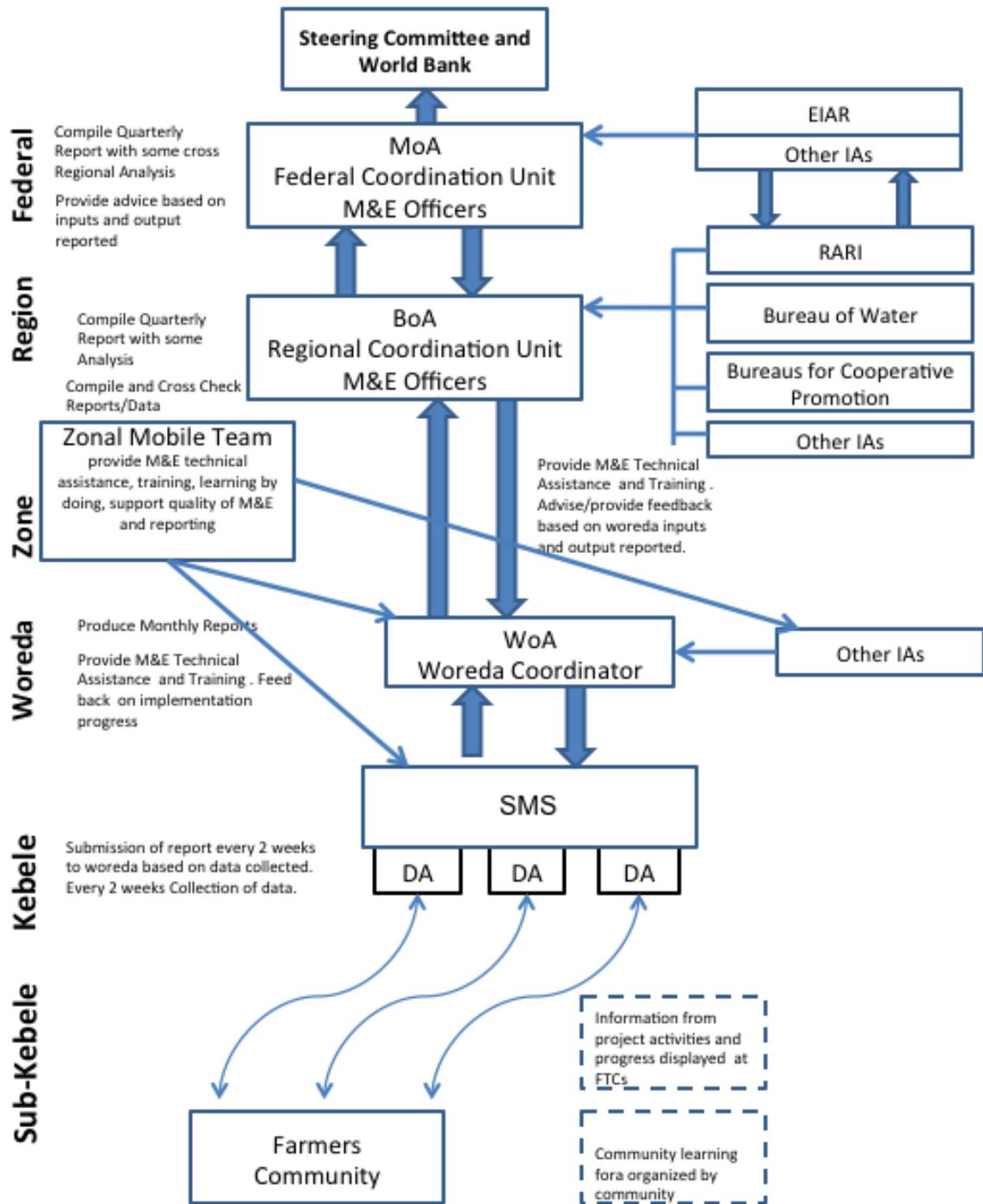
88. AGP2 is strongly supported by the World Bank in close partnership with a consortium of DPs – DFATD, FAO, the Embassy of the Kingdom of the Netherlands, AECID, EC, UNDP, the Italian Development Cooperation, and USAID. In line with the Paris Declaration on Aid Effectiveness, DPs have pooled their financing – both cash and in-kind contributions – and agreed to provide a unified pool of technical advice and analytical work in support of a single program led by GoE. This engagement model allows for improved harmonization and enables enhanced supervision and monitoring while avoiding excessive transaction costs for the government and DPs. It also strengthens the likelihood that the program is able to achieve impact at scale.

89. To provide adequate implementation support and ongoing supervision, several joint government and development partner TCs and taskforces have already been established in AGP1 to monitor program implementation and provide technical guidance on component specific and cross-cutting issues. These committees and taskforces would continue in the AGP2.

90. The World Bank managed MDTF will continue to channel significant resources for implementation support and enhanced supervision of AGP2. In principle, most of the AGP1 donors have committed to contribute at least the same amount of contributions to AGP2 as committed to AGP1, in addition to additional contributions being committed by new donors such as EC. Annex 5 provides the details of the supervision strategy for the program, which is implemented jointly by the GoE, the World Bank, and other AGP2 DPs.

91. The parallel financing support would continue for the financing of the component 4 on agribusiness and marketing by USAID. In addition, a new parallel financing support would be introduced for CDSF by DFATD.

## M&E Input and Output Information Flow for Sub-Projects



## Annex 4: Systematic Operations Risk - Rating Tool (SORT)

Ethiopia: Second Agricultural Growth Project  
Stage: Board

<b>Risk Category</b>	<b>Rating</b>
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector strategies and policies	Moderate
4. Technical design of project or program	Low
5. Institutional capacity for implementation and sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	Low
<b>Overall</b>	Substantial

1. **Political and Governance risk.** The risk has been rated as moderate. The Ethiopian political environment remains relatively stable and not likely to affect the PDO. Elections are scheduled for 2015, though a change in government is not expected. The government has clear set of development priorities in the GTP, which sets the overall strategic framework for the country's development. Adequate anti-corruption and public sector ethics regulations exist and are generally enforced. The principles of transparency, accountability and participation are generally adhered to. Levels of corruption in Ethiopia, though unclear, are believed to be low. The perception is that common forms of corruption, i.e., use of public resources for private gain, are not widespread or systemic.

2. **Macroeconomic risk.** The risk has been rated as moderate. The domestic economic risks arising from current policy include: i) Rise in domestic debt of major state owned enterprises and public banks due to continuous public investment and financing; ii) Substantial external borrowing on non-concessional terms combined with poor export performance may result in an upgrade of external debt risk distress; and iii) Balance of payments pressures from import needs. The government has taken measures to address these risks but additional reforms are needed. However, overall the macroeconomic policies and institutions are generally adequate and the macroeconomic effects would only moderately affect the achievement of the PDO if they materialize.

3. **Sector strategies and policies.** The risk has been rated as moderate. While the GTP sets the overall strategic framework for the country's development, for the agriculture sector this is further articulated and detailed in the PIF, which provides an investment framework to align the nation's agricultural sector investment priorities with higher level goals to transform the sector

and is designed to operationalize the CAADP Compact signed by the GoE and its DPs. The PIF not only ensures agriculture strategies are financially viable and sustainable, but also ensures that the funding for the sector is predictable and adequate. The project is considered the main investment operation to support the implementation of the PIF. There is a strong sector platform for discussing investment and strategic issues with the GoE, and all contributing DPs to the AGP2 are members of that group. A revision of the PIF is scheduled in 2015 in order to bring it in line with the GTP2 and also the Malabo Declaration, which reaffirmed the commitment to CAADP principles. The revision of the PIF is expected to be fully consistent with the design of the project. However, sector governance has some weaknesses and hence some residual risk to PDO remains.

4. **Technical design of the project or program.** The risk has been rated as moderate. The design of AGP2 has been informed by adequate analytical work and consultations with the relevant stakeholders. As AGP2 would be similar to AGP1 in many aspects, the GoE and World Bank have good experience with similar operations. Moreover, the technologies and processes used in the design have been successfully used in other World Bank projects such as Productive Safety Net Program 4. However, AGP2 will include possible new activities in the areas of research. In addition to more activities, AGP2 will geographically scale up to include more woredas. This makes the AGP2 technically moderately complex and hence some risk still remains.

5. **Institutional capacity for implementation and sustainability.** The risk has been rated as substantial. Capacity was a key factor behind the initial slow implementation of AGP1 and also some initial concerns over the quality of implementation. Similar to AGP1, AGP2 would have multiple IAs such as regional BoA, regional Livestock and Marketing Agencies, regional soil laboratories, BoWs, FCA and ATA. In addition, it would operate in four new national regional states and 61 new woredas. Though the IAs have some capacity in-house, it is still insufficient to implement a project which has diverse activities as well as large geographical spread. It is observed that the IAs lack skills in planning of trainings, effective dissemination of knowledge and follow up of trainings. Staff turnover, especially at local levels, is substantial and staff has limited access to relevant trainings in order to carry out their tasks. Lack of documentation of training materials point to the fact that there are significant gaps in the operational rules, processes and systems in relation to institutional capacities. Specifically, M&E needs to institutionalize processes and address weak capacities.

6. **Fiduciary.** The risk has been rated as substantial. Delays have been observed in preparation and submission of budgets from FCU in AGP1. Audit reports on FM suggest weak internal controls as well as cases observed in which proper financial procedures are not followed. Procurement and FM capacities at local levels are weak resulting in non-compliance with regular re-bidding cases and agreed procedures respectively. Procurement audits have not been conducted regularly in AGP1 reflecting there is a good scope of improvement for the procurement systems to become efficient and transparent. FM risk is rated as substantial; procurement risk is rated as high. The combined fiduciary risk is rated as substantial, given the weakness of the fiduciary environment and based on the likelihood and impact of the risks further described in Annex 3.

7. **Environment and Social:** The risk has been rated as substantial. The Environmental Category assigned to AGP2 is Category B, predicated on the fact that environmental risks and social impacts may be minimal, manageable, and in most cases, reversible. However, there might be additional social and environmental risks due to the new project activities and the expansion of the project into new national regional states and woredas including Gambella and Benishangul-Gumuz. Under the ongoing project, progress has been observed in terms of screening sub-projects through ESMF, conducting environmental social impact assessments, and developing Environmental and Social Management Plans (ESMPs) as well as in implementing capacity building (training) activities. However, the implementation of the ESMPs and monitoring of these ESMPs have had some weaknesses. Further, the implementation of RPF was based on voluntary land donation, and there is a risk that social due diligence was not followed. Therefore, the Bank will conduct a retrospective due diligence of those sub-projects to ensure compliance with the OP4.12.

8. OP 4.10 is now triggered by AGP2 and a SA has been prepared; and the findings highlight the possible overlap with communities supported under the government's Commune Program. This raises substantial risk, if the project is perceived to be supporting the Commune Program in communities in which the Program has not been well implemented. In agreement with Government and based on the ongoing Alignment Study, an approach would be applied to ensure that the project is not knowingly active in these, particularly in non-viable commune centers/communities.

9. **Stakeholders:** The risk has been rated as Substantial. There is currently a financing gap of US\$216.3 million, which would be provided by six DPs. To date, none of the funds have been formally committed, though all DPs have confirmed their support and intent to formalize their commitments following IDA Board approval. There is risk associated with this sizeable financing gap, if the DPs do not provide financing, or if the financing is lower than currently proposed. Although shortfalls in DP co-financing are not expected, if this occurs the overall project size may need to be reduced, which represents a significant risk. This risk would be managed by limiting the geographical coverage of the project and specifically by reducing the number of sub-districts (kebeles) included within the 157 project woredas.

10. The EC is one of the prospective contributors to the project, and co-financing from the EC would need to comply with the Framework Agreement signed between the Bank and the EC in 2014. Mutually acceptable arrangements for handling fiduciary risks associated with the MDTF are under discussion and would need to be agreed, including agreement on auditing of the project that meets both Bank and EC requirements.

11. There is a strong interest in agricultural growth from the GoE, donors, civil society and private sector who have been supportive of AGP1 interventions. AGP1 is a flagship program in the Agriculture Growth pillar of the RED&FS SWG. This provides an added forum for dialogue and coordination.

12. **Others:** As there is no other significant risks in the AGP2 intervention areas, the risk has been rated as low.

13. **Overall implementation risk:** The overall Implementation Risk is rated as Substantial. While the AGP1 implementation is progressing well, the project still has substantial institutional capacity for implementation and sustainability risk as well as fiduciary risks. The expansion of activities and geographical scale up of national regional states and woredas further adds to existing risks.

## Annex 5: Implementation Support Plan

### ETHIOPIA: SECOND AGRICULTURE GROWTH PROGRAMME

#### Strategy and Approach for Implementation Support

1. The Implementation Support Plan (ISP) describes how the Bank and other DPs will support the implementation of the risk mitigation measures identified in the risk matrix and provide the technical advice necessary to facilitate in the implementation of project activities in achieving the PDO. The ISP also identifies the minimum requirements to meet the Bank’s fiduciary obligations. The ISP is consistent with the implementation arrangements detailed in Annex 3. Furthermore, it is also consistent with the required and expected procedures and activities designed to mitigate risks as outline in Annex 4.

2. Effective collaboration with the GoE, in particular with MoA, at the federal level as well as at the regional, woredas and kebeles is critical for efficient and effective implementation of the project. Furthermore, consultation and collaboration with other key stakeholders is also important including DPs supporting the AGP2, community organizations, private sector and academic/research institutions. During project preparation, an effective participatory collaboration among all these stakeholders was successfully carried out which enriched the design of the project. The same collaborative approach will be adopted and further strengthened during project implementation.

3. Once co-financing arrangements are confirmed with DPs, it is expected that in addition to providing parallel and pooled co-financing, DPs would also contribute to a Bank-executed MDTF to support enhanced supervision of the project and additional studies and analysis as required, and beyond the scope of the project’s M&E system.

#### Implementation Support Plan

4. The main areas of focus and skills requirements for implementation support to be provided by or through the Bank are as summarized in the following table.

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First twelve months	<ul style="list-style-type: none"> <li>• Staffing and building basic capacities</li> <li>• Support to finalization of manuals</li> <li>• Initiating critical procurements</li> <li>• Establishing M&amp;E and reporting systems</li> <li>• FM, procurement and safeguards</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture Research and Extension</li> <li>• Agribusiness</li> <li>• Community Driven Development</li> <li>• Procurement</li> <li>• Environment</li> <li>• Social Development</li> <li>• M&amp;E</li> <li>• Irrigation</li> </ul>	159 staff weeks	<ul style="list-style-type: none"> <li>• Joint supervision and implementation support</li> <li>• Through DP supported MDTF, technical experts will be contracted by the Bank to support the GoE</li> </ul>
12-60	<ul style="list-style-type: none"> <li>• Agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture</li> </ul>	159 staff	<ul style="list-style-type: none"> <li>• Joint supervision</li> </ul>

months	Services and Commercialization <ul style="list-style-type: none"> <li>• Irrigation development and management</li> <li>• Market infrastructure and management</li> <li>• Systematic training programs</li> <li>• Knowledge generation and dissemination</li> <li>• FM, procurement and safeguards</li> <li>• Reporting</li> </ul>	Research and Extension <ul style="list-style-type: none"> <li>• Agribusiness</li> <li>• Community Driven Development</li> <li>• Procurement</li> <li>• Environment</li> <li>• Social Development</li> <li>• M&amp;E</li> <li>• Irrigation</li> </ul>	weeks per year	and implementation support <ul style="list-style-type: none"> <li>• Through DP supported MDTF, technical experts will be contracted by the Bank to support the GoE</li> </ul>
Other				

5. Semi-annual joint review and implementation support missions will be conducted around April/May and September/October of each year to review overall AGP2 implementation performance and progress towards the achievement of the development objectives. In addition, technical reviews including on fiduciary aspects will be regularly carried out. MTR will be carried out mid-way in the implementation phase. This will include a comprehensive review of the overall progress with implementation and achievement of AGP2 activities. MTR will also serve as the forum for reviewing any design issues that may require adjustments to ensure the satisfactory achievement of the AGP2's objectives. Based on the needs, the World Bank and its DPs will initiate additional analytical, advisory, and knowledge-sharing activities as well as additional third-party reviews.

6. The table below shows the estimated input requirements for key personnel to carry out the implementation support for the project.

**Skills Mix Required**

<b>Skills Needed</b>	<b>Number of Staff Weeks</b>	<b>Number of Trips</b>	<b>Comments</b>
TTL	26/ year		Locally based staff to provide program management and implementation support
Co – TTL	20/ year		Locally based staff to provide program management and implementation support
Agriculture Research and Extension Specialist	20/ year	4 trips/ year	Headquarter (HQ) Short Term Consultant (STC) with expertise in agriculture research and extension systems
Agribusiness Specialist	20/ year	4 trips/ year	HQ STC with expertise in agriculture commercialization

M&E Expert	16/ year	4 trips/ year	HQ STC with expertise in M&E indicator tracking, refinement and use
Irrigation Specialist	20/ year		Local based staff with expertise in design, implementation and management of irrigation schemes
Environmental Specialist	6/ year		Local based staff with expertise in environmental aspects and safeguards
Social Development Specialist	6/ year		Local based staff with expertise in social aspects and safeguards
Procurement Specialist	6/ year		Local based staff with expertise in procurement aspects; Procurement Plan revision, implementation and monitoring; and procurement audits
FMS	6/ year		Local based staff with expertise in FM aspects, fund flow and FM audits
Lawyer	1/ year		Legal aspects
Team Assistant	12/ year		Local based staff to support the team

7. It is planned that a significant part of the expertise can be mobilized locally in the country office, including team leadership. A mission based approach will not suffice in being able to adequately and timely respond to coordination and implementation issues. Therefore, a significant part of the task team is decentralized and this will continue to enhance implementation support. Fiduciary and safeguards supports are also provided at the country office. In addition to the missions and on-call support, the task team proposes pro-active monthly or quarterly implementation support meetings. This approach has proven to be effective in other projects in Ethiopia and in other countries.

## **Annex 6: Social Development Management Plan**

### **Ethiopia: Second Agricultural Growth Project**

1. The implementation risk associated with AGP2 is rated as substantial. The Environmental Category assigned to this operation is Category B, predicated on the fact that environmental risks and social impacts may be minimal, manageable and, in most cases, reversible. However, there might be additional social risks due to new project activities and the expansion of the project into the new national regional states and woredas in Gambella and Benishangul-Gumuz. The expansion into Harari regional state and Dire Dawa city administration is not expected to increase social risks.

2. This project will not undertake any sub-projects activities that will displace people. However, it would support small-scale rural infrastructure that might affect land holdings of individual farmers. While individual sub-projects are not yet identified, there will be support for activities such as small scale infrastructure to improve productivity as well as other rural infrastructure such as feeder roads. Therefore, as a precautionary measure, the project has triggered OP/BP 4.12 on Involuntary Resettlement; an RPF has been developed in light of this policy based on consultative processes that involved representatives from participating communities, cooperative and community actors. This has been publically disclosed in-country and in the World Bank's InfoShop. Solutions to grievances related to land acquisition impacts or reduced access to natural resources will follow provisions provided in the RPF.

3. AGP2 is prepared in the context of a screening undertaken in 2013 in five national regional states of Ethiopia, namely Afar, Oromiya, Gambella, Somali, and SNNPR, which found that the people in the area meet the criteria detailed in OP/BP 4.10. These criteria refer to a distinct, vulnerable, social and cultural group, possessing the following characteristics, in varying degrees: i) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; ii) collective attachment to geographically distinct habitats or ancestral territories in the project area as well as to the natural resources in these habitats and territories; iii) customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and iv) an indigenous language, often different from the official language of the country or region. The Ethiopian Constitution recognizes the presence of many ethnic groups, including historically disadvantaged and vulnerable groups, as well as the rights to their identity, culture, language, customary livelihoods, socio-economic equity and justice. There are approximately 80 culturally distinct ethnic groups within Ethiopia, including: Afar, Agaw, Akisho, Amhara, Anuak, Avoup, Bertat, Borana, Daasanach, Dorze, Gngangaton, Gumz, Gurage, Hamer, Jerberti, Kichepo, Konso, Me'en, Mun, Mursi, Nuer, Oromo, Qemant, Rer Bare, Shanqella, Sidama, Suri, Tigray-Tigrinya people, Tirma, Welayta and Zay, among others. These groups include various nations, nationalities and peoples, pastoralists, and national minorities. Accordingly, OP 4.10 is triggered and a SA has been prepared through extensive consultations with potential project beneficiaries and project affected peoples, including those identified as vulnerable and historically underserved groups to seek broad support from these groups. SA with the findings of the consultations has been publicly disclosed in-country and in the World Bank's InfoShop. The key findings and recommendations are summarized below.

4. **Social Assessment (SA).** SA complements other safeguards policies triggered in this project, with the aim of preventing and mitigating undue harm to people and their environment in the development process. These policies provide guidelines for bank and borrower staff in the identification, preparation, and implementation of programmes and projects; and more importantly, these policies provide a platform for the participation of stakeholders in this project design, and thus become an important instrument for building ownership among local population. The main highlights and suggested actions include the following:

i) **Most Vulnerable and Underserved Groups.** Vulnerability and social inclusion are highly complex and context-related. While they do not always overlap, individuals and households who are excluded or underserved are more likely to be highly vulnerable to situations and events (for example, reduced quality of life, livelihood and educational opportunities, compromised health status and threat of disease), which compromise their well-being and compound their social exclusion. SA identified the following ethnic and or occupational minorities, which had their numbers have significantly reduced either because of historical reasons (e.g., war and slave trade) or because of their occupation despised by the so-called mainstream communities. In addition to ethnic groups that meet the OP4.10 requirements, the vulnerable groups are: the potters (**Ottoman**), tanners (**Degela**), smiths (**Gitaman**) and hunters (**Manja**) in Konta special woreda, of which the *Manja* are the most underserved and stigmatized social group in the project area. Though called slightly differently, i.e., *Manjo*, they are also found in Decha woreda. In Decha woreda, there is another minority group called *Chara* (also called *Tsara* in Konta). They speak their own Chara language and it is said that their number has significantly reduced because of war and slave trade in the past. In Enemorna Ener woreda is found another most disadvantaged group, namely the *Fuga*. Although things have started to change for the better, the majority of these ethnic or occupational minorities still face economic deprivation and stigmatization by the dominant social groups.

ii) **Vulnerable Social Groups.** In the context of the study woredas, women are a highly vulnerable group because of deeply embedded socio-cultural attitudes and practices. These set of attitudes and views have led to socially constructed gender roles and responsibilities that keep women disproportionately engaged in productive, reproductive and community-related activities. Poverty in terms of time and income that results from their multiple commitments makes it difficult for them to balance their time and attention for different responsibilities, including participation in AGP2-related income generating activities.

iii) **Female Headed Households (FHHs).** FHHs are a particularly vulnerable social group because of one or more of the following factors: lack of access to farmland, shortage of farm labor, or not having draft animals. These problems reduce their sources of household income, resulting in their impoverishment.

iv) **Women in polygamous unions.** These are highly vulnerable social groups. Not being entitled to land holding and other assets, resulting in economic insecurity, as observed in SA woredas of Oromia, Konta, Ari, Decha, Gambella Zuria, Itang, Mandura, and Wombera.

v) **Unemployed and underemployed rural youths.** These are vulnerable social groups especially where land scarcity and land fragmentation are severe problems, with the consequence of minimal average land holdings.

vi) **Occupational minorities.** These remain socially isolated and vulnerable groups, despite encouraging improvements in social attitudes and the conditions of these groups in recent years. The Manja in Konta and Decha woredas of SNNPR are particularly disadvantaged group, despite their integration into the mainstream communities and growing participation in AGP1 CIGs and innovative groups.

vii) **Ethnic minorities.** Ethnic minorities, who settled in the participating woredas away from places of origin over the years, are vulnerable because of being numerically small and practicing livelihood strategies different from those of the host communities. Main examples to be mentioned in this regards are the Irob, Saho and Kunama in Tahtay Adiabo and Kafta Humera woredas of Tigray, and the Gumz and Shinasha in Guangua woreda of Awi Zone of Amhara national regional state.

viii) **Shifting cultivators/horticulturalists.** They are historically disadvantaged livelihood groups as a result of the myths about their way of life which is different from the settled plough culture of the highlands. These groups (Majanger, Gumz, and Mao-Komo) are found largely in AGP2 woredas of Benishangul-Gumuz and Gambella national regional states.

ix) **Commune Development Program and potential interface.** GoE's Commune program has been going on in the two national regional states of Gambella and Benishangul-Gumuz since 2010/2011. According to the Gambella regional commune coordinator, out of the total 94 commune centers that have established in the region, twelve are in Gambella Zuria woreda and three in Itang special woreda. An additional 15 commune sites are planned for the current fiscal year, of which 5 are in Itang special woreda. In Benishangul-Gumuz, the establishment of the communes has already been completed, with only partially fulfilled infrastructures. SA findings indicate that, to date, AGP1's funds have not been used or associated with the Commune program and there is no plan for resettlement in sampled woredas, with the exception of the woredas visited in Gambella and Benishangul-Gumuz national regional states. Based on the views expressed by government officials, there is a possible overlap with communities supported under the government's Commune Program with AGP2. This raises substantial risk, if the project is perceived to be supporting the Commune Program in communities in which the Program has not been well implemented. In agreement with Government and based on the ongoing Alignment Study, an approach would be applied to ensure that the project is not knowingly active in these, particularly in non-viable commune centers/communities. Further, government has reaffirmed that no kebeles covered by the government Commune Program will be considered in the project.

x) **Women's Participation and Engagement.** AGP1 and AGP2 place a heavy emphasis on the participation of women in all project activities, although some AGP1 activities aren't necessarily adapted to the specific needs of women, and therefore women's leadership is limited. Under AGP2, greater attention will be given to developing technologies and support mechanisms directly tailored to women's needs. Data on the participation of women in the AGP1 project activities show varied experience. In some woredas, women are beneficiaries and active

participants and are represented well in KDC. The fact that AGP1 treats women as a separate category has highly enhanced their participation in the CIGs. Their participation in project activities like sheep fattening, poultry, milk production, as well as water and soil conservation is good. However, they are reluctant to participate in SSI because activities related to irrigation require intensive labor input for routine follow up and irrigation maintenance. Distance of the irrigation site and possession of land in some areas are other challenges which limit the participation of women (and FHHs) in irrigation projects. However, women are more likely to benefit from HHI, which will be supported under AGP2. Overall, women experience difficulties in balancing participation in group activities and their other household responsibilities. Under AGP2, more attention will be provided to promoting technologies specifically targeting women. Capacity development support to CIGs will be more in depth and longer term to support the sustainability of these groups.

xi) **Voluntary Land Donation.** SA indicated that there were some gaps in managing social safeguards issues related to land acquisition and property losses including limited capacity and experience in addressing land acquisition and property losses. There were cases where some sub-projects, though small in their scale and linear by their nature, caused acquisition of small pieces of lands; the farmers and community provided the land voluntarily because these sub-projects were demand-driven by the community, benefitted the community, and implemented by the community. It was also observed that indigenous local institutions were mobilized to settle the matter in the interest of the project and the farmers affected through the facilitation of proportional size of plots as replacements from the available community land. The project will undertake a full social audit of all land taken in the ongoing project to ensure that all land acquisition whether voluntary or not were done in accordance to the RPF and gaps are fully identified and addressed as appropriate. The project will also provide capacity support to preclude any social risk.

xii) **Community Consultation with Key Stakeholders.** Community consultations were conducted with different community groups, namely: male and female farmers, young men and women, school dropouts and unemployed youths as well as members of disadvantaged occupational groups and ethnic minorities. These consultations helped to gauge the level of community awareness and understand about aspects of the various components of AGP2. Accordingly, community members expressed their knowledge that the project is agriculture focused, and hence limited in scope. Community members were also informed about the composition of CIGs in relation to sub-components 1.1: 'Institutional Strengthening and Development and 4.2: 'Strengthening of Farmers Organizations'. Hence, they knew the focus was on creating means of income for landless youths, women and school dropouts by organizing them into mixed, women and youth groups. In connection with SSI projects (sub-component 3.1: (Small Scale Irrigation Infrastructure Development and Improvement), farmers expressed their hope that the schemes would help in increasing their crop production and productivity. In particular, women in SA woredas of Oromia and SNNPR, and those belonging to minority groups in Tigray, said that the irrigation projects would contribute to their economic empowerment through increased income benefits. If the irrigation projects were to be implemented on communal/kebele lands, consultation participants mainly in SNNPR woredas expressed their awareness and expectations that priorities would be given to landless or poorest of the poor such as women and school dropouts, with per person allocation of up to 0.25 ha. In

the case of community investments (the construction of small-scale feeder roads, footbridges, , SSI, and market centers), the expectation among consultation participants was that a minimum of 20 to 30 percent of women participation should be ensured in the committees such as IWUAs, road maintenance committees, and market center management committees. Moreover, women expressed their expectations in regards to extension services provided at FTCs. They hoped that emphasis would be given to making them equal beneficiaries of the technology transfers, by tailoring the skill packages to their particular needs and demands. Thus, it was observed that community members had a high degree of expectation and understanding on what AGP2 will offer them for economic benefits and empowerment, as well as their rights and obligations associated with the project. They also expressed their readiness to participate in various project components when AGP2 is launched. The intervention approach of CLPP was found to be instrumental in raising community awareness about the project and prioritizing their needs and securing their commitment and participation during implementation.

5. However, SA team learned that the concerned local IAs had not conducted community consultations to introduce the project in the newly included AGP2 woredas of Benishangul-Gumuz and Gambella. It is very important that the IAs undertake intensive consultation in these woredas to elicit similar community consent and readiness for involvement in the project. This should be done as part of the project planning and consultation process at local level and included in the CLPP, which will be conducted in each year of the project to consult and create awareness among local communities. As part of the terms of reference for SA, the consultants conducted extensive consultations in the participating communities, including in Benishangul-Gumuz and Gambella, and explained the aims and expected results of the different components of AGP2. The consultants discussed the needs for the project and the potential impact to the community members within the project area and their concerns and general thoughts were solicited and included in this report. The participants during the consultation, mainly elders, youths and women belonging to the Anuak, Gumz, and Majanger ethnic groups, affirmed that there are ample opportunities in the region for the successful implementation of AGP2. They said that the region was endowed with abundant natural resources in the form of fertile land, water resources as well as dense forests useful for farming, fishing, and honey production. If implemented in their region, the youths and women also pointed out that it would be helpful in addressing their main challenges involving pests, plant and animal diseases.

6. **Grievance Handling Mechanisms (GRM):** In the case of grievances arising in the course of project implementation, traditional and quasi-formal dispute settlement arrangements would be invoked to deal with the issues. Under these arrangements, in the first instance, aggrieved parties would be encouraged to bring their complaints to the attention of local elders, who would consult with the parties involved to resolve the dispute in an amicable fashion. Complainants not satisfied with the decision of village leaders are advised to resort to quasi-formal structures of kebele judicial tribunals, whose verdicts on the matters will be final. Although such grievance handling mechanisms exist, there are little signs of them being used by local people. Owing to lack of capacity or other problems, gaps are noticeably observed in all visited AGP2 woredas. The project should make sure that such traditional and quasi formal structures are consistently resorted to, in order to ensure smooth and fair settlement grievances.

7. The ‘arbitration or reconciliation by elders’ is a widely used indigenous mechanism in resolving conflicts in many parts of the country. Although the term has different name among different ethnic groups, it has a common characteristic in that elders are the main people involved. For instance, among Gumz ethnic group, it is called Mangima. It is the most important traditional institution for preventing, resolving and managing ethnic conflicts of different scales and levels in different parts of the country. Through the application of the mangima institution, the inter-ethnic conflict between the Gumz and other ethnic groups that were resettled in Metekel was somehow settled. Gradually, however, these traditional conflict resolution mechanisms have started to erode for various reasons. According to some elders, Ethiopian state administration took conflict management responsibilities from clan and group leaders and placed it in the hands of the local kebele administrations.

8. The government has agreed to implement the project in accordance with the following mechanisms. Land acquisition related grievances and disputes that arise during the course of implementation of a resettlement and compensation sub-projects will be resolved in a manner that will be cost efficient to the Project Affected People (PAP) as stated in the RPF. This will start with establishing a register of resettlement/compensation related grievances and disputes, with well-defined conditions of access to this register. This register shall be widely disseminated within the interested area of the community as part of the consultation undertaken for the sub-project in general. The process of GRM will be first handled by a “first instance” mechanism, on the model of traditional dispute resolution mechanisms, in the form of a locally selected Mediation Committee consisting of the following members: IA; local non-governmental organization (chairperson) and local representatives of PAP (2 to 5), who should be selected in the interested area. The existence and procedural details related with this first instance mechanism will be widely disseminated to the interested population as part of the consultation undertaken for the sub-project in general. Courts of law shall be considered as a “last resort” option, which in principle should only be triggered where first instance amicable mechanisms have failed to settle the grievance/dispute. However, the constitution allows any aggrieved person the right of access to court of law. For other project related grievances, the project will provide affordable and accessible procedures for grievance redress, including third party settlement of dispute which should take into account the availability of judicial resources and community traditional dispute resolution mechanisms.

9. **Benefit Sharing Mechanism.** In Ethiopia, there is no law on benefit sharing mechanism for activities and this might pose a risk that communities might not benefit directly from the development objectives of the project. While there is no law on benefit sharing arrangement, the constitution of Ethiopia recognizes the participation of the communities in development agenda. In this regard, during initial public consultations, the project has met and discussed with stakeholders and emphasized that the key instrument for communities to participate in the project is through CLPP. The CLPP is socially inclusive and incorporates the knowledge and views of the participating communities in the planning and management of development sub-project activities. The project will continue to consult with the communities as well as partner with other projects in the area to explore possible cooperation in the provision of basic services to these communities that are not in the focal area of this project.

## Social Management Plan: Potential risks and challenges and recommendations

10. This social management plan, as outlined below, will ensure that the project and its IAs will respect the dignity, rights and culture of groups meeting the OP4.10 requirements and ensure that these people benefit from the project in a sustainable manner. The plan could be redefined during implementation and further consultation undertaken for the underserved groups to ensure their full participation. In the light of what has been outlined in the foregoing paragraphs, the matrix below provides the summary of potential risks and challenges as well as recommendations.

Components/issues	Potential risks and challenges	Recommendations
<p><b>Component 1: Agricultural Public Support Services</b></p>	<p>The risk that the IAs will not respect the dignity, rights and cultures of the groups resulting in the loss of cultural and social identity.</p> <p>FTC serve as appropriate technology transfer hubs, but the prime beneficiaries are male farmers.</p> <p>Focus is on training, while regular follow up and support is given very little attention.</p>	<p>The key instrument for communities to participate in the project is through CLPP. A detailed manual will be included as part of the PIM describing the process to ensure full participation in the project resource allocation and planning in all project localities. CDSF will support the capacity of local officials who would facilitate the consultation process. Due attention will be given to ensure that officials, IAs and project staff are sensitized to cultural and social issues to ensure that the underserved groups do not lose control over the land traditionally utilized by them as source of livelihood and as basis for their cultural and social systems. Close monitoring will be included to ensure the proper application of the RPF.</p> <p>It is recommended that technologies that best fit the needs of women farmers are studied and included in the packages of FTC technology transfer services. Screening will be applied for all technologies in agricultural research (component 2) to promote those which meet women's needs. Women's groups particularly need special support because of their responsibility in the household (as mothers, wives, care givers, etc.) and the bureaucracy's unresponsiveness to them. Capacity development to IAs will stress the sensitivity to gender concerns (as was done under AGP1).</p> <p>Support and follow up are of paramount importance to CIGs as most of these groups do not have equal standing in the society. AGP2 would provide more in depth and longer capacity building trainings to CIGs (for women and youth),</p>

		supported by CDSF. M&E system to be strengthened to allow regular feedback from groups.
<b>Component II: Agricultural research</b>	Research technologies tend not to take into consideration the needs and demands of women.	Under AGP2, all technologies researched will include gender screening, and a specific target will be established for the number of technologies released which will specifically address the needs of women.
<b>Component III: Small-Scale Irrigation</b>	<p>Weak implementation capacity (e.g., SSI and rural feeder road construction) are the major challenges being faced by the IAs.</p> <p>Irrigation schemes which use surface water might be a potential source of conflict among the watershed communities settled in different areas along the course of the river. Conflicts or tensions are likely to occur during the implementing of AGP2 in relation to irrigable land. According to the Oromia Rural Land Use and Administration Proclamation (Proclamation No. 130/2007), Art. 14(4), irrigation land could be redistributed in order to properly utilize water and irrigable land, and thus farmers would hold a maximum of 0.5 ha in such areas.</p> <p>Sustainability of the projects built might be at risk because of weak sense of ownership by the community.</p>	<p>A watershed approach to planning will be adopted under the AGP2, to be detailed in the PIM. This would take into account all users of water within the watershed and address cultural and social sensitivities. All affected communities would be consulted.</p> <p>In the event of conflict over the access to and use of water, there will be an intensive community consultation and awareness raising program and strengthen the use of indigenous local structures such as the jaarsummaa, shimgilina, yewuhaabat, etc., in conflict resolution processes. RPF will be fully applied where required.</p> <p>Ensure that project IAs are culturally sensitive to the underserved communities and provide adequate cultural sensitive trainings to the officers, and more importantly, involve the beneficiary communities in the implementation of the project from the outset and use approved RPF</p>

		on issues of land take.
<b>Component IV: Agricultural Marketing and Value Chain</b>	<p>CIGs are not effectively connected to the market.</p> <p>No credit linkage was reported from the AGP1 woredas, consequently CIGs could encounter shortage of finance to start businesses and expand their small-scale businesses.</p> <p>One major challenge AGP1 encountered during implementation was limited land availability for CIGs to become operational. The informants anticipate AGP2 will face the same problem.</p> <p>Rural youth unemployment and underemployment need to be supported under the project.</p>	<p>Under AGP2, the approach to support farmer groups is based on lessons learned from the on-going AGP1. The changes are as follows:</p> <ul style="list-style-type: none"> <li>i) support is restricted to women and youth groups, with no further support to mixed CIGs which tend to be dominated by men and exclude women;</li> <li>ii) all CIGs would be eligible for support from TA, capacity development and matching grants and Innovation Groups would be discontinued as this caused tensions;</li> <li>iii) fewer groups would be supported but with enhanced support to increase sustainability;</li> <li>iv) guidelines for the establishment and support to groups have been revised and disseminated, including clarity on eligible members and transparent processes for selection;</li> <li>v) enhanced support will be provided for identifying viable economic activities and preparing good quality business plans, which match resource availability, including access to land so as to avoid situations where lack of land availability inhibits the groups from achieving their objectives;</li> <li>vi) specific support will be made to link CIGs to markets (e.g., through the support of VCs and seed multiplication);</li> <li>vii) under CDSF, support would be targeted at CIGs and to those agencies (including the Cooperative Agency), to provide support to CIGs; and</li> <li>viii) close monitoring of CIGs would be conducted to determine their performance and take corrective measures if required.</li> </ul>
<b>Component V: Program management, Monitoring, Evaluation and Learning</b>	<p>Mismatch between expectation and capacity to deliver by the AGP2.</p>	<p>A communication strategy would be prepared under AGP-II to clearly define the processes, content and mechanisms for informing all project stakeholders (including direct and indirect beneficiaries) on the objectives, scope and implementation modalities of the project. The project would provide clear information in local language and make realistic promises to the underserved groups on project benefits. Plans would be based on the CLPP with community</p>

	<p>The tendency to consider AGP1 as an external project could jeopardise the implementation of AGP2.</p> <p>SCs need to meet regularly as per the PIM provision. If not, there is a risk of insufficient oversight and lack of ownership.</p> <p>Weak project technical support and follow up in almost all AGP1 woredas affects the effectiveness of the project components in which various CIGs are organized.</p> <p>Low capacity at woreda and kebele levels to implement the project.</p> <p>AGP2's grievance redress mechanism stipulated in the ESMF is not uniformly used during the implementation.</p> <p>Weaknesses in M&amp;E.</p>	<p>participation.</p> <p>Through persistent awareness raising program, it should be ensured that implementing structures at all levels know about AGP2 and commit themselves for proper implementation of the project in a culturally appropriate manner. This will be reflected in the AGP2 communication strategy.</p> <p>As principal owners of the project, SCs should commit themselves to ensure there are proper planning, implementation and M&amp;E of AGP2 activities; and that members of the underserved groups are also included in the various leadership positions of the project</p> <p>Project will provide technical support, including TA, training, and capacity building during the implementation of AGP2 and more information and analyses on the types of special needs and gendered inequalities within the population of underserved groups. In particular, AGP2 will establish CDSF to provide a holistic approach to capacity building at all levels, including capacity related to cultural and social sensitivities.</p> <p>It is vital that consistent and culturally appropriate capacity building trainings be conducted for members of the various AGP2 related grassroots committees.</p> <p>To ensure transparency and make people build confidence in the system, it is important that AGP2 uses its own in-built grievance redress mechanism, in which PAP have reasonably representation. Further strengthening of the capacity of the individuals will be involved in grievance handling processes, particularly at grassroots levels through appropriate trainings.</p> <p>In the interest of ensuring a more effective and fairer grievance redress system, it is deemed beneficial to strengthen the traditional dispute settlement institutions through trainings to those involved in the process on the basic elements of</p>
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		<p>the law and gender sensitive issues, particularly women rights.</p> <p>Introduce participatory M&amp;E system and marry it with more traditional results-oriented approaches to project management. Further, social and environmental safeguard issues should constitute the core of M&amp;E exercises and ESMF needs to provide detail steps and templates for screening process.</p>
<b>Consultation</b>	<p>Direct consultation with the whole kebele residents was observed to be rare in most of the woredas covered in this study. The modus operandi is conveying the message through representatives selected from the sub-kebele (zone).</p> <p>Danger of making consultation a one-time event or campaign. Existing information gap on provision of adequate agricultural services that will improve productivity for disadvantaged and vulnerable groups.</p> <p>Newly included national regional states lack clarity on AGP2's objectives and the basis of identifying potential beneficiaries.</p>	<p>Ensure direct and all inclusive community consultation about the project and the criteria for identifying the potential beneficiaries should take place in AGP2 woredas. This should be included in the project's communication strategy, and also in the manual for the CLPP. Sensitize the underserved on the risk of the project development process.</p> <p>Community consultation would be a continuous process engaging different target population groups to secure not only their consent, but also their active involvement with the project ownership. The CLPP would be conducted annually with all communities as per the PIM. Develop evidence-based and culturally appropriate information on differential usages, needs and constraints of agricultural services with a particular emphasis on gender, income and place within vulnerable and disadvantaged population groups.</p> <p>Through persistent awareness raising program, the project should ensure that implementing structures at all levels are known and committed to proper implementation of the project.</p>
<b>Potential Conflict</b>	<p>Itang special woreda experts are of a strong opinion that AGP2 should include all the kebeles in the woreda. Missing out any kebele or an ethnic</p>	<p>The project should fairly consider all ethnic groups during implementation. Consistent criteria will be applied for the selection of kebeles to be supported under the project. This includes agricultural potential and access to markets (consistent with the project's objective to increase</p>

	<p>group could be a potential source of ethnic conflict.</p> <p>Among the Nuer and Anuak, male and female youths are socialized in different social and physical settings.</p>	<p>productivity and commercialization). Project sites selection at woreda level would be done in a socially inclusive and transparent manner, with an agreed set of criteria linked to the targets and outcomes of the project.</p> <p>Conduct open and constructive discussion with the relevant stakeholders before engaging in organizing youth in CIGs and mobilizing people for the implementation of AGP2.</p>
<b>Commune Development Program</b>	<p>There is a high risk of the project to be associated with the government Commune Development Program.</p>	<p>AGP2 will not finance the implementation of government Commune Development Program. However, if there is an overlap, in agreement with government and based on the ongoing Alignment Study, an approach would be applied to ensure that the project is not knowingly active in these, particularly in non-viable commune centers/communities. To be eligible for the project, each individual investment will have to demonstrate (among others): “the existence of a management plan describing the operational; financial and institutional arrangements; formalizing sustainable access to the investment and preventing new permanent government managed settlements of any population groups around the investment”.</p> <p>Strategic investments will be identified and designed through studies which will include, in addition to technical, social, environmental and economic feasibilities, a consultation process to ensure the agreement and full participation of the local communities. During these consultations, an agreement with the communities will be sought on key aspects of the investments and on preventing new permanent government managed settlements of any population groups around the investment.</p>
<b>Lack of basic physical and social infrastructure</b>	<p>The project is about agriculture, but the prevailing lack of basic services and infrastructure in the participating communities can expose the project to high expectation beyond its mandate.</p>	<p>Work with other World Bank funded projects and donor projects in the areas to enhance other development opportunities in these communities beyond agriculture.</p>

## **Annex 7: Economic and Financial Analysis**

### **Ethiopia: Second Agricultural Growth Project**

1. This Annex presents the methodology, assumptions and results of the economic and financial analyses that were conducted to assess the impact and viability of the proposed AGP2.

#### **A. Introduction**

2. There are multiple approaches to carrying out the project economic and financial analyses. Some project investments are well identified in scope, nature, costs and potential benefits, notably: strengthening the public extension system including animal health public services for which progressive adoption of improved technologies by target smallholders can be assumed based on past records; and component 3 focusing on HHI and SSI development, for which targets are set and type of schemes to be rehabilitated/constructed are identified. However many other project benefits would strictly be demand-driven and market-led, in particular those expected from the support to youth/women groups sub-projects, the support to VCs development as well as cooperative unions marketing and capacity building (component 4), which are yet to be defined. Forecasting and quantifying benefits derived from the latter two are more difficult.

#### **B. Economic justification**

##### **Project development impact and economic benefits**

3. The project will increase the productivity and commercialization of smallholder farmers. However, expected benefits would go beyond the PDO indicators and intermediate results as indicated in the Results Framework (see Annex 1). The main economic benefits generated by the project would be as follows:

- i) increased agricultural production in the targeted VCs/woredas, derived from: adoption of improved technologies for rainfed crops; enhanced access to and efficiency of water use through the support of irrigation development; and improved marketing and increased business opportunities for smallholders and their Producer Organizations (POs) that will provide incentives to them and multiplier effects;
- ii) increased cash income of participating smallholders;
- iii) improved food security and nutrition status at household level and a reduction in the vulnerability to external shocks, notably climate change and rising food prices;
- iv) reduced transaction costs (notably bulking, transport, marketing and financial costs) and production losses through the rehabilitation of access roads, the organization of bulking and marketing by POs and other VC actors as well as enhanced access of POs' members to finance - including matching grants and enhanced creditworthiness and links with financial institutions;
- v) increased value added retained at smallholders' (and POs') level within targeted VCs;
- vi) enhanced market/business opportunities and economies of scale benefiting actors of the supply chain (smallholders and their POs, transporters, traders, agro-industries, etc.)

- following the enhancement of market linkages between smallholders and buyers/processors/exporters;
- vii) enhanced bargaining power, understanding of markets and management capacity of smallholders and their POs (Primary Cooperatives and Cooperative Unions);
  - viii) incremental on and off-farm employment generated through increased productivity and production as well as increased share of production that is marketed/processed;
  - ix) foreign exchange savings/increased earnings through reduced importation of wheat and some processed products as well as increased exports of pulses and oil crops and livestock products;
  - x) reduced trans-boundary animal diseases through improved animal health services;
  - xi) improved natural resources protection, enhanced bio-diversity and resilience to climate change risks; and
  - xii) improved social stability, overall well-being and livelihoods in targeted production areas.

### **Rationale for public sector provision/financing**

4. AGP2 would address a number of market failures, including: i) difficulties of smallholders and their POs to access inputs (lack of availability of certified improved seeds in some woredas), technologies/best practices, and investment financing; ii) deficient or insufficient links between smallholders and formal agribusinesses/ wholesalers/ exporters in many targeted VCs; and c) deficiencies in the cereals, pulses and oil crop seed markets. It would also support traditional public goods such as irrigation works, market centers and public advisory services.

### **Value added of World Bank's support**

5. The added value of the Bank's support includes technical input based on international experience for similar smallholder projects, including support for public service provision, capacity development of farmer groups and other VC actors, small scale infrastructure, knowledge sharing and communication, and project management, including for fiduciary and safeguard functions. As such, the Bank's support will complement and aim at correcting deficiencies of national sources of expertise and business advisory support services to farmers/POs, resulting in increasing the project's development impact in ways that go beyond what could be realized by exclusive reliance on the government institutions or existing national consulting firms. Further, the IDA financing is leveraging additional DP financing for the project, increasing its overall scale and impact.

### **C. Financial analysis**

6. **Crop and Farm models.** The purpose of elaborating typical crop and farm models is to assess whether improved technologies and associated risks linked to their adoption under the "with project" situation are likely to attract the interest and participation of targeted smallholders, generate enough additional income for them and increase their food security and resilience to shocks.

7. **Methodology.** Typical crop models (per ha basis) were developed for the main crops currently cultivated by targeted smallholders in the six national regional states. These are the following:

- i) Cereals: wheat, barley, teff, maize, and sorghum;
- ii) Pulses: fava (common) bean, haricot bean, chickpea, and lentil;
- iii) Oil crops such as: sesame, linseed, and nugseed;
- iv) Vegetables (rainfed and irrigated): onion, tomato, head cabbage and sweet pepper are the most commonly cultivated vegetables that were considered; and
- v) Tubers: potato, sweet potato, and others such as yam or cassava (for SNNPR mainly).

8. The calculations allow:

- i) Comparing the future “without project” and the expected “with project” (i.e., adoption of improved technology) situations;
- ii) Detailing, for each element of the crop budget (expenses and revenue): unit, quantities (number of unit), cost per unit (in Ethiopian Birr (ETB)), and value (in ETB) for both the “without project” and “with project” situations;
- iii) Detailing cropping practices and cultural operations and notably labour use that could be a bottleneck in some operations/farming systems (whether family labor or hired labor);
- iv) Calculating total revenue as well as cash income (cash derived from the share of the production that is sold);
- v) Detailing input, services and equipment replacement/depreciation as well as financial services (if any) costs (including or excluding own input costs such as family labor and aggregates);
- vi) Calculating production costs (per ha and per kg), gross margins, and net cash income (sales – cash input costs).

9. In developing such models, it is important to take into account the following considerations:

- i) **Typical “without project” situation.** Defining the typical “without project” situation could be represented by the current average situation of most smallholders targeted under AGP2 is as straight forward as it seems for the following reasons:
  - Typically, smallholders that have not yet adopted any of the improved “crop extension packages” follow a traditional cropping pattern/practice that is characterized by the following: a) use of locally/own produced seeds and broadcasting; b) no or little use of fertilizer; c) no or little use of pesticide; and d) some use of manure (however, at inappropriate rates to maintain soil fertility in the long run as these smallholder generally have little/insufficient livestock in comparison to cropped area, although very limited). These smallholder still account for about 70 percent of the total number of farmers in the national regional states targeted by AGP2;
  - Therefore, about 25-30 percent of smallholder have already adopted part (or all) of the improved cropping practices (as promoted by the extension system) for at least one (or several) of the crops they cultivate;
  - In consequence, the “without project” situation to be represented in the crop models cannot assume that all farmers would start from the traditional practice; it

should rather assume some use of the proposed improved input/practices and a slightly higher yield than the ones obtained under the traditional practices; and

- It is estimated that the average yields by crop recorded at national (and regional) level by the Central Statistics Agency would fairly represent the current “without project” situation of AGP2 smallholders, in the absence of a recent baseline survey of AGP2 targeted areas/smallholders;

ii) **Estimate of total Revenue and Sales.**

- i) **Post-harvest losses** (on farm, during threshing and transport from farm to house storage, then during home storage before consumption or sale). These have to be considered as it can reach 5-10 percent (minimum) for cereals and pulses (sometimes more) and much more (up to 30 percent or more) for fruits and vegetables. Omitting post-harvest losses will inevitably induce an overestimate of production and incomes in the crop models;

ii) **Self-consumption.**

- Self-consumption is particularly important for AGP2 targeted smallholders as they generally crop an area ranging from 0.5 to 1.5 ha and are very often food insecure (particularly during bad rainfall years when they have no or little access to irrigated land);
- A typical household cropping 0.8 ha has been assumed;
- For a typical household of about 4.76 members, yearly cereal consumption is estimated at about 724 kg on the basis of a consumption of 152 kg of cereals per person and per year<sup>17</sup>; for a typical household cropping 0.8 ha of which 83 percent is with cereals, this corresponds to an estimated self-consumption of 1,090 kg per ha of cereal cropped; the smallholder that don't reach such production level from their farm are net buyers of food. They need to sell their workforce to others and/or use incomes derived from livestock and off-farm activities to meet their food basket;
- In the typical “without project” situation of an AGP2 targeted household, one could assume that most of the cereal and pulse production of the farm/household is self-consumed, and a little share of the cereal production would be available as surplus to be sold on the market<sup>18</sup>;
- In the “with project” situation it can be assumed that: (i) the household consumption of cereals/pulses would remain identical as in the “without project” situation e.g., implicitly assuming that most of the household in AGP2 woredas are already more or less self-sufficient/food secure in the without project situation and are meeting their basic needs/recommended calories intakes standards; and (ii) the increased production, after self-consumption, in the “with project” situation will be sold in the market.

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<sup>17</sup> Source: International Food Policy Research Institute & Ethiopia Development Research Institute, Ethiopia Strategy Support Program II Working Paper 23: Foodgrain Consumption and Calorie Intake Patterns in Ethiopia, May 2011.

<sup>18</sup> This should notably be confirmed from data emanating from the baseline farming system analysis carried by CASCAPE on a large number of smallholders in AGP1-targeted woredas –such is yet to be computed/analyzed; and later on from the baseline survey to be conducted by AGP2 in project-year 1.

**iii) Output prices.**

- If a single figure for output price for each crop is used, there is a risk to overestimate the revenue/cash income under each crop model. Therefore, in both the “without project” and “with project” situations, it should rather be assumed that surpluses are sold at different times and prices after harvest, particularly as participating AGP2 smallholders will be supported to link with primary buyers/cooperatives and the later cooperative will also receive capacity building and funding to increase their bulking capacity;
- In both the situations, various share of the surplus production (over self-consumption) would be marketed: a) the largest share of surplus would be sold at harvest (at the lowest price as per available market data); b) a lower share after short storage max 1-2 months (at medium price); and c) limited share after 2-5 months storage, depending on crop types, at a peak price during the lean season; and
- Through increased marketing opportunities offered to smallholders, increased cash incomes and savings capacity as well as lesser dependence on collectors and pressure to sell at harvest to meet urgent expenses, it can be assumed that the share of surpluses sold at higher prices after storage would increase in the “with project” situation.

**iv) Family labor.**

- In the “without project” and “with project” situations for rainfed crops, it can be assumed that, in most AGP2 farm/household cases, the available family labor is enough to carry out most of the cultural operations due the limited farm land (0.5 to 1.5 ha; 0.8 ha in average); only those operations for which there is limited time-frame (land preparation, harvest, sometimes weeding) sometimes require use of daily hired labor, beyond the use of family or pooled labor<sup>19</sup>;
- The situation is likely to be different for irrigated crops (HHI/SSI): although irrigated land per household would be limited (0.25 to 1 ha per household maximum). The emphasis put on cultivated vegetables or fruits will increase the workload and will translate, in most cases, into labor requirements per farm that go beyond the available family labor. Thus, daily hired labor (or sometimes permanent labor, notably for watering and crop maintenance in the case of HHI) should be factored in the irrigated crop models.

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<sup>19</sup> Although family labor is not a cash expenses in financial analysis, it needs to be valued (using opportunity costs of labor) when transforming the crop models into economic value for the economic analysis.

## Summary of crop models assumptions

10. Crop models have been developed on the basis of extensive discussions with the BoA, the FAO regional coordinators in AGP1 Regions, CASCAPE managing staff<sup>20</sup>, some smallholders (in Lome and Ziway, in Oromia region, for vegetable production) and on secondary sources of data. The “best practices” and “recommended crop extension packages” produced by MoA and adapted to each regional context by the regional BoA have been consulted (after partial translation from Amharic, Oromian, Tigrinian into English by the FAO Ethiopia staff).

**Input and output prices.** Prices of agro-chemicals, improved certified seeds, animal traction services (oxen-plough), hired labor, transport costs from farm/house to local markets, etc., are based on farm gate prices, which can vary quite considerably according to the remoteness of the kebele considered. Output prices considered in the financial analysis take into account inter-annual and intra-annual variation between harvest period and the lean season (such intra-annual variation can be particularly high for cereals). They are based on market data in Addis Ababa (adjusted to farm gate prices in AGP2 woredas) received from Ethiopian Grain and Trade Enterprise (EGTE).

11. Crop models take into consideration a change in the sale pattern of outputs acknowledging that: (i) in the “with project” situation, targeted smallholders would fully meet their household self-consumption of cereals/pulses and sell surpluses on the market through various channels including local traders/collectors, primary cooperatives, exporters’ agents, EGTE and others; (ii) self-consumption, which is particularly high for smallholders in comparison to total farm production and production per ha, was estimated as well as net sales of surplus in order to estimate cash income (net of self-consumption) in both the “with project” and “without project” situations.

12. **Yields and cropping patterns.** The “without project” situation considers current yields/cropping patterns as obtained/practiced by smallholders, which constitute the main AGP2 target group. Through grouping into simplified groups and/or becoming members of primary cooperatives and/or becoming suppliers of agribusinesses/assemblers as well as to enhanced provision of extension and adaptive research services, these smallholders will have enhanced access to: i) improved technologies (use of improved certified seeds, higher doses of fertilizers, use of chemicals, pooled mechanization services, etc.); ii) output markets (through organized bulking and marketing services offered by cooperatives, and tighter links with large buyers agents/wholesalers/agribusinesses); iii) financial services (linking them and their POs with financial institutions; and access to seed capital through matching grants particularly targeting women and youth); and (iv) higher average farm gate prices (through improved quality and

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<sup>20</sup> CASCAPE has conducted “recommended practices” validation trials with over 5,000 smallholders in the four national regional states covered by AGP1 in the last three years. In carrying these trials, it recorded: (i) the traditional farmer practice (that CASCAPE calls “baseline” or traditional practice in its terminology); (ii) the best practice (as recommended by MoA extension system); (iii) the agricultural research-recommended practice; and (iv) sometimes, innovations/practices introduced by the farmers themselves. Unfortunately this data is not yet computed nor available. CASCAPE is currently in the process of thoroughly analyzing its database to link: (a) input use (seed type/rate, fertilizer type/rate, pesticide type/rate) and cropping pattern description; to (b) effectively measured yields at farmers’ fields (before post harvest losses). It should be available, at least for some sites, as from mid-January 2015.

standards of production to meet buyers/agribusinesses demand, improved negotiation skills, higher incomes and lower dependence on a few buyers).

13. **Financial results.** The financial results of the Rainfed Farm model (0.8 ha) are presented in the Table 1 below.

**Table 1. Financial Results Summary – Rainfed Farm Model (0.8 ha)**

Item	Unit	"With Project" situation											Oil crops	Total
		Teff	Wheat	Barley	Maize	Sorghum	sub-total cereals	Bean	Chickpea	Lentil	sub-total pulses			
Share of cropped area	%	23%	18%	10%	18%	14%	83%	6%	4%	4%	14%	3%	100%	
Area	ha	0.18	0.144	0.08	0.144	0.112	0.66	0.05	0.032	0.03	0.112	0.02	0.80	
Yield (net of post-harvest losses)	Kg	350	752	198	872	340	2,512	73	60	47	181	21		
Self consumption	Kg	200	157	87	157	122	724	56	37	37	130	0		
Total Revenue	ETB	3,898	5,074	1,292	4,062	2,792	17,118	525	435	642	1,603	628	19,349	
Total Sales (net of self consumption)	ETB	1,704	4,037	736	3,383	1,816	11,677	126	164	137	427	628	12,733	
Variable & Fixed Costs /a	ETB	1,393	1,228	605	1,070	737	5,033	258	192	167	617	174	5,824	
<b>Net Income /b</b>	ETB	<b>2,505</b>	<b>3,846</b>	<b>688</b>	<b>2,992</b>	<b>2,055</b>	<b>12,085</b>	<b>268</b>	<b>243</b>	<b>475</b>	<b>986</b>	<b>454</b>	<b>13,526</b>	
Family Labor	person-day	14	11	6	9	7	47	3	2	2	7	2	55	
Return to Family Labor	ETB/person-day	177	356	115	338	298	259	90	123	248	143	287	245	
<b>Net Cash Income /b</b>	ETB	<b>311</b>	<b>2,809</b>	<b>132</b>	<b>2,313</b>	<b>1,079</b>	<b>6,644</b>	<b>-132</b>	<b>-28</b>	<b>-29</b>	<b>-189</b>	<b>454</b>	<b>6,909</b>	
Item	Unit	"Without Project" situation											Oil crops	Total
		Teff	Wheat	Barley	Maize	Sorghum	sub-total cereals	Bean	Chickpea	Lentil	sub-total pulses			
Share of cropped area	%	23%	18%	10%	18%	14%	83%	6%	4%	4%	14%	3%	100%	
Area	ha	0.18	0.144	0.08	0.144	0.112	0.66	0.05	0.032	0.03	0.112	0.02	0.80	
Yield (net of post-harvest losses)	Kg	249	312	138	432	233	1,363	58	51	38	147	16		
Self consumption	Kg	200	157	87	157	122	724	56	37	37	130	0		
Total Revenue	ETB	2,739	1,995	875	1,988	1,881	9,477	381	332	494	1,206	483	11,167	
Total Sales (net of self consumption)	ETB	571	1,012	335	1,317	923	4,158	11	91	8	110	483	4,751	
Variable & Fixed Costs /a	ETB	1,068	723	351	664	404	3,210	162	120	124	406	121	3,738	
<b>Net Income /b</b>	ETB	<b>1,670</b>	<b>1,272</b>	<b>524</b>	<b>1,324</b>	<b>1,476</b>	<b>6,267</b>	<b>219</b>	<b>212</b>	<b>369</b>	<b>800</b>	<b>362</b>	<b>7,429</b>	
Family Labor	pers.day	13	10	6	8	6	43	2	2	1	5	1	50	
Return to Family Labor	ETB/person-day	128	124	92	167	240	146	97	141	256	154	256	150	
<b>Net Cash Income /b</b>	ETB	<b>-497</b>	<b>289</b>	<b>-16</b>	<b>653</b>	<b>519</b>	<b>948</b>	<b>-151</b>	<b>-30</b>	<b>-116</b>	<b>-297</b>	<b>362</b>	<b>1,013</b>	

\a excluding family labor

\b family labor not valued

14. This typical farm model shows substantial increases in both total net income (before self-consumption) and cash income (after self-consumption): the net income per household, derived from rainfed crops only<sup>21</sup>, would almost be doubled, increasing from about ETB 7,500 (US\$375) per year in the “without project” situation to ETB 13,500 (US\$ 675) per year in the “with project” situation.

15. The “without project” situation indicates that the household is self-sufficient in cereals and sells about half of its cereal production, while it is just meeting its pulse consumption requirements. Pulses' sales do not compensate their input costs thus generating a slight cash income deficit (ETB 297 per year). However, the overall household sales offset the inputs costs and generate a cash income of around ETB 1,000.

<sup>21</sup> Other incomes derived from livestock, irrigated agriculture, petty trade and other off-farm activities are not accounted for in these calculations.

16. In the “with project” situation, the household would market all increased production as compared to the “without project” situation. The household would generate a yearly cash income of about ETB 6,900 (US\$345) from rainfed crops. These results confirm the soundness of activities identified for AGP2 along the targeted rainfed crops and VCs.

### **Micro-Irrigation and Household Irrigation (MHIS)**

17. **Methodology and Assumptions.** Household and micro-irrigation to be supported under AGP2 would cover a variety of technologies such as hand-dug wells, tube wells, less frequently shallow wells and deep wells; equipped with manual (washer and rope or treadle pumps) or motorized pumps (diesel or gasoline). All these technologies have different investment, operation and maintenance costs; varied water delivery capacities; and allow for irrigating small areas ranging from 0.25 ha to 10 ha. Understandably, it is therefore difficult to develop a typical model that could represent the expected situation of all AGP2 smallholders that would benefit from such HHI technologies.

18. With regards to the technology model, it was decided to study a moderately expensive technology e.g., a tube well equipped with a good quality diesel engine pump that allows to irrigate 0.5 ha (such an area is within the capacity of a typical household to manage). Therefore, the cheapest technology (e.g., hand-dug well equipped with a hand or foot treadle pump) as well as the most expensive ones (deep well with immersed pump) were not studied.

19. Although HHI technology can be made available for a group of smallholder, experience shows that in most cases, it benefits a single household. This assumption was retained in building the typical HHI model.

20. Crops that can be produced under HHI technologies cover a large range (cereals, vegetables, pulses, fruit, spices, etc.) and will vary considerably according to: specific site conditions (rainfall, altitude, soil type, water availability, etc.), farmers’ preference and cultural techniques mastered, main HHI project objective (commercial or crop/diet diversification), availability and access to inputs (notably improved seed/seedlings), access to financial services, access to agro-industries and main buyers/wholesalers, local/regional/export markets demand, road to markets conditions, etc. It is assumed that in most cases, the HHI infrastructure and technologies to be supported under AGP2 would aim not only at diversifying the household diet, but also at generating income.

21. Considering the limited land to be irrigated under the chosen model (0.5 ha), it is assumed that it would be cropped with only vegetables, during two seasons e.g., during the wet “Meher” season (June to November/December) with full or supplementary irrigation and during the dry season (December to May). Such an assumption is valid, provided that there is a neighboring market where such vegetable production can be sold or the farmer is located close to a well-connected-and-maintained road or is linked with a main buyer (whether private or cooperative) that could regularly buy the production at conditions (notably prices) in line with main market ones (e.g., not at very discounted prices).

22. Although a large variety of vegetables could be cropped, the model considers the four main cropped ones: i) onions (in high demand, that are relatively perishable and could be stored); ii) tomatoes (in high demand but very sensitive to pest attacks and very perishable and therefore, subjected to high farm gate price variations, and thus quite risky); iii) green pepper (not an easy crop to produce but in high demand during fasting period); and iv) head cabbage.

23. Although most farmers generally aim at fully cropping the land twice under HHI (and in some exceptional cases three times, like in the Rift valley; depending on crop choice and market demand), a cropping intensity of only 150 per cent (e.g., a total cropped area of 0.75 ha per year) was assumed in the model to be on the safe side. Out of this total cropped area, it is assumed that the share of each crop would be as follows: onion (45 per cent), tomatoes (20 per cent), head cabbage (20 per cent) and green pepper (15 per cent).

24. The HHI model has been developed after extensive discussions with irrigation agronomists and engineers from MoA Natural Resources Management Directorate and ATA. Cropping practices, inputs usage and output prices (at farm gate) are based on discussions with vegetable farmers in Ziway area as well as analyses of the numerous socio-economic studies of SSI schemes.

25. **Financial results.** The financial results of the HHI model (0.5 ha) are presented in the Table 2 below.

**Table 2. Financial Results Summary – HHI Model (0.5 ha)**

Item	Unit	"With Project" situation											Total	
		Onion	Tomato	Head Cabbage	Green pepper									
Share of cropped area	%	45%	20%	20%	15%									100%
Area (2 seasons, 150% cropping intensity)	ha	0.34	0.15	0.15	0.11									0.75
Yield (net of post-harvest losses)	Kg	7,695	2,295	2,700	1,069									
Total Revenue	ETB	26,509	11,983	10,530	6,306									55,328
Total Sales (net of self consumption)	ETB	26,509	11,983	10,530	6,306									55,328
Variable & Fixed Costs /a	ETB	20,068	9,583	8,185	5,400									43,236
<b>Net Income /b</b>	<b>ETB</b>	<b>6,441</b>	<b>2,401</b>	<b>2,345</b>	<b>905</b>									<b>12,092</b>
<b>Net Cash Income /b</b>	<b>ETB</b>	<b>6,441</b>	<b>2,401</b>	<b>2,345</b>	<b>905</b>									<b>12,092</b>
Item	Unit	"Without Project" situation											Total	
		Teff	Wheat	Barley	Maize	Sorghum	sub-total cereals	Bean	Chickpea	Lentil	sub-total pulses	Oil crops		
Share of cropped area	%	23%	18%	10%	18%	14%	83%	6%	4%	4%	14%	3%	100%	
Area (1 season)	ha	0.115	0.09	0.05	0.09	0.07	0.42	0.03	0.02	0.02	0.07	0.02	0.50	
Yield (net of post-harvest losses)	Kg	155	195	86	270	146	852	36	32	24	92	10		
Self consumption	Kg	125	98	54	98	76	452	35	23	23	81	0		
Total Revenue	ETB	1,712	1,247	547	1,242	1,175	5,923	238	207	309	754	302	6,979	
Total Sales (net of self consumption)	ETB	357	632	209	823	577	2,599	7	57	5	69	302	2,969	
Variable & Fixed Costs /a	ETB	668	452	219	415	253	2,006	101	75	78	254	76	2,336	
<b>Net Income /b</b>	<b>ETB</b>	<b>1,044</b>	<b>795</b>	<b>327</b>	<b>827</b>	<b>923</b>	<b>3,917</b>	<b>137</b>	<b>132</b>	<b>231</b>	<b>500</b>	<b>227</b>	<b>4,643</b>	
Family Labor	pers.day	8	6	4	5	4	27	1	1	1	3	1	31	
Return to Family Labor	ETB/person-day	128	124	92	167	240	146	97	141	256	154	256	150	
<b>Net Cash Income /b</b>	<b>ETB</b>	<b>-311</b>	<b>181</b>	<b>-10</b>	<b>408</b>	<b>324</b>	<b>592</b>	<b>-94</b>	<b>-18</b>	<b>-73</b>	<b>-185</b>	<b>227</b>	<b>633</b>	

\a excluding family labor

\b family labor not valued

26. This typical HHI model shows substantial increases in both total net income (before self-consumption) and cash income (after self-consumption) from the land to be utilized under HHI

(0.5 ha): the net income per household derived from the irrigated land<sup>22</sup> would be more than doubled, increasing from about ETB 4,650 (US\$232) per year in the “without project” situation to around ETB 12,100 (US\$605) per year in the “with project” situation.

27. In the “with project” situation under which only vegetables are cropped, self-consumption of such vegetables would be negligible as compared to production; therefore, most of it would be sold in the market generating a cash income estimated at ETB 12,100 per year, a higher cash income than the one generated under the previously described rainfed model. These financial results suggest the attractiveness and profitability of HHI activities even when considering quite expensive running costs (e.g., depreciation/provision for replacement of a tube well and a good-quality motorized pumps). Use of cheaper water lifting technologies (less expensive well types, treadle, washer or rope pumps) might translate into an even higher profitability and return.

### **Small Scale Irrigation (SSI)**

28. **Methodology and Assumptions.** Under AGP2, like during AGP1, different types of SSI schemes will be constructed (target area of 20,000 ha) and rehabilitated (10,000 ha planned), such as river diversion, pump schemes, spring development, mini and check dams, and spate irrigation; the most common type being river diversion.

29. **Criteria for irrigated crops selection.** As for HHI, the crop range that can be cultivated under SSI is large. The choice of the cropping pattern under each SSI scheme will depend on many factors such as:

- i) **Agro-climatic conditions in the project site.** The major environmental factors that determine the growth and productivity of the crops include mean/minimum/maximum temperature, rainfall, humidity, wind, day-length, soil type and characteristics including potential for maintenance of soil fertility (pulse crops should get a priority for soil fertility maintenance provided they also grant high economic returns);
- ii) **Availability of high yielding variety and other improved inputs.** For irrigated agriculture which is characterized by high investment costs, it is recommended to apply improved farm inputs packages to generate high returns. However, such inputs are not easily accessible in some locations which may constitute a constraint;
- iii) **Potential of the irrigation water source.** The accessibility of irrigation water varies across the country and the potential of the identified water source should be duly taken into consideration to optimize the benefits from such scarce resource. Less water demanding crops should be selected for drier areas; however, in areas where water sources are abundant this criterion would not be a major selection factor;
- iv) **Market value and potential for markets.** If the SSI scheme is designed mostly for commercial farming, crops with high value/demand on domestic or export markets and with higher crop margin should be prioritized. The long term marketability of the crops should be taken into consideration;

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<sup>22</sup> Other incomes derived from livestock, irrigated agriculture (if any) petty trade and other off-farm activities are not accounted for in these calculations.

- v) **Market access and infrastructure.** Existence of a good access road to connect the SSI scheme to local or regional markets as well as storage facilities would be key to determine the viability of the project as it would directly impact warehousing and transport costs, presence of buyers and evacuation of the production, particularly during the rainy season;
- vi) **Potential for agro-processing and other value addition.** The potential of selected crops for further processing and value addition should be considered in the selection process. Before selecting such crops, an assessment has to be done in terms of quality, price and bulking frequency of agro-processing enterprises in the AGP2 woredas. The consultations with potential business partners will also be of importance;
- vii) **Length of growing period suitable for the proposed crop intensity.** Crop varieties characterized by short length of growing period should be preferred for double cropping. Length of growing period of different varieties of a given crop should be considered to include short and long-cycle varieties that could be grown in different growing periods. It also gives opportunities to include more crops in the cropping pattern;
- viii) **Prevalence of pest infestation.** History of pest infestation incidence in the project area should be taken into consideration to propose less risky crops. Crops that have been severely affected by certain diseases should not be selected for production unless the project includes appropriate control measures;
- ix) **Suitability to irrigation technology.** The envisaged irrigation system in the SSI scheme influences the type of crops that can be cropped. For example, the cropping pattern under surface irrigation will not be the same under sprinkler or drip irrigation;
- x) **Farmers' preference and experience.** The farmers' experience and existing cultivated crops are often given priority in proposing cropping pattern as far as they fit to other selection criteria; and
- xi) **Consumption habit and food security status in the community.** In most cases, the consumption habit and main staple crop determine the household decision in making cropping pattern choice. Depending on the objective of the SSI scheme and of the food security level of the concerned farmers, staple crops could be more or less privileged and occupy a significant share of the scheme area in order to meet the food need of the beneficiaries.

30. **Cropping intensity.** While it is desirable to reach a cropping intensity of 200 per cent or more, this needs to be carefully designed taking into consideration the calendar and labor requirements for the remaining land belonging to smallholders benefiting from a plot in the SSI scheme that will continue to be cropped under rainfed cropping system or supplementary irrigation. Achieving the optimum cropping intensity often requires using short cycle varieties which might neither be always available nor adapted to the site specific conditions. It was noted that most socio-economic studies of SSI schemes funded under AGP1 assume a cropping intensity of 200 per cent (and in some cases up to 275 per cent). However, to be on the safe side, a cropping intensity of 175 per cent has been considered in the typical SSI scheme model elaborated.

31. **Cropping pattern.** Depending on particular situation and each SSI scheme objective, the cropping pattern that will be used in the "with project" situation will vary considerably. It is thus quite difficult to build a typical cropping pattern that could be representative of the most likely

situation of AGP2 smallholders that would benefit from SSI schemes construction and rehabilitation. For the sake of constructing an SSI scheme model, it is decided to include a mix of most commonly cropped cereals and vegetables, excluding seed production, fruit and industrial crops meant for agro-processing that might represent less frequent cases. The Table 3a below presents the cropping pattern used in the typical SSI scheme model (base of 100 ha command area) that is developed for carrying out the financial and economic analyses.

**Table 3a. SSI Scheme Model - Cropping Pattern "with project" and "without project"**

						Irrigated Area (ha)	100.00
<b>"With project" Cropping Pattern</b>							
Crop	Wet Season		Dry Season		Total		
	Area (%)	Area (ha)	Area (%)	Area (ha)	Area (%)	Area (ha)	
Maize	20%	20	30%	30	50%	50	
Wheat	20%	20		-	20%	20	
Barley	10%	10		-	10%	10	
Onion	15%	15	20%	20	35%	35	
Tomato		-	5%	5	5%	5	
Pepper	10%	10	5%	5	15%	15	
Cabbage	15%	15	5%	5	20%	20	
Sweet potato	10%	10	5%	5	15%	15	
Potato		-	5%	5	5%	5	
<b>Total</b>	<b>100%</b>	<b>100</b>	<b>75%</b>	<b>75</b>	<b>175%</b>	<b>175</b>	
<b>"Without project" Cropping Pattern</b>							
Crop	Wet Season		Dry Season		Total		
	Area (%)	Area (ha)	Area (%)	Area (ha)	Area (%)	Area (ha)	
Teff	23%	23			23%	23	
Wheat	18%	18		-	18%	18	
Barley	10%	10		-	10%	10	
Maize	18%	18		-	18%	18	
Sorghum	14%	14		-	14%	14	
Bean	6%	6		-	6%	6	
Chick pea	4%	4		-	4%	4	
Lentil	4%	4		-	4%	4	
Sesame	3%	3		-	3%	3	
<b>Total</b>	<b>100%</b>	<b>100</b>	<b>0%</b>	<b>-</b>	<b>100%</b>	<b>100</b>	

32. **Yield "with project" build-up.** As in most cases, targeted smallholders would have limited exposure to SSI, cropping vegetables on a larger scale than in their courtyard, etc. A progressive yield build-up over 5 years (starting from the start of each SSI scheme operation) before being stabilized at 80 percent of target yield has been assumed. Indeed, it is more realistic to consider that on average the yield achieved is to some extent lesser than the target yield which is based on the full application of the best practices. In parallel, it is assumed that full input and operational costs per ha would be met by smallholders as from the first year of operation of the scheme. This would translate into a progressive increase of net income over five years before reaching 80 percent of the targeted yield. The assumed progression of yields, by crop type, is presented in Table 3b below.

**Table 3b. SSI Scheme Model - Yield build-up (years 1 to 5) "with project"**

Crop	Yield (net of post-harvest losses) by Year (Kg/ha)					
	1st year	2nd year	3rd year	4th year	5th year	Target yield
<i>% of target yield</i>	60%	65%	70%	75%	80%	100%
Maize	3,990	4,323	4,655	4,988	5,320	6,650
Wheat	3,420	3,705	3,990	4,275	4,560	5,700
Barley	1,482	1,606	1,729	1,853	1,976	2,470
Sweet potato	9,720	10,530	11,340	12,150	12,960	16,200
Potato	18,900	20,475	22,050	23,625	25,200	31,500
Onion	13,680	14,820	15,960	17,100	18,240	22,800
Tomato	9,180	9,945	10,710	11,475	12,240	15,300
Green Pepper	5,400	5,850	6,300	6,750	7,200	9,000
Head Cabbage	10,800	11,700	12,600	13,500	14,400	18,000

33. **Technical assumptions and main financial results by irrigated crop.** For cereals (particularly maize and wheat), the expected yields under SSI would be slightly higher than those in rainfed conditions (7 and 6 tons per ha for irrigated maize and wheat respectively, instead of 6.4 and 5.5 tons per ha respectively under rainfed). Expected yields for vegetables are in line with those assumed for the HHI model; the main difference in assumptions lies in a higher share of hired labor as compared to the HHI model to cater for the larger area cropped by household and therefore a limited family labor availability. The main technical assumptions (gross yield, post-harvest losses, net yield after post-harvest losses and by-product yields per ha) and financial results (gross revenue, production costs and net income per ha), for each irrigated crop envisaged in the SSI model, are presented in Table 3c below.

**Table 3c. SSI Scheme Model – Technical assumptions & Financial results by crop “with project”**

ITEMS	Unit of Measurement	Maize			Wheat			Barley			Sweet potato			Potato		
		Quantity	Price (ETB/unit)	Amount (ETB)	Quantity	Price (ETB/unit)	Amount (ETB)	Quantity	Price (ETB/unit)	Amount (ETB)	Quantity	Price (ETB/unit)	Amount (ETB)	Quantity	Price (ETB/unit)	Amount (ETB)
<b>Revenue</b>																
Grain Yield (gross)	Kg	7,000			6,000			2,600			18,000			35,000		
Post-harvest losses	%	5%			5			5%			10			10%		
Grain Yield (net of post-harvest losses)		6,650	4.33	30,30	5,70	6.61	37,66	2,470	6.37	15,745	16,200	3.00	48,600	31,500	3.00	94,500
By-product	Kg	14,700	0.15	2,205	7,80	0.10	780	3,380	0.12	40			-			-
<b>Total Revenue</b>				32,51			38,44			16,151			48,600			94,500
<b>Total Costs</b>		-	-	10,769	-	-	11,709	-	-	7,856	-	-	16,660	-	-	35,910
<b>Net Income</b>	ETB/ha	-	-	21,74	-	-	26,731	-	-	8,294	-	-	31,940	-	-	58,590
<b>Revenue</b>																
Gross Yield	Kg	24,000			18,000			10,000			20,000					
Post-harvest losses	%	5%			15%			10%			10%					
Yield (net of post-harvest losses)	Kg	22,800	3.45	78,54	15,300	5.22	79,888	9,000	5.90	53,100	18,000	3.90	70,200			
By-product	Kg			-			-			-			-			-
<b>Total Revenue</b>				78,54			79,888			53,100			70,200			
<b>Total Cost</b>		-	-	27,416	-	-	35,500	-	-	26,160	-	-	30,240	-	-	
<b>Net Income</b>	ETB/ha	-	-	51,13	-	-	44,388	-	-	26,940	-	-	39,960	-	-	

## Financial and Economic results

34. The financial and economic results of the elaborated SSI model (100 ha) are presented in the Table 3d below.

**Table 3d. SSI Scheme Model (100 ha) – Main Financial and Economic results**

<b>Investment Costs</b>	<b>USD/ha</b>	<b>ETB/ha</b>	<b>Total (ETB Thousand)</b>
Civil works	4,838	96,760	9,676
Feasibility studies	350	7,000	700
Supervision and control of works	250	5,000	500
Capacity building	312	6,240	624
Sub-total			11,500
<b>Recurrent costs</b>			
Maintenance of infrastructure (% of investment costs, per year)	2.50%		242
<b>Financial Internal rate of return (FIRR)</b>			<b>21%</b>
<b>Economic Internal rate of return (EIRR)</b>			<b>28%</b>
Economic Net present value (ENPV)	ETB Million		16.0

35. Under considered assumptions, the elaborated model shows that SSI, in particular river diversion type, is profitable from both a financial point of view and from the country standpoint. The financial internal rate of return establishes at 21 per cent although feasibility studies, civil work control and supervision as well as capacity building costs have been accounted for, in addition to civil works costs as well as maintenance of the scheme infrastructure. In economic terms, the SSI model is even more profitable as the EIRR would be 28 per cent. This confirms the soundness of investing in SSI for both smallholders and the country as a whole.

## Livestock models

### Methodology and assumptions

36. **Benefits derived from livestock activities.** For the livestock sector, project activities financed under the AGP2 are expected to generate two main types of benefits:

- i) The women and youth CIGs will implement income generating activities and benefit from matching grant, capacity building as well as facilitated access to markets and financial services. As far as livestock is concerned two representative income generating activities were considered: poultry and dairy milk. These two models have been selected as such activities are considered as priorities in the Ethiopia Livestock Master Plan;
- ii) Other beneficiaries will benefit from an overall improvement of the livestock productivity through better and more efficient advisory services including agriculture extension services, animal production and health services, animal artificial insemination services, and more efficient and responsive demand research activities. The benefits in livestock herd productivity will mainly result from an overall decrease in livestock

mortality and morbidity, an increased parturition rate, increased animal live weight and milk yields, and increased agricultural yield for selected fodder crops.

37. To assess this situation, herd growth projection models for cattle and small ruminants in the targeted area of AGP2 have been designed to estimate the “with project” and “without project” situations over a 20-years period. The Leznoff herd growth projection model has been used for simulating bio-economic performances of herds of tropical domestic ruminants. From the projections, equivalent meat production and secondary productions (milk, hides and skins, manure, and organic matters) have been calculated, and from these outputs, incremental income/financial benefits streams have been derived.

38. In both the above situations, the demographic, reproductive and productive parameters used for the preparation of the Livestock Master Plan have been used considering the following representative livestock production systems: i) the small-scale mixed rainfed system (coded in Livestock Master Plan as B1MR) for cattle and small ruminants; ii) a village chicken (coded in Livestock Master Plan as V10V); and peri-urban dairy system (coded in Livestock Master Plan as B10M).

39. Cattle, small ruminants and poultry populations have been estimated on the basis of the figures provided by the Ministry of Livestock. Data originate from the Central Statistics Agency 2003 agricultural census, which is the sole source of woreda level data. The 2003 livestock numbers were extrapolated forward for 10 years to provide estimates for 2013 using mean species specific annual growth rates for the 26 year period from 1980/81 to 2005/06. Since the targeted woredas had not been selected for the four new national regional states (Benshangul-Gumu, Dire Dawa, Gambella, Harari) at the time of analysis, an average number has been estimated dividing the total number of animal in the national regional states by the number of woredas and multiplying this result by the number of woredas targeted in each national regional states.

#### **D. Economic analysis**

40. The cost-benefit analysis aims at assessing the economic viability of the proposed project from the overall national economy standpoint.

#### **Methodology and assumptions**

41. The analysis was conducted over a 20 year period in constant 2014 prices. Financial prices as well as costs and benefit streams were transformed into economic values by calculating economic import/export parity prices at farm gate, applying conversion factors for each category of costs, eliminating taxes and transfers (notably interest charges from short and medium term credit in crop and farm models) and taking into account incremental costs after the project implementation period (maintenance of HHI/SSI schemes). In the “without project” situation, it is assumed that the economic benefits will increase during the project implementation period at a rate of four per cent, in line with the recent publication sponsored by the Ethiopian Agricultural Economics Society (John W. Mellor). In the “with project” situation, it is assumed that the economic benefits derived from rainfed and irrigated agriculture will be progressive, starting

from 60 percent (of the targeted benefits) at the first year of cropping to 80 percent at the fifth year. The average benefits achieved are thus always kept lesser than the targeted ones which are achievable only when the best practices are fully applied.

42. ***Import and export parity prices and conversion factors.*** Import parity prices were calculated for wheat, barley, maize and fertilizers (DAP and urea) on the basis of World Bank projections for the year 2025 -considered as the middle-year for the period of the analysis- and expressed in 2014 constant prices using the October 2014 Manufactures Unit Value index as published on the World Bank web site (Development Prospect Group page). International and inland transport, warehousing, marketing costs are using data provided by EGTE, a major importer/exporter of cereals and pulses in the country. An export parity price is calculated for sesame, a rapidly growing export crop, based on information given by EGTE.

43. ***Economic benefits considered in the analysis.*** Quantified economic benefits are mainly those deriving from: i) increased value of the main rainfed and irrigated crops (cereals: wheat, barley, maize, sorghum, and teff; pulses: chick peas, fava beans, and lentils; oil crops: sesame; vegetables: onion, tomatoes, head cabbage, and green pepper) at smallholders' level as a combined effect of increases in productivity, and higher prices paid to producers through larger share of surplus production sold after storage (78 percent of total economic benefits); and ii) increased value of animal production through improved animal health and nutrition (22 percent of total economic benefits).

44. After transforming financial crop, farm and irrigation models into economic values, the economic benefits of each model type have to be aggregated to calculate the net incremental economic benefit stream (difference between the “with project” and “without project” economic benefit streams) derived from improved technologies adoption. The key assumption that impacts such calculation is the number of participating smallholders/household (by AGP2 project-year) that would adopt improved technologies under AGP2 assistance and funding. The following assumptions were made:

- i) **Benefits from rainfed crops/farms.** It has been estimated that the improved capacity of extension services to deliver their work and reach smallholders through AGP2 support of the demonstrations of new technologies would translated into a yearly increase of 0.5 percent of the total smallholder population that would adopt improved technologies, which can be considered as quite a conservative assumption. This corresponds to an additional 19,000 smallholder adopting improved packages every year. By the end of the period of the analysis (project-year 20), the share of smallholder having adopted improved technologies would have reached 37 per cent, as compared to 27 percent in the present situation. The benefits derived from rainfed agriculture represent 30 per cent of the total economic benefits stream considered in the analysis.
- ii) **Benefits from HHIs.** The aggregation of economic benefits from HHI takes into account the number of ha of HHI developed every project year which allows calculation of the cumulative number of households that would have adopted improved HHI technologies. Multiplying the latter by the incremental economic benefit per HHI model

allows calculation of the annual stream of total economic benefits derived from HHI adoption.

- iii) **Benefits from small scale irrigation (SSI).** Similar to HHI, the number of ha of new SSI schemes constructed every project-year is known (from the project costs in Costab), which in turn allows to aggregate the incremental net economic benefits stream over 20 years for all new SSI schemes constructed. In order to estimate the benefits derived from existing SSI schemes rehabilitation, it has been estimated that such benefits would amount to 50 per cent of those of new SSI schemes construction.
- iv) **Benefits from livestock.** Concerning livestock, as indicated in the previous section, the total livestock population in the AGP2 targeted woredas was first estimated; then the impact of ameliorating some technical constraints in the main livestock systems was assessed using the livestock tool kit developed for Ethiopia by International Livestock Research Institute and CIRAD. For the poultry and dairy cow models, it is estimated that 40 per cent of the 1,294 CIGs targeted under AGP2 would implement one of these two income generating activities (50 percent each). The impact of the overall improvement of animal health and husbandry, through AGP2 support, was assessed using a model for the total cattle and small ruminant population as indicated in the previous section. This allowed calculation of a net incremental economic benefit stream for each livestock system.

45. **Economic Analysis Results.** The economic analysis has been carried out to test two scenarios:

- i) a base case excluding the component 4 “Agriculture marketing and value chains” costs, for which no benefits could be accounted for; and
- ii) an alternate case considering all project costs.

46. In the base case scenario (excluding component 4), the project would yield an EIRR of 18 percent and a NPV of US\$191 million (at a ten percent discount rate). The project is therefore profitable from an economic stand point. In the alternate scenario considering all project costs, the project would still yield an EIRR of 14 percent and a NPV of US\$126 million.

47. **Sensitivity analyses.** The sensitivity analyses have been carried out for the above-mentioned scenarios.

48. **Base case (excluding component 4 costs).** The sensitivity analysis on the base case indicates a resilience to increase in costs and reduction in benefits. The EIRR would yield respectively 16 and 11 percent, if benefits would be reduced by 10 percent or 30 percent. If benefits would be lagged by two years, the EIRR would still be established at 12 percent. A summary of the sensitivity analysis of the base case is presented in Table 4a below.

**Table 4a. Sensitivity Analysis Summary - Base case**

Indicators	Base case	Increase in project costs			Increase in benefits			Decrease in benefits			Delay of benefits	
		10%	20%	50%	10%	20%	30%	-10%	-30%	-50%	1 year	2 years
EIRR	18%	16%	14	10%	20%	22%	24%	16%	11%	5%	15%	12%
NPV (US\$ Million)	191	15	11	6	247	303	359	135	22	-90	120	56

49. **Alternate case (all project costs).** Under this pessimistic scenario for which all project costs are considered while no benefits for the component 4 have been accounted for, the sensitivity analysis still indicates a resilience to increase in costs and reduction or delays in benefits. The EIRR would still be 12 percent, if benefits are reduced by 10 percent (and 11 percent if benefits are reduced by 20 percent). If benefits are lagged by two years the EIRR would still be established at 10 percent. A summary of the sensitivity analysis made under this scenario is presented in Table 4b below.

**Table 4b. Sensitivity Analysis Summary – Alternate case**

Indicators	All costs	Increase in project costs			Increase in benefits			Decrease in benefits			Delay of benefits	
		10%	20%	50%	10%	20%	30%	-10%	-20%	-50%	1 year	2 years
EIRR	14%	13%	11%	8%	16%	18%	19%	12%	11%	3%	12%	10%
NPV (US\$ Million)	126	83	39	-91	182	238	294	70	14	-154	5	-8

50. **Fiscal Impact.** In the short term, the fiscal impact of the project will be positive, given that the government’s contribution to project costs is minimal. In the medium to long-term, the potential positive fiscal impact of the project might be substantial, mainly due to: i) increased output, income and employment, resulting in increased tax revenues; and ii) multiplier effects due to increased economic activities in targeted production areas, resulting in sustained demand for goods and services, which is expected to generate additional income and employment effects.

51. The main budgetary impact is related to the annual and periodic maintenance of the constructed and rehabilitated access roads for SSI schemes (400 km). These costs will be easily met by the government and in fact represent a small percentage of the overall road maintenance annual budget. .

