

# **AFRICAN DEVELOPMENT BANK**



## **GHANA**

### **SAVANNAH ZONE AGRICULTURAL PRODUCTIVITY IMPROVEMENT PROJECT (SAPIP)**

#### **APPRAISAL REPORT**

**AHAI/PGCL DEPARTMENTS**

December 2017

Public Disclosure Authorized

Public Disclosure Authorized

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## **Currency Equivalents**

*September 2017*

1 UA	=	GHS 6.16
1 USD	=	GHS 4.36
1 UA	=	USD 1.40

## **Fiscal Year**

*1st January – 31st December*

## **Weights and Measures**

1 metric tonne	=	2,204 pounds (lbs)
1 kilogramme (kg)	=	2.200 lbs
1 metre (m)	=	3.28 feet (ft)
1 millimetre (mm)	=	0.03937 inch (")
1 kilometre (km)	=	0.62 mile
1 hectare (ha)	=	2.471 acres

## Acronyms and Abbreviations

ADF	African Development Fund
AFD	L'Agence française de développement
AGRA	Alliance for a Green Revolution in Africa
CGIAR	Consultative Group on International Agricultural Research
CRI	Crop Research Institute
CSP	Country Strategy Paper
DA	District Assembly
DFID	Department for International Development
DVCC	Divisional Value Chain Committee
EA	Executing Agency
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EPA	Environmental Protection Authority
FAO	Food and Agriculture Organisation of the United Nations
GHS	Ghana Cedi
GPRS-I	Ghana Poverty Reduction Strategy-Phase I
GPRS-II	Growth and Poverty Reduction Strategy-Phase II
GSGDA	Ghana Shared Growth and Development Agenda
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agriculture
JICA	Japan International Cooperation Agency
METASIP	Medium Term Agriculture Sector Investment Plan
MLGRD	Ministry of Local Government and Rural Development
MoFA	Ministry of Food and Agriculture
NEPAD	New Partnership for Africa's Development
NPV	Net Present Value
NRGP	Northern Rural Growth Programme
NSEZ	Northern Savannah Ecological Zone
PCMU	Programme Co-ordination and Management Unit
PFJ	Planting for Food and Jobs
PSC	Programme Steering Committee
SAZAPIP	Savannah Zone Agricultural Productivity Improvement Project
SME	Small and Medium Enterprise
SNV	<i>Stichting Nederlandse Vrijwilligers</i> (Netherlands Development Organisation)
SSE	Small Scale Enterprise
TASI	Transformation of African Savannah Initiative
USAID	United States Agency for International Development
UA	Unit of Account
WFP	World Food Program

## PROJECT SUMMARY

**Project Overview:** The Savannah Zone Agricultural Productivity Improvement Project (SAZAPIP) aims at transforming agricultural value chains for food and nutrition security, job and wealth creation in the Northern Savannah Zone of Ghana. The project will increase farmers' food and nutrition security and incomes through increased agricultural productivity and diversification; and enhance the creation and strengthening of agribusinesses to increase incomes of actors along selected value chains on a sustainable basis. The project has four Components: (i) Crop Productivity Improvement; (ii) Value Chains & Agribusiness Development; (iii) Infrastructure Development; and (iv) Project Coordination, Management, Monitoring and Evaluation. The project will be implemented over a five-year period (2018 – 2023) at a total cost of UA 40.38 million.

**Needs Assessment:** The Savannah Zone holds major agricultural promise that when harnessed will transform the lives of the zone's inhabitants quite significantly, yet the zone constitutes the poorest part of the country with a poverty rate of over 40% which is about double the national average. The zone is characterized with relatively more challenging agro-ecological conditions, low socio-economic indicators and historical deficit in public investments in infrastructure and services. Development of this zone is perceived as a national imperative for Ghana's balance of payments, macro-economic stability, economic growth, food and nutrition security, job creation and poverty reduction.

**Value Added for the African Development Bank:** The proposed SAZAPIP will contribute towards the High 5 goals of the Bank Group. The project fits with the two key pillars of the draft Bank Group Country Strategy Paper (CSP) (2017-2021) for Ghana namely: (i) Agriculture Enhancing Inclusive Growth and Economic Development; and (ii) Support to Industrialization through Private Sector Development. The Bank Group has a comparative advantage in supporting the agriculture value chains development activities that will transform the impoverished rural areas of the northern part of the country into zones of economic prosperity drawing on lessons from experiences gained from previous projects financed by the Bank in Ghana. The project will also leverage on the complementary Ghana Incentive Based Risk Sharing for Agricultural Lending (GIRSAL) that is being established by the Bank in conjunction with the Bank of Ghana. It will also operationalise the activities of the TAAT framework and link up with TASI as a vehicle for attracting private sector investment in agriculture as well as the ongoing ENABLE Youth Program in the Bank funded Rural Enterprises Project (REP).

**Knowledge Management:** Knowledge will be captured through the establishment of a Monitoring and Evaluation (M&E) system by the project. The M&E system will coordinate all results and measurement activities, ensure the quality control and provide the necessary capacity building. In using the performance indicators and targets specified in the results-based framework, special note would be taken of changes that reflect advancement towards the translation of outputs into development outcomes. Data for analysis will be captured from the M&E database, supervision missions, mid-term report, and periodic impact assessment and field exchange visits of the stakeholders. Knowledge will be generated by the pilot demonstration plots to form the basis for private sector investment in the agribusiness in the ecological zone as part of TASI. Knowledge could additionally be spread within the institution by showcasing the Project results using the Bank ICT infrastructure (Intranet, short documentaries on Bank website, etc.).

## Loan information

### Client's information

**RECIPIENT** : Republic of Ghana  
**EXECUTING AGENCY** : Ministry of Food and Agriculture

### Financing plan

Source	Amount (million)		Instrument
	UA	USD	
African Development Fund (ADF)	27.86	39.01	Loan
Government of Ghana (GoG)	6.50	9.10	Counterpart
Beneficiaries	6.01	8.42	Beneficiary
<b>TOTAL PROJECT COST</b>	<b>40.38</b>	<b>56.53</b>	<b>-</b>

ADF's key financing information (to be determined at loan negotiations)

Loan currency	UA
Interest type*	
Interest rate spread*	
Tenure	
Grace period	
Commitment fee	
Other fees	

*\*if applicable*

### Timeframe - Main Milestones (expected)

Identification Mission	May, 2017
Preparation Mission	August 2017
Concept Note Approval	September, 2017
Appraisal Mission	September, 2017
Programme approval	15 December, 2017
Effectiveness	15 January, 2018
Completion	31 December 2022
Last Disbursement	31 March, 2023

**Ghana: Savannah Zone Agricultural Productivity Improvement Project**  
***Result-Based Logical Framework (RBLF)***

Country and project name:		Ghana : Savannah Zone Agricultural Productivity Improvement Project				
Purpose of the project:		To transform agricultural value chains for food and nutrition security, job and wealth creation.				
RESULTS CHAIN		PERFORMANCE INDICATORS	BASELINE	TARGET (2018-2023)	MEANS OF VERIFICATION	RISKS/MITIGATION MEASURES
IMPACT	1. Jobs and wealth are generated along the value chains 2. Food and nutrition security is enhanced	1. No. of jobs created (disaggregated by sex and age) 2.1 Increased domestic food supply for key commodities (rice, maize, soybean and vegetables,) 2.2. Prevalence and numbers for child stunting	1. n.a 2. n.a 3. 33%	1. 20,000 (50% women; 20% youth) 2. 600,000 mt. 3. 40% reduction in the number of stunted children under five	MoFA reports, Project Reports Ghana Statistical Service (GSS) reports, Household surveys	
	OUTCOMES					
OUTCOMES	1. Increased household income	1. Additional household incomes	USD500 p.a.	USD3,000 p.a.	Project Reports, MoFA reports, Ghana Statistical Service (GSS) reports, Household surveys	
	2. Increased minimum diet diversity	2. % of children 6-23 mths consumed more than 4 food groups	33.3%	50%	UNICEF/MOH data	<b>Risk 1:</b> Slow economic growth and deterioration of the country's creditworthiness due to fall in cocoa and other commodity prices.
	3. Productivity and diversification Improved	3.1 Quantity (mt) of crops produced: 1. Rice 2. Maize 3. Soybean 4. Vegetables	283,109 mt 85,000 mt 80,000 mt 30,000	350,000 mt 150,000 mt 140,000 mt 60,000 mt	Projects Reports, MoFA reports, Ghana Statistical Service (GSS) reports, Household surveys	
		3.2 Crop yield (t/ha) 1. Rice 2. Soybean 3. Maize 4. Vegetables	2 1.65 2.5 n.a	6 3.0 6 tbd	MoFA reports, Ghana Statistical Service (GSS) reports, Household surveys	<b>Mitigation 1:</b> The Bank will intensify the dialogue with the government to adopt supportive macro-economic policies to rationalize fiscal expenditure.
	4. Increased private sector investment in priority value chains	4.1 Domestic and foreign investment (USD) in: 1. Rice 2. Maize 3. Soybean 4. Vegetables	n.a n.a n.a n.a	USD120 million USD40 million USD60 million tbd	MoFA reports, Ghana Investment Promotion Centre reports	
OUTPUTS						
Component 1: Crop Productivity Improvement						
OUTPUTS	1. Improved seeds production	1.1 Quantity of breeder seeds produced (mt) 1. Rice 2. Maize 3. Soybean 4. Vegetables	16 71 n.a n.a	250 1,500 tbd tbd	MoFA reports, Ghana Statistical Service (GSS) reports, Enterprise surveys Monitoring reports	<b>Risk 2:</b> The proposed project area is prone to climate change impacts  <b>Mitigation 2:</b> ESMPs will incorporate integrated pest management plans and climate risk mitigation and adaptation measures.
		1.2 Volume of foundation seeds produced (mt): 1. Rice 2. Maize 3. Soybean 4. Vegetables	Rice – 96 Maize – 120 Soybean - 140 Vegetables n.a	Rice – 5,400 Maize – 4,000 Soybean - 4,000 Vegetables 150		
		1.3 Volume of certified seeds produced (mt) 1. Rice 2. Maize 3. Soybean 4. Vegetables	578 80,000 213 n.a	28,100 350,000 4,250 tbd		
	2. Mechanization along the value chains (segments of value chains mechanized)	2.1 Mechanized land preparation (ha)	120	10,000		
		2.2 Mechanized crop husbandry practices (ha)	200	10,000		
		2.3 Mechanized harvesting (ha)	150	10,000		
	3. Crop nutrition enhanced	3.1 Area of land with soils tested for fertility;	0	10,000		

KEY ACTIVITIES	4. Nutrition Promotion activities implemented	3.2 % of farmers using recommended fertilizer blends.	0	70%	MoFA reports, Program reports, Ghana Statistical Service (GSS) reports	
	5. Introduction and deployment of new yield enhancing technologies	4.1 % of households reached on Nutrition activities	0	80%		
	6. Demonstration of climate smart agriculture principles	5.1 Establishment of 3, 20-ha demonstration plots	2.5 mt/ha of maize and 1 mt/ha of soybean	6 mt/ha of maize; 3 mt/ha soybean		
		5.2 Training of extension agents in new approaches to crop production		3, 20-ha demonstration trials established		
		5.3 Training in conservation agriculture, zero tillage	0	200 extension agents trained		
	<b>Component 2: Commodity Value Chains Development</b>					
	7. Rice processing zone development	6. No of processing zones developed	-	1	Projects reports, MoFA reports, Ghana Statistical Service (GSS) reports,	
	8. Enhanced capacity of commodity value chain actors	7.1 No. of value chain development platforms created/strengthened.	2	10	Household surveys	
	9. Private sector investment	7.2 No of value chain actors trained	0	20,000	Enterprise surveys	
		7.3 Percentage of outgrower contracts executed effectively	0	80%	Monitoring reports	
KEY ACTIVITIES		8.1 No. of private sector investments attracted to the ecological zone	0	3	Supervision records	
		8.2 Innovation Platforms established	0	1		
	<b>Component 3: Infrastructure Development</b>					
	10. Rehabilitate and expand existing seed processing and storage facilities.	9.1 No of seed processing and storage centres rehabilitated	0	4	MoFA reports, Ghana Statistical Service (GSS) reports,	
		9.2 No. of seed processing and storage centres constructed for research institutions	0	2	Household surveys	
	11. Rehabilitation of road infrastructure	10.1 Length of feeder roads rehabilitated (km)	0	100	Enterprise surveys	
	12. Area of agriculture water management schemes rehabilitated / constructed	11. Area of land under irrigation (ha) improved field water management systems	2,000	10,000	Monitoring reports	
					Program reports	
					Supervision records	
	13. Rehabilitation of warehouses	12. No of warehouses rehabilitated	0	12		
KEY ACTIVITIES	14. E-agriculture.	13.1 National E-agriculture system strengthened	0	1		
		13.2 No of farmers registered and placed on platform	20,000	500,000		
	<b>Component 4: Program Management/ Monitoring &amp; Evaluation</b>					
	15. Work plan and operations are implemented	14.1 Rate of implementation of the annual work plan	0	100%	Program agreements, funding documents	
		14.2 Development & implementation of the site-specific ESMPs	0	100%	Supervision mission Financial management reports M&E reports	
	16. Program activities monitored and information produced regularly	15.1 No. of technical and progress reports prepared annually	0	20		
		15.2 No. of audit reports produced annually	0	5		
		15.3 No. of monitoring visits conducted by MOFA/MOF headoffice	0	10		
		15.4 No. of NPSC meetings held	0	1		
	<b>COMPONENTS</b>					<b>SOURCES OF FINANCE</b>
KEY ACTIVITIES	<b>Component 1: Crop Productivity Improvement</b>					Total Project Cost (UA million) : 40.38
	Improved seeds production; Build capacity for rice and maize seed inspection and certification; Develop an efficient system of production, storage and distribution for breeder, foundation and certified seed; mechanization along the production chains; Soil fertility management; and nutrition promotion. Introduction and demonstration of modern technologies to increase maize and soybean production and dissemination to these technologies to commercial, smallholder, and youth farmers					ADF Loan : 27.86
	<b>Component 2: Value Chains Development</b>					<u>Other sources</u>
	Maize and rice processing zone development; Support existing aggregation/marketing centres equipped with drying floors, and storage facilities; training entrepreneurship and business management training; development of market information system; installation of processing equipment for commodity value addition and marketing; Number of Value Chain Development Platforms created / strengthened; Percentage of contracts executed effectively.					GoG : 6.50
	<b>Component 3: Infrastructure Development</b>					Beneficiaries : 6.01
KEY ACTIVITIES	Rehabilitation of transport infrastructure (feeder roads, farm-tracks and stock routes); Rehabilitation of irrigation canals; Development of Processing & Marketing Infrastructure; Rehabilitation of warehouses; and E-agriculture; Rehabilitate and expand existing storage facilities for seed.					Component 1 : 28.64
	<b>Component 4: Program Management, Monitoring and Evaluation</b>					Component 2 : 2.97
	Project management activities; day-to-day management, management of studies on key policy issues; development and implementation of site specific ESMPs; development of a results based framework for M&E; and procurement, disbursement and audit functions.					Component 3 : 7.33
						Component 4 : 1.43



## Programme Timeframe

Task Name	2017	2018				2019				2020				2021				2022			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Negotiations																					
Board approval																					
Signature of Loan and Grant Agreement																					
Appointing remaining PCMU team members																					
Satisfaction of conditions for effectiveness and first disbursement																					
Programme launch																					
Finalization and validation of procedures manuals																					
Conducting baseline studies																					
Preparing, signing agreement/protocols with implementing partners																					
Prepare, approve Bid docs and contract awards for Goods, Works & Services																					
Contracts execution for Goods, Works and Services																					
Quarterly reports submission																					
Annual reports submission																					
Programme Work plans and Budgets																					
Steering committee meetings																					
Bank's supervision missions																					
Audit																					
Mid-term review																					
Programme Completion Reporting																					
Impact assessment and technical audit																					

# REPORT AND RECOMMENDATION OF MANAGEMENT FOR THE PROPOSED ADF LOAN OF UA 27.86 MILLION TO THE REPUBLIC OF GHANA FOR THE FINANCING OF THE SAVANNAH ZONE AGRICULTURAL PRODUCTIVITY IMPROVEMENT PROJECT

Management submits the following report and recommendation on a proposed loan of UA 27.86 million to finance the Savannah Zone Agricultural Productivity Improvement Project in Ghana.

## I STRATEGIC THRUST & RATIONALE

### 1.1. *Programme linkages with country strategy and objectives*

1.1.1 The Savannah Zone Agricultural Productivity Improvement Project (SAZAPIP) is designed within the context of the **Ghana Shared Growth and Development Agenda II” (GSGDA II)**. The underlying theme of the GSGDA II is socio-economic transformation, which involves a change in the structure and composition of the national output in ways that enhance broad-based, inclusive and sustainable growth. It stimulates the innovative process of production through skills and technological upgrading; enhancing the competitiveness of industry and trade; lifting workers from low-productive agriculture to higher productive activities; and putting the economy on a growth path that creates jobs, opens up decent work opportunities for all, alleviates poverty and reduces income and social inequalities.

1.1.2 It is guided by country’s **Food and Agriculture Sector Development Policy (FASDEP)** which has the following as its pillars: (i) Food Security and Emergency Preparedness; (ii) Increased Growth in Incomes and Reduced Income Variability; (iii) Increased Competitiveness and Enhanced Integration into Domestic and International Markets; (iv) Sustainable Management of Land and Environment; (v) Science and Technology Applied in Food and Agriculture Development; and (vi) Improved Institutional Coordination. The FASDEP anchors on sub-sector policies including the Crop Development Policy; Cocoa Strategy; Livestock Development Policy; Fisheries Policy and Policies for Services Delivery (Extension, Irrigation, Plant Protection, Agricultural Mechanization).

1.1.3 The Government has targeted enhancing agricultural productivity and production through its **Planting for Food and Jobs (PFJ)** Campaign. The major interventions under the PFJ are organized around the following five pillars: (i) **Seed**: The program will catalyse market-led production of adequate quantities of quality seeds by private enterprises; (ii) **Fertilizer**: Private companies engaged in fertilizer production/blending and importation will be facilitated in meeting the fertilizer demands of the beneficiary farmers; (iii) **Extension Services**: In partnerships with the local governments and private inputs and service providers, the extension services will provide reliable and programmed technical assistance to beneficiaries; (iv) **Marketing**: It is envisaged that the facilitation of increased uptake of inputs will lead to increase in production of the targeted crops by the provision of storage warehouses; and (v) **E-Agriculture**: The PFJ Campaign will profile the beneficiaries by e-registering them and developing a state-of-art information and communication technology (ICT) platform.

1.1.4 While the PFJ Campaign is a nationwide program, the SAZAPIP will focus on three of the six agri-business clusters of the Northern Savannah Ecological Zone (NSEZ). The NSEZ constitutes the poorest part of the country with a poverty rate of over 40% which is about double the national average. The zone is characterized with relatively more challenging agro-ecological conditions, low socio-economic indicators and historical deficit in public investments in infrastructure and services. Development of this zone is perceived as a national imperative for

Ghana's balance of payments, macro-economic stability, economic growth, food and nutrition security, job creation and poverty reduction.

1.1.5 The Project is anchored in the PFJ Campaign of the Ministry of Food and Agriculture as well as the One District One Factory (1D1F) initiative of the Government of Ghana. The PFJ Campaign seeks to enhance agricultural production while the 1D1F looks at agro-industrial development aspects of the project. The Project will target four (i, ii, iv and v) of the above mentioned pillars and thereby contribute to the High-5 priorities that are crucial for accelerating Africa's economic transformation: Feed Africa; Industrialize Africa; and Improve the quality of life for the people of Africa. It will particularly contribute to the Feed Africa priority which focuses on transformation, scaling up agriculture as a business through value addition, led by the private sector and enabled by the Government. It will concentrate on one of the eight identified Priority Intervention Areas (PIA) under TAAT - Transforming African Savannahs into breadbaskets and promote four of the 18 identified priority commodity value chains – rice, maize, soybean and vegetables. In line with the Feed Africa Strategy's focus on priority value chains, the project will contribute towards the Transformation of the African Savannah Initiative (TASI) by serving as a precursor pilot project for proven technologies and knowledge. Details of TASI are in Section C6 of the Technical Annexes.

1.1.6 The Bank has a comparative advantage in supporting the agriculture value chains development activities that will transform the impoverished rural areas of the northern part of the country into zones of economic prosperity with attendant benefits of employment and social development. This Project will achieve this by creating strategic, competitive agribusinesses around rice, maize, soybean and vegetable value chains that are widely produced in the northern parts of the country. The Project will consolidate the gains made through various previous Bank interventions such as the Northern Rural Growth Programme (NRGP), Fufulso-Sawla and Techiman - Kintampo Roads Project; optimise on the usage of infrastructure that were constructed in those interventions; and leverage on private sector investment to the establishment of a rice processing zone around Tamale and commercial farming in the Northern Savanna – the RMG projects in Yagaba and Babato.

1.1.7 SAZAPIP is aligned to 2012-2017 Ghana Country Strategy Paper (CSP) which has been extended to December 2018. The strategy has two pillars namely: (i) Support for infrastructure development; and (ii) Support for improved governance and accountability. During the CSP extension period, the Bank will focus on developing and supporting priority skills for industry, improving access to sanitation and providing diverse opportunities for rural employment and income generation for a more equitable growth. Over the CSP extension period, the Bank will meet this objective through the implementation of the Development of Skills for Industry Project, and the Greater Accra Sustainable Sanitation and Livelihoods Improvement Project. Other projects that are envisaged to support this objective include: the Savannah Zone Agriculture Productivity Improvement Project and the Establishment of Ghana Incentive-Based Risk Sharing for Agriculture Lending.

## **1.2. *Rationale for Bank's involvement***

1.2.1 The project has a great potential in contributing to the twin objectives of the Bank's 10-Year Strategy (TYS). It contributes to inclusive growth across geographical locations, age and gender in that the major interventions of the project are concentrated in commodity value chain intervention in the NSEZ where poverty is highest in the country and youth and women agripreneurs are targeted by the project.

1.2.2 The project will enhance agriculture transformation through increased productivity of rice, maize, soybean and vegetables; and investment in both hard infrastructure (seed processing and storage, irrigation, produce warehouses and feeder roads); as well as soft infrastructure (farmer e-registration and e-agriculture). The project will also leverage on the complementary innovative agricultural financing mechanisms (the Ghana Incentive Based Risk Sharing for Agricultural Lending (GIRSAL) that is being established with the assistance of the Bank in conjunction with the Bank of Ghana. It will also operationalise the activities of the TAAT framework and link up with TASI as a vehicle for attracting private sector investment in agriculture in the savannah zone of Ghana. Furthermore, the project will provide entrepreneurship and business management training to value chain actors in order for them to be eligible to assess resources in the ongoing ENABLE Youth Program in the Bank funded Rural Enterprises Project (REP).

### ***1.3. Donors' coordination***

1.3.1 The key development partners that are active in the sector are: L'Agence française de développement (AFD); Department for International Development (DFID); Global Affairs Canada; European Union; German Dev. Co-op (KfW Development Bank and GiZ); Netherlands Embassy; Australian High Commission; JICA; USAID and World Bank; UN Agencies (IFAD, FAO and WFP). Others are IFPRI, AGRA and international NGOs such as SNV and Catholic Relief Services. Donor activities cuts across ranges mostly targets various commodity value chains development, productivity enhancement, agricultural production and processing infrastructure development, mechanization, irrigation, sustainable land management, climate change adaptation and mitigation, nutrition, food safety, MSE and agribusiness development, access to finance, access to land and ICT for agriculture.

1.3.2 Donor coordination mechanisms for the Agriculture Sector in Ghana are effective. Coordination under the Agriculture Sector Working Group (ASWG) began in 2002 and provides a platform for sharing information on ongoing and planned future activities with the aim of harmonizing interventions. The group holds annual joint sector reviews where donors, Government, implementation partners, civil society organizations (CSOs), and the private sector review the performance of the sector to inform planning and decision making. The ASWG is an open group of donors; quasi donors; implementers including NGOs, CSOs, private sector, etc.; and Government Ministries.

1.3.3 Key on-going/pipeline interventions by donors include a EUR160 million support for productive investment for sustainable agriculture development capacity building of decentralized institutions and community development in the part of the SADA Zone. The Government of Canada is also supporting the sector with a CAD125 million facility for Modernizing Agriculture in Ghana (MAG). IFAD has provided USD71.60 million as loan for sustainable rural poverty reduction in rural areas and a grant of USD10.0 million to mitigate the effects of climate change. The Bank has successfully co-financed projects in the sector with other donors. Notable among these is the just ended Northern Rural Growth Program and the on-going Rural Enterprises Program which were/are both co-financed with IFAD. A matrix of interventions by donors is presented in Annex A1 of the Technical Annexes. The coordination of aid through the ASWG is enhancing aid effectiveness through harmonization and alignment of development partner support.

## II PROJECT DESCRIPTION

### 2.1 Project Objectives

2.1.1 Project development goal: The development objective of the project is to transform agricultural value chains for food and nutrition security, job and wealth creation.

2.1.2 Specific project objectives: To increase farmers' food and nutrition security and incomes through increased agricultural productivity and diversification; and enhance the creation and strengthening of agribusinesses to increase incomes of actors along selected value chains on a sustainable basis.

### Project Components

2.1.3 The project will have four Components. (i) Crop Productivity Improvement; (ii) Value Chains & Agribusiness Development; (iii) Infrastructure Development; and (iv) Project Coordination, Management, Monitoring and Evaluation. The summary of activities are indicated in Table 2.1 below.

Component 1 – Crop Productivity Improvement: This component will seek to increase the crop productivity through the use of improved and more nutritious seed varieties. The project will assist rice, maize, soybean and vegetable farmers to adopt productivity– improving technologies such as soil fertility interventions, mechanization, and extension services. Nutrition promotion activities will be implemented in order to promote dietary diversity, and in particular to increase consumption of vegetables in the project area. Infrastructure of the decrepit national seed production centers will be renovated, equipped with modern machinery and supported to ensure national self-sufficiency in breeder, foundation and certified seeds production for strategic commodities. Essential expected outcomes under this component will be disseminating technologies selected under the Technologies for African Agricultural Transformation (TAAT) for the target commodities. These technologies will be complemented by other proven technologies within the TASI framework. Demonstration of high gross margin crop production technology and conservation agriculture will also be carried out at four selected locations. Private and public sector extension agents, commercial farmers, and young farmers will also be trained in the new maize and soybean production technologies.

Component 2: Value Chain and Agribusiness Development: The objective of this component is to set up sustainable agribusinesses along the commodity value chains by entrepreneurship training to value chain actors. It will further strengthen the local governance structures such as the District Value Chain Committees (DVCCs), which is *an innovative concept that links farmers to value chain's actors* to more ably participate in the ownership and management of facilities that will be set up. It will orchestrate linkages to other flagship programmes of the Bank particularly the on-going ENABLE Youth Program in the Rural Enterprises Program and the up-coming Risk Sharing Facility (RSF) through Ghana Incentive Based Risk Sharing for Agricultural Lending (GIRSAL and facilitation of the establishment of an Innovation Platform. This component will ultimately contribute to the achievement of the Government flagship program of 1D1F as it will promote private sector investments in the Project operational area.

Component 3: The infrastructure development component will provide for both hard and soft infrastructure. The hard infrastructure will include: (i) Development of Transport Infrastructure (feeder roads, farm-tracks and stock routes); (ii) Rehabilitation of irrigation canals; (iii) Development of Processing & Marketing Infrastructure especially as corporate rural

enterprises; and (iv) Rehabilitation of warehouses. The soft infrastructure will leverage on on-going e-agriculture activities in the sector to consolidate the various registration of farmers into an agriculture sector database for input supply system.

**Component 4:** The Project Management and Co-ordination will be responsible for the day to day management of the project. It will also be responsible for Monitoring and Evaluation (M&E), gender equality and women's empowerment and implementation of the Project Environmental and Social Management Plan.

**Table 2.1: Summary of Activities in the Components**

Component	Total Cost (UA million)	Component Description
Component 1: Crop Productivity Improvement	28.6 (70.9)	<p>This component will seek to increase crop productivity through:</p> <ul style="list-style-type: none"> <li>- Development of an efficient system of production, storage and distribution for breeder, foundation and certified seed</li> <li>- Use of improved and more nutritious rice, maize, soybean and vegetable seed varieties.</li> <li>- Rehabilitate and expand existing seed processing and storage facilities</li> <li>- Building capacity for seed inspection and certification;</li> <li>- Assist rice, maize, soybean and vegetable farmers to adopt productivity improvement technologies including soil fertility interventions, mechanization, and improved extension using DVCC as Innovation Platforms.</li> <li>- Disseminating technologies selected under the auspices of TAAT, some of which will add nutrition value to the crops</li> <li>- Introduction and dissemination of complementary high gross margin technologies under the TASI Pilot</li> <li>- Training of private and public sector extension agents, commercial farmers, and youth farmers. Technical manuals in English and local languages describing the new methods will be produced</li> <li>- Promotion of community based nutrition promotion activities including appropriate Infant and Young Child Feeding Practices, and hygiene sensitization through capacity strengthening of the Community Health Worker System in the Upper East region</li> <li>- Linkage of small holder farmers to the school meal programme, nutrition and hygiene education and support in schools through the Regional School Health Education Programme and the School Meal Programme in the Northern region</li> </ul>
Component 2: Value Chain and Agribusiness Development	3 (7.4%)	<p>The objective of this component is to set up sustainable agribusinesses along the rice value chains. This component will:</p> <ul style="list-style-type: none"> <li>- Strengthen the local governance structures (DVCCs) to more ably participate in the ownership and management of facilities will be set up.</li> <li>- register farmers within the project area on the e-registration platform and develop database for input supply system</li> <li>- Support the establishment of an Innovation Platform, which will work to address policy, infrastructure, fiscal and land tenure bottlenecks in order to facilitate the flow of private capital into game changing agribusiness investments in the region.</li> <li>- Provide incentives to crowd in private investments in project area to harness the business opportunities enabled through the public investments in the area through this and other projects including innovative financing (e.g. GIRSAL), infrastructure development (roads, power, irrigation etc.), land tenure reforms and others.</li> </ul>

Component	Total Cost (UA million)	Component Description
Component 3: Infrastructure Development Component	7.3 (18.2%)	The infrastructure development component will consider: <ul style="list-style-type: none"> <li>- Rehabilitation of feeder roads and farm-tracks)</li> <li>- Rehabilitation of irrigation canals;</li> <li>- Improvement of water harvesting and distribution for lowland rice</li> <li>- Development of Processing &amp; Marketing Infrastructure especially as corporate rural enterprises; and</li> <li>- Rehabilitation of warehouses.</li> </ul>
Component 4: Project Management, Monitoring & Evaluation	1.4 (3.5%)	The Project Management and Co-ordination will be responsible for: <ul style="list-style-type: none"> <li>- the day to day management of the project.</li> <li>- M&amp;E,</li> <li>- Gender equality and women's empowerment,</li> <li>- Implementation of the Project ESMP</li> </ul>

## 2.2 *Technical solutions retained and other alternatives explored*

2.2.1 Table 2.2 presents design options considered and reasons for their rejection.

**Table 2.2: Project alternatives considered and reasons for rejection**

Alternative name	Brief description	Reasons for rejection
Instrument: Project vs. sector budget support	Under sector budget support, resources are disbursed in tranches based on triggers agreed upon	Assessment of sector fiduciary environment was not conclusive and had high level of uncertainty
Intervening in other value chains including livestock.	Livestock is one of the key value chains that was identified in five of the six agribusiness zones. The per-capita consumption meat has almost doubled in past 15 years. The growth in meat production however lags far behind the growth in consumption of meat hence large volumes of imported meat.. Livestock development integrates well with crops development especially with crops such as soybean and maize which are used for livestock feed in semi-intensive and intensive production systems	Budgetary allocation for the project cannot accommodate the livestock intervention. Furthermore, livestock is yet to be considered a priority commodity under the Planting for Food and Jobs.

## 2.3 *Project type*

This is an investment project financed with an ADF loan.

## 2.4 *Programme cost and financing arrangements*

2.4.1 The total cost of the project is estimated at UA40.38 million, net of taxes, and based on 2017 prices, comprising of UA27.56 million (68%) of the total cost in foreign cost, and UA12.81 million (30%) in local cost. The total cost is inclusive of physical and price contingencies estimated at average rates of 15% and 2.5%, respectively.

2.4.2 The project cost of UA40.21 million will be part financed by an ADF loan of UA27.86 million (69% of project costs) covering all major activities including rehabilitation and construction of infrastructure. The Government of Ghana will contribute UA6.5 million (16.1% of project costs) through the provision of office space and allied facilities, payment of salaries of Government staff attached to the project, and provision of tractors and subsidies on fertilizers and seeds. The farmer beneficiaries' contribution of UA6.0 million (14.9% of project cost) will be towards the payment for inputs delivered in the Government subsidy scheme. The summary of estimated costs by component and category of expenditure are presented in Tables 2.3 and 2.4 below.

**Table 2.3: Summary of Project Cost by Component (USD/UA)**

COMPONENTS	(USD '000)			(UA '000)			% Foreign Cost	% Total Costs
	Local Cost	Foreign Cost	Total Cost	Local Cost	Foreign Cost	Total Cost		
1. Crop Productivity Improvement	10,763.83	28,900.31	39,664.14	7,688.45	20,643.08	28,331.53	73	70
2. Value Chain & Agribusiness Development	2,272.49	1,737.47	4,009.96	1,623.21	1,241.05	2,864.26	43	7
3. Infrastructure Development	3,218.59	6,013.66	9,232.25	2,298.99	4,295.47	6,594.46	65	16
4. Project Management, M&E	1,247.76	726.74	1,974.50	891.26	519.10	1,410.36	37	4
<b>Total Baseline Costs</b>	17,502.67	37,378.18	54,880.85	12,501.91	26,698.70	39,200.61	68	97
Physical Contingencies	256.09	731.75	987.84	182.92	522.68	705.60	74	2
Price Contingencies	172.61	485.11	657.72	123.30	346.50	469.80	74	1
<b>Total Project Costs</b>	<b>17,931.38</b>	<b>38,595.03</b>	<b>56,526.41</b>	<b>12,808.13</b>	<b>27,567.88</b>	<b>40,376.01</b>	<b>68</b>	

**Table 2.4: Summary Project Cost by Expenditure Categories (USD/UA)**

CATEGORY	(USD '000)			(UA '000)			%Foreign Exchange	% Total Costs
	Local	Foreign	Total	Local	Foreign	Total		
<b>I. Investment Costs</b>								
<b>A. WORKS</b>								
Construction & Rehabilitation	2,607.87	7,461.53	10,069.40	1,862.77	5,329.66	7,192.43	74	18
<b>B. GOODS</b>								
<b>1. VEHICLES</b>								
Vehicles	463.75	768.75	1,232.50	331.25	549.11	880.36	62	2
<b>2. EQUIPMENT &amp; MATERIALS</b>								
Equipment	1,130.85	2,199.45	3,330.30	807.75	1,571.04	2,378.79	66	6
Furniture	15.85	22.05	37.90	11.32	15.75	27.07	58	-
Materials	8,589.92	24,299.25	32,889.17	6,135.66	17,356.61	23,492.27	74	60
<b>Subtotal</b>	9,736.62	26,520.75	36,257.37	6,954.73	18,943.39	25,898.12	73	66
<b>Subtotal</b>	10,200.37	27,289.50	37,489.87	7,285.98	19,492.50	26,778.48	73	68
<b>C. SERVICES</b>								
Training, Sensitization, Workshops, Seminars, etc.	97.38	14.00	111.38	69.55	10.00	79.55	13	-
Technical Assistance & Consultancies	2,032.15	1,770.85	3,803.00	1,451.54	1,264.89	2,716.43	47	7
Contractual Services	1,736.75	454.95	2,191.70	1,240.54	324.96	1,565.50	21	4
Audit	91.00	49.00	140.00	65.00	35.00	100.00	35	-
<b>Subtotal</b>	3,957.28	2,288.80	6,246.08	2,826.63	1,634.85	4,461.48	37	11
<b>Total Investment Costs</b>	16,765.52	37,039.83	53,805.35	11,975.37	26,457.02	38,432.39	69	95
<b>II. Recurrent Costs</b>								
<b>B. OPERATION &amp; MAINTENANCE</b>								
Vehicles	17.25	40.25	57.50	12.32	28.75	41.07	70	-
Infrastructures	162.50	87.50	250.00	116.07	62.50	178.57	35	-
<b>Subtotal</b>	179.75	127.75	307.50	128.39	91.25	219.64	42	1
C. GENERAL OPERATING CHARGES	557.40	210.60	768.00	398.14	150.43	548.57	27	1
<b>Total Recurrent Costs</b>	737.15	338.35	1,075.50	526.53	241.68	768.21	31	2
<b>Total BASELINE COSTS</b>	<b>17,502.67</b>	<b>37,378.18</b>	<b>54,880.85</b>	<b>12,501.91</b>	<b>26,698.70</b>	<b>39,200.61</b>	<b>68</b>	<b>97</b>
Physical Contingencies	256.09	731.75	987.84	182.92	522.68	705.60	74	2
Price Contingencies	172.60	485.11	657.72	123.30	346.50	469.80	74	1
<b>Total PROJECT COSTS</b>	<b>17,931.38</b>	<b>38,595.03</b>	<b>56,526.41</b>	<b>12,808.13</b>	<b>27,567.88</b>	<b>40,376.01</b>	<b>68</b>	<b>103</b>



2.4.3 The summary of project costs schedule component, source of finance by category of expenditure and sources of finance are presented in Tables 2.5, 2.6 and 2.7 below. Detailed project cost tables are presented in Section B2 of the Technical Annexes to this report.

**Table 2.5: Summary Project Cost Schedule by Components (UA ‘000)**

Components	Totals including contingencies					
	2018	2019	2020	2021	2022	Total
1. Crop Productivity Improvement	25,419.94	2,960.79	87.22	93.20	77.44	28,638.59
2. Commodity Value Chain & Agribusiness Development	400.00	876.27	883.20	414.29	400.00	2,973.76
3. Infrastructure Development	-	2,718.95	3,124.01	1,399.57	91.08	7,333.61
4. Project Management, M&E	405.79	290.09	250.80	265.08	218.29	1,430.05
<b>Total PROJECT COSTS</b>	<b>26,225.73</b>	<b>6,846.10</b>	<b>4,345.23</b>	<b>2,172.14</b>	<b>786.81</b>	<b>40,376.01</b>

**Table 2.6 Source of Finance by Category of Expenditure (UA ‘000)**

Expenditure Category	ADF Loan	Government	Beneficiaries	Total	%
<b>I. Investment Costs</b>					
<b>A. WORKS</b>					
Construction & Rehabilitation	8,086.38	-	-	8,086.38	20.0
<b>B. GOODS</b>					
<b>1. VEHICLES</b>					
Vehicles	438.62	456.98	-	895.60	2.2
<b>2. EQUIPMENT &amp; MATERIALS</b>					
Equipment	2,425.60	-	-	2,425.60	6.0
Furniture	27.27	-	-	27.27	0.1
Materials	12,010.60	5,828.93	5,828.93	23,668.46	58.6
<b>Subtotal</b>	14,463.47	5,828.93	5,828.93	26,121.33	64.7
<b>Subtotal</b>	14,902.10	6,285.90	5,828.93	27,016.93	66.9
<b>C. SERVICES</b>					
Training, Sensitization, Workshops, Seminars, etc.	79.55	-	-	79.55	0.2
Technical Assistance & Consultancies	2,729.90	-	-	2,729.90	6.8
Contractual Services	1,583.11	-	-	1,583.11	3.9
Audit	100.00	-	-	100.00	0.2
<b>Subtotal</b>	4,492.56	-	-	4,492.56	11.1
<b>Total Investment Costs</b>	27,481.04	6,285.91	5,828.93	39,595.87	98.1
<b>II. Recurrent Costs</b>					
<b>B. OPERATION &amp; MAINTENANCE</b>					
Vehicles	41.07	-	-	41.07	0.1
Infrastructures	-	-	182.14	182.14	0.5
<b>Subtotal</b>	41.07	-	182.14	223.21	0.6
C. GENERAL OPERATING CHARGES	342.64	214.29	-	556.93	1.4
<b>Total Recurrent Costs</b>	383.71	214.29	182.14	780.14	1.9
<b>Total PROJECT COSTS</b>	<b>27,864.75</b>	<b>6,500.19</b>	<b>6,011.07</b>	<b>40,376.01</b>	<b>100.0</b>

**Table 2.7: Project Costs by Financing Sources (UA ‘000)**

Sources of finance	Foreign Cost	Local Cost	Total Cost	% Total Cost
ADF Loan	18,418.01	9,446.74	27,864.75	69.0
Government	4,714.42	1,785.77	6,500.19	16.1
Beneficiaries	4,435.45	1,575.62	6,011.07	14.9
<b>Total</b>	<b>27,567.88</b>	<b>12,808.13</b>	<b>40,376.01</b>	<b>100.0</b>

2.4.4 Justification for Local Costs Financing: The ADF loan of UA 27.86 million will finance 100% of Works; 55% of Goods and Materials; 100% of Services; and 68% of recurrent costs. The loan will finance 67% of foreign costs and 72% of local costs. The Government of Ghana does not have the capacity to finance all local costs of the project as a result of the current economic hardship and fiscal deficit facing the country. Consequently, local costs have been factored into AfDB financing in order not to delay implementation of activities.

## **2.5 Programme’s target area and population**

The Project will be implemented in three agribusiness zones (1, 2 & 5) defined by SADA covering the following towns: Savelugu-Nanton (Nasia/Nabogu); Builsa South (Fumbisi/Gbedembilisi); Tolon (Golinga); Kumbungu (Bontanga); West Gonja (Nabori, Busumu); and West Mamprusi (Walewale). Additionally, four seed centres at Winneba, Ho, Kumasi and Tamale would be rehabilitated. The direct beneficiaries are about 50,000 economically active smallholders living in the selected agro-processing zones; and the processing firms that serve as a direct market for the farmers. The indirect beneficiaries include the entire population (consumers) that will benefit from the availability of food and business associations who provide services to the producers and processors. This number is expected to increase significantly when other economically active value chain entrepreneurs get involved in the Project. Among the target group, women and youth play a major role in crop production, processing, small enterprises operation and marketing. About 50% of beneficiaries (women) will be specifically targeted in project activities and to reap benefits.

## **2.6 Participatory process for programme identification, design and implementation**

The preparation mission had a general consultation and technical working sessions with Government personnel and key stakeholder groups in agriculture including development partners. The outcome of the discussions was the development of a logical framework for the Project and the preparation report that is forming the basis for the appraisal report. Stakeholders will also be consulted during the preparation of the ESMF and site specific ESMPs and their inputs will be taken into consideration during planning, design and implementation. A stakeholder engagement plan will be developed for the implementation phase of the project.

## **2.7 Bank Group experience, lessons reflected in the programme design**

2.7.1 As at 30 December 2016, the overall performance of the Bank’s portfolio in Ghana was rated satisfactory, with an overall rating of 3.0 on a scale of 1 to 4, with 4 being highly satisfactory. The portfolio was rated 2.9 for implementation progress, and 3.4 for development outcome. The portfolio has six (6) project at risk, of which three projects (i) Rural Enterprise Programme III; (ii) Development of Skills for Industry (DSIP), and (iii) the Electricity Distribution Systems Reinforcement are experiencing slow implementation. The Greater Accra Sustainable Sanitation and Livelihoods Improvement Project experienced signature delays, which have now been surmounted with the signing of the loan in September 2017. The Ghana

Country Office (COGH) improved in most of the key performance indicators during the period 2013 to 2017. Average time lapse between approval and first disbursement has reduced to an all-time low of 5.4 months compared to 18 months in 2015. The pace of implementation of the lending program and portfolio was adversely impacted by Government's imposition of a moratorium on new loans, between 2013 and 2015, as part of its debt management strategy. This moratorium contributed to the drop in the disbursement ratio from 28% in 2015 to 18% in 2016. Disbursement is now on the upward path, at 22.4% as at August 2017. Further details are provided in Annex B1.2 of the Technical annexes.

2.7.2 The lessons learnt from the Bank's operations in the country has enhanced project design for implementation efficiency and sustainability. For example the CSPE (2002-2015) indicated that the sustainability of agriculture sector projects was limited by project design flaws, particularly the lack of clear management plans for the maintenance of key assets such as pack houses and markets. This flaw has been addressed in this project by the new approaches which considers intervening to fill the gaps in the operations of actors along the value chains of interest as against the concentration of the activities supported by the program around just the farmers. The project designs also builds on lessons learnt from the NRGP in the areas of Appropriate exit strategy for project implementing support agencies; Readiness of project for implementation at design; and Matching grants. Specifically, based on the experiences of this project and others, APIP is designed to support existing government institutions such as the CSIR-SARI, SRI to strengthen their delivery of services that are under their mandate such as breeder and foundation seed production; and soil nutrient analysis as against using NGOs or private sector. It is also designed to leverage on private sector investment on the ground, such as existing AMSECs and AVNASH and catalyse their activities (e.g. mechanization and primary processing), without creating dependency of the project funds. APIP has already identified the major infrastructure for which feasibilities had already been done including rehabilitation works on the existing Golinga and Botanga Irrigation Schemes; improvement of water management infrastructure for selected flood recession schemes, rehabilitation of 12 warehouses have all be identified. APIP is not introducing any one fit all matching grant program. It will leverage on the government's own input and mechanization support program in which case mechanized service providers are able to acquire machinery / equipment from the government with a concessionary repayment arrangement including a grant element. In the cases of non-existing technologies, particularly for mechanization such as using laser levellers, mouldboard plough, rice transplanters etc. the project will provide for full grants to the mechanization service providers to acquire the technology and promote them

## **2.8     *Key performance indicators***

The overall impact of the SAZAPIP include improved food and nutrition security, job creation and wealth creation for commodity value chain actors. Through improved agricultural production, productivity and market linkages, about 20,000 jobs will be created, of which women and youths account for about 60%, along the value chains. It is envisaged that there will be income increase by 25% along the value chains and employment of women and youth in the agriculture sector. The crowding in of private sector investment in terms of investment volume as a result of the demonstration of improved technologies and production systems will be a key indicator of success.

### III PROJECT FEASIBILITY

#### 3.1. Financial and economic performance

3.1.1 A financial assessment of the project was undertaken using activity models, and on the basis of prevailing market prices. The key assumptions underlying the analyses include: (i) 50,000 farmers being actively engaged in farming at full capacity of the project; (ii) additional 25% increase in income will be earned under the project, (iii) farmers will adopt the improved seed varieties (iii) a 20-year time period was used to measure the incremental benefits from the project; (iv) the opportunity cost of capital (OCC) used for discounting future benefits was estimated to be 12%. For the economic analysis, (v) hired labour value was adjusted by a conversion factor of 0.75; (vi) the rehabilitation of the seed system will ensure national quality seed supply. These analyses were carried-out with financial and economic costs generated using Costab 32. Summary of financial and economic analysis is in Annex VII and further elaborated in Annex B6 in Volume II of the appraisal report. The project is expected generate the following benefits: (i) increase in food production; (ii) increased private sector investment; (iii) improved seed production and storage; (iv) improve average household income; (v) provide employment for 50,000 farmers and entrepreneurs; and (vi) enhanced crop nutrition.

**Table 3.1: key economic and financial figures**

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FIRR : 23%	NPV (base case) is USD	2,333,835.26
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EIRR : 28%	NPV (base case) is USD	2,683,910.55
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NB: detailed calculations are available in Annex B7

#### 3.1.2 Financial analysis

Based on the above assumptions, the financial analysis generated Net Present Value (NPV) of USD2,333,835.26 and financial internal rate of return (FIRR) of 23%, as captured in the technical annexes (B6). Based on the above analysis, the project is deemed financially feasible. The FIRR of 23% is higher than the opportunity cost of capital (12%).

#### 3.1.4 Economic analysis

The economic analysis was conducted using the same approach as the financial analysis, on the basis of shadow prices of tradable goods, producer (farm gate) prices and total cost of project. In addition, other indirect benefits were also expected, such as, reduction in post-harvest losses; provision of mechanic service centre for agro equipment, reliable soil information system for fertilizer blends, efficient input distribution system through the farmer database system and lower cost of transportation of goods and services. However, these additional benefits were difficult to adequately value in monetary terms due to the limited scope of this report. In these conditions, the economic analysis yielded an NPV of USD2,683,910.55 and the economic internal rate of return (EIRR) of 28% as captured in the technical annexes.

### 3.2. Environmental and social impacts

#### 3.2.1 Environment

3.2.1.1 The Ministry of Food and Agriculture, has made efforts to ensure sustainable land and environmental management within the sector through implementation of several policies and programmes and these include: Food and Agriculture Sector Development Policy (FASDEP II)

and an Agricultural Sustainable Land Management Strategy and Action Plan was developed to operationalize the policy objective. MoFA works in collaboration EPA at all levels to ensure that environmental sustainability policy and programmes are implemented. The proposed Savannah Zone Agricultural Productivity Improvement Project is classified as a Category 2 because the project activities are expected to have impacts that can be avoided and minimised and will mostly be site-specific environmental and social impacts. The Project also falls under Schedule 2 of the Environmental Assessment Regulations 1999 LI 1652 of the Ghana Environmental Protection Agency (EPA). The project is expected to finance construction and rehabilitation of small irrigation schemes, processing, marketing and storage facilities as well as support activities for increased production and commercialization. The project's precise location, scope and scale of the project interventions will not be known before project implementation; hence, an overarching environmental and social management framework (ESMF) needs to be developed to provide the framework for managing the environment and social risks/issues of the project. This will guide the preparation of environmental and social impact assessment (ESIA) and development of site specific ESMP during project implementation.

3.2.1.2 The anticipated negative impacts are those associated with the construction and/or rehabilitation works and agricultural production and value-chain development activities and include: (i) loss of vegetation cover and habitat fragmentation due to site clearing (ii) land degradation, soil erosion, and pollution (iii) degradation of water resources through siltation and pollution (iv) disruption of water flows and hydrologic cycle which may impact activities of other water users, (v) noise, vibration and emissions from construction works and operation of machinery that may impair air quality and induce health implications, (vi) increased use of agrochemicals including pesticides and fertilizers that may have impacts on human health and biodiversity (vii) solid and liquid wastes generated from processing and marketing facilities (viii) increase in bush fires through the slash and burn traditional agricultural systems; (ix) climate risk impacts of GHG emissions and cumulative impacts of flooding if infrastructure is not well designed (x) increase in public health concerns (vector borne diseases, HIV/AIDs and other STDs) due to creation of vector habitats such as stagnant waters and influx of workers in project site areas and increased land conflicts due to commercialization, most lands are customary. The project is not expected to have land acquisition because the infrastructure development will be done on existing irrigation schemes and feeder roads with existing right of way. During operation phase, agriculture activities of value chain actors may lead to (i) increased use of agrochemicals including pesticides and fertilizers, which may contribute to soil and water (surface and groundwater) contamination, and increase health-risks of people exposed to pesticides, (ii) maintenance of irrigation infrastructure can generate dredged materials and waste and effluents from processing and marketing facilities can result in soil and water contamination when not properly disposed of. These impacts are mostly site specific and can be readily managed with the application of well-defined measures elaborated in site-specific ESIA/ESMPs such as (i) restricting clearance of vegetation to construction and farming areas and revegetation by planting of trees; (ii) rehabilitation and filling of the exposed or excavated soil soon after completion of works and avoiding or minimizing compaction of soils, (ii) ensuring environmental flow for rivers/lakes, (iii) establishing sustainable water management and flood mitigation systems, and (iv) reduction of GHG emissions by ensuring well serviced machinery is used and proper processing facilities waste management; (v) capacity building of value chain actors to promote good agriculture and sustainable environment and land management practices (vi) use of improved agriculture technologies such as integrated soil fertility management (ISFM), integrated pest management (IPM) and Waste-to Energy; (vii) using lessons learned from similar projects. In addition, the project will ensure that institutional

and technical capacity that currently exist within MoFA is strengthened by having an Environmental Safeguard specialist in the Program Management Unit and training of Environmental Desk Officers at the local level to ensure effective site specific ESMP development, implementation and monitoring/reporting.

3.2.1.3 Ghana SAZAPIP will generate significant positive impacts including (i) improved production, and competitiveness of selected agriculture commodities that will contribute to increased income opportunities for value chain actors including vulnerable groups, and support the local economy of the northern regions of Ghana; (ii) improved access to irrigation that will foster water management and reduce the vulnerability of farmers to precarious weather conditions and ensure all year round agriculture activities; (iii) improved agronomic practices and technologies for selected crops and improved varieties that are adapted to different climatic conditions; and (iv) improved agricultural production, productivity and market linkages that will foster job creation along the value chains.

### **3.2.2 Climate change**

3.2.2.1 Ghanaian agriculture and food systems are climate dependent and recognized as one of the most vulnerable sectors to climate change. Indications are that the Northern Region of Ghana is currently experiencing seasonal variability of climate and rainfall. Consultations with MoFA and EPA indicated that the region is susceptible to flooding and drought that are unpredictable. The current increase in rain intensity is aggravating flooding events causing riverbank erosion, saltwater intrusion, infrastructure damages, crop failure, fisheries destruction, and loss of biodiversity. This has significant implications on livelihoods of agricultural communities who are mostly dependent of rain fed agriculture. Recommendations were made to incorporate climate risk mitigation and management strategies in the project design.

3.2.2.2 The project will mainstream climate risk mitigation and adaptation activities in the project design and implementation that will focus on reducing the dependency on rainfall for agricultural activities as well as protect ecosystems at risk from other natural or anthropogenic hazards that accompany floods, drought and other land use changes. The program will explore climate change adaptation technologies for agriculture consistent with priorities established in Ghana's National Adaptation Program for Action (NAPA), Climate Change Policy, and the MoFA's National Climate Smart Agriculture and Food Security Action Plan (2016-2020). This will ensure that the project facilitates and promotes greater resilience and adaptation to climate change by promoting climate smart agriculture through use of improved agriculture technologies and conservation agriculture.

### **3.2.3 Social Impact and Nutrition**

According to the most recent data in the 2014 Ghana Demographic and Health Survey (DHS), the prevalence of stunting is significantly higher in the Northern Region, with 33% stunting in children under five as compared to the national prevalence of 19%. Also the prevalence of anaemia in children under five is very high (82.1%). The Project will contribute to increased dietary diversity among households, and especially among women and children, in the Northern and Upper East regions. The actions envisaged include: (i) community sensitization on good nutrition and hygiene practices, and enhanced management of acute malnutrition, through strengthening of the Community Health Workers system; (ii) equipment of health facilities with materials for anthropometric measurements where there is an identified need (based on

assessment by Ghana Health Services); (iii) linkage of small holder farmers to the Ghana School Feeding Programme and (iv) nutrition and hygiene education in schools, complemented by fruit tree planting and school gardens. To link the School Feeding Programme to the smallholder farmers benefiting from the project, agriculture extension officers will be involved, who will also be engaged in the school gardens and fruit tree planting. In order to accommodate all these activities, a total of UA3 million will be earmarked for the support to the Community Health Workers system, the provision of equipment to health centres, and the nutrition and hygiene education in schools, complemented by fruit tree planting and school gardens. Part of the budget will also be used to support the cost of a representative Food Security and Nutrition Survey to support the M&E component of the Project and evaluate impact in terms of household dietary diversity at district levels.

### **3.2.4 Gender Aspects**

3.2.4.1 In Ghana, women constitute 52% of the national Agricultural labour force, contribute 46% to the total GDP and also produce 70% of subsistence crops (MOFA, 2002). In the SADA zone, where the project will be implemented, women play a major role in farming and food processing. Women are engaged in planting, weeding, harvesting, processing and marketing of agricultural produce in the region. Women are involved in the agricultural processing and contribute at more than 70% of agriculture transformation. The gender analysis of the agriculture sector in the area revealed the gender gaps along the value chain, with women in a disadvantaged side. Most of the gender gaps are outlined in access to land and farming equipment's, access to extension services delivery, access to certified seeds supply, fertilizer and crop protection materials, access to agricultural technologies, agriculture processing, access to credit and financial services. The Project will contribute to implement the Gender and agriculture Strategy by empowering women in the agriculture production.

3.2.4.2 To address the identified gender gaps, the project will implement specific activities and put in place measures to uplift the conditions of women in the agriculture value chain, as follows: i) Engage with the traditional authorities and family heads to ensure land security for women in the project; ii) Ensure that equipment is easy to use and woman-friendly; iii) Ensure that women have equal access to improved inputs; iv) Train women and men on safe storage options for their produce and utilization of fertilizers; (v) ensure that women have equal access to marketing networks; and vi) Organize training for women in the areas of improved production, business management, financial literacy, packaging, leadership and decision making; good nutrition especially to pregnant women and under five-year children; and (vi) organise sensitizations on women's rights and access to land. The total budget allocated to gender equality promotion and nutrition is around UA I million.

### **3.2.5 Involuntary Resettlement**

There is no involuntary resettlement or land acquisition or any loss, by the population, of property, sources of income and livelihoods envisioned within the implementation of the Project activities. The project interventions will be implemented on existing agricultural systems but if any loss occurs it will be compensated based on AfDB requirements.

## IV IMPLEMENTATION

### 4.1. *Implementation arrangements*

4.1.1 The Ministry of Food and Agriculture (MOFA) is the Executing Agency of the Savannah Zone Agricultural Productivity Improvement Project (SAZAPIP). A National Project Steering Committee (NPSC) will be constituted chaired by the Hon. Minister of MOFA or his representative, to provide strategic direction and oversight guidance to the project. To ensure effective project coordination and monitoring, the day-to-day project administration will be managed by a Project Coordination and Management Unit (PCMU) within MOFA, under the direct supervision of the Chief Director. The PCMU will be headed by a Project Coordinator who will report to the Chief Director, and also to the Northern Regional Director of Agriculture. The Ministry had used a similar arrangement to successfully implement Bank financed projects such as the Northern Rural Growth Program (NRGP), Export Marketing and Quality Awareness Project (EMQAP), and Afram Plains District Agricultural Development Project (APDADP). The Ministry is thus familiar with the Bank's financial management rules, procurement requirements and disbursements procedures. MOFA is already connected to the government integrated financial information management system (GIFMIS), although the system is yet to be fully deployed for all projects. Thus, the PCMU of the proposed project will adopt the Sun Accounting software of the just completed NRGF for financial accounting and reporting, and migrate to the GIFMIS when the system is fully deployed to projects.

4.1.2 The PCMU staff will be competitively recruited by MOFA and located in the office premises of the Regional Department of Agriculture at Tamale. The staff requirement will include: the Project Coordinator, a Financial Controller, an Accounts Officer, Agronomist, a Monitoring and Evaluation Specialists, an Agribusiness specialist, an Agricultural Engineer and a Procurement Specialist. The services of other experts such as Irrigation specialist, Gender and Nutrition specialist and Environmental specialist will be drawn from regional government institutions. For implementation of nutrition related activities, the PCMU will collaborate with other Government stakeholders including the Ghana Health Services, the Ghana School Feeding Program and the Ghana Education Regional Offices. SADA will play an active role in work activity planning, implementation monitoring and also attracting investors to collaborate with the Project. Relevant government agencies such as Projects Coordination Unit, Crop Services Directorate, Agricultural Engineering Services Directorate (AESD), Ghana Irrigation Development Authority (GIDA), Plant Protection and Regulatory Services Directorate (PPRSD), Ghana Grains and Legumes Development Board (GLDB), Environmental Protection Authority and Ministry of Trade Industry (MoTI) will be supported to conduct macro-monitoring of the project's activities.

4.1.3 A **National Project Steering Committee (NPSC)** will be established to provide strategic policy direction and oversight guidance for the project implementation. Its core activities shall include implementation of program strategy, oversee planning, review progress and impact, review/ approval of annual work plans and budgets as well as ensuring effective linkages with related programs. The NPSC membership would include: (i) one representative each from the relevant ministries (MOFA, MOTI MOF, MLGRD, MORH); (ii) one representative from selected public-sector agencies and institutions (BoG, DFR, EPA, SADA); (iii) three representatives from the Farmer Based Organizations; (v) three representatives from large-scale private sector traders/processors; and (vi) four representative from private investors and management firms of commodity chains facilities. NPSC meetings would be chaired by the Hon. Minister of MOFA or his designated representative, with the Project Coordinator as secretary. The NPSC would meet at least twice a year. Costs related to the meetings of the NPSC will be financed from ADF loan.



## **Procurement arrangements**

4.1.4 “Procurement of goods (including non-consultancy services), works and the acquisition of consulting services, financed by the Bank for the project, will be carried out in accordance with the “Procurement Policy and Methodology for Bank Group Funded Operations” (BPM), dated October 2015 and following the provisions stated in the Financing Agreement. Specifically, Procurement would be carried out following:

4.1.5 Borrower Procurement System (BPS): Procurement through Open competitive Bidding National (OCBN) procedures will be carried out using BPS comprising its Laws and Regulations (Ghana Public Procurement Act, 2003 (Act 663), as amended Act, 2016 (Act 914) using the national Standard Solicitation Documents (SSDs) agreed during project negotiations” for various group of transactions to be entailed under the project, detailed in annex B 5.1 and the provisions stipulated in the Financing Agreement.

4.1.6 Bank Procurement Policy and Methodology (BPM): Bank standard PMPs, using the relevant Bank Standard Solicitation Documents (SDDs), will be used for Open Competitive Bidding International (OCBI) contracts for both goods and works and Acquisition of Consulting Services as indicated in the Technical Annex B5, Para. B.5.3.2.

4.1.7 Procurement Risks and Capacity Assessment (PRCA): the assessment of procurement risks at the Country, Sector, and Project levels and of procurement capacity at the Executing Agency (EA), were undertaken for the project and the output have informed the decisions on the procurement regimes (BPS and Banks PMP) being used for specific transactions or groups of similar transactions under the project. The appropriate risks mitigation measures have been included in the procurement PRCA action plan proposed in Annex B5, Para 5.3.2. The project activities derived from these components has informed the procurement risk and capacity assessment as well as the market analysis based on which the procurement strategy of the project has been developed. In addition some of the identified activities will require that MoUs are adopted to engage the services of some of the project partners including research institutions and the details of these arrangements are clearly defined in the technical annexes, B5.

## **Financial management and disbursement arrangements**

4.1.8 The Ministry of Food and Agriculture (MOFA) through its Project Coordination and Management Unit model will be directly responsible for the financial management arrangements of the project. The Project financial management will be headed by the FMS, who shall be a seasoned chartered accountant with hands-on experience on AfDB FM rules and procedures, assisted by an experienced Accounts Officer and Accounts Assistant/ Clerk. MOFA has not identified qualified accountants from within its ranks that can fill the top project FM positions, and would thus be expected to competitively fill the FMS and Accounts Officer positions. Both persons will be required to be proficient in the use of Sun Accounting Software and the practical application of IPSAS Cash Basis of Accounting. The Accounts Assistant position shall however be deployed from existing MOFA staff for staff capacity building and knowledge transfer purposes. In harmony with Government of Ghana (GoG) accounting standards and practices within MOFA, the project shall adopt the IPSAS Cash Basis for financial reporting.

4.1.9 In terms of information flow, the FMS will report to the PC and to the Finance Director of MOFA (to ensure project results are correctly included in the overall consolidated accounts

of the Ministry). The FMS will be required to produce quarterly unaudited interim financial reports (IFRs) and annual financial reports in accordance with IPSAS Cash Basis, from the Sun Accounting software. The IFRs must be submitted to the Bank within 30 days after the end of the quarter reported on, while the annual audited financial reports must be submitted not later than six (6) months after the end of the applicable financial year. MOFA internal control systems, including the internal audit function (which appears adequate and operating effectively) shall be extended to the cover project operations too. A Project Implementation Manual (PIM) consisting of Technical Implementation, FM procedures and Administrative procedures components will be developed and adopted from the NRGF PIM, to guide project implementation, streamline FM practices and administrative procedures. Previous audits of MOFA managed Bank financed projects were generally satisfactory, however the finance staff tended to leave the service of MOFA/the project on completion of the project activities.

**4.1.10 Disbursement:** Two of the Bank's four disbursement methods are recommended to be used in disbursing funds to the project: (i) Direct payments; and (ii) Payments through Special Account (SA). Direct payments method will generally be used for the larger contracts signed between project management and contractors/suppliers/ service providers, while the SA method will be used for meeting recurrent/ administrative expenses and smaller contracts. A US Dollar denominated SA will be opened at the Bank of Ghana (BoG), to receive ADF resources from the Bank. A GHS (local currency) account will be opened at BoG to receive transfers from the SA for making payments in Ghana Cedis. A second GHS account will be opened at the BoG to receive counterpart cash contributions from the Government of Ghana. All project accounts will be managed by the PCMU. All disbursements under the project will follow the disbursements procedures outlined in the Bank's *Disbursement Handbook*.

**4.1.11 Audit:** The project will be audited by an external audit firm, selected competitively, and in accordance with agreed procedures involving the Ghana Audit Service (GAS), which despite having the constitutional mandate for all government audits, tends to outsource the audits of donor projects to acceptable audit firms. The audit will be conducted on terms of reference acceptable to the Bank, and shall be submitted to the Bank no later than six months after the end of the year audited.

**4.1.12 Overall Conclusion:** The overall FM risk is assessed as moderate. To mitigate the risk further, MOFA is expected to hire an FMS and Accounts Officer for the project; develop a PIM which includes technical, financial management and administrative procedures components; and adopt/ upgrade the existing Sun Systems accounting software for use by the project.

## **4.2 Monitoring**

**4.2.1** The foundation for the overall project monitoring and evaluation systems will be the logical framework, a series of key performance indicators and project operational manual (POM) which will be prepared by the PCMU shortly after project loan approval. MOFA will monitor overall operations for planning and facilitation purposes for the production aspects of the project, implementation of the drainage and roads infrastructure for attainment of national standards. The PCMU will monitor and evaluate overall impact of the project including environmental and social compliance and performance and compile the project's quarterly and annual reports for dissemination to the Bank Group, MOFA, other line ministries, and SADA. A mid-term review (MTR) will be undertaken two years after project start to review the project's achievements and constraints. Similarly, upon completion of project investments at the end of program year four, the PCMU will prepare a Borrower's project completion report.

4.2.2 The initial assessment of national capacity indicates a satisfactory rating. The Ghana Statistical Service leads the efficient production and management of quality official statistics based on international standards, and will be used to assess the contribution of the project towards the country and regional development goals and objectives as defined in the relevant development plans. In using the performance indicators and targets specified in the results-based framework, project implementers tracking progress towards project results are expected to take special note of changes that reflect advancement towards the translation of outputs into development outcomes. In developing monitoring and planning indicators, they will be gender disaggregated. The key functions of the M&E Officer in the PCMU will be to ensure quality and accountability of monitoring; information management; facilitation of knowledge building; and knowledge sharing on monitoring and evaluation.

#### **4.3. Governance**

Based on Bank's experience in implementing projects in Ghana, the existing governance practices and controls have been deemed satisfactory. The implementation of SAZAPIP requires good governance at all levels from the national to District levels. This is in relation to better responsiveness, transparency, accountability and efficiency in the use of resources. Hence, the institutional arrangement has been designed to ensure good governance, and will serve as an instrument for achieving Project objectives.

#### **4.4. Sustainability**

The ownership of the SAZAPIP is made manifest by the roles that various stakeholders played during formulation and preparation of the Project. The Ministry of Food and Agriculture put up a technical team of experts to review the various reports produced by the consultants. The maintenance of the access roads and sundry infrastructure will be included in the annual recurrent budget of the District Assemblies where the project sites reside. The present Project will build capacities of the Regional agricultural officers in agri-business management to ensure profitability for the value chain actors.

#### **4.5 Risk management**

The current agricultural policy and sectoral strategies of Ghana have been developed in a consultative manner with the full participation of all relevant stake holders. The Bank Group will engage in constant policy dialogue to ensure that the policy, institutional and funding (particularly public expenditure) environment remain conducive to agricultural growth and development. Furthermore, social risks will be reduced through gender-sensitive approaches and ensuring that the poor are not excluded from project benefits. SAZAPIP is expected to be classified as a Category 2 because the project activities are expected to have environmental and social impacts that can be avoided and minimised since they will mostly be site-specific. Climate screening is yet to be done. The following are the main risks identified and with mitigation measures.

<b>Risks</b>	<b>Mitigation measures</b>
<b>Macroeconomic risks - High probability:</b> slow economic growth and deterioration of the country's creditworthiness due to fall in cocoa and other commodity prices.	<b>Mitigation measure:</b> The Bank will intensify the dialogue with the government to adopt supportive macroeconomic policies to rationalize fiscal expenditure, introduce exchange rate flexibility, strengthen the banking system to prevent systemic crisis, and implement structural reforms for economic diversification.
<b>Environmental, Social and Climate Risk – Medium probability:</b> The project activities are anticipated to have site specific environmental and social risks. The proposed project area is prone to climate change impacts.	<b>Mitigation measures:</b> An ESMF has been developed for the project. During project implementation, site specific ESMPs will incorporate integrated pest management plans and climate risk mitigation and adaptation measures. ESMP development and implementation will be part of the monitoring and reporting of the project activities.

#### **4.6 Knowledge Building**

Knowledge building will be vital to the success of the Project. Considering the new approach in agricultural commodity value chains development, the results of the Project will be monitored closely. Knowledge will be built on the evolving concept of decentralized implementation unit located in the District; the role of value chain actors including farmers and farmers' organization, women, youth, private sector, commercial and public sector. Knowledge will be captured using analysis of M&E database, supervision missions, mid-term reports, and periodic impact assessments and field exchange visits of the stakeholders within and outside the production clusters. In addition, knowledge would be disseminated by showcasing the Project results using Bank's communication systems (Intranet, short documentaries on Bank website, etc.). For the purposes of publicity and sharing of project results, the project could recruit a local firm as and when the need be. The Farmer Field Schools will serve as sources of innovative knowledge and information sharing learning tools empowering farmers and other actors of the value chain to train their peers, share knowledge and experiences, thus reducing their overdependence on the public extension agents. This will also expand significantly the number of value chain actors having access to the disseminated knowledge and information. The technical assistance supports will introduce and consolidate knowledge and skills, and facilitate technology and skills transfer both at the community and national levels. It is envisaged that knowledge generated by the pilot demonstration plots will form the basis for private sector investment in the agribusiness in the ecological zone as part of TASI.

### **V LEGAL INSTRUMENTS AND AUTHORITY**

#### **5.1. Legal instrument**

The legal instruments to finance this operation is an ADF loan agreement for UA 27.86 million between the Republic of Ghana and the Bank.

#### **5.2. Conditions associated with Bank Group intervention**

##### **Entry into Force of the Loan Agreement**

The entry into force of the Loan Agreement shall be subject to the fulfilment by the Borrower of the provisions of Section 12.01 of the General Conditions of the Bank applicable to Loan Agreements and Guarantee Agreements.

## **A. Conditions precedent to first disbursement**

The obligations of the Bank to make the first disbursement of the loan shall be conditional upon the entry into force of the Agreement and the fulfillment by the Borrower, in form and substance satisfactory to the Bank, of the following condition:

- (i) Provide evidence of the appointment of the members of the Project Coordination and Management Unit (PCMU), which will comprise the following key officers: (a) Project Coordinator; (b) Financial Controller; (c) Accounts Officer; (d) Agronomist; (e) Monitoring and Evaluation Specialists; (f) Agribusiness Specialist (g) Agricultural Engineer; and (h) Procurement Specialist, whose experience and qualifications shall be acceptable to the Bank (refer to paragraphs 4.1.1 and 4.1.5).
- (ii) Provide evidence satisfactory to the Fund that it has opened a foreign currency Special Account (SA) and a local currency account (LCA) with a bank acceptable to the Fund

### **Other Conditions:**

The Borrower shall, in form and substance satisfactory to the Bank, fulfil the following conditions:

- (i) Not later than six months from the date of loan effectiveness, submit a project operational manual (POM) acceptable to the Bank;

### **Undertakings**

The Borrower shall, in form and substance satisfactory to the Bank:

- (ii) Carry out, and cause its contractors to carry out, the Project in accordance with: (a) Bank's rules and procedures; (b) national legislation; and (c) the recommendations, requirements and procedures set forth in the Environmental and Social Management Plan (ESMP) prepared for the Project; and
- (iii) Deliver to the Bank Project quarterly reports in form and substance acceptable to the Bank, describing the Borrower's implementation of the ESMP (including any implementation failures and related remedies, if any).

### **5.3. Compliance with Bank Policies**

- This Project complies with all applicable Bank policies.
- Non-standard conditions (if applicable): N/A

## **VI RECOMMENDATION**

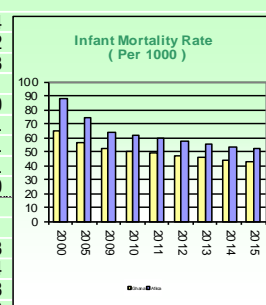
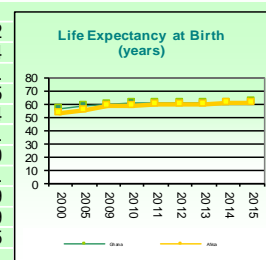
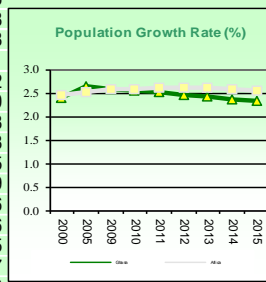
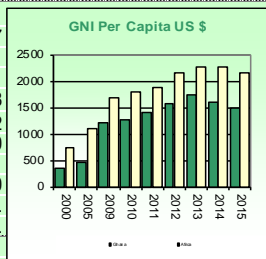
Management recommends that the Board of Directors approve an ADF loan of UA 27.86 million to the Republic of Ghana for the purposes of the activities in the proposed project and subject to the conditions stipulated in the present report.

# Annex I

## Ghana

### Country Comparative Socio-economic Indicators

	Year	Ghana	Africa	Developing Countries	Developed Countries
<b>Basic Indicators</b>					
Area ( '000 Km <sup>2</sup> )	2016	239	30,067	97,418	36,907
Total Population (millions)	2016	28.0	1,214.4	6,159.6	1,187.1
Urban Population (% of Total)	2016	53.7	40.1	48.7	81.1
Population Density (per Km <sup>2</sup> )	2016	123.2	41.3	65.1	33.8
GNI per Capita (US \$)	2015	1480	2 153	4 509	41 932
Labor Force Participation * - Total (%)	2016	77.1	65.7	63.5	60.0
Labor Force Participation ** - Female (%)	2016	75.6	55.7	48.9	52.1
Sex Ratio (per 100 female)	2016	99.2	100.1	106.0	105.0
Human Develop. Index (Rank among 187 countries)	2015	139	...	...	...
Popul. Living Below \$ 1.90 a Day (% of Population)	2005	25.2	...	24.2	...
<b>Demographic Indicators</b>					
Population Growth Rate - Total (%)	2016	2.3	2.5	1.3	0.6
Population Growth Rate - Urban (%)	2016	3.2	3.6	2.4	0.8
Population < 15 years (%)	2016	38.8	40.9	27.9	16.8
Population 15-24 years (%)	2016	19.3	19.3	16.9	12.1
Population >= 65 years (%)	2016	3.4	3.5	6.6	17.2
Dependency Ratio (%)	2016	73.0	79.9	54.3	52.0
Female Population 15-49 years (% of total population)	2016	25.3	24.0	25.7	22.8
Life Expectancy at Birth - Total (years)	2016	61.7	61.5	69.9	80.8
Life Expectancy at Birth - Female (years)	2016	62.7	63.0	72.0	83.5
Crude Birth Rate (per 1,000)	2016	31.7	34.4	20.7	10.9
Crude Death Rate (per 1,000)	2016	8.7	9.1	7.6	8.6
Infant Mortality Rate (per 1,000)	2015	42.8	52.2	34.6	4.6
Child Mortality Rate (per 1,000)	2015	61.6	75.5	46.4	5.5
Total Fertility Rate (per woman)	2016	4.1	4.5	2.6	1.7
Maternal Mortality Rate (per 100,000)	2015	319.0	476.0	237.0	10.0
Women Using Contraception (%)	2016	30.5	31.0	62.2	...
<b>Health &amp; Nutrition Indicators</b>					
Physicians (per 100,000 people)	2005-2015	9.6	41.6	125.7	292.2
Nurses and midwives (per 100,000 people)	2005-2015	92.6	120.9	220.0	859.4
Births attended by Trained Health Personnel (%)	2010-2015	73.7	53.2	69.1	...
Access to Safe Water (% of Population)	2015	88.7	71.6	89.4	99.5
Access to Sanitation (% of Population)	2015	14.9	39.4	61.5	99.4
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2015	1.6	3.4	...	...
Incidence of Tuberculosis (per 100,000)	2015	160.0	240.6	166.0	12.0
Child Immunization Against Tuberculosis (%)	2015	97.0	81.8	...	...
Child Immunization Against Measles (%)	2015	89.0	75.7	83.9	93.9
Underweight Children (% of children under 5 years)	2010-2015	11.2	18.1	15.3	0.9
Prevalence of stunting	2010-2014	18.7	33.3	25.0	2.5
Prevalence of undernourishment (% of pop.)	2015-2016	5.0	16.2	12.7	...
Public Expenditure on Health (as % of GDP)	2014	2.1	2.6	3.0	7.7
<b>Education Indicators</b>					
Gross Enrolment Ratio (%)					
Primary School - Total	2010-2016	109.9	101.2	104.9	102.4
Primary School - Female	2010-2016	109.9	98.4	104.4	102.2
Secondary School - Total	2010-2016	71.0	52.6	71.1	106.3
Secondary School - Female	2010-2016	69.1	50.2	70.5	106.1
Primary School Female Teaching Staff (% of Total)	2010-2016	38.9	47.1	59.8	81.0
Adult literacy Rate - Total (%)	2010-2015	76.6	66.8	82.3	...
Adult literacy Rate - Male (%)	2010-2015	82.0	74.3	87.1	...
Adult literacy Rate - Female (%)	2010-2015	71.4	59.4	77.6	...
Percentage of GDP Spent on Education	2010-2015	6.2	5.0	4.0	5.0
<b>Environmental Indicators</b>					
Land Use (Arable Land as % of Total Land Area)	2014	20.7	8.7	11.2	10.3
Agricultural Land (as % of land area)	2014	69.0	41.7	37.9	36.4
Forest (As % of Land Area)	2014	40.9	23.2	31.4	28.8
Per Capita CO2 Emissions (metric tons)	2014	0.5	1.1	3.5	11.0



Sources : AfDB Statistics Department Databases; World Bank: World Development Indicators;

last update :

June 2017

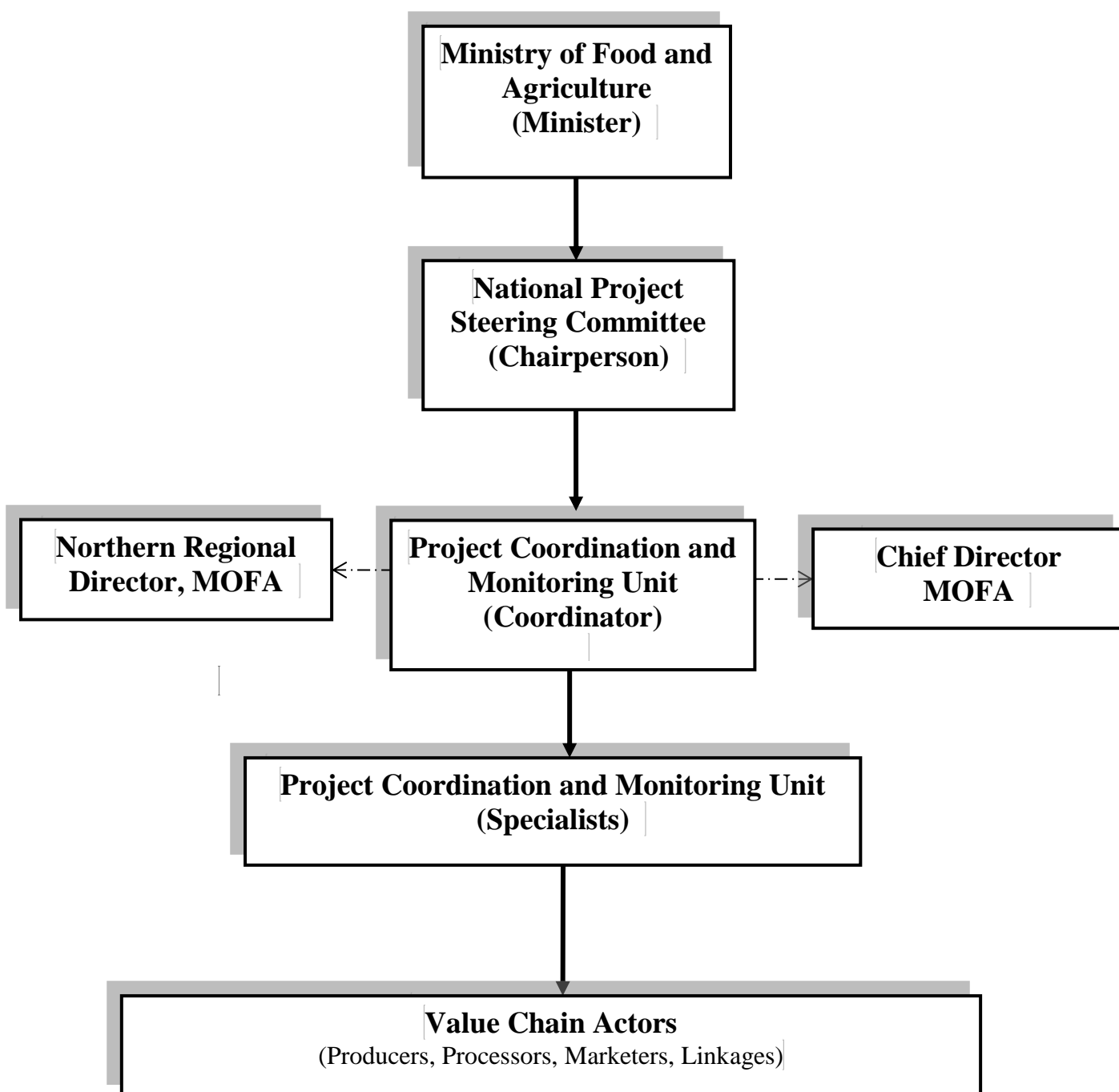
UNAIDS; UNSD; WHO, UNICEF, UNDP; Country Reports.

Note : n.a. : Not Applicable ; ... : Data Not Available. \* Labor force participation rate, total (% of total population ages 15+)

\*\* Labor force participation rate, female (% of female population ages 15+)

## Annex II

### Organizational Structure for Project Implementation



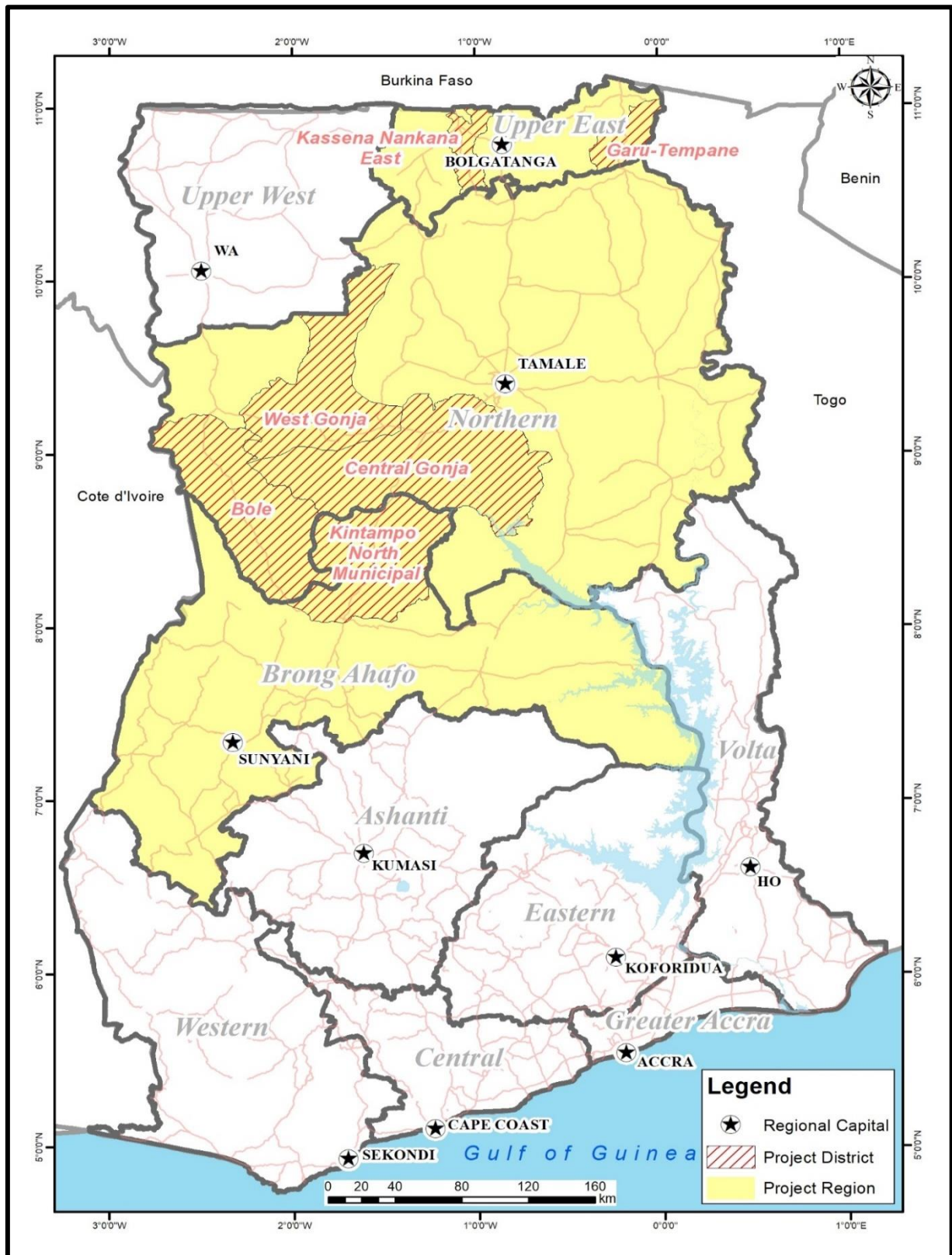
### Annex III

#### Bank portfolio in Ghana as at August 2017

No	Project Name	Window	Date of Approval	Net Amount (UA million)	Disbursement (%)	Closing date
1	Accra Urban Transport Project	ADF	9/28/2016	60.00	-	12/31/2020
	<b>Subtotal Transport</b>			<b>60</b>	<b>0</b>	
2	Electricity Distribution System Reinforcement	ADF	02/26/2014	28.60	13.6	03/31/2018
		ADF-G	02/26/2014	19.86	7.4	03/31/2018
3	Renewable Mini-Grids & Solar Stand Alone Systems	SREP	06/04/2015	0.65	-	12/31/2018
4	Net Metered Solar PV for SMEs & lighting	SREP	06/16/2015	0.44	-	12/31/2018
	<b>Subtotal Energy</b>			<b>49.55</b>	<b>10.8</b>	
5	A Business Approach for Improved Sanitation	AWF	05/16/2013	0.91	100	08/30/2017
6	Sogakope-Lome Water Transfer Project (MULT)	AWF	12/18/2013	1.13	22.2	12/31/2018
7	Greater Accra Sustainable Sanitation and Livelihoods Improvement Project	ADF	03/29/2017	35.95	0	03/31/2022
	<b>Subtotal Water and Sanitation</b>			<b>37.99</b>	<b>3.04</b>	
8	Rural Enterprises Project III	ADF	12/19/2012	26.69	8.4	12/31/2019
		ADF-G	12/19/2012	23.00	23.2	12/31/2019
9	-Engaging Local Communities in REDD++	ADF-G	1/22/2014	3.20	24.4	12/31/2019
		SCF	1/22/2014	7.00	38.4	12/31/2019
	<b>Subtotal Agriculture</b>			<b>59.39</b>	<b>18.3</b>	
10	Development of Skills for Industry Project	ADF	06/20/2012	45.00	67.6	06/30/2018
		ADF-G	06/20/2012	25.00	41.2	06/30/2018
	<b>Subtotal Social</b>			<b>70.00</b>	<b>58.1</b>	
11	ISP to Oversight and Business Support	ADF-G	09/10/2012	9.59	63.6	04/30/2018
12	GBS – Public Fin. Mgmt and Private Sector Competitiveness	ADF	12/16/2016	35.0	100	12/31/2017
	<b>Sub-total Multi- Sector</b>			<b>44.59</b>	<b>91.7</b>	
	<b>Subtotal Non-Sovereign Loan Operations</b>			<b>321.52</b>	<b>30.9</b>	
13	Ghana MSME Business linkage Program	ADB	04/27/2014	0.67	18.8	12/31/2018
14	Kempinski Hotel Project	ADB	09/27/2010	11.62	100.0	06/29/2012
15	Takoradi II Expansion Power Project	ADB	07/11/2012	14.43	100.0	01/31/2020
16	UT Bank Ltd. TF LoC	ADB	05/22/2013	13.19	100.0	05/18/2017
17	UniBank TFLOC	ADB	10/14/2015	10.78	100	3/23/2018
18	Ghana Airports Company Ltd	ADB	10/14/2016	85.71	41.7	10/03/2020
19	FORM Ghana	ADB	13/07/2016	10	89.4	12/07/2021
		SCF	09/28/2016	7.14	0.0	05/01/2017
	<b>Sub-total Non-Sovereign Loan Operations</b>			<b>143.47</b>	<b>59.8</b>	
	<b>Grand Total</b>			<b>467.04</b>	<b>39.9</b>	



**Annex IV**  
**Map of Project Area**



**Annex V**  
**Summary of Procurement Arrangements**

		UA'000			
	BPS		BMP		
PROJECT CATEGORIES	OCB (National)	OCB (International)	SHORTLIST	Others	Total
<b>A. WORKS</b>					
Rehabilitation of Botanga and Golinga Irrigation Schemes	0.00 (1.57)				0.00 (1.57)
Development of Lowland Rain-fed Ecologies-Flood Recession Schemes	0.00 (3.93)				0.00 (3.93)
Rehabilitation of Selected warehouses	0.00 (0.93)				0.00 (0.93)
Construction of Farm Access Roads	0.00 (0.21)				0.00 (0.21)
Rehabilitation of Feeder Roads	0.00 (0.53)				0.00 (0.53)
Rehabilitation of Kumasi Seed Processing Centres Facilities	0.00 (0.08)				0.00 (0.08)
Rehabilitation of Winneba Seed Processing Centres Facilities	0.00 (0.19)				0.00 (0.19)
Rehabilitation of Ho Seed Processing Centres Facilities	0.00 (0.08)				0.00 (0.08)
Rehabilitation of Tamale Seed Processing Centres Facilities	0.00 (0.05)				0.00 (0.05)
<b>B. GOODS</b>					
Mechanization Equipment and Tools		0.00 (1.85)			0.00 (1.85)
Fertilizers		9.45 (9.45)			9.45 (9.45)
Seeds		2.15 (2.15)			2.15 (2.15)
Tractors and Accessories	0.46 (0.18)				0.46 (0.18)
Logistics to Support Demonstration Sites	0.00 (0.36)				0.00 (0.36)
Seed Processing Equipment and Materials	0.00 (0.79)				0.00 (0.79)
IT Equipment and Furniture	0.00 (0.02)				0.00 (0.02)
Vehicles	0.00 (0.13)				0.00 (0.13)
Soil Testing Equipment	0.00 (0.17)				0.00 (0.17)
Laboratory Equipment	0.00 (0.11)				0.00 (0.11)
<b>C. SERVICES</b>					
Soil Fertility Testing and Soil Information Management				0.00 (0.30)	0.00 (0.30)
Training and Re-Organization of Extension Agents, Farmers, Water Users and FBOs				0.00 (0.40)	0.00 (0.40)
Preparation of New Boost Yielding Technologies Technical Manuals for Selected Crops				0.00 (0.01)	0.00 (0.01)
Training of Out growers			0.00 (0.01)		0.00 (0.01)
Technical Assistance 7No.Experts services			0.00 (0.54)		0.00 (0.54)
Project Mid-Term Review			0.00 (0.01)		0.00 (0.01)
Project staff trainings			0.00 (0.02)		0.00 (0.02)
E-Agriculture			0.00 (2.00)		0.00 (2.00)
Annual Project Financial Audit and Procurement Audit			0.00 (0.10)		0.00 (0.10)
Environmental and Social Mitigation Plan			0.00 (0.13)		0.00 (0.13)
Capacity strengthening of the Community Health Worker				0.00(0.04)	0.00(0.04)
Technical Requirements Specifications and Supervision for Seed Processing Facilities and Warehouses Rehabilitation			0.00(0.19)		0.00(0.19)
Design Review and Supervision of Irrigation Schemes Rehabilitation			0.00 (0.19)		0.00 (0.19)
Design and Supervision of Flood Recession Schemes			0.00 (0.48)		0.00 (0.48)
Design Review and Construction Supervision of Feeder and Farm Access Roads			0.00 (0.09)		0.00 (0.09)
<b>D. Other Costs</b>					
Operations and Maintenance				0.21 (0.57)	0.21 (0.57)
<b>TOTAL</b>	<b>0.46 (9.33)</b>	<b>11.60 (13.45)</b>	<b>0.00 (3.76)</b>	<b>0.21 (1.32)</b>	<b>12.27 (27.86)</b>

*Note:* Figures in parenthesis are the respective amounts financed by ADF

“Others” includes; include Direct Contracting (DC), Limited Competitive Bidding (LCB) etc