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Report No: PAD3234

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED IDA CREDIT
IN THE AMOUNT OF EUR 44.0 MILLION
(US$50.0 MILLION EQUIVALENT)

AND
A PROPOSED IDA SCALE UP FACILITY CREDIT
IN THE AMOUNT OF EUR 131.8 MILLION
(US$150.0 MILLION EQUIVALENT)

TO

BURKINA FASO

FOR THE

AGRICULTURE RESILIENCE AND COMPETITIVENESS PROJECT

AUGUST 9, 2019

Agriculture Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective June 30, 2019)

Currency Unit	
CFAF 584 =	US$1.00
US$0.878 =	EUR 1.00

FISCAL YEAR
January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

ACBP	Africa Climate Business Plan
AFR	Africa Region (World Bank)
AMVS	*Autorité de Mise en Valeur de la Vallée de Sourou* (Sourou Valley Development Authority)
APPME	*Agence de Promotion des Petites et Moyennes Entreprises* (Agency for Promotion of Small and Medium Enterprises)
ASA	Advisory Services and Analytics
ASCE-LC	*Autorité Supérieure de Contrôle d'Etat et de Lutte contre la Corruption* (Control and Anti-Corruption State Authority)
AWPB	Annual Work Plan and Budget
BDS	Business Development Service
CAADP	Comprehensive Africa Agriculture Development Programme
CC	Climate Change
CEDEAO	*Communauté Economique des Etats de l'Afrique de l'Ouest* (Economic Community of West African States)
CEG	Collateral Enhancement Grant
CERC	Contingency Emergency Response Component
CFAF	Francophone Africa Community – Franc
CPF	Country Partnership Framework
CRA	*Chambre Régionale d'Agriculture* (Regional Chamber of Agriculture)
CRI	Core Results Indicators
CSA	Climate Smart Agriculture
CSF	Cost Sharing Facility
CSO	Civil Society Organization
DA	Designated Account
DAF	*Direction de l'Administration et des Finances* (Directorate of Administration and Finance)
DCMEF	*Direction du Contrôle des Marchés Publics et des Engagements Financiers* (General Directorate of Public Contracts Control and Financial Commitment)
DGB	*Direction Générale du Budget* (General Directorate of Budget)
DGCOOP	*Direction Générale de la Coopération* (General Directorate of Cooperation)
DGEP	*Direction Générale de l'Economie et de la Planification* (General Directorate of Economy and Planning)
DGESS	*Direction Générale des Etudes et des Statistiques Sectorielles* (General Directorate of Studies and Sectoral Satistics)
DGEVCC	*Direction Générale Economie Verte et Changement Climatique* (General Directorate for Green Economy and Climate Change)
DGFOMR	*Direction Générale du Foncier, de la Formation et de l'Organisation du Monde Rural* (General Directorate of Land, Training and Organization of Rural Area)
DGPER	*Direction Générale de la Promotion de l'Economie Rurale* (General Directorate of the Promotion of Rural Economy)
DGPR	*Direction Générale des Pistes Rurales* (Directorate General of Rural Roads)
DGPV	*Direction Générale des Productions Végétales* (Directorate General for Agricultural Production)
DMP	*Direction des Marchés Publics* (Directorate of Public Procurement)

EBA	Enabling the Business of Agriculture
ECOWAS	Economic Community of West African States
EFA	Economic and Finance Analysis
ERR	Economic Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
EWS	Early Warning System
EX-ACT	Ex-Ante Carbon Balance (FAO software)
FAO	Food and Agriculture Organization of the United Nations
FCPF	Forest Carbon Partnership Facility
FFS	Farmer Field School
FM	Financial Management
GAP	Good Agriculture Practice
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GEMS	Geo-Enabling Monitoring and Supervision
GHG	Greenhouse Gas
GNI	Gross National Income
GoBF	Government of Burkina Faso
GRM	Grievance Redress Mechanism
HACCP	Hazard Analysis Critical Control Point
IBM	Iterative Beneficiary Monitoring
ICT	Information and Communication Technology
IDA	International Development Association
IFC	International Finance Corporation
IGF	*Inspection Générale des Finances* (General Inspection of Finance)
IPF	Investment Project Financing
IPM	Integrated Pest Management
IPO	Inter-Professional Organization
IRM	Immediate Response Mechanism
IRR	Internal Rate of Return
IRSAT	*Institut de Recherche en Sciences Appliquées et Techniques* (Institute of Research in Applied and Technical Sciences)
ISO	International Standardization Organization
KPI	Key Performance Indicators
M&E	Monitoring and Evaluation
MAAH	*Ministère de l'Agriculture et des Aménagements Hydro-Agricole* (Ministry of Agriculture and Irrigation Development)
MDG	Millennium Development Goal
MEEVCC	*Ministère de l'Environnement, Economie Verte et Changement Climatique* (Ministry of Environment, Green Economy and Climate Change)
MINEFID	*Ministère de l'Economie, des Finances et du Développement* (Ministry of Economy, Finance and Development)
MFD	Maximizing Finance for Development
MFI	Micro-Finance Institution

MG	Matching Grant
MI	*Ministère des Infrastructures* (Ministry of Infrastructure)
MIS	Management Information System
NCFS	National Committee for Food Security
NDC	Nationally Determined Contributions
NGO	Non-Governmental Organization
NPV	Net Present Value
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
OPA	*Organisation de Producteurs Agricoles* (Agricultural Professional Organization)
PA	Project Account
PAD	Project Appraisal Document
PADEL-B	*Projet d'Appui au Développement de l'Elevage au Burkina Faso* (Burkina Faso Livestock Sector Development Support Project)
PAFASP	*Projet d'Appui aux Filières Agro-Sylvo-Pastorales* (Agro-sylvo-pastoral Value Chains Support Project)
PAPSA	*Projet d'Amélioration de la Productivité Agricole et de la Sécurité Alimentaire* (Agricultural Productivity and Food Security Project)
PARIIS/SIIP	*Projet d'Appui Régional à l'Initiative pour l'Irrigation au Sahel* (Sahel Irrigation Initiative Support Project)
PC	Purchasing Counters
PDO	Project Development Objective
PFI	Partner Financial Institution
PIM	Project Implementation Manual
PMP	Pest Management Plan
PMU	Project Management Unit
PNA	National Adaptation Plan
PNDES	*Plan National de Développement Economique et Social* (National Plan for Economic and Social Development)
PO	Professional Organization
PP	Productive Partnership
PPP	Private-Public Partnership
PRAPS	*Projet Régional d'Appui au Pastoralisme au Sahel* (Regional Project for Support to Pastoralism in the Sahel)
PReCA	*Projet de Résilience et Compétitivité Agricoles* (Agriculture Resilience and Competitiveness Project)
RAF	*Responsable Administratif et Financier* (Finance and Administration Officer)
RAP	Resettlement Action Plan
RC	Review Committee
RECA	*Réseau des Chambres Régionales d'Agriculture* (Network of Regional Chambers of Agriculture)
REED	Reducing Emissions from Deforestation and forest Degradation Program
RF	Results Framework
RPF	Resettlement Policy Framework
RPMU	Regional Project Management Unit
SCD	Systematic Country Diagnostic

SDG	Sustainable Development Goal
SDR	*Stratégie de Développement Rural* (Rural Development Strategy)
SEA	Sexual Exploitation and Abuse
SIMA	*Système d'Information sur les Marchés Agricoles* (Agricultural Market Information System)
SME	Small and Medium Enterprise
SORT	Systematic Operations Risk Rating Tool
SP	Sub-project
SRI	System of Rice Intensification
SUF	Scale-Up Facility
TA	Technical Assistance
TFK	*Table Filiere Karité* (union of shea and shea butter producers)
ToC	Theory of Change
UN HDI	United Nations Human Development Index
VC	Value Chain
WAAPP	West Africa Agriculture Productivity Project
WAEMU	West African Economic and Monetary Union
WB	World Bank
WBG	World Bank Group
WUA	Water User Association

DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Burkina Faso	Burkina Faso Agriculture Resilience and Competitiveness Project	
Project ID	**Financing Instrument**	**Environmental Assessment Category**
P167945	Investment Project Financing	A-Full Assessment

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Disbursement-linked Indicators (DLIs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
30-Aug-2019	30-Nov-2025

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The objective of the Project is to increase agricultural productivity and market access for small producers and small and medium agribusiness entrepreneurs for selected value chains in Project Areas.

Components

Component Name	Cost (US$, millions)

Enhancing Agriculture Productivity	97.20
Improving Competitiviness and Fostering Market Access	33.70
Promoting Private Sector-Led Agribusiness Development	42.90
Project Coordination, Institutional Strengthening and Contigent Emergency Response Component	26.20

Organizations

Borrower:	Ministry of Economy, Finance and Development
Implementing Agency:	Ministry of Agriculture and Irrigation Development

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	261.90
Total Financing	261.90
of which IBRD/IDA	200.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	200.00
IDA Credit	200.00

Non-World Bank Group Financing

Counterpart Funding	44.70
Borrower/Recipient	15.30
Local Beneficiaries	29.40
Commercial Financing	17.20
Unguaranteed Commercial Financing	17.20

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
National PBA	50.00	0.00	0.00	50.00
Scale-up Facility (SUF)	150.00	0.00	0.00	150.00
Total	**200.00**	**0.00**	**0.00**	**200.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2020	2021	2022	2023	2024	2025	2026
Annual	8.00	25.00	41.00	43.00	37.00	32.00	14.00
Cumulative	8.00	33.00	74.00	117.00	154.00	186.00	200.00

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture and Food

Contributing Practice Areas

Environment & Natural Resources, Finance, Competitiveness and Innovation, Transport

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?	
a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF	Yes
b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment	Yes
c. Include Indicators in results framework to monitor outcomes from actions identified in (b)	Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

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

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✓	
Performance Standards for Private Sector Activities OP/BP 4.03		✓
Natural Habitats OP/BP 4.04	✓	
Forests OP/BP 4.36		✓
Pest Management OP 4.09	✓	

Physical Cultural Resources OP/BP 4.11	✓	
Indigenous Peoples OP/BP 4.10		✓
Involuntary Resettlement OP/BP 4.12	✓	
Safety of Dams OP/BP 4.37	✓	
Projects on International Waterways OP/BP 7.50	✓	
Projects in Disputed Areas OP/BP 7.60		✓

Legal Covenants

Sections and Description

Schedule 2, Section I.A.3: The Recipient shall, through the Ministry of Agriculture and Irrigation Development (MAAH), establish, and thereafter maintain, within its structure and at all times throughout Project implementation, the Project Management Unit ("PMU") headed by a Project manager, to be recruited or appointed by MAAH, with terms of reference, qualifications and in a manner satisfactory to the Association. The PMU shall comprise a technical team with expertise, qualifications, terms of reference and resources, further detailed in the PIM, and satisfactory to the Association. To that end, the Recipient shall, not later than three (3) months after the Effective Date or at a later date agreed with the Association, recruit for the Project, a Matching Grant specialist, a monitoring and evaluation specialist, a procurement specialist, an environmental safeguard specialist, a social safeguard specialist, an accountant, an assistant accountant, a financial management officer, and an internal auditor, all recruited with terms of reference, qualifications and in a manner satisfactory to the Association.

Sections and Description

Schedule 2, Section I.A.4.: The Recipient shall ensure that: (a) not later than three (3) months after the Effective Date or at a later date agreed with the Association, a computerized accounting information system has been acquired for the management of the Project, with specifications satisfactory to the Association; and (b) not later than six (6) months after the Effective Date or at a later date agreed with the Association, an external auditor has been recruited for the Project in accordance with the provisions of the Procurement Regulations.

Sections and Description

Schedule 2, Section I.E.2 (b) : The Recipient shall not later than twenty-four (24) months after the Effective Date, commission and carry out studies to increase the flood discharge capacity of Dourou dam, under terms of reference and in a manner satisfactory to the Association.

Sections and Description

Schedule 2, Section I.F.4. : The Recipient shall, if the Association so requests, prepare and furnish to the Association, not later than three (3) months after the Effective Date, an AWPB covering a period other than a Fiscal Year period, and integrating details of the programs and activities scheduled for implementation during the current Fiscal Year, together with the estimated cost of eachprogram or activity, and the budget line item and source of funding corresponding to each program or activity.

Conditions

Type	Description
Effectiveness	Article IV, Section 4.01: Recipient has prepared the Project Implementation Manual, in form and substance satisfactory to the Association.
Disbursement	Schedule 2, Section III.B.1(b) : No withdrawal shall be made for payments under Category (2), unless and until the Recipient has: (i) carried out independent dam safety audits of the Samendéni dam and the Mouhoun-Léry dam, under terms of reference and in a manner satisfactory to the Association; (ii) furnished to the Association an operation and maintenance plan and an emergency preparedness plan for the Samendéni dam, both in form and substance satisfactory to the Association; and (iii) furnished to the Association an updated operation and maintenance plan and an emergency preparedness plan for the Mouhoun-Léry dam, in form and substance satisfactory to the Association; all of which pursuant to the requirements of Section I.E. of Schedule 2 to this Agreement.
Disbursement	Schedule 2, Section III.B.1(c). : No withdrawal shall be made for payments under Category (3), unless and until the Recipient has furnished to the Association an operation and maintenance plan, an emergency preparedness plan and a signed contract for studies to increase the discharge capacities of the spillways for the Dourou dam, all in form and substance satisfactory to the Association, and pursuant to the requirements of Section I.E. of Schedule 2 to this Agreement.
Disbursement	Schedule 2, Section III.B.1(d). : No withdrawal shall be made for payments under Category (7), for Emergency Expenditures under Part 4.2 of the Project, unless and until the Association is satisfied, and has notified the Recipient of its satisfaction, that all of the following conditions have been met in respect of said Emergency Expenditures: (i) the Recipient has determined that an Eligible Emergency has occurred, has furnished to the Association a request to include said Eligible Emergency under Part 4.2 of the Project in order to respond to said Eligible Emergency, and the Association has agreed with such determination, accepted said request and notified the Recipient thereof; (ii) the Recipient has prepared and disclosed all safeguards instruments required for said Eligible Emergency, and the Recipient has implemented any actions which are required to be taken under said instruments, all in accordance with the provisions of Section I.D of this Schedule;

	(iii) the Coordinating Authority has adequate staff and resources, in accordance with the provisions of Section I.F.1(b) of this Schedule, for the purposes of said activities; and (iv) the Recipient has adopted the Emergency Response Operational Manual in form, substance and manner acceptable to the Association and the provisions of the Emergency Response Operational Manual are fully current in accordance with the provisions of Section I.F. of this Schedule, so as to be appropriate for the inclusion and implementation of Part 4.2 of the Project.

I. STRATEGIC CONTEXT

A. Country Context

1. **Burkina Faso (covering an area of 274,000 km^2) is a landlocked, low-income country with high demographic growth and poverty levels.** With a Gross National Income (GNI) per capita of US$610 in 2017, Burkina Faso is amongst the 20 poorest countries in the world. The population of about 19.6 million (2017) is young (46 percent under 15), growing rapidly (3 percent per year) and predominantly lives in rural areas (70 percent)[1] . Poverty continues to be overwhelmingly concentrated in rural areas, which are home to 90 percent of the poor. The country was ranked 183 out of 189 countries on the 2017 overall United Nations (UN) Human Development Index (HDI). Non-income indicators of poverty and welfare, particularly in the areas of education and health, are among the lowest in the world, and most of the Sustainable Development Goals (SDGs) appear out of reach.

2. **Economic performance has been relatively strong in the past decade; but growth has levelled off recently**. Over the past fifteen years, economic growth has averaged about 5.5 percent per year (IMF, 2018[2]). Burkina Faso's economy is still heavily reliant on agriculture (especially cotton) and mining (especially gold), which contribute the bulk of its export revenues. The recent fluctuation in gold and cotton prices, combined with a drop in grain production and political instability, have contributed to the slowdown in economic growth. The country has made progress in implementing structural reforms and sound economic policies, increasing cotton and mining production, steady economic investments, and establishing a stable macroeconomic environment. Monetary and exchange rate policy has been well-managed, and inflation has been kept at a low level (less than 3 percent over the past decade and 0.4 percent in 2017). Burkina Faso has a relatively healthy banking sector. The country is also working toward an integrated and open regional economic space through the West African Economic and Monetary Union (WAEMU), the Economic Community of West African States (ECOWAS), and other African cooperation initiatives notably the Africa Food Security Leadership Dialogue on Adapting African Agriculture to Climate Change in support of the Comprehensive African Agriculture Development Program (CAADP) Food Security Commitment. In 2017, the country was ranked 74 in the world, one of the best rankings in Sub-Saharan Africa, according to the Corruption Perception Index[3].

3. **The country faces many socio-political and security challenges which have impeded a full economic recovery. The harsh climate and environment degradation are making these challenges even more acute.** Burkina Faso has recently experienced internal unrest fueled by the unequal distribution of resources and a perceived lack of accountability in the management of public resources. This situation has been exacerbated by insecurity in neighboring Mali, and the Sahel region in general. Burkina Faso hosts more than 25,000 Malian refugees[4]. The security situation has worsened significantly since June 2018 due to an upsurge in violent attacks by terrorists and criminal groups in the Eastern and Northern regions. If not addressed adequately, security challenges are expected to continue to impact the country's socioeconomic prospects in the years to come. The harsh climatic conditions which hinder efforts to reduce vulnerability and extreme poverty are compounding the security challenges.

[1] www.worldometers.info/world-population/burkina-faso-population/
[2] IMF: Burkina Faso - Staff Report for the 2018 Article IV Consultation, First Review under the ECF, December 2018.
[3] Transparency International, Corruption Perceptions Index 2017.
[4] *www.unhcr.* April 2019.

B. Sectoral and Institutional Context

4. **Burkina Faso's agriculture sector is one of the main pillars of the national economy, although its contribution to the Gross Domestic Product (GDP) has decreased recently.** Farming and livestock activities occupy about 86 percent of Burkina Faso's workforce and constitute the main source of income for the poorest populations. The sector's contribution to GDP, has declined slightly from 35 percent in 1999 to 32.6 percent in 2013 (FAOSTAT, 2014), due to the diversification of the economy into areas such as mining. Most crops including cereals (millet, sorghum, maize and other cereals including coarse/feed grains), and commercial crops (mainly cotton), as well as legumes (cowpeas, groundnuts) are produced under rainfed conditions with low yields, and with high vulnerability to climate change. As part of the traditional Sahelian parkland landscape, those crops often are produced in systems that also include useful trees, such as shea, baobab, locust-bean trees and others. Other crops, including rice, onions, tomatoes, and other horticultural crops, are cultivated under full irrigated (full water control) or semi-irrigated (bottomland) conditions. The yields of irrigated crops are also below potential. An extended household may farm around 9.6 hectares (24 acres) in total, but plot sizes are small, with each plot averaging only 0.4 hectares, producing mostly for household consumption with little marketable surplus[5]. The production of food/ feed grains, of which by-products are used for animal feeding (e.g., shredded millet/corn stalks), is common and remains the customary crop-livestock mixed production model.

5. **Agro-ecological conditions are difficult and are getting harsher due to climate change as well as increasing human pressure, leading to a situation where vulnerability and food insecurity remain key issues.** Along the Southern edge of the Sahelian band, the country faces the arid to semi-arid climate typical of the region. The rainfall is low overall (400 mm per year average in the Sahelian zone and 800-1000 mm in the Sudano-Sahelian zone), irregular and poorly distributed; and it is experiencing a downward trend. Some estimates indicate that more than 3.5 million people, roughly 20 percent of the population, are food insecure and/or suffer from inadequate nutrition. Like in much of the Sahel region, the population increase is both an asset and a challenge for agriculture, as demand for food increases and the needs for proper nutrition and food security must be addressed. The country's rural areas are experiencing changes in land occupation patterns, with many former pastoralists becoming sedentary farmers and growing crops, but also retaining roaming livestock herds. Therefore, pressure on land has increased, and there are increasing conflicts between pastoralists and farmers. As a result, improved land management practices are increasingly required to secure land tenure, to optimize crop yields and to conserve land as a viable resource for the long run, including maintaining the carbon sequestered in the soil and landscape.

6. **The transport sector in Burkina Faso suffers from numerous constraints which hinder economic development, reducing the competitiveness of the tradable sectors of the economy including agriculture production.** The state of transport infrastructure is poor, and the provision of transport services, hampered by road blocks and poor management, remains inefficient. The rural roads network is not sufficiently dense to permit access to all potential agriculture production areas. Key production areas remain enclaved, especially since many roads are not passable by regular vehicles during the rainy season. This is a major constraint to both providing the required production inputs at farm-gate and accessing market outlets to dispose of marketable production.

7. **Burkina Faso has substantial assets to develop its agriculture, both on the supply and demand side:**

[5] https://www.nationsencyclopedia.com/economies/Africa/Burkina-Faso-AGRICULTURE.html

a) *On the supply side*: (i) substantial land and agro-ecological potential, yet unexploited, offers opportunities to develop diversified agriculture systems; the country is endowed with 9 million ha of farmland, of which less than half (46 percent) is currently under cultivation; (ii) traditional know-how and good experience of producers in certain production systems (flood recession cultivation, livestock fattening, poultry production, collection of agroforestry products) and existence of many technological packages ready to be disseminated and applied; and (iii) substantial potential for irrigated farming using ponds and rivers, as well as ground water; and

b) *On the demand side*, agriculture development is spurred by: (i) a sizable and increasing domestic demand for food, particularly processed food, in tune with the nutrition needs of a rapidly increasing population overall, and with changing consumer preferences shifting towards greater diversification of diets and more value being attributed to convenience and quality; and (ii) the increasing demand for key export commodities (horticultural crops, shea nuts, cattle/meat) on the regional and international markets.

8. **To transform its agriculture, Burkina Faso needs to address key constraints:**

a) *Regulatory and institutional constraints*: the legal texts governing the sector's regulatory framework are not always adequate, and those existing are often insufficiently used or enforced[6], and the means and capacity of intervention of the State services are limited, including planning and programming, statistical services, monitoring and evaluation, and information systems;

b) *Weakness of extension services*: there are limited agriculture extension and outreach services to disseminate innovations, with consequent low expertise of producers and other operators in the value chains;

c) *Limited access to irrigation water resources and improved inputs*: There is insufficient access to irrigation water resources (both through gravity and ground water pumping) and improved inputs (fertilizers, phytosanitary products, mechanized implements, feed supplies, certified seeds, etc.);

d) *Poor management of natural resources:* both climate change and anthropic pressure are leading to widespread land degradation. About 170,000 hectares per year of natural vegetation are lost because of land degradation and deforestation. At the current pace, Burkina Faso will lose approximately 15 percent of its agricultural land within 10 years;

e) *Limited competitiveness and weak connection to markets*: poor public infrastructure, and insufficient private investment for production, processing, storage, transport and marketing, as well as the low valorization of by-products, insufficient market information and capacity to adhere to commercial norms and standards, and the low degree of organization of sector actors, all contribute to marketing inefficiencies; and

f) *Limited access to finance*: commercial banks and micro-finance institutions are reluctant to lend to agriculture given the high level of risks involved in the sector.

9. **Despite a large potential, irrigation remains underdeveloped and underexploited; tapping irrigation water resources is crucial to improve agricultural performance.** Despite low and erratic rainfall, Burkina Faso enjoys relatively abundant water resources, with current agricultural withdrawals for irrigation representing a fraction of total renewable water resources and annual recharge. Irrigation development, in the context of erratic weather conditions currently amplified by climate change, has the

[6] This is the case of the recently enacted Agriculture Investment Code (2018).

potential to increase the resilience and productivity of the agriculture sector. Moving from rainfed crops to irrigated crops is the strategy emphasized by the National Program for Economic and Social Development (*Plan National de Développement Economique et Social* – PNDES) for the agriculture sector. The irrigation sector in Burkina Faso, like in most Sahelian countries, has experienced different stages of development. Following the limited success of the large-scale public irrigation schemes in the 1980s, institutional reforms refocused the role of public irrigation companies on irrigation development, with partial management transfer to water users' associations. This has required that the management (operation and maintenance) of the irrigation systems be carried out by institutions equipped with the necessary technical/ managerial capacity, with enough autonomy and flexibility, and with accountability to both the Government and users. In this respect, the project will provide support to Water User Associations (WUAs) so that they play an effective role in water management.

10. **There is large untapped potential for the development of Burkina Faso´s agro-industrial sector**; **but currently the country's agro-processing base is weak.** Only about 12 percent of agriculture commodities are processed before being sold on the market[7]. Many bottlenecks in the various value chains limit value addition, such as lack of post-harvest facilities or processing units. Linkages between farmers and downstream industrial and market operators are weak. Despite these constraints, agri-food systems are quickly changing in Burkina Faso like many other Sub-Saharan Africa countries, in response to changing demographic patterns coupled with economic growth. Fast-increasing population, urbanization trends and income growth are changing food demand in unprecedented ways, with large increases in total quantities demanded, growing preference for convenience, diversification of diets towards more fresh products, and an increased demand for product quality[8]. Food demand is growing particularly for items that are more processed, increasingly purchased on the market (instead of grown for self-consumption) and perishable (i.e., meat, dairy and fresh produce). A small but growing middle class already spends a significant share of its income on processed foods. Demand for processed foods is thus expected to grow in Burkina Faso and neighboring countries, leading to sizable market opportunities for increased value addition through agro-processing.

11. **The weak enabling environment and limited access to commercial credit are major constraints for agriculture and agribusiness development**. The 2017 World Bank Group Enabling the Business of Agriculture (EBA) report[9] shows that Burkina Faso's regulatory framework is impeding private investment in agriculture and agribusiness, all along the value chain. Significant weaknesses have been identified in regulations related to seed, fertilizer, agricultural machinery, water and market access. Public services, as well as professional organizations, need to be strengthened to address these weaknesses. Regarding credit, the agriculture sector receives only eight percent of commercial bank lending (of which 4.2 percent is for financing cotton) and fifteen percent of lending by Micro-Finance Institutions (MFIs). Access to finance by smallholder farmers is constrained by the following factors: low degree of organization of the value chains (except cotton), lack of bankable projects, limited exposure to financial entities, and lack of acceptable collateral. In addition, there are very few financial products whose terms and conditions would be adapted to the seasonal production cycles. Credit is mainly earmarked for production and trading of

[7] The PNDES target for processing of agricultural products is 25 percent. An example of a product which is insufficiently processed is shea nut: 70 percent of the shea fruits are exported unprocessed. The loss of added value is estimated at US$100 million per year.

[8] 'West African Food Systems and Changing Consumer Demands' J. Staatz and F. Hollinger. West African Papers No. 4. OECD and FAO, 2016.

[9] Enabling the Business of Agriculture, 2017. World Bank Group Report. By International Bank for Reconstruction and Development / The World Bank 1818 H Street NW, Washington, DC 20433; Telephone: 202-473-1000; www.worldbank.org

agricultural products, but very limited for agro-processing activities. The fact that agriculture is exposed to significant weather shocks such as droughts, increases the volatility of revenues, and hence the attendant risk faced by banks. The development of irrigation infrastructure under the project, which will assure provision of irrigation water year-round, will lessen this risk. This is important in the context of Burkina Faso, where the use of suitable risk management instruments is lacking.

12. **Agriculture institutions exhibit major weaknesses**. The primary institution in charge of crop production and irrigation development in Burkina Faso is the Ministry of Agriculture and Irrigation Development (MAAH). MAAH carries out its operations through five core directorates dedicated to irrigation (*Direction Générale des Aménagements Hydo-Agricoles et du Development de l 'Irrigation*), agricultural extension sanitary and phyto-sanitary control (DGPV), rural economy (DGPER), land tenure and producers' organizations (DGFOMR), Monitoring & Evaluation (M&E), and the General Directorate of Statistics and Sectoral Studies (DGESS). MAAH field operations are implemented through a network of deconcentrated branches including regional and provincial directorates, and local technical support units. MAAH's other deconcentrated units include seed production units, rural promotion centers, and regional laboratories for seed quality control. The following other ministries share responsibilities for agriculture in different areas: (i) the Ministry of Infrastructure (MI) for rural roads and tracks; (ii) the Ministry of Environment, Green Economy and Climate Change (MEEVCC) for environmental matters, including management of non-timber forest products and productive parklands such as shea parks; and (iii) the Ministry of Commerce, Industry and Handicrafts for the promotion of Small and Medium Enterprises (SMEs), agro-processing and trade. There are other specialized semi-autonomous structures attached to MAAH with responsibility for specific interventions, as well as several private, consular or non-profit institutions active in agriculture such as the Network of Regional Chambers of Agriculture (*Réseau des Chambres Régionales de l'Agriculture - RECA*) which provides general support to its private membership, the *Maison de l'Entreprise* (Enterprise House) which supports SMEs. The above institutions represent a fairly comprehensive set-up with good potential as framework to support agriculture development. However, as a general rule, most of these institutions display major weaknesses which prevent them from being fully effective, including insufficiently skilled staff and weak managerial and technical capabilities. This situation is compounded by limited operating budgets and/ or insufficient financial support from stakeholders and membership, lack of office and technical equipment, poor working conditions including office buildings which need renovation or upgrade. MAAH's activities are grouped into six main Budget Programs of which Budget Program for Hydro-Agriculture and Irrigation Development will host the current project.

13. **Gender gaps persist in Burkina Faso, particularly in farming activitie**s**.** In the 2016 Human Development Report[10], the country ranked 146 out of 149 countries in gender inequality owing to gender disparities in a number of socio-economic aspects. Female-headed households have 14 percent lower per capita food consumption and are more food insecure than male-headed households.[11] Women's access to agricultural extension services, credit and productive resources such as agricultural inputs and equipment remains limited. Agriculture plots managed by women produce less per hectare than plots managed by men. The primary factors that contribute to the gender productivity gap in agriculture in Burkina Faso are essentially three fold: (i) women face constraints because of their duties in two economic spheres: the productive and the reproductive tasks in the household; (ii) women have limited access to

[10] 2016 Human Development Report By the United Nations Development Programme 1 UN Plaza, New York, NY 10017 USA
[11] 'Burkina Faso: Poverty, Vulnerability, and Income', WB June 2016

farm labor; and (iii) women's productivity is limited by weak access to credit to purchase agricultural inputs, improved farming equipment and labor.

14. **Youth unemployment is acute, undermining the political and economic stability of the country**. Rural youth (18 to 35 years) face challenges similar to those faced by women producers. They are mostly un-educated and lack professional qualifications. Their low social status and the difficulties they encounter to access economic resources limit their participation in productive activities. In Burkina Faso, 68 percent of the population is under 24 years of age[12]. The problem of youth unemployment is severe: in 2014, 25.2 percent of youth were unemployed[13]. Given the lack of job opportunities, particularly in rural areas, youth unemployment threatens to undermine the country's political stability, particularly within the present context of the influence of religious and other forms of extremism[14]. Hence, to avoid the instability and violence currently experienced by Burkina Faso, the focus should be on providing economic opportunities for young people. The focus on youth requires a gender perspective to develop effective and well targeted programs. Unless young women receive adequate training and have prospects of steady employment, the possibility of higher birth rates will undermine the country's economic gains. Similarly, technical training and the creation of viable jobs for young men, particularly in the agriculture sector, is a precondition for sustainable development and peace. Ensuring that Burkina Faso's youth are directly empowered with income earning opportunities, have access to education and training opportunities, and a voice in local decision-making is critical for the country's stability and sustainable development.

15. **To confront these challenges, with the support of the donor community the Government is implementing the PNDES.** The PNDES lays out the Government's vision and action plan for the period 2016-2020. It emphasizes the structural transformation of the economy with agriculture playing the key role as a driver of growth. Its priority interventions are to increase productivity, improve the management of water resources for agriculture, develop market infrastructure and support institutional transformation. It also highlights the challenges related to climate change and the degradation of soils, with the objective to support a transition towards a green economy and the sustainable management of natural resources.

C. Relevance to Higher Level Objectives

16. **Link to the country's PNDES and Nationally Determined Contribution (NDC) to climate mitigation and adaptation.** Project interventions will support Burkina Faso's national socio-economic blueprint for development (PNDES) which links with development policies at regional and sub-regional levels (e.g., West African Agricultural Policy-ECOWAP and CAADP) and international level (e.g., SDGs, Economic Partnership Agreements). It also takes into account the investment programs of sector ministries involved in project implementation, in charge respectively of agriculture and irrigation (MAAH, main project implementation entity), non-timber forest products (MEEVCC for the shea value chain) and infrastructure and transport (MI, associate project implementation entity for rural roads). The project will also help the Government to adhere to its commitment regarding climate change as spelled out in the country's NDC to reduce national emissions and adapt to the impacts of climate change. Burkina Faso's planned measures are mainly aimed at reducing its vulnerability to climate change through the development of adaptation and resilience capabilities, as well as by facilitating the coherent integration of adaptation to climate change in policies and programs. The NDC has identified the sectors involved in

[12] Index Mundi, Burkina Faso, Demographic Data, 2018.

[13] ILOSTAT, Share of Youth 'Not in Employment, Education or Training' (NEET), 2014.

[14] 'Youth unemployment and political instability in selected developing countries', Therese F. Azeng & Thierry U. Yogo, Working Paper No. 171, African Development Bank, May 2013.

adaptation projects and suggested measures for each of them. These sectors include predominantly: agriculture, energy, land use, and waste management. Suggested adaptation measures include: (i) promotion of sustainable land management; (ii) implementation of water-efficient irrigation techniques and water management; (iii) agroforestry for sustained management of natural resources; and (iv) improvement of food processing and preservation methods.

17. **Alignment with the Word Bank Group (WBG)'s Country Partnership Strategy.** The project is aligned with the WBG Country Partnership Framework (CPF FY18-23, Report no 123712-BF) approved on July 5, 2018, and WBG's priorities related to poverty reduction and climate change mitigation and adaptation. Particularly, it will support Focus Area 1 of the CPF pertaining to accelerating sustainable private-led growth for job creation for which two of the main objectives are to improve agriculture productivity and the competitiveness of agri-food value chains, and to develop transport, trade, and information, communication and technology (ICT) for improved access to markets. The project also builds on the 2017 country Enabling Business in Agriculture (EBA) with regards to the improvement of the regulatory framework, and the 2016 Africa Climate Business Plan (ACBP) concerning climate resilience.

18. **Adherence to Scale-Up Facility (SUF) criteria.** The project meets the criteria for eligibility for funding from the SUF. SUF financing has been mobilized for the project primarily in view of its strong transformative development impact in terms of rapidly increasing production through the provision of full irrigation services and attendant technology packages and service delivery, and through the focus on agro-processing by laying the basis for increased private investment. Project interventions are expected to lead to substantial increases in production and eliciting a strong response of private sector operators all along the targeted value chains. Hence, the project's return on investment is anticipated to be high. In addition, the project will: (i) take account of the cross-cutting priorities regarding climate change and the resilience of production systems in accordance with the country's NDC priorities; (ii) address gender issues with a focus on small-scale agro-processing activities (especially in the shea nut value chain) in the hands of women; and (iii) foster regional integration as project interventions are expected to boost trade with neighboring countries. Burkina Faso is an IDA-eligible country at moderate risk of debt distress. Its favorable long-term debt sustainability status is a positive factor regarding its use of financing under the IDA18 SUF.

19. **Contribution to Sustainable Development Goals (SDGs).** The project (also referred to as PReCA) will also directly contribute to the following SDGs: (i) *Goal 5 - Gender equality*: Gender dimensions will be systematically integrated into all project components; two types of activities will be particularly directed to women, those related to food processing and those linked to the shea value chain which are primarily in the hands of women; women will be given preferential access to the Cost Sharing Facility (CSF) under Component 3; (ii) *Goal 8: Decent work and economic growth*: PReCA is expected to have a transformational impact on agriculture in the project areas through the provision of full irrigation services, attendant inputs and investments and dissemination of Good Agriculture Practices (GAPs), and fostering private investments; this is expected to result in a quantum change in crop productivity and in the level of commercialized surpluses, hence providing sustainable employment and boosting the country's economic growth; (iii) *Goal 9 – Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation*: this goal will be achieved by constructing new and rehabilitating and modernizing rural roads, small and medium scale irrigation schemes, and critical facilities for value addition (such as agro-processing units, farm structures, and storage units); and (iv) *Goal 13 – Take urgent action to combat climate change and its impact*: this goal will be achieved through the efficient use of inputs, including water and land; enhancing awareness of and promoting climate-smart agriculture, and activities that enhance carbon sequestration in the soil; and by financing climate-resilient infrastructure;

PReCA activities will enable the agriculture sector to adapt to climate change in project areas and contribute to the reduction of Green House Gas (GHG) emissions.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

20. The PDO is to increase agricultural productivity and market access for small producers and small and medium agribusiness entrepreneurs[15] for selected value chains in the Project Areas.

PDO Level Indicators

21. Key Performance Indicators (KPIs) include:

a) Increase in yields of targeted crops achieved by primary project beneficiaries (disaggregated by commodities); and

b) Increase in the volume of market sales of targeted crop commodities produced by primary project beneficiaries (disaggregated by commodities).

22. In addition, the project M&E system will measure the following four Corporate Results Indicators (CRIs):

a) Number of farmers reached with project agricultural assets or services (including women and youth targeted at 30 percent);

b) Beneficiary satisfaction rate with the quality of project-supported services (disaggregated by gender and age);

c) Area provided with new/improved irrigation or drainage services; and

d) Number of km of roads and tracks constructed or rehabilitated.

PROJECT COMPONENTS

Project Concept

23. **The project will address the profound structural transformation needs of the agriculture sector by filling three mains gaps: infrastructure, public agriculture services and financing**. It will improve access to irrigation services, the connection of production areas to markets and provide support to producers through strengthened agriculture advisory services and access to finance for private sector initiatives. This transformation will be achieved by focusing on five key irrigation perimeters with potential for full irrigation development. Provision of irrigation and drainage services is expected to provide a major boost to the yields of the selected crops and achieve a quantum difference in the level of production. Another project thrust expected to be transformational is the focus on value addition at all levels of the selected value chains; value-addition will be systematically fostered through the provision of technical support and funding to private entrepreneurs willing to engage in agro-industry at all operating scales. Finally, the project design recognizes the key role of women and youth[16].

[15] Agribusiness entrepreneurs are defined as economic operators intervening both at production level as well as downstream of production, i.e. post-harvest, storage, processing and marketing including input suppliers and service providers.

[16] Annex 2 gives details of how the project will mainstream gender and youth dimensions in all its activities.

24. **The project design is predicated on a multi-pronged approach with the following areas of focus:**

a) *Priority value chains:* The project will focus on irrigated crops that are important in terms of production, value addition and market potential. The project will provide demand driven support for selected value chains including maize, rice, onions, tomatoes, and other horticulture crops. The shea value chain has specific needs to the extent that production consists in harvesting nuts from scattered trees. Funding support will be provided mostly at processing and marketing level. The above list of crops is indicative and not exhaustive since the project does not intend to select winners but rather follow on producers' demands;

b) *Selected geographical areas:* Project support will be focused on areas where production potential can be realized by removing binding constraints on productivity, value-addition and market linkages. Four administrative regions have been selected for project implementation in the South-West and North-West part of the country (Cascades, Hauts Bassins, Boucle du Mouhoun, and North). The selection was based on production potential predicated on a twin set of criteria: substantial land and water availability and high degree of proximity with main markets;

c) *Specific irrigation schemes* in the above geographical areas where irrigation and drainage services will be improved and/or developed so that they reach their full production potential. The project will develop and/ or rehabilitate about 4,497 ha of land in five collective perimeters registered with the State where irrigation water and attendant production packages will be provided to producers. It will cover additionally 1,000 ha of individual irrigation outside the five perimeters through different systems with a focus on tree crops; and

d) *Individual road and track segments* designed to open up producing areas, as well as *marketing platforms* to ease access to markets.

25. **The project will use a value chain approach treating systematically each link in the value chain where constraints may be encountered.** The project will support producers, as well as other operators and service providers along the targeted value chains where major constraints are encountered and ensure strong integration of activities between each of value chain links. It is expected to increase access by producers to more efficient production systems predicated on the provision of irrigation water year-round, Good Agriculture Practices (GAPs) and improved inputs. It will also help other operators in the value chains to better respond to market demand by developing agro-processing, improving product quality and upgrading packaging. It will strengthen the linkages between various stages of the value chain by supporting productive partnerships (including formal contract farming arrangements) between the various actors. Project activities will help create and enhance business opportunities and encourage entrepreneurial behavior with emphasis on women- and youth managed enterprises. In line with the stated strategic approach, project interventions for accelerating agriculture and agro-processing development will range from the provision of public goods by the State to fostering direct investments by the private sector.

26. **The project will increase the agriculture sector's resilience to climate change and shocks.** Climate shocks represent a serious threat to Burkina Faso's agriculture sector, and, consequently, to rural livelihoods and food security. As a landlocked country in the Sahel region, Burkina Faso suffers from an extreme and variable climate, with the risks of both flooding and drought occurring frequently. Climate and disaster risk screening indicates that the country is exposed to extreme temperatures, drought and extreme precipitation and floods. The intensification of the severity of droughts, will affect crop production and pastoral activities, by contributing to land degradation and by directly impacting herd

mortality rates. Increase in the severity of droughts will also limit options for biomass/biofuels production. Potentially damaging and life-threatening river floods are expected to occur at least once in the next 10 years in Burkina Faso, and this has implications for the design of infrastructure.

27. The project will give special attention to mitigating and adapting to climate change with specific consideration to implementing Climate Smart Agriculture (CSA) technology that preserves soil quality and carbon content, weather-proofs irrigation, and promotes climate resilient market and road infrastructure. The provision of full irrigation services will provide environmental co-benefits to farmers as they will not be subject to weather drudgery. Indeed, the process will involve equipping the project irrigated zones with infrastructure and knowledge in managing the water inflow during droughts or floods, knowledge of and supply of drought resistant seeds, and landscape management techniques. This will be done, in particular, in close collaboration with the Burkina Faso programs for Support to Bio-Digester Project (P156413) and Reducing Emissions from Deforestation and forest Degradation Program (REDD+, P149827).

28. **The project will support cross-cutting priorities, *inter alia*, capacity building, empowerment of vulnerable groups, and adherence to food safety standards**. The main cross-cutting priorities other than climate change proposed to be addressed under the project are: (i) capacity building of both the State and private sector services, recognizing that support services for all actors along the selected value chains from production to market access remain grossly insufficient; (ii) empowerment of vulnerable groups (women and youth) in the development of their production and marketing businesses, and adherence to social safeguards; and (iii) public health and nutrition, bearing in mind that marketed commodities, notably processed food, currently do not meet the required food safety standards.

29. **The project will promote private sector activities through the Maximizing Finance for Development (MFD) principles.** The project acknowledges the key role of the private sector in the development of the agri-food sector. It will contribute to crowding in private solutions for development of agriculture in Burkina Faso and unlocking private investment in the country. In this vein, the project will seek to improve the business environment, including the implementation of the new agro-sylvo-pastoral investment code, for private actors to engage at all levels of the targeted value chains by catalyzing private sector participation in commercial farming and processing and facilitating access to finance. In collaboration with the World Bank-financed Financial Inclusion Support Project (P164786) approved in April 2019, the project will apply the MFD principles to set the stage for enhancing funding sources on behalf of private investors (producers, processors, traders, etc.). In scaling-up private-finance mobilization, the aim is to support Burkina Faso's development goals, in ways that complement and reinforce public resources. The project will promote private investments that are economically viable and cost-effective, fiscally and commercially sustainable, balanced from a risk reward perspective and operationally transparent.

30. **Scope of intervention and complementarity with other World Bank projects and Advisory Services and Analytics (ASA) studies**. The project interventions will be strategic, and closely coordinated with other WBG interventions and the activities of other development partners. The project will seek to complement and enhance the support to agriculture already provided through various World Bank-funded projects, including the Regional Sahel Irrigation Initiative Project (PARIIS-P147674) approved in FY18, as well as the Agricultural Productivity and Food Security Project (P114236-PAPSA, closing in December 2019), Agricultural Diversification and Market Development Project (PAFASP- P147978, closed in FY18), and West-Africa Agriculture Productivity (WAAPP – P117148, closed in FY17) projects. In the promotion of agri-business support and to maximize finance for development, the project will work

closely with the recently approved Burkina Faso Financial Inclusion Support Project (P164786, approved in FY19). The project will also collaborate with the Livestock Sector Development Support Project - PADEL-B (P159776, approved in FY17), especially for the use of crop byproducts for animal feed. The support to improve soil management practices and the shea butter sector will be implemented in coordination with the financing from the Forest Carbon Partnership Facility (FCPF – P149827), which is supporting the country's readiness to participate in the future carbon mechanism and the analytical work to define a CSA Investment Plan for Burkina Faso (P169820). The project will also build on recommendations from three recently-completed studies: (i) "Pathways for Value Addition through Agro-Processing in Burkina Faso (P158578)" (June 2018) regarding targeted value addition activities; (ii) "Integrating Bio-digesters for Cooking into Small Farm Activities" (March 2019, P164656) regarding compost from bio-digesters; and (iii) "Land Sector Review" (May 2019, P165025) for land policy and land tenure arrangements.

31. Finally, the project will optimize fiduciary, environmental and social safeguards management, as well as overall management capacity, whenever possible, through cost-sharing arrangements within the Government's new program approach to implementing externally-funded projects[17].

32. **Project implementation will be sequential to circumvent the possible overcrowding of activities.** To address the possible risk of having an overcrowding of activities, project tasks will be prioritized, and their implementation sequenced over time accordingly. The approach will apply upfront with mandatory initial activities implemented first to ensure full project readiness for implementation; other activities will be appropriately spread over time as project implementation unfolds. The efforts at prioritization and sequencing will be reflected in the initial implementation plan to be prepared before credit effectiveness and thereafter as part of the Annual Work Plans and Budgets (AWPBs).

Project Description

33. The project has three technical components structured around three core activity clusters: raising productivity in irrigated production systems; improving competitiveness and linking farmers to markets; and promoting private sector-led agribusiness development. A fourth component will cover project coordination activities capacity strengthening as well as establishment of a Contingent Emergency Response Component (CERC).

COMPONENT 1 – ENHANCING AGRICULTURE PRODUCTIVITY (US$111.2 million equivalent of which US$97.2 million IDA and US$14.0 million Government of Burkina Faso - GoBF)

34. Component 1 aims to remove constraints to improved farm productivity, mainly in irrigated production systems. It will have three sub-components: (i) irrigation development, including attendant land-tenure arrangements and support to the input supply chain; (ii) agriculture advisory services; and (iii) support to producer groups. The project will mainstream gender and youth dimensions in all its activities, giving them preferential treatment particularly in project-provided agriculture training and services, as well as funding of investment initiatives. This will be achieved by targeting economic activities in which women and youth predominate.

35. **Sub-Component 1.1: Irrigation infrastructure and land tenure** (US$89.0 million of which US$75.0 million IDA and US$14.0 million GoBF). Sub-component 1.1 aims at supporting productive land development by increasing the provision of irrigation water and securing land tenure on project sites. Irrigation infrastructure will focus on both rehabilitation and development of irrigated perimeters.

[17] See Decree no. 75 of the Ministry of Economy, Finance and Development, dated February 2, 2018.

Emphasis will be placed on climate-proof design and construction to ensure efficiency and climate resilience. Sub Component 1.1 will be implemented in close liaison with the World Bank-financed PARIIS Project (FY17).

36. **Irrigation development and rehabilitation**. This activity will consist in rehabilitating and developing the irrigation and drainage infrastructure on five selected sites the project area (see Annex 2, Appendix 1), and supporting the attendant collective institutional and organization arrangements. Irrigation infrastructure works will cover a total of 4,497 ha over five collective irrigation schemes to be either fully developed (2,947 ha) or upgraded/ rehabilitated (1,550 ha), for both smallholders and agriculture entrepreneurs[18]. The project will not finance activities related to construction and/or rehabilitation of dams.

37. **Land tenure.** The project will support arrangements to ensure proper rights to cultivate for farmers benefiting from irrigated land allocation, and due compensation (to be funded by the GoBF) for those who will lose their lands or income losses in the process of land reallocation. It will support MAAH's dedicated land tenure services (DGFOMR) at the central level and in the twenty communes adjacent to the project irrigated perimeters. Secure land tenure will also incentivize the adoption of new technology to increase productivity and climate-smart practices to provide adaptation and mitigation co-benefits.

38. **Sub-Component 1.2: Agriculture advisory services** (US$4.1 million IDA). Sub-component 1.2 aims to improve the delivery of advisory and outreach services, with a focus on extension activities regarding more productive and sustainable agricultural practices under irrigation conditions. This will be achieved by providing catalytic support towards strengthening the capacity of MAAH's services (Directorate General for Agricultural Extension, DGPV) and other relevant institutions dedicated to delivering demand-driven agri-food-oriented extension and outreach services. In doing so, the project will scale up results achieved by the WAAPP project to enable a wider adoption of Good Agriculture Practices (GAPs). This Sub-Component will provide funding for the following activities *inter alia*: (i) preparation of specialized extension guides and provision of training regarding different Good Agriculture Practices GAP), e.g., the use of the Farmer Field School (FFS) approach, Climate Smart Agriculture (CSA) techniques (including bio-compost), Integrated Pest Management (IPM), System of Rice Intensification (SRI) and/or gender-oriented practices; (ii) technical assistance to identify key constraints for technology adoption as well as capacity building and dissemination of the related knowledge regarding production and certification of improved seeds and planting material; (iii) development of an e-extension platform, using digital solutions and applications to modernize and increase the outreach of advisory services; and (iv) training for DGPV staff through participation in specialized forums, provision of scholarships for diploma courses in selected fields, organization of exchange trips, etc. Sub-Component 1.2 will also finance investments to support extension services such as office rehabilitation and equipment (including computer equipment), technical equipment and vehicles for DGPV and its communal offices in the project areas.

39. **Sub-Component 1.3: Support to producer organizations and input supply** (US$18.1 million IDA). Sub-component 1.3 has a two-pronged objective: (i) to strengthen and/or facilitate the creation of Agricultural Producer Organizations (OPAs), including economic interest groups, and cooperative

[18] Smallholders will be allocated plots of 0.5 or 1.0 ha each for a total of 3,497 ha, and agricultural entrepreneurs tracks of land of at least 10 to a maximum of 50 ha each for a total of 1000 ha. NB. The project will also develop, in the form of individual investment sub-projects under Component 3 private sites intended for arboriculture, for a total of 1,000 ha under small irrigation systems (pumping, Californian, drip, and solar powered irrigation systems that reduce energy use, etc.)

societies of different types, and (ii) to facilitate the supply of inputs required for targeted crops. Objective (i) will be achieved through MAAH's dedicated services (DGFOMR)[19], as well as the assistance of specialized non-government organizations (NGOs) or service providers. Sub- component 1.3 will place special emphasis on developing Water Users Associations (WUAs) to strengthen water management. Strengthened institutional and organizational arrangements will allow farmers to have greater participation in decisions, leading to more sustainable water use and more equitable sharing of the benefits. This will also contribute to enhance resilience through promoting a stronger sense of ownership, and greater efficiency and accountability, in water use and land development. Under objective (ii), input supply to farmers will include the provision of the required means of production to develop cropping systems on irrigated land. This will follow the technical guidance of extension services received under Sub-Component 1.2. The project will make available to smallholder farmers the package of inputs, improved seeds and small implements.

COMPONENT 2 – IMPROVING COMPETITIVENESS AND FOSTERING MARKET ACCESS (US$34.6 million equivalent of which US$33.7 million IDA and US$0.9 million GoBF).

40. Component 2 aims to improve competitiveness and foster access to markets through three sub-components aimed at (i) capacity building of MAAH central directorates regarding sanitary and phyto-sanitary control, development of quality norms and standards, and support to market knowledge; (ii) the provision of marketing facilities; and (iii) construction/ rehabilitation of rural road infrastructure.

41. **Sub-Component 2.1: Sanitary and phyto-sanitary control, development of quality norms and standards, and support to market knowledge** (US$5.2 million IDA). Sub Component 2.1 will focus, firstly, with regard to sanitary and phyto-sanitary control, on the regulatory framework to ensure that appropriate food safety regulations and means are in place to enable the country to serve the needs of the agriculture domestic and export markets. To that end, it will provide support to MAAH's dedicated services (DGPV), including its deconcentrated phyto-sanitary control posts in the project area. Capacity building will focus on specialized areas such as food safety analysis and control. The project will also provide funding for logistical support and equipment of the Laboratory for Agri-food Analysis (LAPA) (e.g. for control of aflatoxin in maize, pesticide content in agricultural products, herbicide control, etc.) and for the rehabilitation of the two regional laboratories for seed control in the project area. Concerning the shea sector, the project will support the Institute for Research in Applied Science and Technology (IRSAT) for the definition of semi-industrial technological packages to reduce energy (fuelwood) consumption. Secondly, with regard to the promotion of the quality of agricultural products, the project will focus on the technical norms and trading labels so that they conform to international standards (HACCP, ISO and others). To this end, it will provide training and technical assistance to MAAH's dedicated services (DGPER). For the shea butter value chain, the support will aim at developing a national standard of production to ensure quality consistency along the chain. Thirdly, in terms of market knowledge, the project will finance the collection of market information regarding the project-supported commodities. It will support the strengthening of MAAH's Agricultural Market Information System (SIMA), including data collection on specific targeted markets. Information and awareness workshops on SIMA will be organized throughout the project area, including radio broadcasts, so that potential users are aware of SIMA existence and know how to access it. MAAH's dedicated services (DGPER), as well as the RECA will be supported so that they can contribute to SIMA data collection and diffusion efforts.

[19] Regarding the shea nut value chain and other carbon-related activities, support to producer organizations (TFK) and biodigester compost suppliers will be done through the dedicated services of the Ministry of Environment, Green Economy and Climate Change (DGEVCC)

42. **Sub-Component 2.2: Marketing infrastructure** (US$7.2 million IDA). Sub-component 2.2 aims to strengthen the link between producers, off-takers and processors to ease access to market outlets. The project will support marketing and storage infrastructure, essentially the construction/rehabilitation of fourteen purchasing counters (PCs), as well as 90 small storage facilities in strategic areas in the four regions covered by the project. PCs are marketing platforms, the purpose of which is to avoid direct field purchases from farmers and reduce asymmetric information that expose producers to buyer pressures. PCs will meet the required criteria of relevance, viability, cost-effectiveness, as well as job creation, especially for women and youth. Attention will be paid to the management and maintenance of these counters in collaboration with the end-users and local authorities (see Annex 2, Appendix 3).

43. **Sub-Component 2.3: Rural tracks and roads** (US$22.2 million of which US$21.3 million IDA and US$0.9 million GoBF). Sub-component 2.3 aims to reinforce the connection of producing areas targeted by the project with the supply sources for productive inputs and market outlets for commodities produced. It will include the construction and rehabilitation of rural roads and tracks to ensure all-weather access throughout the year to all the project-targeted irrigated areas. A total length of about 350 km of tracks and road sections have been selected in concert between MAAH and the MI. Sub-component 2.3 will finance the technical, socio-economic and environmental studies, road works, as well as maintenance over a period of two years. The implementation of Sub-component 2.3 will be carried out under MI's supervision through its Directorate General of Rural Tracks (DGPR). The execution of road works will be entrusted to private civil engineering companies. Attention will be paid to the planning and maintenance of tracks and roads using national norms. Sub-component 2.3 will provide technical assistance and training to DGPR, its deconcentrated structures and local communities involved in the project area as required to oversee the construction and maintenance of the project rural roads and tracks.

COMPONENT 3: PROMOTING PRIVATE SECTOR-LED AGRIBUSINESS DEVELOPMENT (US$89.5 million equivalent of which US$42.9 million IDA, US$29.4 million beneficiaries and US$17.2 million PFIs).

44. Private sector development is the major thrust of the project strategy for developing value chain activities. Accordingly, Component 3aims to enable the country's private agriculture and agro-processing sector to become more competitive on domestic and external markets, by helping producers, processors and off-takers/ traders develop and finance their investment initiatives. Component 3 will have a two-pronged focus on: (i) the development of business plans; and (ii) the provision of investment financing under the project's Cost-Sharing Facility (CSF) for project-supported crop production, value addition and commercialization.

45. **Sub-Component 3.1: Development of business plans** (US$4.5 million IDA). The objective of this sub-component is to support eligible beneficiaries in developing business plans which can be eligible for funding under the project CSF. It will assist eligible value chain operators to (i) identify potential investment activities aligned with the project's objectives, (ii) select potential partners with whom they can establish partnerships; and (iii) develop viable business plans to secure access to project funding; these business plans will include the required specifications to conform to the eligibility criteria for the CSF, including the fiduciary and safeguards aspects. The above support will be provided through technical assistance (TA). The TA providers terms of reference will include organization of sensitization campaigns to inform potentially interested operators, support for the development of investment sub-projects eligible for CSF funding, training as needed and assistance for the beneficiaries' selection process and subsequent implementation of the selected sub-projects.

46. **Sub-Component 3.2: Private investment financing** (US$85.0 million of which US$38.4 million IDA, US$29.4 million beneficiaries and US$17.2 million PFIs). This sub-component will address the financing constraints of the agribusiness sector by improving access to finance. It will fund a CSF to provide partial support to agriculture and agri-business operators in the form of Matching Grants (MGs) to finance their investment Sub-Projects (SPs). The MG mechanism will target (i) individual smallholder producers, Agriculture Producer Organizations (OPAs), cooperatives, and Small and Medium Enterprises (SMEs) that need financing to create, upgrade and/ or modernize their production, storage and processing facilities, as well as (ii) all other private sector players and entrepreneurs involved in the targeted agriculture value chain (e.g. traders, transporters, equipment manufacturers, service providers, compost providers) with similar needs. MGs will be provided under two windows, for micro and medium/ large sub-projects respectively, under different terms and conditions with the MG representing between 30 to 80 percent of eligible costs. PFIs will provide a minimum of 15 to 35 percent of sub-project funding, except for micro sub-projects which will not require supplementary PFI funding. In partnership with the DGEVCC, all MG proposals will be assessed through an ex-ante calculation on the carbon impact and the most effective projects may be supported to access carbon finance[20]. Women and youth (18 to 35 years)[21], will receive special treatment, especially as regard their very small and/ or start-up enterprises; their personal contribution requirement to the funding of sub-projects will be lower than for their male and adult counterparts. The initial permanent working capital requirements will be eligible for MG funding. The funds will be disbursed directly on behalf of the beneficiary from the project account to a dedicated account for SP implementation opened with the PFI. The beneficiary will have the fiduciary responsibility regarding the use of the funds. The eligibility and selection criteria of the beneficiaries, as well as procedures to be followed all along the investment cycle, will be detailed in the specific project implementation manual (PIM) of the CSF. Goods to be funded under sub grants will be procured in accordance with the provisions of Financing Agreement, the PIM, the Procurement Guidelines and the Anti-Corruption Guidelines, and should not include any expenditures on the negative list set forth in the Environmental and Social Management Framework (ESMF) or the Integrated Pest Management Plan.

COMPONENT 4: PROJECT COORDINATION, INSTITUTIONAL CAPACITY STRENGTHENING AND CONTINGENT EMERGENCY RESPONSE COMPONENT (CERC) (**US$26.6 million equivalent of which US26.2 million IDA and US$0.4 million, GoBF).**

47. Component 4 will (i) support project coordination and institutional capacity strengthening; and (ii) a CERC.

48. **Sub-Component 4.1: Project coordination and institutional capacity strengthening** (US$26.6 million of which US26.2 million IDA and US$0.4 million GoBF). The project will be managed by a Project Management Unit (PMU), housed within the Coordinating Unit of the Budget Program for Hydro-Agriculture and Irrigation Development which is one of the six MAAH budget programs. Hence, the PMU will be integrated into the MAAH administrative structure as part of the sector-wide approach recently adopted by the Government under the budget programs. Sub-component 4.1 will fund (i) the establishment and operation of the PMU through provision of appropriate staffing and operating resources to take charge of project management including resources for fiduciary management, safeguard compliance, M&E, knowledge management and communications, and (ii) institutional

[20] DGEVCC in currently working on carbon projects regarding (i) soil carbon increase through the use of agroforestry technics and bio-compost (from biodigesters) and (ii) the decarbonization of the shea butter production chain. This is part of the collaboration with the REDD+ Program (P149827) and Biodigester carbon project (P156413).

[21] The MG target for women and youth is 30 percent.

capacity strengthening (training, equipment, office rehabilitation, etc.) for the key MAAH directorates and services, including their deconcentrated services and the National Council for Food Security (NCFS); this will also include construction of an office building to host all projects under the Budget Program for Hydro-Agriculture and Irrigation Development. Targeted support will also be provided to selected MINEFID's directorates. To promote consultations at the grassroots, the sub-component will also fund a full set of Citizen Engagement activities. The general intervention principle under Sub-component 4.1 will be to harmonize and/or pool resources with other similar externally-funded projects. In this respect, the PMU may share staff and operating resources with other units whenever possible to economize resources and take advantage of economies of scale[22].

49. **Sub-Component 4.2: Contingent Emergency Response Component (CERC)** (US$0.0 million). Component 4 includes the creation of a project CERC under the oversight of the NCFS at MAAH. The CERC will be a mechanism to provide funding for emergencies. It will have a zero initial funding allocation. In the event of a crisis, the Government will be able to request the World Bank to reallocate project funds to the CERC to cover the costs of the emergency response and recovery. Detailed operational guidelines acceptable to the World Bank for implementing the project CERC activities will be prepared during the first six months of project implementation. All expenditures under the project's specific CERC will be in accordance with World Bank: Investment Project Financing Policies and Procedures. They will be appraised and reviewed in order to be acceptable to the World Bank before any disbursement is made. Disbursements will be made against an approved list of goods, works and services, required to support crisis mitigation, response, recovery and re-construction.

Project Beneficiaries

50. The project is expected to benefit directly and indirectly all economic agents in the project areas operating along the targeted value chains from production to market, including at the processing, storage, transport and trading stages. The total number of project beneficiaries is estimated in the order of 150,000 individuals.

51. **Direct project beneficiaries** are first and foremost all the smallholder crop farmers, processors, traders and marketers who will be involved in project-supported activities at farm-gate level and downstream of production. These include prominently the smallholders and entrepreneurs who will benefit from irrigation development, extension and subsidy for the new technology packages, and the project matching grants as part of project financing windows. Other direct beneficiaries will include: (i) the staff of MAAH agricultural extension support services and other services directly targeted by project activities who will receive technical support and training, and (ii) the off-takers and transporters who will use the purchasing counters, and tracks and roads. The project will mainstream gender and youth dimensions in all its activities, giving them preferential treatment particularly in project-provided agriculture training and services, as well as funding of investment initiatives. This will be achieved by targeting economic activities in which women and youth predominate. These include small-scale agro-processing activities such as mango drying, and activities in value chains dominated by women such as shea nut collection and processing. Youth will be targeted for any project activities focused on training to upgrade their skills, and activities generating jobs such as high labor intensity methods.

[22] A collaboration with DGEVCC is expected for the screening of the carbon impact of the matching grants as well as the valorization of the project activities on the carbon market whenever they fit under one of the existing or future carbon projects developed in the country.

52. **Indirect project beneficiaries** include all stakeholders who will benefit from project spillover effects both at national and local level, i.e., (i) at farmgate level regarding production: other crop farmers neither directly involved in project-supported irrigation perimeters, nor targeted by the project extension activities being outside the production basins; they will benefit particularly from project spillover effects regarding improved crop management, higher quality crop inputs and services, better defined market norms and standards and improved financing conditions as a result of the project; (ii) at post-harvest and market level: buyers and processors, value chain service providers, including private inputs providers (seeds, fertilizers, feed, equipment suppliers) who will benefit from overall increased supply of commodities produced and traded due to better roads and tracks; and (iii) on the consumption side: domestic consumers in Burkina Faso who will benefit from increased quantity of food and attendant nutritional benefits at household level.

Project Cost and Financing

53. **The total project cost is estimated at US$261.9 million equivalent**, of which US$200 million will be financed through IDA, US$29.4 million by beneficiaries, US$17.2 million by PFIs and US$15.3 million by GoBF counterpart funding. Table 1 below shows the source of financing breakdown by financier and by component.

Table 1: Project Cost and Financing (US$ million)

Components	IDA and SUF	GoBF	Beneficiaries	PFIs	Total
Component 1: Enhancing agriculture productivity					
Sub-component 1.1 Irrigation infrastructure development, land tenure and input supply	75.0	14.0			89.0
Sub-component 1.2 Agriculture advisory services	4.1				4.1
Sub-component 1.3 Producer groups	18.1				18.1
Sub-total	**97.2**	**14.0**			**111.2**
Component 2: Improving competitiveness and fostering market access					
Sub-component 2.1 Sanitary and phyto-sanitary control, quality norms and standards, and market knowledge	5.2				5.2
Sub-component 2.2 Marketing infrastructure	7.2				7.2
Sub-component 2.3 Rural tracks and roads	21.3	0.9			22.2
Subtotal	**33.7**	**0.9**			**34.6**
Component 3: Promoting private sector-led agribusiness development					
Sub-component 3.1 Development of business plans	**4.5**				**4.5**
Sub-component 3.2 Private sector funding	**38.4**		**29.4**	**17.2**	**85.0**
Sub-total	**42.9**		**29.4**	**17.2**	**89.5**
Component 4: Project Coordination, Institutional Capacity Strengthening and Contingent Emergency Response Component					
Sub-component 4.1 Project coordination, institutional capacity strengthening	26.2	0.4			26.6
Sub-component 4.2 CERC	0.0				
Sub-total	**26.2**	**0.4**			**26.6**
Grand Total	**200.0**	**15.3**	**29.4**	**17.2**	**261.9**

Results Chain

54. The project is aligned with the Government's vision for the agri-food sector, i.e., to increase primary crop production to cover chronic food shortages and generate greater amounts of surpluses that can be made available for value addition, and, subsequently, be positioned for sale on the market (both domestic and external). Project support will contribute to reduce the country's food insecurity, promote food import substitution and increase of agri-food exports, given the country's untapped agricultural potential for the targeted value chains.

55. The main constraints to improving crop productivity, and thus increasing food security and generating surpluses for the market, are related to the traditional farming systems prevailing in Burkina Faso, generally rainfed based with little value added beyond the farm gate and little capital investment. These systems are extremely vulnerable to climate-related and market shocks; hence farmers are reluctant or unable to adopt new technology, use improved, certified inputs and adhere to food safety measures. In addition, farmers and value chain operators lack access to financing and they operate in a policy and regulatory framework not conducive to market access with little aggregation of production and processing that can generate value added.

56. The project will address these constraints by providing full irrigation services protecting farmers from the vagaries of the weather, as well as institutional support to (i) better apply research findings through more efficient extension services; (ii) strengthen producer organizations; and (iii) strengthen sanitary and phyto-sanitary controls, quality norms and standards, and market knowledge. It will support the related marketing and road infrastructure to facilitate market access and the operations of the supply chain. It will make available grant resources to boost investment and attract entrepreneurship to the agri-food sector, in close liaison with financial institutions which will provide the required complementary resources. Simultaneously, the project will help the Government mobilize funding to mitigate the impact of crises more effectively.

Table 2: Results Chain and Theory of Change

Constraints	Sub-components	Outputs	Intermediate Outcomes	Primary Outcomes	PDO
COMPONENT 1: ENHANCING AGRICULTURE PRODUCTIVITY					
- Low mobilization of irrigation potential - Low diversification of agricultural production - Weak governance of irrigated areas - Poor land tenure security	1.1 Irrigation development, land tenure and input supply	- Irrigated land is registered as State-owned land - Leases are issued to farmers/ entrepreneurs - Sustainable management and maintenance mechanisms for irrigated areas are established - Project subsidized quality inputs and small equipment kits are provided	- Potentially irrigable land mobilized - Related land tenure secured - Irrigation water management improved	Agricultural productivity enhanced	
- Limited knowledge and control of good agricultural and	1.2 Agriculture advisory services	- Farmers/operators in the project areas have access to advisory services	- Good agricultural and irrigation practices		

irrigation practices - Weak stakeholders' capacities		- Producer knowledge and capacities are increased	adopted		Increase agricultural productivity and market access for small producers and small and medium agribusiness entrepreneurs for selected value chains in project areas.
- Weak professional organization of producers	1.3 Support to producer organizations and input supply	- Capacity of Producers' organizations (POs) are developed	- PO performance improved		
COMPONENT 2: IMPROVING COMPETITIVENESS AND FOSTERING MARKET ACCESS					
- Low compliance with sanitary and quality standards - Insufficient market knowledge	2.1 Sanitary and phyto-sanitary control, development of quality norms and standards, and support to market knowledge	- Quality and sanitary norms and standards are respected -Market information is available	- Product quality improved	Market access improved	
- Insufficient storage, conservation and marketing facilities	2.2 Marketing Infrastructures	- Storage facilities/ purchasing counters are constructed and functioning	- Storage capacity and marketing facilities improved		
- Weak physical connection of production areas to markets	2.3 Rural tracks and roads	- Rural tracks and roads constructed and rehabilitated	- Production zones are connected to markets		
COMPONENT 3: PROMOTING OF PRIVATE SECTOR-LED AGRIBUSINESS DEVELOPMENT					
- Lack of business development support to help investors develop their projects	3.1 Development of Business Plans	- TA is provided for business development	- Farmer and agribusiness SME access to business services is improved	Business plans are developed and received financing	
- Insufficient capital investment in production and value addition activities	3.2 Private investment funding	-CSF is established - Producer and agribusiness SME sub-projects are funded	- Access to finance and capital investment is facilitated		
COMPONENT 4: PROJECT COORDINATION, INSTITUTIONAL CAPACITY STRENGTHENING AND CONTIGENT EMERRGENCY RESPONSE					
- Weak project management capacity	4.1. Project coordination and institutional capacity strengthening	- PMU in place and operational - Progress reports timely produced	- Project is well coordinated and managed		
- Resource gaps in crisis response - Low coordination in crisis management	4.2. Contingent Emergency Response (CERC	- CERC at National Food Crisis Center (NCFS) established	- Response time to emergencies is decreased		

B. Rationale for public sector provisioning/financing

57. **The project will support the transformation of agriculture, in part through public provisioning of goods, services and financing, as required to help overcome market failures and assist activities which are still at development stage**. The project will address market failures and remove/reduce distortions that stand in the way of agriculture transformation which justifies public sector provisioning and financing. It will strengthen the operating capacity in the agriculture and agri-business sector, including building up institutional capacity in the targeted value chains as well as enhancing the capacity of core public services. Project support will include development of advisory services and institutional building of services such as agricultural outreach and extension services for crop processing as well as phytosanitary services, quality norms and standards. The project will also train the professionals who will be directly involved in project management, as well as private operators needing assistance to implement their investment sub-projects. It will provide financing for these sub-projects in the form of Matching Grants (MGs). The rationale for the MGs is twofold: (i) assist investors to start their business when they are at infant industry stage (in particular help them cover their negative cash-flow at project inception); and (ii) encourage the development of business relations between them and commercial banks; the latter will provide the complementary funding and ensure the sustainability of this funding.

C. Rationale for World Bank Involvement and Role of Partners

58. **Value added of the World Bank support**. The project has significant value added from the Government and development community stand point. Beyond financing, the added value arises mainly from the World Bank's technical input based on international experience for similar value chain development projects, the introduction of innovative financing mechanisms using matching grants, knowledge sharing and communication. It is also linked to the job creation and economic transformation for IDA18. Such critical World Bank support will complement the national sources of expertise and business advisory support, resulting in increasing the project's development impact, in ways that go beyond what could be realized by exclusive reliance on the Government's own institutions or existing national consulting firms.

59. **The WBG has the capacity to shepherd project implementation**. By virtue of its strong presence and engagement in Burkina Faso, along with relevant experience in Sub-Saharan Africa and elsewhere in the world, the World Bank has the capacity and convening power to aggregate the knowledge and efforts to unlock Burkina Faso's agriculture potential as envisaged under the project. World Bank financing will support the much-needed strengthening of public sector services and private capacity to invest. The World Bank's convening power also provides real opportunities for establishing collaborative arrangements with Burkina Faso's other technical and financial development partners, as well as Public-Private Partnerships (PPPs) to support targeted value chain development. As part of Component 3, along with IFC, the World Bank will play an important role in engaging the private sector and raising investment opportunities. In this regard, the project will facilitate private partnerships between actors in the selected value chains and act as a facilitator to developing private agri-businesses.

D. Lessons Learned and Reflected in the Project Design

60. **General lessons learned by the WBG regarding agriculture, agri-business and irrigation development in Burkina Faso and the Sahel region.** The project design is predicated on the lessons arising from the following significant IDA-financed projects, *inter alia*: (i) the Burkina Faso PAFASP (P147978, closed FY17), which supported value chains, in particular the development of the mango and onion value

chains; (ii) the regional WAAPP program (P117148, closed FY18) regarding the development and adoption of new technologies and the benefit of having demonstration kits and Farmer Field Schools (FFSs); (iii) the Burkina Faso PAPSA (P114236) and regional PARIIS projects (P154482, ongoing) which support small scale irrigation; (vi) the Bagré Growth Pole Project (P119662, Additional Financing-AF phase FY17) which supports large irrigation schemes; and (vii) the Financial Inclusion Support Project in Burkina Faso (P164786, approved in April 2019). The above projects have identified and dealt with some critical activities for improving supply chain competitiveness: (i) the importance of supporting production in quantity and quality while improving access to markets and credit to consolidate and expand investments; (ii) the need for strong road access and market infrastructure; and (iii) the importance of capacity building in support of the above. Finally, the project took into account the conclusions of the study on Integrating Bio-digesters for Cooking into Small Farm Activities (P164656), which showed the benefits (in terms of cost, productivity and soil protection) of the compost from the bio-digesters as a substitute to chemical fertilizers.

61. **Lessons regarding development and management of irrigation schemes.** The irrigation sector in Burkina Faso, like in most Sahelian countries has experienced different stages of evolution. Following the limited success of the large-scale public irrigation schemes in the 1980s, institutional reforms refocused the role of public irrigation companies on irrigation development, with partial management transfer to irrigation users' associations. At the same time, the Government and development partners reoriented a larger share of investments to small-scale irrigation. Despite these efforts, areas suitable for irrigated agriculture in Burkina Faso remain largely underdeveloped and underexploited. In addition, sector outcomes have been below expectations due to a variety of factors including: (i) insufficient engagement of local populations; (ii) inadequate consideration of commercial viability and sustainability; (iii) errors in technical design and poor construction quality; (iv) absence of transparent irrigated land allocation process; and (v) unclear division of responsibilities for scheme operation and maintenance (O&M) between the management entities and Water User Associations (WUAs). These problems will receive due attention under PReCA. In addition, the project will promote private irrigation schemes devoted to high value crops. It will ensure that lessons for small-scale irrigation, such as the use of proper technology (drip, Californian, sprinklers, etc.) and management systems are duly heeded as necessary backdrop for the viability of the investments.

62. **Strengthening partnerships for value chain development**. By bringing lessons from the Productive Alliance model[23], which was successfully implemented in Latin America and elsewhere, including in-country through PAFASP, the project will lay the groundwork for expanding commercial agriculture, and make it more inclusive and sustainable. In the design of the investment sub-projects to be financed as part of the project's CSF, PReCA will emphasize support to increase agribusiness investment and value adding activities through agro-processing and strengthened commercial partnerships. In this regard, the project design benefitted from the World Bank's experience in the agriculture and agribusiness sectors in identifying the critical activities for improving value chain competitiveness: (i) the importance of supporting production both in terms of increased volume and improved quality; (ii) the need for reliable transport and market infrastructure to ease access to markets; and (iii) the importance of technical expertise on all fronts to remain at the cutting edge of agriculture activities and competitive. As such, prominently, the technical, financial, organizational, and management capacities of beneficiaries will be critical to project performance. Upgrading these capacities will be an integral part of sub-project

[23] Productive Alliances are business partnerships bringing together organized producers and other investors either upstream or downstream of production.

preparation and implementation.

63. **Reducing safety risks related to irrigation and drainage assets.** The Bagré Growth Pole project has faced several safety issues related to irrigation and drainage infrastructure, especially drownings in the primary irrigation canals. The lessons arising from the Bagré Growth Pole project will be heeded in the case of the PReCA project. The works related to the project irrigated schemes will include the necessary investments to prevent accidents (stairs, security protection on bridges and canal intersections, etc.). To prevent the safety issues experienced at Bagré Pole, the project will ensure close liaison with the authorities in charge of the management of the dams, water works and primary canals upstream of the irrigation networks. This will be the case particularly with AMVS that will be in charge of the project-financed Dangoumana and Bissan[24] perimeters.

64. **Crisis containment**. The project will emulate other national and regional World Bank-funded projects and heed their lessons regarding CERC implementation.

65. **Use of new M&E methods**. Given the current country's security situation, the M&E system will use new proven methods to ensure effective data collection particularly in areas difficult to reach due to insecurity, including an approach to collect feedback directly from beneficiaries.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

66. The MAAH will have overall responsibility for project implementation, including management of environmental and social risks; it will liaise closely with the MI for implementation of rural tracks and roads activities, MEEVCC for the shea nut value chain development and with the Ministry in charge of Commerce, Industry and Handicraft (MCIA) for private sector development and agro-processing. The project's governance structure will be modeled after the PARIIS project arrangements, including a Review Committee[25] (RC) and a PMU at the central level as well as three regional units based at MAAH's regional offices and one regional unit hosted by AMVS. The RC will meet at regular intervals, at least once a year. It will be chaired by MAAH's Secretary General and serve as guidance body. It will approve the Annual Work Plans and Budgets and progress reports. The PMU, based in Ouagadougou, will be fully mainstreamed into MAAH's structure as advocated by authorities alongside other national project implementation units. It will come under MAAH's Budget Program for Hydro-Agriculture and Irrigation Development that host all irrigation-related activities.

67. Details regarding PReCA's organizational arrangements are presented in Annex 1. The PMU will sign partnerships or technical agreements with MAAH's and other ministries' directorates to carry out project activities within their respective mandates. The National Coordinator of the project will be *de facto* the head of Budget Program for Hydro-Agriculture and Irrigation Development as per the new decree organizing the budget programs[26.]. The National Coordinator will delegate the management function of the project to a Project Manager who will be competitively recruited or appointed following the World Bank non-objection. His/her signature will be required to commit project financing. S/he will be assisted by a team of high caliber who will be competitively recruited or appointed, covering technical, fiduciary,

[24] Dangoumana and Bissan are two of the five perimeters to be rehabilitated or developed

[25] The RC will include representatives of the MAAH (General Secretary-SG, Cabinet, DGESS, DGPV, DGFOMR, DGPER); the Ministry of Economy and Finance (DGCOOP, DGEP, DGB); National Agriculture Chamber; Coordinators of projects and programs in the agriculture sector; representatives of financing partners, DCMEF/MAAH, DAF/MAAH, DGEVCC/MEEVCC and DMP/MAAH will also be invited to participate as observers.

[26] Decree no. 2018-092/PRES/PM/MINEFID dated Jan. 17, 2018 regulating development projects and programs.

social and environmental safeguard functions deemed critical for proper project implementation and management. As needed, some staff may be shared with other projects under the budget program.

68. MAAH has been responsible over the past decade, and is still responsible currently, for implementing several important World Bank-funded projects. It has acquired capacity to support the different PMUs from technical, financial management, safeguards and M&E viewpoints. Similarly, the other ministries which will be involved have enough capacity to implement project activities. This is the case of MI which has managed several externally-funded projects related to road infrastructure. Detailed implementation arrangements will be worked out as part of the PIM to ensure that MAAH and other ministries maintain enough implementation capacity, promote complementarity and avoid overlap between the different projects under their watch. The PIM will compile all procedures for PReCA's operational implementation, encompassing the administrative, fiduciary, M&E, procurement and social and environmental safeguards procedures. It will include detailed TORs for all PMU staff. Drawing on the experience of other World Bank-financed projects, specific sections of the PIM will be prepared for (i) the CSF and (ii) the CERC.

B. Results Monitoring and Evaluation Arrangements

69. A comprehensive M&E system will be implemented to provide quality data to inform the Results Framework (RF) and allow the Government and the World Bank to react immediately if any issues arise regarding project implementation. The M&E system will serve both as a day-to-day management tool to guide project implementation, and as a mechanism for periodic assessment of project performance to gauge project impact. It will combine the collection of quantitative data on the RF performance indicators with the provision of qualitative information on the project impacts that cannot be fully assessed quantitatively. It will comprise both regular quantitative data collection with periodic qualitative surveys on key thematic areas. The M&E system will be designed in such a way as to link technical and financial data regarding project implementation, so that it serves to establish a comprehensive project Management Information System (MIS).

70. The PMU will use the same or a compatible M&E software as the PRAPS, PADEL-B and PARIIS projects. A project-financed M&E specialist at the PMU will be responsible for all PReCA M&E activities. S/he will be assisted by a team of M&E specialists to support M&E field activities in all four targeted administrative regions. A partnership will be established with DGEVCC to assess ex-ante and monitor the net carbon emission reduction of the matching grant component. PReCA will also contribute to strengthening of MAAH's DGESS for general M&E activities regarding MAAH's investment portfolio. In that regard, technical assistance will be provided to support MAAH's DGESS for the continuous development and update of the country's agriculture portfolio database. In undertaking M&E activities, particularly data collection in areas difficult to reach due to insecurity or conflict, the project will use new methods, such as the Geo-Enabling Monitoring System (GEMS) developed by the World Bank of ongoing investments using geo-enabled methods supplemented by community discussions. It will also use third party monitoring provided by national NGOs or firms hired by the PMU, to collect just-in-time information via mobile apps/tablets, building on geo-tagging of activities. As part of the new methods, provision has been made also for the project to use the Iterative Beneficiary Monitoring (IBM) approach which permits to collect feedback directly from beneficiaries on a regular basis that can be useful in identifying emerging issues on the ground.

71. The specific section of the PIM on M&E will provide details about the definition of the RF performance indicators, and the methodology and instruments to be used for data collection, the institutional arrangements for M&E functions (identification of actors and definition of their respective

responsibilities), the Grievance Redress Mechanism (GRM), and the mechanism to be used for disseminating information. A baseline survey will be conducted during the first year of the project to establish the RF reference data and verify targets. Beneficiaries will be surveyed subsequently in year 3 (mid-term) and year 6 (project end) as part of surveys covering both reference and treatment samples, to track changes in their livelihood conditions attributable to project performance. M&E reports will be issued every six months on physical implementation and results monitoring.

C. Sustainability

72. Sustainability considerations, including possible exit strategies, have been factored into the design of project components. The project will facilitate access to, and delivery of, sustainable public agriculture services so that they serve adequately the needs of all targeted producers and private investors. It will enhance the resilience and performance of targeted Value Chain activities, including a focus on value chains that are most relevant to vulnerable farmers. Regarding VC private business activities, any productive asset, equipment or infrastructure, financed through the sub-projects under Component 3, will be backed by well-conceived business plans clearly indicating the arrangements and division of responsibilities between partners regarding operation, management and maintenance as part of productive partnerships. Support will be provided all along the investment cycle from design to implementation until SPs achieve their expected performance. The project will give priority to investments promoting climate resilience, such as (i) climate smart agriculture (CSA) technologies and practices, System of Rice Intensification (SRI), etc., including sustainable land and landscape management, waste management systems to minimize greenhouse gas emissions, pollution and dissemination of pathogens, and (ii) renewable energy supply (bio and solar energy) systems. It will also give preferential treatment to vulnerable groups such as women and youth, so they can develop sustainable ventures.

73. The project will give special attention to the Operation and Maintenance (O&M) of the irrigated perimeters so that all irrigation facilities are maintained in operational order, with the view that they be kept functional during their full economic life time particularly after project closure. This will be done in close liaison with WUAs which will share O&M responsibilities with the project. PReCA will ensure that the water user requirements are duly respected through the strict adherence to the specifications ('cahier des charges') agreed between producers and the project. O&M activities will also be specially heeded for the project constructed/ rehabilitated marketing infrastructures, as well as roads and tracks. Management committees will be established for marketing counters and road maintenance will be done in close collaboration with local communities using intensive methods to the extent possible.

74. The project will strengthen the capacities of both public and private institutions. The performance of the public support services will be closely monitored through an effective use of ICT tools under the MIS, to ensure that corrective action is taken whenever required and project activities continue to serve the needs of intended beneficiaries. The project also intends to support producer groups to ensure that they continue existing and provide traction to production beyond the project lifespan. The enhanced capacity of local NGOs and service providers should likewise enable beneficiaries to continue pursuing the negotiation and mediation processes with all other actors in the value chains after the project ends. The continued implementation of these processes is particularly important to sustain the productive partnerships, established between producers, agro-processors, traders and Partner Financial Institutions (PFIs).

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

Rationale for project technical design

75. **The project will support MAAH's core public functions of delivering public goods and services for the agriculture sector**. First and foremost, the project will support MAAH's core public function of delivery of advisory services regarding Good Agricultural Practices under Component 1 as backdrop to agriculture development in the main irrigated perimeters as well as under the small private irrigation systems, and to agro-processing in all targeted value chains. The support for provision of public services also includes investment planning and coordination, statistics and M&E, the development of sanitary, food safety and related packaging norms and regulations, as well as support for services such as those dealing with climate change adaptation and mitigation, biosecurity measures, pollution control and environmental management.

76. **The project will address several market failures preventing the development of sustainable and inclusive agriculture value chains**. These market imperfections include insufficient formal farmer-buyer linkages, missing transport and market infrastructure to access market outlets, bargaining power imbalances and knowledge gaps that inhibit smallholder producer and processor socio-economic progress (e.g., insufficient access to data on market demand and signals), etc.

77. **Project-financed investments will contribute to climate change adaptation and mitigation, both being key pathways to poverty reduction and shared prosperity**. According to the Stern Review on the Economics of Climate Change (2006)[27], the cost of climate change to the Global Economy is substantial, resulting in a seven percent GDP loss in Africa by 2100. The Review highlights that a climate-driven reduction in GDP would increase the number of people below the US$2 per day poverty line by 2100 compared with a world without climate change. The rationale for climate change mitigation is hence strong for both the World Bank and the Borrower. In this sense, the CSA practices under the project will aim to lower emissions of GHG per unit of commodity produced, and eventually achieve the growth in agriculture production at lower levels of GHG emissions than what would be achieved under a business as usual approach.

Project's development impact in terms of expected benefits and costs

78. **General methodology for Economic and Financial Analysis (EFA)**. The economic and financial analysis has determined the viability of project activities from both the private (financial analysis) and the social (economic analysis) perspectives. The analysis from both perspectives is needed, as private and social costs and benefits of agriculture investments may diverge, owing to: (i) market failures or policy-induced distortions that may bias perceptions by economic actors in agriculture value chains; and (ii) negative externalities caused for example by drought and other natural disasters, and their impact on productivity and production. Given the uncertainty regarding future price and production levels (due to the volatility of external markets, and/ or the impacts such as climate change), special emphasis has been placed on risk and sensitivity analysis. The following has been performed: (i) estimates of project profitability for those activities that can be subjected to quantified analysis: gross margin and cash-flow analysis, Net Present Value (NPV), Financial Rate for Return (FRR), Economic Rate of Return (ERR), as well as switching values; (ii) sensitivity analysis of the project's viability and sustainability under differing cost and revenue scenarios; and (iii) summary of the key issues affecting economic and financial returns,

[27] Stern review: 'the Economics of Climate Change', Oct. 20, 2006

including the environmental and social externalities such as GHG emissions and environmental co-benefits in the context of Burkina Faso.

79. **Project overall benefits**. The project is expected to achieve the following *inter alia*: (i) improve the livelihoods of beneficiaries, including small producers, traders, processors and transporters involved all along the selected value chains; (ii) increase the efficacy of support institutions within the agriculture sector; (iii) create employment at both farm and industry/ processing level, including engaging youth and women in profitable agri-business activities, and helping male producers and workers look for opportunities in the country as opposed to migrating to other countries, or stay in rural areas as opposed to migrating to cities, or join extremist group as opposed to contributing to peace and harmony in their own social environment; (iv) increase tax revenues for the Government resulting from greater economic activities in the formal agriculture sector; and (v) reduce the trade balance deficit by enhancing exports of certain products or curbing imports of others.

80. **Environmental co-benefits.** The project will generate a wide range of environmental co-benefits across all project activities. The dissemination of climate-smart agricultural practices such as the use of improved varieties and/or extension of crop rotations, efficient water management on irrigated sites and integrated management of soil and nutrient fertility will help strengthen the resilience of farmers to the negative impact of climate change. To reduce methane emissions from rice, the project will promote the adoption, amongst others, of the System of Rice Intensification (SRI), a climate-smart agroecological approach that has proven to have substantial mitigation and adaptation benefits in West Africa. The project will promote other environmentally-beneficial activities, such as the use of solar pumps and reduced tillage practices, the collection of livestock manure and agricultural waste to convert into energy and storage improvements that will be more resilient to climate change impacts such as diseases, pests, or spoilage. The installation of perennial crops will be a source of greater carbon sequestration in the project area. The project will also protect parklands for shea nut production. The sub-projects, financed through the cost-sharing mechanism, will include, as requisites for financing, climate change adaptation measures such as sustainable technologies for storage and processing contributing to greater energy efficiency. In addition, measures to adapt to climate change for construction and rehabilitation of roads and marketing infrastructures will reduce climate-related risks.

81. **GHG analysis.** The carbon-balance analysis performed as part of project appraisal was estimated using the EX-ACT tool. It is defined as the net balance from all GHGs expressed in CO_2 equivalent emitted or sequestered due to project implementation, as compared to a business-as-usual scenario. The GHG accounting calculations were based on the climate characteristics in the project zones. Based on the FAO classification, the project has tropical dry climatic conditions with Low Activity Clay Soils (LAC). Land use and crop management practices and the building of infrastructure (rural tracks, warehouses) were estimated in the with and without project situations. The changes expected to result from the project were factored in the EX-ACT different modules (in full alignment with the EFA assumptions and budget provisions). In addition, the project GHG analysis took into account the reduction of emissions in the shea butter transformation process, the use of biodigester compost to increase soil carbon as well as construction and rehabilitation of rural roads. In that respect, it is to be noted that the project will finance through its Component 3 sub-project investments underlying potential carbon operations, and an estimate of the emission reduction (avoided emission or sequestration) has been provided and added to the EX-ACT simulation.

82. **The project is profitable under all scenarios, without and with valuation of environmental benefits; the sensitivity analysis shows that baseline results are robust under all scenarios.** The scenario

without the valuation of environmental benefits is considered the baseline scenario. In this scenario, the NPV is estimated to be US$181.2 million (on a budget of US$261.9 million), and the economic internal rate of return (IRR) is estimated to be 26.2 percent. With environmental valuation at market prices, the project is expected to generate an NPV of US$181.6 million and an IRR of 26.3 percent. Including the GHG mitigation valued at the high estimate shadow price of carbon (on average, US$102/t CO_2e), PReCA generates an NPV of US$187.3 million and an IRR of 26.9 percent. The sensitivity analysis shows that the baseline results are robust under all negative scenarios. The robustness of these results was explored by testing the effects of changes in several critical parameters: (i) reduced project benefits; (ii) increased project costs; and (iii) delayed project benefits; as well as (iv) decreased output prices; (v) increased input prices; and (vi) reduced adoption rate. In all negative scenarios considered, the project profitability remains substantial, *inter alia*: with 30 percent reduction of project benefits under (i) the IRR decreases to 19.9 percent, with increase in project costs of 30 percent under (ii), the IRR decreases to 22.5 percent, and with a three-year implementation delay under (iii) the IRR decreases to 18.3 percent. Details are presented in Annex 3.

B. Fiduciary

(i) Financial Management

83. **The overall project FM risk is rated Substantial.** An assessment of MAAH was carried out in February 2019. The objective of the assessment was to determine whether MAAH had adequate FM arrangements in place to ensure that the project funds will be used only for the purposes for which they are provided, with due attention to considerations of economy and efficiency. Burkina Faso's current difficult socio-political situation has been considered in the assessment. Based on the existing FM arrangements, the FM assessment considers the degree to which (i) the budgeted expenditures are realistic, prepared with due regard to relevant policies, and executed in an orderly and predictable manner; (ii) reasonable records are maintained; (iii) financial reports are produced and disseminated for decision-making, management, and reporting; (iv) adequate funds are available to finance the project; (v) there are reasonable controls over project funds; and (vi) independent and competent audit arrangements are in place[28]. The main assessment finding is that MAAH has managed or is managing, through external PMUs, several important World Bank-funded projects, including PAFASP (closed FY 2018) and the ongoing PAPSA and PARIIS projects. Hence, it has some knowledge of World Bank Procedures, but it has yet no specific FM arrangements in place for that purpose. However, there are mitigating factors since the project will be controlled by the national institutions in charge of internal and external controls, like the National Court of Accounts, the Control and Anti-Corruption State Authority, and the General Finance Inspectorate within the Ministry of Economy, Finance and Development (MINEFID). The performance of these institutions is globally deemed acceptable despite financial and human resources capacity challenges. The overall conclusion is that the project FM risk remains Substantial.

84. The FM arrangements for the project have been designed with two-pronged consideration for: (i) the World Bank's minimum requirements under its policies and procedures for FM; and (ii) the country's overall Project Financial Management (PFM) performance. The legislative and institutional framework for public financial management is in place in Burkina Faso. This framework is in line with, or approximates, international standards. In addition, Burkina Faso has transposed the WAEMU directives, regulations, and rules on public finances into national law. However, the challenges faced in operationalizing the various financial management procedures, including cash constraints as well as compliance with this legislative

[28] The assessment complied with the Financial Management Manual for World Bank IPF operations, effective December 11, 2014.

framework, rules and regulations, do not allow at present to rely fully on the public expenditure framework for the proposed project. Therefore, the GoBF has requested to use a ring-fenced financing mechanism for the fiduciary aspects of this project. An FM unit will be set up within the PMU for project management with the required measures including recruitment of the necessary FM staff.

85. The IDA credit will finance all eligible expenditures of the project inclusive of tax. An initial deposit of an amount stated in the agreed Disbursement Letter (DFIL) will be released by IDA at the request of the project upon effectiveness. A designated account (DA) in CFAF will be opened at the central bank (BCEAO). A Project Account (PA), managed by the FM Unit with signatories of the Project Manager and the Finance Officer, will be opened in a commercial bank under terms and conditions acceptable to the World Bank. The PA will be used to pay for all the expenditures related to the project. Interest incomes on the PA will be deposited into a sub-account opened in a commercial bank and used according to the FM manual.

(ii) Procurement

86. **The overall procurement risk is rated as Substantial.** A procurement assessment was conducted as part of project appraisal. It concludes that several constraints need to be addressed: (i) both the existing and recently-recruited staff of the Directorate of Public Procurement (DMP) at MAAH have limited qualifications, procurement skills, and experience in World Bank procurement procedures; (ii) DMP has limited operating capacity in terms of office furniture and computer equipment, and its filing system is inadequate; (iii) tender committee members are not trained in the World Bank's New procurement framework; and (iv) there are significant time delays in the procurement process. The earlier assessments for recently-approved World Bank projects (PAPSA and PARIIS) found a similar situation. It is to be noted that the project will be amongst the first projects to be implemented by MAAH in Burkina Faso under the Bank New Procurement Framework and the client 2018 decree related to project and program implementation in Burkina Faso.

87. Procurement for works, goods, non-consulting and consulting services for the project will be carried out in accordance with World Bank procedures. The Borrower has prepared a Project Procurement Strategy for Development (PPSD) and submitted it to the World Bank for review. The PPSD indicates that the national environment is generally favorable for the procurement of goods and services for the implementation of the project. Procurement of goods and services, intellectual services and works contracts will be carried out in accordance with national regulations and the World Bank procurement guidelines.. Given the scale of the infrastructure works to be carried out or rehabilitated, a very limited number of local service providers have been identified to meet the needs of the Project. Consequently, groupings will be made for the launch of international tenders for this work. With regard to vehicle acquisition, the national regulations do not allow targeting of a particular type during procurement. The PReCA will focus mainly on acquisition through the United Nations system. This procedure will make it possible to acquire good quality vehicles on time and at reduced costs. The Procurement Plan covering the first 18 months of project implementation was approved by the World Bank before project negotiations. Any updates of the Procurement Plan will be submitted to the World Bank for approval.

88. The PIM will define the required project's internal organization (including staffing arrangements) and implementation procedures for procurement activities. It will include, *inter alia*, all the relevant procedures for calling for bids, selecting consultants, and awarding contracts. The project monitoring arrangements for procurement will be specified. To the extent possible, the PReCA PMU will pool procurement resources, including staffing resources with the PARIIS PMU.

C. Safeguards

(i) Environmental Safeguards

89. **Environmental Assessment Category "A".** The project is rated as Environmental Assessment Category "A", requiring a full environmental assessment. The following environmental safeguard policies are triggered: Environmental Assessment (OP/ BP 4.01); Natural Habitats (OP/BP 4.04); Dam Safety (OP/BP 4.37); Pest Management (OP 4.09); Physical Cultural Resources (OP/BP 4.11) and Projects on International Waterways (OP/BP 7.50).

90. The Category "A" is predicated on the fact that some physical activities, such as irrigation and road infrastructure, which are site-specific, may have potentially moderate to serious adverse environmental impacts. Project activities will touch on several agro-ecological areas as part of coverage of four regional areas. Some of the potential environmental adverse impacts could be *inter alia*: water and soil pollution related to the use of fertilizers and pesticides; partial loss of vegetation through unauthorized river/ lake shoreline deforestation; nuisances to the living environment in the absence of an appropriate management system for waste from processing units; the emergence of conflicts between pastoralists and farmers with the arrival of new farmers as part of hydro-agricultural schemes; local air and water/ soil pollution during rehabilitation and/or construction of new rural roads, etc. Specific, environmental mitigation measures, based on the most appropriate environmental management practices tailored to local circumstances, will therefore be required.

91. **Framework approach to environmental safeguards.** The project has adopted a framework approach to deal with environmental matters. This is justified since exact locations for a substantial number of program activities, particularly those of the sub-projects, which may have potential adverse environmental impact, have not yet been determined with certainty. Therefore, an ESMF has been prepared in line with OP/BP 4.01. This ESMF includes specific chapters on Natural Habitats and Physical Cultural Resources in compliance with OP4.04, OP/BP4.11 and OP4.37 respectively[29]. With respect to Pest Management in line with OP 4.09, an Integrated Pest Management Plan has been developed as a stand-alone document. In addition to the above-mentioned documents, the Borrower has prepared an Environmental and Social Impact Assessment (ESIA) for developing and expanding the Banzon irrigation scheme as part of project investments. This ESIA has been reviewed, consulted upon and disclosed both in Burkina Faso and on the World Bank's website on April 4 and April 5, 2019 respectively. Lastly, with the aim of being in full compliance with OP 7.50, a notification letter was sent to each of the five riparian countries (Benin, Cote d'Ivoire, Ghana, Mali and Togo) and the Volta Authority Basin explaining that the project will draw water of the shared international waterway for the proposed irrigation schemes. All five countries and the Volta Basin Authority have expressed their no-objection for the project approval.

92. The ESMF describes the procedures and processes to be followed in preparing and disclosing site-specific safeguard instruments, including an ESIA and corresponding Environmental and Social Management Plan (ESMP), as may be required, as soon as the exact locations and scope of sub-project activities are known. Any specific ESIA and ESMP, prepared in accordance with the screening result, will be approved in consultation with all the stakeholders before the corresponding activity starts. The ESMF has been prepared, in full compliance with national legal and regulatory framework and World Bank safeguard policies, including a broad consultation framework involving all relevant stakeholder groups, both public and private, as well as civil society. After consultations, it has been disclosed within Burkina

[29] OP4.37 is triggered not because of dam rehabilitation or construction but because some schemes rely on the performance of existing dams (Dourou dam for Dourou scheme, and Léry Dam for Dangoumana and Bissan schemes in the Sourou Valley).

Faso and at the World Bank website on March 7 and March 27, 2019 respectively. Like the ESMF, an Integrated Pest Management Plan has also been prepared and disclosed within Burkina Faso and at the World Bank website on March 7 and March 27, 2019 respectively. That document encourages the use of organic fertilizers and biological techniques to fight against agriculture predators; in addition, it sets up guidance and guidelines with the aim to protect public health and environment integrity in promoting best practices in the case of use of chemical products.

Dam Safety

93. The policy is triggered because the project will intervene in irrigation schemes that rely on existing dams. The project will not directly intervene on dams. The situation of existing dams is described as follows:

Dourou dam: This dam is located upstream of Dourou irrigation scheme and has a capacity of 83 Hm3 and a 10.5 m height. A review of Dourou dam safety conditions was commissioned by the MAAH and financed by the WBG financed project PARIIS in 2017. The report was approved by the MAAH and the World Bank in February 2017. The remedial works identified in this study were carried out in 2018 under the State budget as evidenced during a WBG mission in November 2018. The Emergency Preparedness Plan will be financed by the WBG project PARIIS. The Dourou irrigation scheme will use water stored from the reservoir of the Dourou dam. Disbursement conditions for financing of the rehabilitation or development of irrigation activities related Dourou perimeter include the completion of an operation and maintenance plan, an emergency preparedness plan and a signed contract for studies to increase the discharge capacities of the spillways.

94. Mouhoun / Léry dam: Regarding the Sourou Valley where the project will finance the construction of Dangoumana and Bissan schemes, the Mouhoun/Léry dam (580 Hm3/8 m) was rehabilitated in 2014 through the project "*Projet de Développement de l'Agriculture* (PDA)" financed by the Millennium Challenge Account (MCA) with complementary works financed by the Government in 2017 and 2019. The MCA project also financed, in 2014, a review of the O&M of the Mouhoun /Léry dam and recommended procedures for the O&M during the different seasons and in case of extreme events (floods); these recommendations are currently followed by the entity in charge of the dam operation, the Mouhoun Water Agency (*Agence de l'Eau du Mouhoun*). The Bissan and Dangoumana irrigation schemes will use water stored from the reservoir of the Mouhoun/Léry dam. Disbursement conditions for financing of the rehabilitation or development of irrigation activities related these two perimeters include an updated operation and maintenance plan and an emergency preparedness plan.

95. Two hundred kilometers upstream of the Mouhoun/Léry dam, on the Mouhoun river, the Government of Burkina Faso has built in 2017 another large dam: the Samendéni dam with a capacity of 1,05 Hm3. The reservoir has been filled for the first time in 2018. The overall impacts of this dam on the WBG investments in Bissan and Dangoumana would be positive: (i) the dam will contribute to better flood control during the rainy season which will reduce the risks downstream; and (ii) the Samendéni dam will increase the flow during the dry season, which will increase the water availability for irrigation in the Sourou Valley. As a conclusion, the Bissan and Dangoumana irrigation schemes will not use directly water stored from the reservoir of the Samendéni dam; at the same time, the construction of this dam upstream in the river basin has overall benefits for this project.

96. During project implementation the Government shall: (a) undertake independent dam safety audits of the Mouhoun-Lery dam and Samendéni dam, under terms of reference and in a manner satisfactory to IDA; (b) no later than twenty-four (24) months after the Effective Date, commission and carry out studies to increase the flood discharge capacity of Dourou dam, under terms of reference and

in a manner satisfactory to the IDA; (c) prepare and provide to the Association the instrumentation plan and the operation and maintenance plan for the Samendéni dam and the Dourou dam; (d) update the operation and maintenance plan for the Mouhoun-Léry dam, taking into account the reservoir operation of the Samendéni dam; (e) finalize and approve said instrumentation plans and operation and maintenance plans and (d) immediately above, taking into account the recommendations of the Association; (f) maintain the organizational and other requirements of instrumentation plans and operation and maintenance plans for the Dams, in a manner satisfactory to IDA; and (g) carry out operation and maintenance of the Dams in accordance with the provisions of their respective operation and maintenance plans.

97. The Government shall: (a) prepare and provide to IDA the emergency preparedness plans for the Dams; (b) finalize and approve said emergency preparedness plans taking into account the recommendations of the Association; and (c) maintain the organizational and other requirements of emergency preparedness plans for the Dams, in a manner satisfactory to the Association.

98. The Government shall: (a) implement the Dam Safety Plans in a manner satisfactory to IDA and in accordance with technical standards and timeframe set out in said Dam Safety Plans; (b) not amend, abrogate, repeal, waive, or fail to enforce any provisions of any Dam Safety Plans without the prior concurrence of the Association; and (c) make arrangements, satisfactory to the Association, for the periodical annual inspection of the Dams, in accordance with sound engineering practice and technical criteria, by independent qualified professionals in order to determine whether there are any deficiencies in the condition of their structures, or in the quality and adequacy of maintenance or methods of operation of the same, which may endanger their safety; and carry out periodic inspection of the Dams in accordance with said arrangements and implement the recommended measures in a timely manner satisfactory to IDA.

(ii) Social Safeguards

99. **Framework approach to social safeguards.** The proposed project is expected to be beneficial to agriculture producers, particularly small farmers operating under irrigated conditions, in the four targeted regions of Burkina Faso, as well as professionals and operating entities expected to contribute to increased productivity and market access. The project will adhere to all social safeguards across project activities to ensure that social issues are addressed in the proper way and contribute to the project expected positive social impact overall. The project has adopted a framework approach to deal with social matters. This is justified since exact locations for a substantial number of project activities, particularly those of the sub-projects, which may have potential adverse social impact, have not yet been determined with certainty.

100. **Involuntary resettlement**. Some of the proposed project public investments, including irrigation development, rural roads and marketing posts under Component 1 and 2, may require land acquisition and cause restrictions in access to natural resources. Hence, OP/BP 4.12 Involuntary Resettlement for project implementation is triggered and a Resettlement Policy Framework (RPF) was prepared in line with OP/BP 4.12. The RPF describes the procedures and processes to be followed in preparing and disclosing site-specific safeguard instruments such as Resettlement Actions Plans (RAPs), as may be required, as soon as the exact locations and scope of sub-project activities are known. The RPF incorporates the requirements of and is in full compliance with OP 4.12, and national legal and regulatory framework where such national law is in line with OP 4.12, including a broad consultation framework involving all relevant stakeholder groups, both public and private, as well as civil society. After public consultations in country, it has been disclosed within Burkina Faso and at the World Bank website on March 22 and March 27, 2019,

respectively. The Borrower has prepared a specific RAP for developing or expanding the Banzon irrigation scheme since the location of this investment had already been identified during project preparation. The Banzon scheme RAP has been reviewed, consulted upon and disclosed both in Burkina Faso, and on the World Bank's website on April 5, 2019. Any other specific RAPs prepared in accordance with the RPF, and based on the screening results, will be approved in consultation with all the project stakeholders, and fully implemented before the corresponding activity starts. Private investment sub-projects will not be eligible for support under Component 3 if they include resettlement. In addition, the RPF will be used to address potential resettlement impacts around land titling activities, when and where it is demonstrated that this activity lead to loss of land and relocation. As such, the sub-project recipient will need, as an eligibility criterion, to provide clear proof that the sub-project location is free of any encroachment and will not involve any involuntary resettlement.

101. **Occupational, Health and Safety**. Safeguards documents include guidelines on Occupational, Health and Safety (EHS/OHS) that clearly mention that Company Environmental and Social Management Plan (C-ESMP) must be approved by the PMU and their partners prior to commencement of works. Moreover, the tender documents and the contracts for the main contractors as well as the sub-contractors must also include sections related to EHS/OHS.

102. **Conflict and broader social risks**. The project aims at improving the socio-economic conditions broadly for small producers and processors at the grassroots in the project areas. It also aims to make available larger quantities and better quality of food products on a regular basis for consumers on the domestic market. To be noted again is that the project areas are facing growing insecurity due to social tensions in Burkina Faso and neighboring countries such as Mali. The project has the potential to diminish these social tensions, reduce the factors of fragility and improve the social fabric in the targeted production areas, as well as on consumer markets. In that respect, all investment will be screened carefully for their capacity to reduce factors of fragility/ tensions. The project will adopt a 'do no harm' approach predicated on community participation for any public facility that it will finance. To the extent it operates under these modalities, it should contribute to bringing about in project targeted areas a measure of shared prosperity, consequent peaceful context and mitigations of social risks. This is key for Burkina Faso that is recently experiencing unrest due to various negative socio-political factors.

103. **Citizen engagement, consultation and participation**. The project will seek to promote active citizen engagement in all its implementation phases. This process will build on the following mechanisms, *inter alia*: (i) representation of Civil Society Organizations (CSOs) in the project Review Committee to integrate the beneficiaries' views and decisions to guide project interventions, relay their concerns and have them participate in the decision-making process for implementing project activities; (ii) promotion of IBM to consult with and receive feedback from beneficiaries, regularly; and (iii) operationalization of the GRM to provide a structured multi-level arrangement for registering and addressing grievances and complaints. Building on these mechanisms, the project will devise a structured citizen engagement strategy targeting both primary beneficiaries and other project-impacted stakeholders, such as private sector operators and NGOs operating in the project zone. Implementing the strategy will require conducting direct consultations, strengthening partnerships, and obtaining beneficiary feedback. The project will provide periodic reports on citizen engagement. Such reports will be made available broadly as part of the project communication plan; they will include information on the beneficiaries' feedback, the degree of beneficiaries' involvement, as well as the number of grievances registered and addressed.

104. **Labor influx and HIV-AIDS**. The project will adopt measures to mitigate the possible negative impacts of the influx of external labor into project areas. These impacts may be due to risks related to

project activities such as: (i) unfair wages paid for hired labor; (ii) increased cost of living and food prices in local markets; (iii) cultural tensions with the local population and exploitation of incoming labor force; (iv) sexual violence arising from worker relations with local women/ girls; and (v) increase in the use of narcotics and alcohol. To address these issues, the project will take adequate risk mitigation measures based on the scope of activities, especially civil works, for the selected value chains such as (i) zero tolerance regarding sexual violence; (ii) promotion of fair treatment, non-discrimination and equal pay for equal work for all project workers; and (iii) enforcement of codes of conduct regarding the relationship with local communities incorporated in bidding documents, such as labor management procedures to prevent and address harassment, intimidation and/ or exploitation of external labor, and avoid gender and other violence. One problem that will receive attention is the impact of project activities on the transmission of HIV-AIDS. To resolve this problem the project will fund awareness campaigns, testing as well as treatment for the disease.

105. **Gender**. The project has been categorized as 'gender tagged' broadly because of the key role of women in agriculture activities, and because of their special role in project-targeted Value Chains (VCs) such as shea or horticulture production, as well as their involvement in agro-processing activities. Gender considerations have been mainstreamed in the design of project activities. For instance, project-sponsored capacity building programs are systematically targeted to women, to ensure that they derive the required benefits and improve their socio-economic conditions because of project implementation. Similarly, the project provides for adequate participation of women in the management committees to be set up for project implementation, such as the water user committees for the large-scale irrigation perimeters since they are important beneficiaries of this type of investment.

106. **Gender-Based Violence (GBV)**. The project was found to be at low risk of GBV by the GBV risks assessment tool, but a strategy to regularly and qualitatively assess risks of GBV, including sexual exploitation and abuse (SEA), will be put in place to ensure that women and girls and other groups particularly vulnerable to risks of GBV have a safe and confidential venue to report risks that are potentially created or exacerbated by project implementation. This assessment of risks will be carried out through project implementation and inform the design and regular review and update of GBV risks mitigation measures. Risks identified through these assessments and safe and ethical mitigation measures to address them will be reflected in the project ESMP and in contractors' proposals and ESMP. Additionally, GBV requirements, including the need for codes of conduct specifically prohibiting acts of GBV and Sexual Exploitation and Abuse (SEA) and related training plans for workers, will be systematically included in GBV bidding documents and costing of GBV mitigation actions will be taken into account in contracts and procurement documents. Building on existing lessons, the project will seek to promote greater awareness of gender-based violence and SEA, in communities, disseminating information on project-related risks, GBV/SEA mitigation measures that will be put in place and response services available to survivors. The project will map out GBV prevention and response services available in the project area of influence and will develop a survivor-centered response protocol ensuring that all survivors reporting a GBV incident to the project receive timely access to a minimum package of services, including health, psychosocial and legal support. The GRM to be set up will be designed to safely and ethically register, document and address GBV allegations. GRM reports will detail the cases of gender-based violence in line with best practices on the collection and reporting of GBV-related information and contribute to the ongoing analysis of risk and the adaptation of prevention and mitigation strategies.

107. **Grievance Redress Mechanism (GRM)**. A GRM will be set up to allow stakeholders and interested parties to bring up any concern regarding the program to the PMU with the aim of finding solutions. The project GRM will incorporate provisions to allow the safe and ethical registration, documentation and

management of GBV complaints. It will be complemented by a GBV response protocol, ensuring that all survivors disclosing an incident of GBV are referred to assistance based on their needs and wishes.

108. Communities and individuals who believe that they are adversely affected by a World Bank-supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate GRS, please visit *http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service*. For information on how to seek responses to complaints from the World Bank Inspection Panel, please visit www.inspectionpanel.org.

(iii) Borrower institutional capacity for safeguards policies

109. **PMU staffing for project safeguards**. To ensure that the environmental and social safeguard instruments prepared in line with policies triggered by the program are implemented properly, the PMU will hire an environmental and a social safeguard specialist with strong experience in World Bank procedures and particularly in RAP preparation, implementation and monitoring. These specialists will be responsible to monitor, supervise and advise on all the project environmental and social issues and regularly monitor all safeguard requirements. The social safeguard specialists will deal with gender aspects in addition to general social safeguards.

110. **Focal points for project safeguards**. MAAH, the Borrower's primary implementation agency, has limited experience in implementing World Bank-supported projects. It must assign qualified and experienced social development and environmental focal points to be responsible for the project social and environmental safeguard matters. These specialists will work closely with the specialized staff of the PMU. They will need to be involved in the actual review of social and environmental safeguards required as part of project implementation, and coordinate and strictly follow up the preparation of the task- or site-specific safeguards instruments, monitor safeguards due diligence and report quarterly during implementation. The World Bank will provide the required support and capacity building for the designated counterpart staff during project implementation.

V. KEY RISKS

111. **The overall project implementation risk is assessed as Substantial.** The project risks rated as High or Substantial, and the attendant mitigation measures are summarized below:

a) *Political and Governance (*Substantial): The unequal distribution of resources and perceived lack of accountability in the management of public resources remain a serious challenge; this could lead an elite capture in the provision of the matching grants. These issues are being addressed under the CPF as part of its overall dialogue with the country; project activities will dovetail measures taken under the CPF in that area;

b) *Macroeconomic* (Substantial): Insufficient progress has been made on the macro-economic front in recent years; the risks arise in part owing to the security situation and in part due to the volatility of prices on the regional and international markets. This could lead to a lack of counterpart funding for the project. These risks will decrease to the extent that security conditions improve, and,

concomitantly, the Government supports an environment more conducive to private sector development and competitiveness;

c) *Project Technical Design* (Substantial): The overall project design to deliver on the PDO covers a broad agenda which is necessarily complex. The project management team at PMU will use the proper degree of flexibility to establish the critical path for project implementation; it will develop an adequate implementation plan that will break down operational tasks into manageable clusters and adhere to a sequential approach to project implementation;

d) *Institutional Capacity for Implementation and Sustainability* (Substantial): The reasons for this assessment include the weak capacity of MAAH support services, and incomplete legislation and regulations, along with various distortions for private sector promotion in the agriculture and agri-business sector. The project will provide capacity building to key MAAH's directorates, e.g., extension and advisory services, sanitary and phyto-sanitary matters, etc., and will address policy and regulatory matters regarding the environment for private sector interventions in the targeted value chains;

e) *Fiduciary* (Substantial): Capacity for both project financial management and procurement is weak. This will be remedied by recruiting qualified experts for the PMU and concomitant staff training in the fiduciary area;

f) *Environment and social safeguards* (High): Activities such as the development of irrigated perimeters and construction of road and marketing infrastructures are often associated with significant potential adverse impacts on the environment. Similarly, communities may be negatively affected and some of the actors left out of targeted value chain development, including provision of funding support. Mitigation measures will relate overall to the strict implementation of the environmental and social safeguards as part of the ESMF, including to address such specific risks as the risk of drowning in the irrigation canals and negative impacts of the influx of external labor into project areas. Specific measures will be taken to avoid elite capture regarding the provision of matching grants; and

g) *Other risks* (Substantial): The country's security situation has recently deteriorated. The security concerns, in the project zones particularly, remain challenging to the point that they may represent a serious hurdle to project implementation in terms of attracting qualified bidders and service providers, and also for the World Bank and the Government to supervise project activities. The proposed mitigation measure is the recruitment of specialized local NGOs and service providers to ensure adequate project management and supervision on the ground whenever adverse security conditions might prevent government services to intervene directly and/or the World Bank to do due diligence regarding project supervision in project areas.

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: Burkina Faso
Burkina Faso Agriculture Resilience and Competitiveness Project

Project Development Objectives(s)

The objective of the Project is to increase agricultural productivity and market access for small producers and small and medium agribusiness entrepreneurs for selected value chains in Project Areas.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Increase Ag productivity and market access for small producers and Ag SMEs in selected VC.								
Yield increase in T/ha of targeted products achieved by project direct beneficiaries (disaggregated by commodity) (Number)		0.00						0.00
Yield increase in rice in metric tons per ha-Entrepreneurs (Number)		4.50	0.00	5.00	5.50	6.00		6.50
Yield increase in mangoes in metric tons per ha (Number)		11.00	11.00	11.00	11.00	11.00	12.50	15.00
Yield increase in tomatoes in metric tons per ha - Entrepreneurs		25.00	25.00	25.00	30.00	35.00		35.00

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
(Number)								
Yield increase in onions in metric tons per ha - Entrepreneurs (Number)		20.00	0.00		22.00	25.00		30.00
Increase in the volume of market sales of targeted commodities produced by primary project beneficiaries (disaggregated by commodity) (Percentage)		0.00						0.00
Rice (Percentage)		0.00	0.00	60.00	65.00	70.00		75.00
Mangoes (Percentage)		0.00	0.00	0.00	0.00	90.00	95.00	95.00
Tomatoes (Percentage)		0.00	0.00	80.00	85.00	90.00		90.00
Onions (Percentage)		0.00	0.00	85.00	90.00	95.00	95.00	95.00
Shea Butter (Percentage)		0.00	70.00	75.00	80.00	90.00	95.00	95.00
Direct Project Beneficiaries (Number (Thousand))		0.00	5.00	10.00	50.00	100.00	150.00	150.00
Of Whom Females (Number (Thousand))		0.00	1.50	3.00	15.00	30.00	50.00	50.00

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Enhancing Agriculture Productivity								
Area provided with new/improved irrigation or drainage services (CRI, Hectare(Ha))		0.00	0.00	1,877.00	5,497.00	5,497.00		5,497.00
Farmers reached with agricultural assets or services (CRI, Number)		0.00	0.00	4,000.00	26,000.00	43,000.00		43,000.00
Farmers reached with agricultural assets or services - Female (CRI, Number)		0.00		1,200.00	6,200.00	12,900.00		12,900.00
Percentage of beneficiairies satisfied with implementation of the irrigation construction/rehabilitation works (Percentage)		0.00	50.00	65.00	70.00	75.00	85.00	85.00
Improving Competitiviness and Fostering Market Access								
Marketing Infrastructure built or rehabilitated (Number)		0.00						16.00
Marketing facilities/trading posts constructed and functioning (Number)		0.00	25.00	50.00	117.00	117.00		117.00
Roads rehablitated (CRI, Kilometers)		0.00	105.00	215.00	215.00			215.00
Roads constructed (CRI, Kilometers)		0.00	41.00	130.00		130.00		130.00

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Promoting Private Sector-Led Agribusiness Development								
Microprojects funded by the Project (Number)		0.00	0.00	350.00	1,050.00	1,370.00		1,370.00
Of which are Women (Number)		0.00		100.00	300.00	400.00	400.00	400.00
of Which are Youth (Number)		0.00		100.00	300.00	300.00	400.00	400.00
Sub- projects funded by the project (Number)		0.00	200.00	600.00	800.00	800.00	800.00	800.00
of Which are Women (Number)		0.00	0.00	60.00	180.00	240.00		240.00
Of Which are Youth Beneficiairies (Number)		0.00	0.00	60.00	180.00	240.00	240.00	240.00
Project Coordination, Institutional Strengthening and Contingent Emergency Response								
Government response time to crises and emergencies. (Days)		120.00	110.00	100.00	80.00	70.00	60.00	60.00
Capacity Building (Number)		0.00	250.00	5,000.00	12,000.00	20,000.00	25,000.00	30,000.00
Project beneficiary satisfaction rate (Percentage)		0.00	0.00		65.00			80.00

Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Yield increase in T/ha of targeted products achieved by project direct beneficiaries (disaggregated by commodity)					
Yield increase in rice in metric tons per ha- Entrepreneurs	T/ha	PY3, PY5	Project survey	TBD	PMU
Yield increase in mangoes in metric tons per ha	T/ha.	PY3, PY5	Project survey	TBD	PMU
Yield increase in tomatoes in metric tons per ha - Entrepreneurs	T/ha	PY3, PY5	Project survey	TBD	PMU
Yield increase in onions in metric tons per ha - Entrepreneurs	T/ha	PY3, PY5	Project survey	TBD	PMU
Increase in the volume of market sales of targeted commodities produced by primary project beneficiaries (disaggregated by commodity)	Increase in percentage of volume of sales compared to the production in the project area. Baseline will be based on a YR 1 baseline study.	PY1, PY 3, PY5			
Rice	Baseline study on the quantity being sold will be done in the first year of the project and will be tracked in percentage as a proportion of sales on the	PY1, PY3, PY5	MIS	Quantitative data collection	PMU

	total production.				
Mangoes	It is expected that almost the total production of mangoes will be for sale and not for consumption thus the higher percentage of sales compared to production	Annually	MIS	Quantitative data collection	PMU
Tomatoes	Percentage	Annually	MIS	Quantitative data collection	PCU
Onions	Percentage	Annually	MIS	Quantitative data collection	PMU
Shea Butter	Percentage	PY 1, PY 3, PY5	MIS	Quantitative data collection	PCU
Direct Project Beneficiaries	Number	Annually	MIS	Quantitative data collection	PMU
Of Whom Females	Number	Annually	MIS	Quantitative data collection	PMU

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Area provided with new/improved irrigation or drainage services	This indicator measures the total area of land provided	PY3, PY5	MIS, Project survey	TBD	PMU and RPMU

	with irrigation and drainage services under the project, including in (i) the area provided with new irrigation and drainage services, and (ii) the area provided with improved irrigation and drainage services, expressed in hectare (ha).				
Farmers reached with agricultural assets or services	This indicator measures the number of farmers who were provided with agricultural assets or services as a result of World Bank project support. "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber, and non-timber forest products. Assets include property, biological assets, and farm and processing equipment. Biological assets may include animal agriculture breeds (e.g., livestock, fisheries) and genetic material of livestock, crops, trees, and shrubs (including fiber and fuel crops). Services include research,	Annually	MIS, Project survey	Quantitative data collection	PMU

	extension, training, education, ICTs, inputs (e.g., fertilizers, pesticides, labor), production-related services (e.g., soil testing, animal health/veterinary services), phyto-sanitary and food safety services, agricultural marketing support services (e.g., price monitoring, export promotion), access to farm and post-harvest machinery and storage facilities, employment, irrigation and drainage, and finance. Farmers are people engaged in agricultural activities or members of an agriculture-related business (disaggregated by men and women) targeted by the project.				
Farmers reached with agricultural assets or services - Female		Annually	MIS, PROJECT SURVEY	Quantitative and Qualitative data collection	PMU/RPMU
Percentage of beneficiairies satisfied with implementation of the irrigation construction/rehabilitation works		Annually	MIS, Project survey	TBD	PMU/RPMU
Marketing Infrastructure built or rehabilitated		Annually	MIS,	Quantitative data collection	PMU

Marketing facilities/trading posts constructed and functioning	Number	Annually	MIS	Quantitative and Qualitative data collection	PCU and RCU
Roads rehablitated		Annually	MIS	Quantitative data collection	PMU
Roads constructed		Annually	MIS	Quantitative data collection	PMU
Microprojects funded by the Project		Annually	MIS	Quantitative data collection	PMU
Of which are Women		Annually	MIS	Quantitative data collection	PMU
of Which are Youth		Annually	MIS	Quantitative data collection	PMU
Sub- projects funded by the project	Number	Annually	MIS	Data collection	PMU
of Which are Women		Annually	MIS	Quantitative and Qualitative data collection	PMU
Of Which are Youth Beneficiairies	Number	Annually	MIS	Data Collection	PMU
Government response time to crises and emergencies.		Semi-annually	MIS	Qualitative data collection, Project survey	PMU

Capacity Building		Annually	MIS	Quantitative and Qualitative data collection	PMU
Project beneficiary satisfaction rate		Annually	MIS	Qualitative data collection, project survey	PMU

ANNEX 1: IMPLEMENTATION ARRANGEMENTS AND SUPPORT PLAN

A. Project Institutional and Implementation Arrangements

1. **The Borrower will be represented by the Ministry of Economy and Finance; overall responsibility for project implementation, including management of environmental and social risks, will be delegated to the Ministry of Agriculture and Irrigation (MAAH).** Project implementation will take place over six years over and cover primarily four regions of the country's national territory. The project duration is set at six years to allow a realistic timeframe for project implementation and ensure achievement of the planned outcomes. Indeed, drawing from earlier experiences with similar projects, it is particularly important to allocate sufficient time for the completion of investment activities (irrigation development, roads and tracks and marketing infrastructure) and the strengthening of corresponding services (e.g., improving service delivery, capacity building under Components 1 and 2), but also, importantly, for the development of sustained Productive Partnerships in the agricultural sector under Component 3.

2. **PReCA's organization will be governed by Decree N° 2018-092/PRES/PM/MINEFID February 15, 2018. PreCA's governance structure will be modeled after PARIIS' structure.** The Project Coordinator will be *de facto* the Head of MAAH's budget program for Hydro-Agriculture Engineering and Irrigation Development which is one of the ministry's six budget programs. A Review Committee will provide periodic steering guidance for project implementation, and a PMU will manage project activities on a daily basis.

3. **Review Committee** (RC). As in the case of PARIIS, the RC will serve as the project's orientation and steering body. It will be chaired by the SG/MAAH and includes representatives of MAAH's cabinet and general directorates involved (DGFOMR, DGPER, DGPV, DGESS, DAF, DMP, DCMEF, etc.) and Budget Program Coordinators, as well as representatives of the MI, the Ministry of Environment, Green Economy and Climate Change, and the Ministry of Economy, Finance and Development (DGCOOP, DGEP, DGB). Financial and Technical Partners with an interest in the project will be able to participate in the RC meetings as observers. The periodicity of meetings will be at least twice a year. The RC will approve PReCA's Annual Work Plans and Budgets (AWPBs) and progress reports.

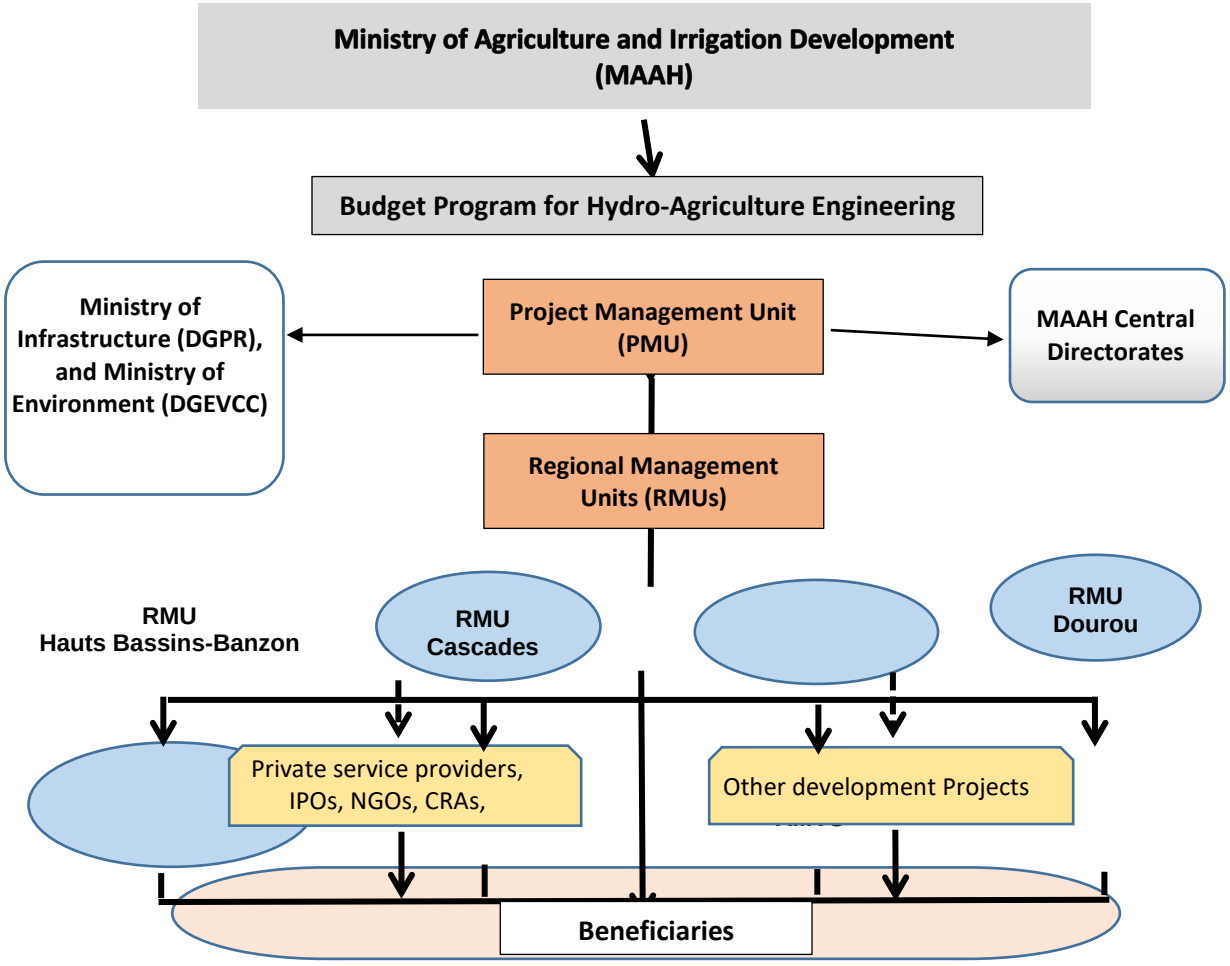
4. **Project Management Unit** (PMU). A national PMU will be established under the Budget Program in charge of Hydro-Agriculture Engineering and Irrigation Development for PreCA's day-to-day management. At regional level, four Regional Management Units will be set up; they will work in close liaison with the four existing regional agricultural project Coordination Committees (CCs) which will be involved in overseeing PReCA's implementation and will contribute to the assessment of field progress. The National Coordinator of MAAH's Budget Program for Hydro-Agriculture Engineering and Irrigation Development will delegate day to day management responsibilities to a Project Manager who will head the PMU. The PMU will be based in Ouagadougou with three regional units based in MAAH's regional offices and one regional unit hosted by AMVS. The Project Manager who will head the PMU could be competitively recruited and remunerated using IDA resources. His/her signature will be required to commit project funds. S/he will be assisted by a team of high caliber who might be competitively-recruited, covering all technical or administrative functions deemed critical for proper project implementation and management. The project management cross-cutting functions,

including the fiduciary functions, may be pooled and the project's technical expertise may be shared with other projects under MAAH's purview to the extent possible.

5. **Project Implementation Manual** (PIM). The PIM will be a compendium of procedures for PReCA's operational implementation, with core modules covering administrative, fiduciary, M&E, procurement and social & environmental safeguards procedures, as well as specialized modules covering the CSF and the CERC. The PIM will include detailed TORs for all project staff. The core modules of the PIM and the specialized modules will be prepared and validated no later than before the project effectiveness.

6. **World Bank support missions for PreCA's implementation.** Under the fiduciary responsibilities of the World Bank and in accordance with the provisions of the project Financing Agreement, periodic missions will be fielded to support project implementation (at least twice a year), and video and/or audio-conferences will be held on a regular basis for the purpose of PReCA's monitoring and assessment.

Figure 1.1: Project Organizational Chart



B. Financial Management and Disbursements

7. The financial management (FM) arrangements for the project have been designed with consideration for: (i) Burkina Faso's recent political situation; (ii) the country's overall PFM performance; and (iii) also considering the World Bank's minimum requirements under the World Bank Policy and Directive for IPF, which describes the overall World Bank policies and procedures for FM.

Description of project FM institutional arrangements

8. The legislative and institutional framework for public financial management is in place in Burkina Faso. This framework is in line with or approximates international standards. In addition, Burkina Faso has transposed the WAEMU directives, regulations, and rules on public finances into national law. However, the challenges faced in operationalizing the various financial management components including cash constraints as well as compliance with this legislative framework, rules and regulations, do not allow at present to rely fully on the public expenditure framework for the proposed Project.

9. Therefore, the GoBF has requested to use a ring-fenced financing mechanism for the fiduciary aspects of this project. In line with the country new regulation of projects and programs, the proposed project is classified as a Category 1 project. It will come under MAAH's Budget Program for Hydro-Agriculture and Irrigation Development which is one of the six MAAH budget programs.

10. For the project, the FM unit will hire or appoint the following staff fully dedicated to the accounting financial management, and disbursements tasks: (i) a financial management officer and an accountant; (ii) a full-time internal auditor; (ii) a full-time internal auditor. Hiring or appointment will be made on a competitive basis and under qualifications and terms of references satisfactory to the World Bank. The project staffing arrangements will be finalized once the project implementation design is completed.

FM risk assessment and mitigation

11. The World Bank's principal concern is to ensure that project funds are used economically and efficiently for the intended purpose. Assessment of the risks that the project funds will not be so used is an important part of the financial management assessment work. The risk features are determined over two elements: (i) the risk associated to the project (inherent risk), and (ii) the risk linked to a weak control environment of the project implementation (control risk). The content of these risks is described below.

12. The overall FM risk for the project before mitigation measures is rated substantial. This is due to the involvement of several actors in the project implementation spread amongst four regions. Furthermore, the increase in the activities of the Entity (one additional project) may lead to additional burden/workload which in turn, may impact the performance of the internal control system. Consequently, additional measures will be incorporated into the design of the project FM arrangements to mitigate the overall FM risk (i) by strengthening the FM capacity and the internal control environment of MAAH at regional and central level (ii) and by maintaining a continuous timeliness and reliability of information produced by MAAH. The overall FM risk after mitigation

measures is rated Substantial. Table 1.1 below summarizes the risks and mitigation measures for the project.

Table 1.1: Inherent risk

Risks	Risk Rating	Risk Mitigating Measures	Residual Risk Rating
Inherent Risk			
Country Level	M		M
Entity Level The MAAH has no direct experience with the Bank FM procedures. The design of the Project involves several entities spread	H	✓ Hire or appoint the following staff fully dedicated to the accounting financial management, and disbursements tasks: (i) a Finance Officer – RAF, and an accountant; (ii) an internal auditor. ✓ Draft the PIM including FM procedures manual and submit them to the approval of the actors involved in the Project.	S
Project level Project activities could be prone to irregularities (workshops, conferences, trainings). The design of the project is complex with the involvement of several actors across	H	✓ All budgets related to some Project activities (workshops, conferences, training) will be subject to Bank prior review ✓ Supervision mission will include reviews of expenditures ✓ The PIM including FM procedures will be submitted to actors involved in the Project for approval	S
Overall Inherent Risk	**H**		**S**

Table 1.2: MAAH - Financial management risk assessment and mitigation measures

Budgeting Delays in budget planning and execution	S	✓ A detailed annual work plan and budget required each year and proclaimed. ✓ AWP reviewed and approved by the Review committee. ✓ The project Financial Procedures Manual will define the arrangements for budgeting, budgetary control and the requirements for budgeting revisions. ✓ IFR will provide information on budgetary execution and analysis of variances between actual and budget expenses.	M
Accounting The MAAH has no direct experience with the Bank FM procedures.	H	Mitigation measures to implement before effectiveness ✓ Draft the Project Implementation Manual (including FM procedures) and submit them to the approval of the actors involved in the project. Mitigations measures to implement within three months after project effectiveness: ✓ Hire on a competitive basis, a Finance Officer (RAF) and one accountant, with qualifications and experiences satisfactory to the Bank, fully dedicated to the project; Acquire and install accounting software and hardware for the proposed project Acquire and install accounting software and hardware for the proposed project	S
Internal Control: Lack of internal audit	S	✓ The internal control procedures will be detailed in the project manuals. ✓ Hire or appoint an internal auditor. ✓ The internal auditor work program and reports will be submitted to the bank bi-annually, no later than 45 days after the end of each semester. ✓ National internal control institutions such as the Control and Anti-Corruption State Authority [Autorité Supérieure de Contrôle d'Etat et de Lutte contre la Corruption, ASCE-LC]) may review project activities periodically.	M

Funds Flow: Lack of justification of funds transferred to implementing agencies or to regions. Delays in funds transfers which could impede the implementation of project activities	H	✓ A designated account (DA) in XOF will be opened at the Central Bank (BCEAO). ✓ A Project Account (PA), will be opened in a commercial bank under terms and conditions acceptable to the World Bank. This PA will be used to pay for all the expenditures related to the project. ✓ Terms and conditions for justification of IDA funds transferred to other entities involved in the implementation of the project activities for them to make payments of expenditures, will be detailed in the project implementation manual. Interest incomes on the PA will be deposited into a sub-account opened in a commercial bank and used according to the FM manual.	S
Financial Reporting Delays in financial reporting due to an increase in the workload of the PIU	**H**	Mitigations measures: ✓ Acquire and install accounting software and hardware to include the proposed Project ✓ Submit Interim Financial Reports on a quarterly basis to the Bank, no later than 45 days after the end of each quarter ✓ Submit annual financial statements annually, no later than six months after the end of the year.	**S**
Auditing Delays in submission of audit report The scope of the mission may not cover expenditures incurred by implementing entities	**H**	✓ A private external auditor will be appointed to conduct the audit of the financial statements of the project. ✓ The ToRs of the external auditor (to be reviewed by IDA) will include field visits and specific report on findings of physical controls of goods, services and works acquired by the Project The scope of the audit will cover the activities implemented by the Project and any partner implementing agencies	**S**
Fraud and Corruption Possibility of circumventing the internal control system with colluding practices as bribes, abuse of administrative positions, mis-procurement	**S**	✓ The ToR of the external auditor will comprise a specific chapter on corruption auditing ✓ The ASCE-LC will review project activities. Copy of ASCE-LC reports will be submitted to the World Bank; ✓ Measures to improve transparency such as providing information on the project status to the public and public disclosure of audit reports on Project annual financial statements are built into the project design	**M**
Overall Control Risk	***H***	✓	***S***
Overall FM Risk	**H**	✓	**S**

Strengths and weaknesses

13. The strength arising from the Financial Management assessment is that MAAH is likely to be controlled by the national institutions in charge of internal and external controls, like the Court of Accounts [Cour des Comptes] the Control and Anti-Corruption State Authority [Autorité Supérieure de Contrôle d'Etat et de Lutte contre la Corruption, ASCE-LC]), the General Finance Inspectorate (Inspection Générale des Finances, IGF) within the Ministry of Economy, Finance and Development (MINEFID); whose performances are globally deemed acceptable despite the financial and human resources capacity challenges.

Financial Management Action Plan

14. The Financial Management Action Plan described below has been developed to mitigate the overall financial management risks.

Table 1.3: Mitigation of the overall financial management risks

#	Item		
	Staffing	**Deadline**	**Actions**
1	A Finance and Administration Officer, accountant and an assistant accountant	3 months following Project Effectiveness	Hire or appoint on a competitive basis a FM Officer (RAF) and an accountant with experience and qualifications acceptable to the Bank. Roll out a training plan to strengthen the capacity of selected staff in Bank procedures (after effectiveness)
	Accounting		
2	Project Administrative, Accounting and Financial Procedures Manual	By effectiveness	Adopt the Project Administrative, Accounting and Financial Procedures Manual
3	Accounting software	3 months following Project Effectiveness	Update the accounting software to include the proposed project
	Internal control		
4	An internal auditor	3 months following Project Effectiveness.	Hire or appoint an internal auditor with experience and qualifications satisfactory to the Bank
	Auditing		
5	External auditor	6 months after Project Effectiveness	Recruit an external auditor to conduct an audit of the Project annual financial statements. The scope of the audit will cover the activities implemented by the Project and any partner implementing agencies.

15. **Internal control system and internal audit**: The internal control system is aimed to ensure (i) the effectiveness and efficiency of operations; (ii) the reliability of financial reporting; and (iii) the compliance with applicable laws and regulations. The internal control policies, rules and procedures of the project will be detailed in the PIM and in the project FM manual. Those procedures will include

provisions pertaining to segregation of duties, delegation of authority, fixed asset management, accounts reconciliation, and other specific internal control if needed.

16. The internal auditor will perform periodic controls and reviews of project activities (ex-post). The internal auditor work program should be approved by the project Review Committee and shared with the World Bank. Furthermore, the report of each internal audit mission will be submitted to the bank no later than two (2) weeks following the approval of the final version of the report by the Coordinator. Finally, a consolidated activity report will be prepared bi-annually basis and submitted to the Bank and other governance entity of the project no later than 45 days after the end of each semester.

17. The country national institutions in charge of internal and administrative controls (*Cour des comptes*, ASCE-LC, IGF, etc.) will continue to fulfill their legal mandate. The reports of the periodic reviews will be sent to the Bank. The Project will roll out a training plan to strengthen the capacity of selected staff in Bank FM procedures. The roles and responsibilities of the internal auditor will be clarified in the project FM manuals.

18. **Planning and budgeting**: The project will prepare a detailed annual work plan and budget (AWPB) which should be approved by the Review Committee. The project will submit its AWPB to IDA for comments, prior to each new year (no later than November 30 of the previous year). The work plan and budgets will identify the activities to be undertaken and the role of respective parties in implementation.

19. **Accounting policies:** The prevailing accounting policies and procedures in line with the West African Francophone countries accounting standards—SYSCOHADA—in use in Burkina Faso for ongoing World Bank-financed operations will apply. The accounting systems and policies and financial procedures used by the project will be documented in the project's administrative, accounting, and financial manual. The project will update three months after effectiveness an accounting software which will facilitate (i) the processing of financial information (ii) the preparation of interim quarterly financial statements and annual financial statements under format acceptable to the World Bank. This software should be capable of recording transactions and reporting project operations in a timely manner including preparation of withdrawal application and periodic financial reports (IFR and annual financial statements). In a nutshell, the system should integrate budgeting, operating and cost accounting systems to facilitate monitoring, evaluation and reporting.

20. **Interim financial reporting:** The project will submit the Interim Financial Report (IFR) to the Bank within 45 days after the end of each quarter. The IFRs should provide sufficient pertinent information for a reader to establish whether (i) funds disbursed to projects are being used for the purpose intended; (ii) project implementation is on track; and (iii) budgeted costs will not be exceeded. The quarterly IFR for the project will include the following (i) an introductory narrative discussion of project developments and progress during the period, to provide context to (or other explanations of) financial information reported; (ii) a Sources and Uses of funds Statement, both cumulatively and for the period covered by the report, showing separately funds provided under the Grant; (iii) a Use of funds by components Statement, cumulatively and for the period covered by the report; (iv) the designated account reconciliation, including bank statements and general ledger of the bank account;

(v) the disbursement forecasts of the upcoming six months; and (vi) explanation of variances between the actual and planned. The quarterly IFR will reflect the activities implemented by other partners involved in the project.

21. **Annual financial reporting:** In compliance with International Accounting Standards and IDA requirements, the project will produce annual financial statements. These include (a) a Balance Sheet that shows assets and liabilities; (b) a Statement of Sources and Uses of Funds showing all the sources of project funds and expenditures analyzed by project component and/or category; (c) a Statement of Commitments; (d) notes related to significant accounting policies and accounting standards adopted by management and underlying the preparation of financial statements; and (e) a Management Assertion that project funds have been expended for the intended purposes as specified in the relevant financing agreements .

22. **External Auditing:** The project will submit audited financial statements satisfactory to the World Bank (IDA) every year. A single opinion on the Audited Project Financial Statements in compliance with International Federation of Accountant (IFAC) will be required. In addition, a Management Letter will be required. The Management Letter will contain auditor observations and comments, and recommendations for improvements in accounting records, systems, controls and compliance with financial covenants in the Financial Agreement. The audited financial statements must be submitted to the World Bank within six (6) months after closure of the fiscal year. The project will recruit an external private auditor to audit its annual financial statements by 6 months after effectiveness. The project will comply with the World Bank disclosure policy of audit reports and place the information provided on the official website within two months of the report being accepted as final by the team and the World Bank. The external auditor TOR will include a review of matching grants.

Table 1.4: Audit report requirements

Report	Deadline	Responsible
Audited financial statements including audit report and management letter	6 months after the end of the year	PReCA FM unit

23. **Governance and anti-corruption:** The risk of irregularities and corruption within the project activities is Moderate given the nature and implementation arrangements of the project activities. The following measures are envisaged to mitigate the risk of misuses, irregularities and corruption: (i)The ToR of the external auditor will comprise a specific chapter on fraud and corruption auditing; (ii) the ASCE-LC will review project activities. Copy of ASCE-LC reports will be submitted to the World Bank; and (iii) measures to improve transparency such as providing information on the project status to the public and public disclosure of audit reports on project annual financial statements are built into the project design.

24. **Funds flow:** Upon credit effectiveness, transaction-based disbursements will be used. The project will finance 100 percent of eligible expenditures inclusive of taxes. A designated account (DA) in CFAF will be opened at the Central Bank (BCEAO). A Project Account (PA), managed by the FM Unit with signatories of the Coordinator and the Finance Officer (RAF), will be opened in a commercial bank under terms and conditions acceptable to the Bank. This PA will be used to pay for all the expenditures

related to the project. Terms and conditions for justification of IDA funds transferred to other agencies involved in the implementation of the project activities for them to make payments of expenditures, will be detailed in the subsidiary grant agreements or the Memorandum of Understanding between the project and the agency, as well as in the implementation manual. Interest incomes on the PA will be deposited into a sub-account.

25. Disbursements under this project will be carried out in accordance with the provisions of the Disbursement Guidelines ("World Bank Disbursement Guidelines for Projects, dated May 1, 2006"), the Disbursement Letters and the Financing Agreements. An initial advance up to the ceiling of the DA will be made into the DA, and subsequent disbursements will be made against submission of Statements of Expenditures (SOE) reporting on the use of the initial/previous advance. The E-signature of Withdrawal Application (WA) will be used by the project and WA will be prepared on a monthly basis. The other methods of disbursing the funds (reimbursement, direct payment) will also be available to the project. The ceiling of the DA will be stated in the DFIL. Withdrawal applications will be accompanied by all records required by the World Bank in the Disbursement Letter. All supporting documentation will be retained by the project and must be made available for periodic review by World Bank' missions and external auditors.

26. **Payments to other Implementing Agencies:** The project will make payments to other Implementing Agencies in regard to the specified activities in the components of the project. Payments will be made in accordance with the payment modalities, as specified in the respective agreements/memorandum of understanding. In addition to these supporting documents, the project will consider the findings of the internal and external auditors while approving the payments. The project will reserve the right to verify the expenditures ex-post, and refunds might be requested for non-respect of contractual/convention clauses.

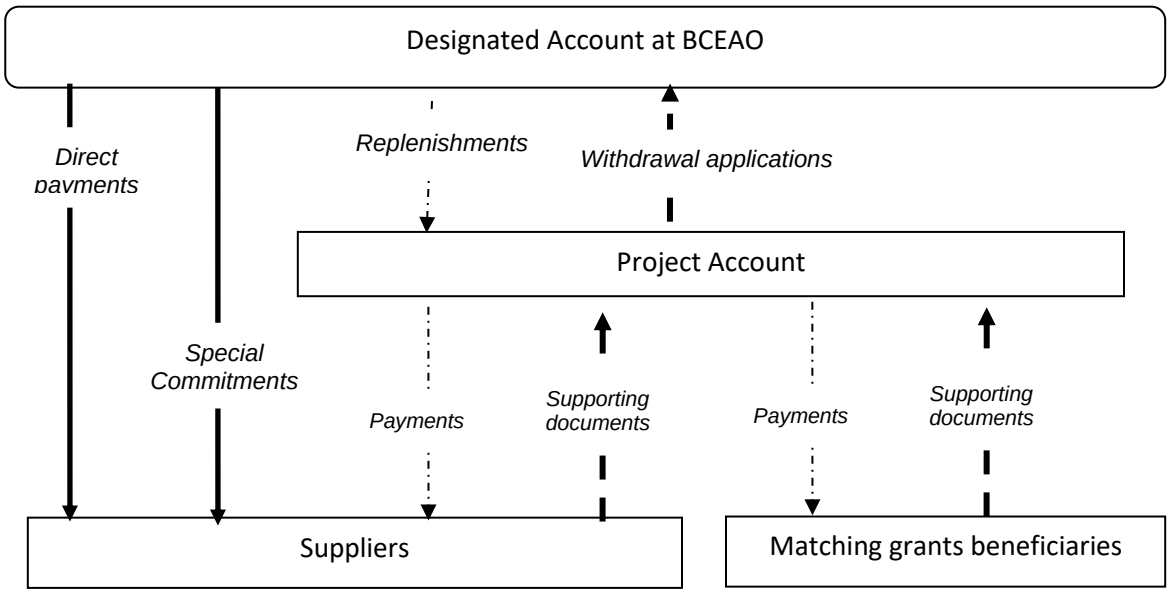
27. **Local taxes**: Funds will be disbursed in accordance with project categories of expenditures and components, as shown in the Financing Agreement. Financing of each category of expenditure/component will be authorized as indicated in the Financing Agreement and will be inclusive of taxes according to the current country financing parameters approved for Burkina Faso.

28. **Support to the implementation plan**: FM implementation support will be conducted over the project's lifetime. The project will be supervised on a risk-based approach. The objective of the implementation support plan is to ensure the project maintains a satisfactory FM system throughout its life. Based on the current risk assessment which is **Substantial,** we envisage at least two supervision missions per year. The implementation support will include a FM rating of the project. An implementation support mission will be carried out before effectiveness to ensure project readiness. To the extent possible, mixed on-site supervision missions will be undertaken with procurement monitoring and evaluation and disbursement colleagues and will cover the activities implemented by the Project as well as those contracted by other implementing agencies. The supervision intensity will be adjusted over time taking into account the project FM performance and FM risk level.

Table 1.5: Implementation support plan

FM Activity	Frequency
Desk reviews	
Interim financial reports review	Quarterly
Audit report review of the program	Annually
Interim internal audit reports	Bi-annual
Review of other relevant information	Continuous as they become available
On site visits	
Review of overall operation of the FM system	Annual (two missions/year)
Monitoring of actions taken on issues highlighted in audit reports, auditors' management letters, internal audit and other reports	As needed
Transaction reviews	As needed
Capacity building support	
FM training sessions	During implementation and when needed.

Fig 1.2: Fund Flow



C. Procurement

29. The procurement process will follow the requirements of the World Bank's Procurement Regulations for IPF for Borrowers for Goods, Works, Non-Consulting and Consulting Services dated July 1, 2016, revised November 2017 and August 2018. The project will be subject to the World Bank's Anti-Corruption Guidelines of July 1, 2016.

30. When approaching the national market in Burkina Faso, as agreed in the Procurement Plan, the country's own procurement procedures may be used with the requirements set forth or referred to in Regulations' paragraphs 5.3 to 5.6 related to the National Procurement Procedures. However, The Burkina Faso standard bidding documents are not found acceptable to be used for national competitive bidding provided; the requirements to make them in compliance with clauses 5.3 to 5.6 of the procurement regulations and other statements were notified to the Government delegation during the negotiations.

31. Procurement for works, goods, non-consulting and consulting services for the project will be carried out in accordance with Bank procedures. The Borrower has prepared a Project Procurement Strategy for Development (PPSD) and submitted to the World Bank for review. The PPSD indicates that the national environment is generally favorable for the procurement of goods and services for the implementation of the project. Procurement of goods and services, intellectual services and works contracts will be carried out in accordance with national regulations and the World Bank. Provisions will be implemented to minimize the risks associated with the award of contracts, in particular by systematizing the anticipation of procedures. Given the scale of the infrastructure works to be carried out or rehabilitated, a very limited number of local service providers have been identified to meet the needs of the Project. Consequently, groupings will be made for the launch of international tenders for this work. With regard to vehicle acquisition, the national regulations do not allow targeting of a particular type during procurement, leaving the customer at the mercy of some uncreditable suppliers who take the markets on the basis of the lowest bidder. The PReCA will focus mainly on acquisition through the United Nations system. This procedure will make it possible to acquire good quality vehicles on time and at reduced costs. The Procurement Plan covering the first 18 months of project implementation has been by the World Bank before negotiations. Any updates of the Procurement Plan will be submitted to the World Bank for approval.

32. The procurement plan was prepared and finalized based on the PPSD. It sets out the selection methods to be followed by the Borrower during project implementation in the procurement of goods, works, and non-consulting and consulting services financed by the World Bank. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

33. **Systematic Tracking of Exchanges in Procurement (STEP).** The project will implement STEP, a planning and tracking system, which is mandatory for all IPF projects and would provide data on procurement activities. The details of the procurement activities prepared in the Procurement Plan will be transferred in the STEP system. Initial training on the implementation of STEP system will be provided to the PMU staff involved in the implementation of the project.

Procurement arrangements, capacity and risk assessment of implementing agencies

34. **Procurement arrangements:** Procurement will be the responsibility of the Directorate of Public Procurement (DMP) at MAAH in respect of the new institutional arrangement for projects implementation in Burkina Faso.

35. **Procurement risk assessment.** A procurement assessment was conducted as part of project preparation. It provides evidence that: (i) the Directorate of Public Procurement (DMP) at MAAH has recently recruited new staff; (ii) both the existing and new staff have limited qualifications, insufficient procurement skills, and inadequate experience in World Bank procurement procedures; (iii) DMP has limited office furniture and equipment, and its filing system is inadequate; (iv) tender committee members are not trained in the World Bank's new procurement procedures; and (iv) there are significant time delays in the procurement process. The earlier assessments for World Bank projects (PAPSA and PARIIS) found a similar situation. It is to be noted that the proposed project will be amongst the first projects to be implemented by MAAH in Burkina Faso under the Bank 2017 New Procurement Framework and the 2018 decree related Project and Program implementation in Burkina Faso. The assessment has rated the procurement risk as Moderate to the extent that the above constraints are mitigated.

36. The PIM will define the required project's internal organization (including staffing arrangements) and implementation procedures for procurement activities. It will include, *inter alia*, all the relevant procedures for calling for bids, selecting consultants, and awarding contracts. The project monitoring arrangements for procurement will be specified. To the extent possible, the PReCA PMU will pool procurement resources, including staffing resources, with the PAPSA and PARIIS projects.

Procurement risks and mitigation measures

37. Table 1.6 summarizes procurement risks and mitigation measures.

Table 1.6: Procurement risks and mitigation measures

Risks that have been identified	Procurement Mitigation Measures	Responsibility	By when
Limited qualification and experience of DMP on Bank procurement procedures in general	Recruit a solid procurement specialist as a TA intervening periodically	Project coordinator	Within three after project effectiveness
Limited qualification and experience of the whole staff in the National Procurement Framework (NPF)	Train all staff involved in the project implementation on the NPF	Project coordinator	Not later than project effectiveness
Delays in reviewing procurement	Make close follow up of the procurement plan	DMP	On a regularly basis

Risks that have been identified	Procurement Mitigation Measures	Responsibility	By when
documents and decision by DCMP			

Frequency of Procurement Reviews and Supervision

38. The World Bank's prior and post reviews will be carried out based on thresholds indicated in Table 1.7 shown below. The World Bank will conduct biannual supervision missions and annual Post Procurement Reviews as described below.

Table 1.7: Contract Procurement Risk Categories

Contract category	Risk level			
	High	Substantial	Moderate	Low
Works turn key contracts and PPPs	US$5,000,000	US$10,000,000	US$15,000,000	US$20,000,000
Goods including Information systems and non-consulting services	US$1,500,000	US$2,000,000	US$4,000,000	US$6,000,000
Consulting services (firms)	US$500,000	US$1,000,000	US$2,000,000	US$4,000,000
Individual consultants	US$200,000	US 300,000	US$400,000	US$500,000

39. **Procurement reviews and frequency of supervision.** The ratio of post review is at least 1 to 5 contracts. The World Bank could also conduct an Independent Procurement Review at any time until two years after the closing date of the project. One/two missions a year at an interval of six months are envisaged for the supervision of the project. This supervision will procurement aspects and contract management and training as needed.

D. Environmental and Social Safeguards

(i) Environmental Safeguards

40. **Environmental Assessment Category "A".** The project is rated as Environmental Assessment Category "A", requiring a full environmental assessment. The following environmental safeguard policies are triggered: Environmental Assessment (OP/BP 4.01); Natural habitats (OP/BP 4.04); Dam Safety (OP/BP 4.37); Pest Management (OP 4.09); Physical Cultural Resources (OP/BP 4.11) and Projects on International Waterways (OP/BP 7.50).

41. The Category "A" is predicated on the fact that some project physical activities, such as irrigation and road infrastructure, which are site-specific, may have potentially moderate to serious adverse environmental impacts. The project activities will touch on several agro-ecological areas as part of coverage of four regional areas. Some of the potential environmental adverse impacts would be *inter alia*: water and soil pollution related to the use of fertilizers and pesticides; partial loss of vegetation through unauthorized shoreline deforestation; nuisances to the living environment in the absence of an appropriate management system for waste from processing units; the emergence of conflicts between pastoralists and farmers with the arrival of new farmers as part of hydro-agricultural

schemes; local air and water/soil pollution during rehabilitation and/or construction of new rural roads, etc. Specific, environmental mitigation measures, based on the most appropriate environmental management practices tailored to local circumstances, will therefore be required.

42. **Framework approach to environmental matters.** The project has adopted a framework approach to deal with environmental matters. This is justified since exact locations for a substantial number of program activities, in particular those of the sub-projects, which may have environmental potential adverse impact, have not yet been determined with certainty. Therefore, an Environmental and Social Management Framework (ESMF) has been prepared in line with OP/BP 4.01. This ESMF includes specific chapters on Natural Habitats and Physical Cultural Resources in compliance with OP/BP 4.04, OP/BP 4.37 and OP/BP 4.11 respectively. With respect to Pest Management in line with the OP 4.09, an Integrated Pest Management Plan has been developed as a stand-alone document. In addition to the above-mentioned documents, the Borrower has prepared an Environmental and Social Impact Assessment (ESIA) for developing and expanding the Banzon irrigation scheme as part of project investments. That ESIA has also been reviewed, consulted upon and disclosed both in Burkina Faso and on the Bank's website on April 4 and April 5, 2019 respectively. Lastly, in compliance with the OP 7.50, a notification letter was sent to each of the five other riparian countries and the Volta Authority Basin. The countries and the Authority expressed their no-objection for the project approval.

43. **Environmental and Social Management Framework** (ESMF). The ESMF describes the procedures and processes to be followed in preparing and disclosing site-specific safeguard instruments (Environmental and Social Impact Assessment-ESIA, including an Environmental and Social Management Plan-ESMP), as may be required, as soon as the exact locations and scope of sub-project activities are known. Any specific ESIA, including the corresponding ESMP, prepared in accordance with the screening result, will be approved in consultation with all the stakeholders before the corresponding activity starts. The ESMF has been prepared, in full compliance with national legal and regulatory framework and World Bank safeguard policies, including a broad consultation framework involving all relevant stakeholder groups, both public and private, as well as civil society. After consultations, it has been disclosed within Burkina Faso and at the World Bank website on March 7 and March 27, 2019, respectively. Like the ESMF, an Integrated Pest Management Plan has also been disclosed within Burkina Faso and at the World Bank website on March 7 and March 27, 2019 respectively. That document encourages the use of organic fertilizers and biological techniques to fight against agriculture predators; in addition, it sets up guidance and guidelines with the aim to protect population health and environment integrity in promoting best practices in the case of use of chemical products.

Dam Safety.

44. The policy is triggered because the project will intervene in irrigation schemes that rely on existing dams. The project will not direct intervention on dams. The situation of existing dams is described as follows:

45. Dourou dam: This dam is located upstream of Dourou irrigation scheme and has a capacity of 83 Hm3 and a 10.5 m height. A review of Dourou dam safety conditions was commissioned by the MAAH and financed by the WBG financed project PARIIS in 2017. The report was approved by the MAAH and the World Bank in February 2017. The remedial works identified in this study were carried out in 2018

under the State budget as evidenced during a WBG mission in November 2018. The Emergency Preparedness Plan will be financed by the WBG project PARIIS/SIIP. The Dourou irrigation scheme will use water stored from the reservoir of the Dourou dam. Disbursement conditions for project's funds for rehabilitation or development of irrigation activities related Dourou perimeter include the completion of an operation and maintenance plan, an emergency preparedness plan and a signed contract for studies to increase the discharge capacities of the spillways.

46. Mouhoun/Léry dam: Regarding the Sourou Valley where the project will finance the construction of Dangoumana and Bissan schemes, the Mouhoun/Léry dam (580 Hm3 / 8 m) was rehabilitated in 2014 through the project "Projet de Développement de l'Agriculture (PDA)" financed by the Millennium Challenge Account (MCA) with complementary works financed by the Government in 2017 and 2019. The MCA project also financed, in 2014, a review of the O&M of the Mouhoun /Léry dam and recommended procedures for the O&M during the different seasons and in case of extreme events (floods); these recommendations are currently followed by the entity in charge of the dam operation, the Mouhoun Water Agency (Agence de l'Eau du Mouhoun). The Bissan and Dangoumana irrigation schemes will use water stored from the reservoir of the Mouhoun/Léry dam. Disbursement conditions for project's funds for rehabilitation or development of irrigation activities related these two perimeters include an updated operation and maintenance plan and an emergency preparedness plan.

47. Two hundred kilometers upstream of the Mouhoun/Léry dam, on the Mouhoun river, the Government of Burkina Faso has built in 2017 another large dam: the Samendéni dam with a capacity of 1,05 Hm3. The reservoir has been filled for the first time in 2018. The overall impacts of this dam on the WBG investments in Bissan and Dangoumana would be positive: (i) the dam will contribute to better flood control during the rainy season which will reduce the risks downstream and; (ii) the Samendéni dam will increase the flow during the dry season, which will increase the water availability for irrigation in the Sourou Valley. As a conclusion, Bissan and Dangoumana irrigation schemes will <u>not</u> directly use water stored from the reservoir of the Samendéni dam; at the same time, the construction of this dam upstream in the river basin has overall benefits for this project.

48. During project implementation the Government shall: (a) undertake independent dam safety audits of the Mouhoun-Lery dam and Samendéni dam, under terms of reference and in a manner satisfactory to IDA; (b) no later than twenty-four (24) months after the Effective Date, commission and carry out studies to increase the flood discharge capacity of Dourou dam, under terms of reference and in a manner satisfactory to the IDA; (c) prepare and provide to the Association the instrumentation plan and the operation and maintenance plan for the Samendéni dam and the Dourou dam; (d) update the operation and maintenance plan for the Mouhoun-Léry dam, taking into account the reservoir operation of the Samendéni dam; (e) finalize and approve said instrumentation plans and operation and maintenance plans and (d) immediately above, taking into account the recommendations of the Association; (f) maintain the organizational and other requirements of instrumentation plans and operation and maintenance plans for the Dams, in a manner satisfactory to IDA; and (g) carry out operation and maintenance of the Dams in accordance with the provisions of their respective operation and maintenance plans.

49. The Government shall: (a) prepare and provide to IDA the emergency preparedness plans for the

Dams; (b) finalize and approve said emergency preparedness plans taking into account the recommendations of the Association; and (c) maintain the organizational and other requirements of emergency preparedness plans for the Dams, in a manner satisfactory to IDA.

50. The Government shall: (a) implement the Dam Safety Plans in a manner satisfactory to IDA and in accordance with technical standards and timeframe set out in said Dam Safety Plans; (b) not amend, abrogate, repeal, waive, or fail to enforce any provisions of any Dam Safety Plans without the prior concurrence of the Association; and (c) make arrangements, satisfactory to the Association, for the periodical annual inspection of the Dams, in accordance with sound engineering practice and technical criteria, by independent qualified professionals in order to determine whether there are any deficiencies in the condition of their structures, or in the quality and adequacy of maintenance or methods of operation of the same, which may endanger their safety; and carry out periodic inspection of the Dams in accordance with said arrangements and implement the recommended measures in a timely manner satisfactory to IDA.

(ii) Social Safeguards

51. The proposed project is expected to be beneficial to agriculture farmers, particularly small farmers operating under irrigated conditions, in the four targeted regions of Burkina Faso, as well as professionals and operating entities expected to contribute to increased productivity and market access. The project will adhere to all social safeguards in all areas of activities to ensure that social issues will be addressed in the proper way and contribute to the project expected positive social impact overall.

52. **Framework approach to involuntary resettlement.** The proposed components and sub-projects including irrigation development, rural roads and marketing posts, as well as the private investment sub-projects under Component 3 (production, storage and processing) may require land acquisition and cause restrictions in access to natural resources. Hence, OP/BP 4.12 Involuntary Resettlement for project implementation is triggered, as a preventive measure, to properly guide project implementation and adhere Bank policy requirements. The project has adopted a framework approach to deal with social matters. This is justified since exact locations for a substantial number of project activities, in particular those of the sub-projects, which may have social potential adverse impact leading to involuntary resettlement, have not yet been determined with certainty. Therefore, a Resettlement Policy Framework (RPF) was prepared in line with OP/BP 4.12. The RPF has been prepared, in full compliance with national legal and regulatory framework and World Bank safeguard policies, including a broad consultation framework involving all relevant stakeholder groups, both public and private, as well as civil society. After consultations, it has been disclosed within Burkina Faso and at the World Bank website on March 22 and March 27, 2019, respectively.

53. **Resettlement Actions Plans (RAPs**). The RPF describes the procedures and processes to be followed in preparing and disclosing site-specific safeguard instruments such as Resettlement Actions Plans (RAPs), as may be required, as soon as the exact locations and scope of sub-project activities are known. The Borrower has prepared one such RAP for developing or expanding the Banzon irrigation scheme. The RAP for the Banzon scheme has been reviewed, consulted upon and disclosed both in Burkina Faso, and on the World Bank's website on April 5, 2019. Any other specific RAPs prepared in

accordance with the screening results, will be approved in consultation with all the stakeholders before the corresponding activity start.

54. **Occupational, Health and Safety.** Safeguards documents include guidelines on Occupational, Health and Safety (EHS/OHS) that clearly mention that Company Environmental and Social Management Plan (C-ESMP) must be approved by the PMU and their partners prior to commencement of works. Moreover, the tender documents and the contracts for main contractors as well as the sub-contractors must also include sections related to EHS/OHS. One occupational hazard that has been experienced in the Bagré Growth Project is the risk of drowning by users of the irrigation canals. The lessons learned, and security measures applied for this project will be applied to PReCA.

55. **Conflict and broader social risks.** The project aims at improving the socio-economic conditions broadly for small producers and processors at the grassroots, as well as make available better food quality products on a regular basis for consumers on the domestic market. In that sense, it has the potential to diminish social tensions, reduce the factors of fragility and improve the social fabric in the targeted production areas, as well as on consumer markets. It should contribute to bringing about in project targeted areas a measure of shared prosperity, consequent peaceful context and mitigations of social risks. This is key for Burkina Faso that has recently experienced unrest due to various negative socio-political factors.

56. **Citizen engagement, consultation and participation.** The project will seek to promote active citizen engagement in all its implementation phases. This process will build on the following mechanism, *inter alia*: (i) representation of Civil Society Organizations (CSOs) in the project Steering Committee to integrate the beneficiaries' views and decisions to guide project interventions, relay their concerns and have them participate in the decision-making process for implementing project activities; (ii) promotion of IBM to consult with and receive feedback from beneficiaries, regularly; and (iii) operationalization of the GRM to provide a structured multi-level arrangement for registering and addressing grievances and complaints. Building on these mechanisms, the project will devise a structured citizen engagement strategy targeting both primary beneficiaries and other project-impacted stakeholders, such as private sector operators and NGOs operating in the project zone. Implementing the strategy will require conducting direct consultations, strengthening partnerships, and obtaining beneficiary feedback. The project will provide periodic reports on citizen engagement. Such reports will be made available broadly as part of the project communication plan; they will include information on the beneficiaries' feedback, the degree of beneficiaries' involvement, as well as the number of grievances registered and addressed.

57. **Labor influx and HIV-AIDS.** The project will adopt measures to mitigate the possible negative impacts of the influx of external labor into project areas. These impacts may be due to risks related to project activities such as: (i) unfair wage paid for hired labor; (ii) increased cost of living and food prices in local markets; (iii) cultural tensions with the local population and exploitation of incoming labor force; (iv) sexual violence arising from worker relations with local women/ girls; and (v) increase in the use of narcotics and alcohol. To address these issues, the project will take adequate risk mitigation measures based on the scope of activities, especially civil works, for the selected value chains such as (i) zero tolerance regarding sexual violence; (ii) promotion of fair treatment, non-

discrimination and equal pay for equal work for all project workers; and (iii) enforcement of codes of conduct regarding the relationship with local communities incorporated in bidding documents, such as labor management procedures to prevent and address harassment, intimidation and/ or exploitation of external labor, and avoid gender and other violence. One problem that will receive particular attention is the impact of project activities on the transmission of HIV-AIDS. To resolve this problem the project will fund awareness campaigns, testing as well as treatment for the disease.

58. **Gender.** The project has been categorized as 'gender tagged' broadly because of the key role of women in agriculture activities, and because of their special role in project-targeted VCs such shea nuts or horticulture production, as well as their involvement in agro-processing activities. Gender considerations have been mainstreamed in the design of project activities. For instance, project-sponsored capacity building programs are targeted to women, as well as youth, to ensure that they derive the required benefits and improve their socio-economic conditions as a result of project implementation. Similarly, the project provides for adequate participation of women and youth in the management committees to be set up for project implementation, in particular, user committees for the small-scale irrigation perimeters since they are important beneficiaries of this type of investment.

59. **Gender-Based Violence (GBV).** The project was found to be at low risk of GBV by the GBV risks assessment tool, but a strategy to regularly and qualitatively assess risks of GBV, including sexual exploitation and abuse (SEA), will be put in place to ensure that women and girls and other groups particularly vulnerable to risks of GBV have a safe and confidential venue to report risks that are potentially created or exacerbated by project implementation. This assessment of risks will be carried out through project implementation and inform the design and regular review and update of GBV risks mitigation measures. Risks identified through these assessments and safe and ethical mitigation measures to address them will be reflected in the project ESMF and in contractors' proposals and ESMF. Additionally, GBV requirements, including the need for codes of conduct specifically prohibiting acts of GBV and Sexual Exploitation and Abuse (SEA) and related training plans for workers, will be systematically included in GBV bidding documents and costing of GBV mitigation actions will be taken into account in contracts and procurement documents. Building on existing lessons, the project will seek to promote greater awareness of gender-based violence and SEA, in communities, disseminating information on project-related risks, GBV/SEA mitigation measures that will be put in place and response services available to survivors. The project will map out GBV prevention and response services available in the project area of influence and will develop a survivor-centered response protocol ensuring that all survivors reporting a GBV incident to the project receive timely access to a minimum package of services, including health, psychosocial and legal support. The GRM to be set up will be designed to safely and ethically register, document and address GBV allegations. GRM reports will detail the cases of gender-based violence in line with best practices on the collection and reporting of GBV-related information and contribute to the ongoing analysis of risk and the adaptation of prevention and mitigation strategies.

60. **PMU staffing for social safeguards.** To ensure that the social safeguard instruments prepared in line with policies triggered by the program are implemented properly, the PMU will hire a social safeguard specialist with a strong experience in RAP preparation, implementation and monitoring. S/he will be also responsible to manage the other project social issues. The social specialist jointly

with the environmental safeguard's specialist, will be fully in charge of all social safeguards aspects and will regularly monitor all safeguard requirements.

61. **Grievance Redress Mechanism (GRM).** A GRM will be set up to allow stakeholders and interested parties to bring up any concern regarding the program to the PMU with the aim of finding solutions. The project GRM will incorporate provisions to allow the safe and ethical registration, documentation and management of GBV complaints. It will be complemented by a GBV response protocol, ensuring that all survivors disclosing an incident of GBV are referred to assistance based on their needs and wishes.

E. Implementation Support

62. **Implementation support objective**. The implementation support and oversight missions would have the combined aim of reviewing the quality of implementation, providing solutions to implementation problems, and assessing the likelihood of achieving the PDO. More specifically, they will: (i) review implementation progress by component, including institutional development aspects; (ii) provide solutions to implementation problems as they arise; (iii) review with the PMU the action plan and disbursement programs for the next six months; (iv) review the project's fiduciary aspects, including disbursement and procurement; (v) verify compliance of project activities with the World Bank's environmental and social safeguard policies; (vi) review case studies and survey results to measure results indicators to determine progress toward the PDO against the targets set within the Results Framework and the quality of implementation; and (vii) review the quality of capacity-building activities, which are crucial for an effective implementation of the program. The missions would combine some field visits, field-based focus group discussions and interactive workshops with stakeholders for feedback, and regional workshops as well as national workshops to highlight implementation issues, pick up emerging implementation lessons, and share mission recommendations, including agreements on actions moving forward. It will also include reviews of quarterly/annual reports and various studies.

63. **Implementation support strategy.** The strategy for supporting project implementation will focus on successfully mitigating the risks, identified at various levels, and supporting the risk management, proposed in the SORT. The approach entails close monitoring of the project's technical design and implementation, as well as governance, fiduciary, and safeguard issues. The project implementation will be supported by the task team based in both the World Bank HQs in Washington and the WB office in Ouagadougou. Staff from other offices and consultants will provide additional support on a need's basis.

64. The implementation support strategy will include the following key elements:

(a) *Timing of implementation support.* The World Bank implementation support will begin immediately after project approval to help the Client achieve effectiveness on time. The frequency of implementation support missions will be maintained at periodic intervals of two missions per year. The first Implementation Support Mission (ISM) will be undertaken six months after effectiveness of the project. Provisions will be made to provide close monitoring especially during the first year of implementation and whenever implementation challenges require speedy interventions;

(b) *Technical support***.** The World Bank task teams will include technical specialists with expertise in a range of areas. Technical specialists unavailable in the World Bank Group and other partners such as the FAO/World Bank Cooperative Program (FAO/CP) pool will be recruited externally to support the implementation plan of the project. Members of the project task team will organize and undertake field visits to verify compliance with the policies and procedures spelled out in the Operational Manual, identify bottlenecks affecting implementation progress, and provide informed advice and recommendations to overcome the identified implementation challenges. Technical assistance will include training workshops to develop core resource teams within implementing units and project teams, helping to finalize manuals, and reviewing and advising on terms of reference for required studies and technical support missions;

(c) *Fiduciary and safeguards compliance.* Support will be provided to the PMU staff for fiduciary and safeguard aspects. In addition, on top of carrying out their usual implementation support functions, World Bank fiduciary, safeguard, and M&E specialists will be available to provide close support and detailed hands-on guidance to their counterparts especially during the initial months following project effectiveness. To that effect, the World Bank fiduciary and procurement specialists will provide hands-on procurement management and FM support to the PMU. The task team will also have safeguard experts to help in capacity building and technical review as needed for safeguard cases. The Safeguards Specialists' role will be to monitor progress of the different environmental and social management systems, build up a database, develop indicators, and ensure that the stakeholders are properly briefed and coordinating among themselves and provide expert advice as and when required;

(d) *Monitoring, evaluation, and knowledge management.* The task team will have an M&E Specialist who will help the PMU in setting up and maintaining the project's decentralized M&E system. The system will be designed to facilitate systematic collection of the required data needed to track progress in meeting the PDO, generate financial information, and document compliance with safeguards policies. Information generated by the M&E system, complemented by information emerging at the time of the midterm review, will be used to adjust operational procedures and make the required mid-course corrections to the project implementation modalities, if deemed necessary; and

(e) *Use of Geo-Enabling initiative for Monitoring and Supervision (GEMS).* The project will also establish an interactive platform to enhance project M&E, supervision and social and environmental risk monitoring to allow geo-mapping and remote supervision.

65. **Implementation support missions**. Two implementation challenges identified are the overall low capacity of the MAAH and the country's security situation. To respond to these challenges, and to ensure that project resources are being used effectively to achieve the PDO, the supervision strategy will use a number of instruments to review progress and respond to implementation issues, including:

(a) *Implementation Support (IS) Missions*: The World Bank Task Team will conduct semi-annual review and implementation support missions to review project implementation performance and progress toward the achievement of the PDO. Given the overall design and scope of the project, a multi-disciplinary team comprised of technical specialists, along with fiduciary, environmental,

social, and operations specialists will be needed to support the Government of Burkina Faso in implementing the project. Support from technical partners, such as FAO, will be sought when needed. The first implementation support mission will take place as soon as possible after effectiveness to provide start-up support through direct and timely feedback on the quality of implementation plans and their likely soundness and acceptability. If the difficult security situation persists in the country, the World Bank will take appropriate measures so that the required field work can still be conducted to ensure that the status of project activities in the field is well documented. Such measures could include recruiting local consultants (e.g., through local NGOs already implemented in the project areas) who will collect the necessary data and information, and having the local project staff come to Ouagadougou for debriefing sessions;

(b) *Mid-term review (MTR):* An MTR will be carried out mid-way in the implementation phase. It will include a comprehensive assessment of the progress in achieving project objectives as laid out in the Results Framework. The MTR will also serve as a platform for revisiting design issues that may require adjustments to ensure satisfactory achievement of the project's objective;

(c) *Other reviews*: Each year, the World Bank and the Ministry of Finance will consider the need for additional analytical, advisory, and knowledge sharing activities and/or third-party reviews. Third-party reviews will be especially useful for follow-up of project activities in areas affected by conflict. Such reviews will be planned for over and above the semi-annual IS missions; and

(d) *Implementation completion*: At the close of the project, the World Bank will carry out an implementation completion review to assess the success of the project and draw lessons from its implementation.

Implementation Support Plan and Resource Requirements

(a) In general, the task team will conduct two annual implementation support missions and field visits to the target regions. During the first year three missions will be undertaken. The Government will be required to prepare and share the formal documents for the mission's consideration at least two weeks before the mission takes place.

(b) The World Bank's Procurement, FM, and Safeguards (both social and environment) Specialists will provide regular, timely implementation support, and TA to the counterpart teams during project implementation. These team members will also identify capacity building needs to strengthen procurement, FM, and safeguard capacity of the client, as follows:

- **Procurement.** In addition to carrying out an annual post review of procurement that falls below the prior review thresholds, the Procurement Specialist will provide focused procurement support including: (i) reviewing procurement documents and providing timely feedback to the counterparts; (ii) providing detailed advice and guidance on the application of the World Bank's Procurement Guidelines; and (iii) monitoring procurement progress against the Procurement Plan; and

- **Financial Management.** The FM Implementation Support Plan will be risk-based and will include review of the project's FM system, including, but not limited to, accounting, reporting, and internal controls. The FM team will also include reviews of quarterly reports; review of annual audited financial statements, and Management Letters as well as timely follow up of issues that may arise; and participation in project supervision missions as appropriate.

1. Tables 1.8 and 1.9 indicate implementation support plan and the level of inputs that will be needed from the World Bank to provide appropriate and adequate implementation support for the proposed project during implementation.

Table 1.8: Implementation Support Plan

Time Year	Focus	Primary Skills Needed	Nb. of Missions	Budget (US$)
Year 1	• Project launch • Initialization of project components • FM systems functioning effectively • Procurement practices following World Bank norms • ESMF in place	• Team lead • FM, procurement • Environmental Specialist • Social Safeguards Specialist • Financial Sector Specialist • Irrigation Specialist • Value Chain/Business Plan Specialist • Agricultural Economist • Gender Specialist • Nutrition Specialist • M&E Specialist • Communication Specialist	3	260,000
Year 2	• Monitor implementation of project activities • FM, procurement, safeguards	• Team lead • FM, procurement • Environmental Specialist • Social Safeguards Specialist • Financial Sector Specialist • Irrigation Specialist • Value Chain /Business Plan Specialist Agricultural Economist • Gender Specialist • Nutrition Specialist • M&E Specialist	2	195,000
Year 3	• Monitor implementation of project activities • FM, procurement, safeguards • Midterm review	• Team lead • FM, procurement • Environmental Specialist • Social Safeguards Specialist • Financial Sector Specialist • Irrigation Specialist • Value Chain/Business Plan Specialist Agricultural Economist • Gender Specialist • Nutrition Specialist	2	195,000

Time Year	Focus	Primary Skills Needed	Nb. of Missions	Budget (US$)
		• M&E Specialist/communication		
Year 4	• Monitor implementation of project activities • FM, procurement, safeguards	• Team lead • FM, procurement • Environmental Specialist • Financial Sector Specialist • Social Safeguards Specialist • Irrigation Specialist • Value Chain/Business Plan Specialist • Gender Specialist • Nutrition Specialist • M&E Specialist/communication	2	195,000
Year 5	• Monitor implementation of project activities • FM, procurement, safeguards	• Team lead • FM, procurement • Environment Specialist • Social Safeguards Specialist • Financial Sector Specialist • Irrigation Specialist • Value Chain/Business Plan Specialist • Agricultural Economist • Gender Specialist • Nutrition Specialist • M&E Specialist/Communication	2	195,000
Year 6	• Project withdrawal and closure • Implementation Completion and Results Report (ICR)	• Team lead • FM, procurement • Environmental Specialist • Financial Sector Specialist • Social Safeguards Specialist • Irrigation Specialist • Value Chain/Business Plan Specialist • Agricultural Economist • Gender Specialist • Nutrition Specialist • M&E Specialist • Communication Specialist • Economist • ICR writer	2	195,000

Table 1.9: Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips Per year	Comments
Task Team Leader	20	3	Country office based
Co-Task Team Leader	20	3	HQs based
FM Specialist	6	n.a.	Burkina Faso country office-based
Procurement Specialist	6	n.a.	Burkina Faso country office-based
Environmental Safeguards Specialist	6	2	Region-based
Social Safeguard Specialist	6	n.a.	Burkina Faso -based
Irrigation Spec.	7	2	FAO/CP
M&E Specialist	7	2	Washington, DC, Region-based
Value Chain/Business Plan Specialist	7	2	Washington, D.C., or consultant FAO CP
Agric. Specialist (FF School)	7	2	Washington, D.C. or FAO CP
Gender Specialist	7	2	Washington, D.C. or FAO CP
Communication Officer	7	n.a.	Burkina Faso country office-based
Operations Analyst	7	n.a.	Burkina Faso country office-based
Program Assistant	10	n.a.	Burkina Faso country office-based

ANNEX 2: DETAILED PROJECT DESCRIPTION

COUNTRY: Burkina Faso
Agriculture Resilience and Competitiveness Project

1. The project of a total cost of US$261.9 million is structured as an IPF, funded by (i) two IDA credits for a total amount of US$200 million -- a regular credit of US$50 million and a SUF of US$150 million; (ii) a GoBF contribution of US$15.3 million; (iii) beneficiary contributions for US$29.4 million; and (iv) Partner Financial Institutions (PFIs) credit contributions of US$17.2 million. The project will be implemented over six years. It will have four interrelated components regarding (i) development of agriculture infrastructure, (ii) support to public agriculture services, (iii) promotion of private investment, and (iv) project coordination and institution strengthening, and Contingent Emergency Risk Component (CERC).

COMPONENT 1 – ENHANCING AGRICULTURE PRODUCTIVITY (US$111.2 million equivalent, of which US$97.2 million IDA and US$14.0 million GoBF).

2. Component 1 aims to remove constraints to farm productivity, mainly in irrigated production systems. It will have three sub-components: (i) irrigation development and land-tenure arrangements; (ii) agriculture advisory services; and (iii) support to producer groups and input supply.

3. **Sub-Component 1.1: Irrigation infrastructure development and land tenure** (US$89.0 million equivalent of which US$75.0 million equivalent IDA, and US$14.0 million equivalent GoBF). Sub-Component 1.1 aims at supporting productive land development by increasing the provision of irrigation water on sites with high production potential, by securing land tenure. It will prioritize both rehabilitation and development of irrigated perimeters. Emphasis will be placed on design and construction of climate-proof irrigation infrastructure to ensure efficiency and climate resilience. This will be done in close coordination with the World Bank-financed PARIIS project (FY17) to enhance synergies with this project. This sub-component has two activity clusters: (i) irrigation infrastructure development, and (ii) land tenure security for farmers, especially those benefiting of irrigated land allocation under the project from the State's irrigated rural land domain.

4. **Irrigation development and rehabilitation** (see details in Appendix 1)**.** The activity cluster under irrigation infrastructure regards: (i) irrigation infrastructure: the project will cover about 4,497 ha over five collective irrigation schemes to be either fully developed (three perimeters covering about 2,870 ha) or upgraded/ rehabilitated (two perimeters covering about 1,627 ha)[30]; (ii) institutional and organizational support regarding water management for: (1) *Autorité de Mise en Valeur de la Vallée de Sourou* (AMVS, the agency covering two project-financed sites for an area of 2,570 ha): this support will

[30] Project activities regard water distribution canals and related small infrastructure. It does not have to do with dams or other water-retaining infrastructure. The project will cover six perimeters in four *administrative regions* for a total of about 4,497 ha with the following breakdown: (i) Petit périmètre de Sindou/Douna, *Cascades*: upgrading of 1,100 ha of rice plain; (ii) Plaine Rizicole de Banzon, *Hauts Bassins*: rehabilitation on 450 ha and extension on 77ha; (iii) Bissan, Autorité de Mise en Valeur de la Vallée de Sourou (AMVS), *Boucle du Mouhoun*: new perimeter, 1,500 ha; (iv) Dangoumana, AMVS, *Boucle du Mouhoun*: new perimeter, 1,070 ha; (v) downstream zone of Dourou, *Nord*: extension, 300 ha; and (vi) ____

regard the restructuring of AMVS, and the upgrade of its management and operational modalities (O&M plan, operating procedures for maintenance fund, rules for establishment of water user fees, etc.), and (2) water user associations for improvement in irrigation management practices, through technical outreach to users; and (iii) specialized technical assistance for training and advisory services, institutional and organizational studies, and exchange visits with other irrigation management entities both South-South in West Africa (e.g., Senegal River Valley Authority, Office du Niger) and North-South (e.g., France, Spain, Italy); this activity will also cover the thematic areas of watershed protection, and water and soil conservation through appropriate studies and analyzes. The success of the project activities, including the sustainability of investments, is dependent on good ownership by beneficiaries of project-sponsored actions, including their involvement in the management of irrigation infrastructures and equipment through Water User Associations as specified in the operating specifications, appropriate implementation of O&M plans, and adherence to the rules governing land security**.** Water management institutions will be strengthened to enhance resilience through promoting stronger sense of ownership and greater efficiency and accountability in water and energy use (see Sub-component 2.3) Strengthened institutional and organizational support will also increase farmer participation in decisions, leading to more sustainable water use and more equitable sharing of the benefits.

5. The project will also develop, in the form of investment subprojects, private sites intended for arboriculture, for a total of 1,000 ha under small irrigation systems (with water pumping through diesel/ solar equipment, Californian irrigation network, drip irrigation, etc.) (see Component 3).

6. **Land tenure security.** Land security is a prerequisite for irrigated agriculture development on the selected sites. In Burkina Faso all rural lands developed using public funds automatically become part of the State's rural land domain (Law 034-2009, art. 25, of 16 June 2009 regarding rural land tenure management). At this time, State ownership of the land in project-sponsored sites is yet to be regularized. Prior to any other operation, therefore, it is necessary to proceed with the registration of the land in the name of the State in Land Registry. This process involves: (i) delineation of land rights on a participatory basis with occupants; (ii) formal declaration of public utility of the new irrigated land to be developed; (iii) negotiations over the modalities of transfer of land rights to the State, and attendant compensation payments, and (iv) formal land registration consisting of physical demarcation and actual registration formalities. The IDA Credit will cover the cost of all activities and formalities required for registration; Government counterpart funds will cover payments due under the financial compensation heading[31]. The project will organize information and awareness campaigns of local populations next to various sites being developed to identify, select and install the potential farmers on the irrigated land to be developed. It will facilitate the process of allocating land to both (i) smallholders (0.5 or 1 ha each on about 3,497 ha), and (ii) agriculture entrepreneurs (at least 10 to maximum 50 ha each, for a total of 1000 ha), adhering to the strict eligibility and selection criteria applied by national programs. Smallholders and entrepreneurs will be given long term leases to the irrigated land. In addition, the project will facilitate access to shea resources. With the scarcity of shea resources (aging of parks and cutting for fuelwood), the management and therefore the regeneration of the resource is a priority issue for the sector. Thus, the project will work with shea nuts collectors and processors to identify the priority shea parks, secure the access of users, and clearly specify rights to enforce management rules and ensure a sustainable management of

[31] Compensation costs have been estimated at approximately US$11.7 million.

the resource. Finally, the project will support the securing of tenure rights for accessing and collecting fruits from shea parkland, with a specific focus on women.

7. **Local land tenure structures.** In Burkina Faso, the responsibility for implementing land security measures is vested with local structures with the support of the central and regional services, as provided for by the law regarding rural land tenure management. The project will strengthen the establishment and operation of communal land services (including recruitment of agents and support for initial operation) in the communes covered by the project, so that they carry out the following activities, *inter alia*: (i) information and awareness campaigns directed to stakeholders on the regulations concerning land tenure security; (ii) support for the establishment of local land management structures, including village land commissions and village land conciliation committees; and (iii) support for the process of land security proper, including capacity building and provision of required equipment. The twenty communes adjacent to the project-developed perimeters will benefit from this support. Secure land tenure will incentivize the adoption of climate-smart agricultural practices and provide ancillary adaptation and mitigation co-benefits.

8. **Sub-Component 1.2: Agriculture advisory services** (US$4.1 million IDA). Sub-Component 1.2 will improve the delivery of advisory and outreach services, with a focus on extension activities regarding sustainable agricultural practices. This will be achieved by providing catalytic support towards strengthening the capacity of MAAH and other relevant institutions to deliver demand-driven efficient agri-value chain-oriented extension and outreach services. In doing so, the project will scale up results achieved by the WAAPP to enable a wider adoption of Good Agriculture Practices (GAPs), including climate-smart technologies and innovation packages, seeds of high-yielding, early-maturing and drought-resistant varieties, improved practices for agricultural intensification in selected production systems notably irrigated systems, as well as digital solutions for extension services. To reduce methane emissions from rice, the project will promote the adoption of the System of Rice Intensification (SRI), a climate-smart agroecological approach that is proven to have substantial mitigation and adaptation benefits in West Africa. The four principles of SRI – early, quick and healthy plant establishment, reduced plant density, improved soil conditions through soil organic matter, and reduced and controlled water application – will be scaled up among farmers. As part of this sub-component, the focus will be *inter alia* on Integrated Pest Management (IPM) practices building on the World Bank-financed WAAPP. The above activities will be implemented in close coordination with other related initiatives in the country or the sub-region.

9. Sub-Component 1.2 will provide funding *inter alia* for: (i) topical studies, specialized analyses, extension guides in specific areas for instance regarding the use of the Farmer Field School (FFS) approach, Climate Smart Agriculture (CSA) techniques, (including sustainable land management) and/ or gender-oriented practices; (ii) technical assistance to identify key constraints for technology adoption as well as capacity building for seed and planting material certification, support for the dissemination of knowledge regarding certified seeds and improved planting material; (iii) the development of an e-extension platform, using digital solutions and applications to modernize advisory services and increase the outreach of the agriculture advisory services; (iv) related staff training, including thematic training and specialized forums within and outside the country, scholarships for diploma courses, organization of exchange trips, etc., to strengthen the human capacity of MAAH managers and technicians and those of

associated entities (including private sector entities) in charge of extension; and (v) computer equipment (desktops, laptops, tablets, etc.) and office equipment, technical equipment and vehicles for the Directorate General for Agricultural Extension (DGPV) and the four regional directorates of advisory support services in the project areas.

10. **Sub-Component 1.3: Support to producer organizations and input supply** (US$18.1 million IDA). **Producers' organizations.** The involvement of farmers in the management of infrastructure and equipment in irrigated areas, including compliance with operating specifications, is an important success factor for irrigation development and the sustainability of investments. The project will facilitate the creation of Agricultural Professional Organizations (OPAs), such as agricultural water users' associations, economic interest groups, and cooperative societies of different types (including cooperatives of agricultural equipment). By organizing farmers, the project will ensure the proper use and maintenance of irrigation infrastructure, better water management and utilization, and adequate use of irrigated land. It will also enhance resilience and adaptive capacity to climate change through the promotion of integrated management of soil fertility, the protection of the watersheds and improved suitable production of major food crops. The process of organizing farmers will start with awareness raising and advisory activities to get them organized so that they can effectively assume the functions of management and maintenance of water infrastructures and subsequent cultivation of irrigated plots. This will be done in close collaboration with the specialized services of MAAH/DGPV and non-State entities (NGOs and others). Emphasis will be placed on the governance of OPAs, as they often face enormous difficulties due to poor organization and management, and, therefore, are often not yet been able to meet the needs of their membership in terms of access to credit and inputs, advisory support, group selling, as well as plot maintenance and water management. Regarding the shea value chain, the support to producer organizations will be implemented through MEEVCC.

11. **Input supply.** This activity will provide smallholders the support to acquire the production means to develop the appropriate cropping systems on the irrigated land they will be granted under the project. This will follow the technical guidance of extension services received under sub-component 1.2 The project will make available the package of inputs, improved seeds and small manual equipment through the national programs and provide financial support for producers for a period of two years. The project's subsidy will be aligned with the subsidy of national programs. Agricultural entrepreneurs (5-50 ha ar) will receive financial support through sub-projects under Component 3 at varying level of subsidy depending of the financing window to which they will be eligible.

COMPONENT 2 – IMPROVING COMPETITIVENESS AND FOSTERING MARKET ACCESS (US$34.6 million equivalent of which US$33.7 million IDA and US$0.9 million GoBF).

12. Component 2 aims to improve the competitiveness of selected value chains and foster access to markets through three sub-components: (i) capacity building of MAAH central directorates regarding sanitary and phyto-sanitary control, development of quality norms and standards, and support to market knowledge; (ii) provision of marketing facilities; and (iii) construction/ rehabilitation of rural road infrastructure.

13. **Sub-Component 2.1: Sanitary and phyto-sanitary control, development of quality norms and standards, and support to market knowledge** (US$5.2 million IDA). Sub Component 2.1 will focus, *firstly*,

on the national sanitary and phyto-sanitary regulatory framework to ensure that appropriate food safety regulations and means are in place to enable the country to serve the needs of the domestic and export markets. The project will provide support to MAAH's dedicated services (DGPER) including the decentralized phyto-sanitary control posts in the project area. Capacity building will focus on specialized areas such as food safety analysis and control. The project will also provide logistical support in the form of facilities and equipment for the National Laboratory for Food Analysis (e.g. for control of aflatoxin in maize, pesticide content in agricultural products, herbicide control, etc.), and rehabilitation of two regionals laboratories for seed control in the project area. Concerning the shea sector, the project will support IRSAT in the definition of semi-industrial technological packages to reduce energy (fuelwood) consumption. *Secondly*, with regard to the promotion of business standards and the quality of agricultural products, the project will focus on the technical norms and trading labels so that they conform to international standards (HACCP, ISO and others). For the shea value chain, a national standard of production will ensure quality consistency along the chain. *Thirdly*, in terms of market knowledge, the project will finance the collection of market information (including on prices and quantities marketed) regarding the project-supported commodities. It will support the strengthening of MAAH's Agricultural Market Information System (SIMA), including data collection on specific targeted markets. Information and awareness workshops on SIMA will be organized throughout the project area, including radio broadcasts, so that potential users are aware of SIMA's existence and know how to access it. The four Regional Chambers of Agriculture (CRAs) will be supported so that they can contribute to SIMA's data collection and diffusion efforts.

14. **Sub-Component 2.2: Marketing infrastructure** (US$7.2 million IDA). The project will support marketing infrastructure, essentially the construction/rehabilitation of fourteen climate resilient and more energy-efficient purchasing counters in the four regions covered by the project (see Appendix 2) and the construction/rehabilitation of 90 storage facilities (10 for inputs, 20 for vegetables, and 60 for cereals under *warrantage*). The purchasing counters have been already established and experimented with success in other producing areas of the country. They perform several functions: they provide storage, sorting and packing facilities; they serve as sales counters for production and locus for dialogue between producers and traders; and they collect market information on the products targeted by the project. As part of their multiple functions, they can allow the practice of *warrantage*, a mechanism by which the products serve as guarantee for the issuance of bank credit. One specific positive result of the purchasing counters is that they avoid direct field purchases from farmers, reduce asymmetric information that expose producers to buyer pressures and result in damage to agricultural fields owing to the presence of vehicles. The purchasing counters will meet the required criteria of relevance and soundness, viability, cost-effectiveness, governance, as well as job creation, especially for women and youth. Particular attention will be paid to the management and maintenance of the counters in collaboration with the end-users and local authorities. Some of the facilities will be managed by entities representing private users, with the assistance of specialized service providers.

15. **Sub-Component 2.3: Rural tracks and roads** (US$22.2 million of which US$21.3 million IDA and US$0.9 million GoBF). Sub-Component 2.3 aims to reinforce the connection of producing areas targeted by the project with the supply sources for productive inputs and market outlets for commodities produced. It will include the construction or rehabilitation of rural roads and tracks to ensure climate-proof, all-weather access throughout the year to all the project-targeted irrigated areas. A total length

of approximately 344 km of tracks and road sections have been selected in concert between MAAH and the MI. This sub-component will finance the technical, socio-economic and environmental studies, road works, as well as maintenance over a period of two years. The implementation of SC2.3 will be carried out under MI's supervision through its Directorate General of Rural Tracks (DGPR). The execution of road works will be entrusted to private civil engineering companies. Particular attention will be paid to the planning and maintenance of tracks and roads using national norms. The project will provide technical assistance and training to DGPR, as well as to the deconcentrated entities and local communities involved.

COMPONENT 3: PROMOTING PRIVATE SECTOR-LED AGRIBUSINESS DEVELOPMENT (US$89.5 million equivalent of which US$42.9 million IDA, US$29.4 million beneficiaries and US$17.2 million PFIs).

16. Private sector development represents the major thrust of the project strategy for developing value chain activities. Accordingly, Component 3's objective is to enable the country's private agriculture and agro-processing sector to become more competitive on domestic and external markets, by helping producers, processors and traders to develop and finance their investment initiatives. Component 3 activities will focus on: (i) development of business plans; (ii) provision of financing in support of investment for commodity production, processing and marketing.

17. **Sub-Component 3.1: Development of business plans** (US$4.5 million IDA). The objective of this sub-Component is to assist eligible beneficiaries in developing business plans which can be eligible for funding under the project CSF. It will assist value chain operators to (i) identify potential investment activities aligned with the project's objectives; (ii) select potential partners with whom they can establish partnerships; and (iii) develop viable business plans to secure access to project funding; these business plans will include the required specifications to conform to the eligibility criteria for the CSF, including the fiduciary and safeguards aspects. The above support will be provided through technical assistance. The TA provider's terms of reference will include organization of sensitization campaigns to inform potentially interested operators, training and other needed support.

18. **Sub-Component 3.2: Private investment financing** (US$85.0 million of which US$38.4 million IDA, US$29.4 million Beneficiaries and US$17.2 million PFIs). Sub-Component 3.2 seeks to alleviate the financing constraint for investors in the agriculture and agri-food sector by improving their access to finance. It will fund a Cost-Sharing Facility (CSF) to provide Matching Grants (MGs) as partial support to agriculture and agri-business operators to finance their investment Sub-Projects (SPs). The MGs will be predicated on the core Maximizing Finance for Development (MFD) principle of generating a multiplier effect regarding the provision of private capital investment lending on the part of Partner Financial Institutions (PFIs). The CSF will target (i) smallholder producers, Producer Groups (PGs), cooperatives, and SMEs who need financing to create, upgrade and/ or modernize their existing production, storage and processing facilities, as well as (ii) all other private sector players involved in the agriculture value chain selected (e.g., traders, transporters, equipment manufacturers, service providers) with similar needs. Women and youth will receive special treatment, especially as regard their very small and/ or start-up enterprises. The MG windows have been specified based on an analysis of investment demand of a pipeline of representative sub-projects in the targeted value chains. The initial permanent working capital requirements will be eligible for funding under the matching grants. The eligibility and selection criteria

of the beneficiaries, as well as procedures to be followed all along the investment cycle, will be detailed in the PIM**.**

19. The CSF will provide MGs under two different windows or categories of sub-projects:

(i) *Window 1 - Micro sub-projects* (US$5 million IDA): The project will grant MGs through this window covering 70 percent of the cost of eligible SP costs. The maximum amount of the grant per sub-project will be US$5,000. Women and young people will benefit from preferential treatment corresponding to 80 percent subsidy of their sub-projects. All beneficiaries will be required to open formal accounts (regular or mobile accounts) in a PFI (commercial bank or Micro Finance Institution-MFI) with the aim of strengthening their link with the financial institution. Based on an average grant of US$2,920 (out of US$4,000 average cost of SP) Window 1 will be able to co-finance around 1,700 micro sub-projects;

(ii) *Window 2 – Medium and Large size sub-projects* (US$33.4 million IDA): This window will provide matching grants predicated against loans issued by PFIs. Most of the MGs will go to funding SMEs, with a handful of larger enterprises receiving a small fraction of the dedicated financial envelope on a case by case basis:

(iii) *Window 2 basic* (medium size sub-projects, US$29.4 million IDA): The MG will amount to 50 percent of the eligible cost of the sub-project (60 percent for women and youth), typically for SMEs, for production (e.g., establishment of irrigated mango, cashew or citrus fruit orchards), storage, packaging, processing, marketing, and related services and infrastructure. Initial working capital requirements will be eligible for the grant. The amount of the grant per sub-project will range from US$10,000 to a maximum of US$60,000. Beneficiaries will be expected to obtain loans from a participating PFI up to 15 percent to co-finance the subproject. The remaining sub-project funding will be provided by the recipient as a cash contribution. Based on an average of US$42,400 per grant (out of average SP cost of US$80,000), Window 2 Basic will accommodate the funding of about 700 sub-projects; and

(iv) *Window 2 – enhanced* (large sub-projects, US$4 million IDA): Window 2 enhanced will provide matching grants ranging from US$90,000 to a maximum of US$150,000 to fund 30 percent of eligible sub-project costs. The PFI contribution is expected to co-finance the sub-project up to 35 percent. Based on an average subsidy of US$90,000, Window 2 Enhanced will be able to finance around 45 larger sub-projects.

COMPONENT 4: PROJECT COORDINATION, INSTITUTIONAL CAPACITY STRENGTHENING, AND CONTINGENT EMERGENCY RISK COMPONENT (CERC) (US$26.6 million equivalent of which US$26.2 million IDA and US$0.4 million GoBF)

20. Component 4 will (i) support project coordination, including Monitoring and Evaluation (M&E) as well as social and environmental safeguard activities, (ii) finance institutional strengthening and (iii) establish a CERC. The general project intervention principle is, for internal project coordination, to rely on the same management services, and, for CERC to harmonize and/or pool resources with other projects which implement similar crisis funding mechanisms.

21. **Sub-Component 4.1: Project coordination and institutional capacity strengthening** (US$26.6 million of which US$26.2 million IDA and US$0.4 million GoBF. *Project coordination* will be provided at the central level by a PMU, and at regional level by Regional Management Units (RMUs) in the four project regions. The PMU will be housed within the Coordinating Unit of the Budget Program for Hydro-Agriculture Engineering and Irrigation Development which is one of the six MAAH budget programs. Hence, the PMU will be fully integrated into the MAAH administrative structure as part of the sector-wide approach recently adopted by the Government under the budget programs framework. SC4.1 will fund the establishment of the PMU through provision of appropriate staffing and operating resources to take charge of project management including resources for fiduciary management, safeguard compliance, M&E, knowledge management and communications. To promote consultations at the grassroots, the sub-component will also fund a full set of Citizen Engagement activities. A joint institutional set-up for the project PMU with other project coordinating units will be considered, with the objective that the proposed PMU shares staff and operating resources with other units. *Institutional capacity strengthening* activities will concern the key MAAH's directorates and units, including their decentralized services, and as well as the National Council for Food Security (NCFS). The project will support training, equipment, office rehabilitation, etc., for the key MAAH directorates and services, including their decentralized services and the National Council for Food Security (NCFS). This will include the construction of an office to host all projects under the Budget Program for Hydro-Agriculture and Irrigation Development. Due attention will be given to statistics regarding the project-targeted value chains and the data required for project M&E activities and safeguard activities since the project has been classified under Category A.

22. **Sub-Component 4.2: Contingent Emergency Risk Center (CERC)** (US$0.0 million) The project includes the creation of a project CERC under the oversight NCFS at MAAH. The CERC will be a mechanism to provide funding for emergencies. It will have a zero-initial allocation. In the event of a crisis, the Government will be able to request the Bank to reallocate project funds to the CERC, as well as funds from other Bank projects, to cover the costs of the emergency response and recovery. Detailed operational guidelines acceptable to the Bank for implementing the project CERC will be prepared during the first six months of project implementation. All expenditures under the project's specific CERC will be in accordance with World Bank: Investment Project Financing. They will be reviewed the Bank to ensure that they are eligible before any disbursement is made. Disbursements will be made against an approved list of goods, works and services, required to support crisis mitigation, response, recovery and re-construction.

Appendix 2.1: Water resources and land development

23. The project will support the development or the rehabilitation of five irrigation schemes. The following paragraphs show the situation of the five irrigation schemes, but only the Banzon perimeter situation is known in detail at this stage:

24. **Rehabilitation of the Banzon rice plain**. This rice plain of about 450 hectares (for 630 producers) faces underutilization of the equipped zones and degradation of water services, in particular due to: (i) a deterioration of the infrastructures which have arrived at the end of their useful life (after 40 years of operation), including the primary canal; and (ii) a strong silting / sedimentation of the river catchment area as well as, about 180 ha of plots not irrigable in the dry season. The upgrading works therefore include: (i) rehabilitation of the primary canal and certain infrastructures on the secondary and tertiary canals; (ii) cleaning of the river catchment and arrangements to limit the process of sedimentation, as well as facilitation of maintenance/ cleaning of the water intake area; (iii) stripping and leveling plots (to be identified under the 180 ha non-irrigable area); and (iv) extending the command area by 77 ha.

25. **Sindou/Lemourdougou scheme.** The investments will be carried out to improve the irrigation and drainage performance of the Sindou perimeter (rice plain of about 1,000 ha using water sources at the foot of the Sindou Hills). This rice-growing area, which is used both in winter and in the dry season, has a high potential for improvement with small-scale investments (mainly in drainage).

26. **Development of Dourou dam downstream**. The Dourou dam (83 Hm3/10,5m height of dyke) has a development potential of the downstream zone which has not yet been realized. A blueprint study was conducted in 2008 (IDB financing); the resettlement process was concluded in 2014, but the project has still not been completed due to lack of funds. On the other hand, around the reservoir dam and on both sides of the river bed, there is active development of individual irrigation (vegetable gardens and banana plantations, in particular), estimated at between 1,500 and 2,000 ha. This uncontrolled development of water use is a key element to consider in assessing the actual availability of water for the future downstream perimeter. In case the study concludes that there is water available for all the 700 ha, the Bidding Documents will cover 700 ha in two lots for PARIIS (400 ha) and for PReCA (300 ha).

27. **Development of Dangoumana area (AMVS).** PReCA will finance the development of zones Z3 and Z4 of this project (respectively 670 ha and 400 ha), while the Islamic Development Bank (IDB) and IFAD will finance zones Z1 and Z2 (500 ha and 300 ha). Funding for the infrastructures, particularly the primary hydraulic assets (civil engineering of the pumping station, pumps, feeder pipes) will be provided by IDB and IFAD. They will be sized as needed for the complete project (1,870 ha) at a total cost of US$33 million. For the sake of coordination, the World Bank and IDB projects will be brought together as follows: (i) the zones financed by the World Bank (Z3 and Z4) and Z2 will be intended for family farms under small plots (one hectare per family); and (ii) Zone Z1, on the other hand, is intended for the installation of small private entrepreneurs established in the region and young agriculture graduates. The Government will share with the World Bank the final design of the primary infrastructure.

28. **Development of Bissan area (AMVS).** PReCA will finance the entire proposed development (1,500 ha). The current design proposes two zones of 500 ha for the installation of small private entrepreneurs (10 to 50 ha) and an area of 500 ha for family farms around the village of Toumani. The development model for the two entrepreneur zones is the model for Block C (140 ha) where 20 entrepreneurs have

settled alongside smallholders. The selection process project will involve provision of tangible evidence of investment capacity and potential number of these private entrepreneurs based on existing data (including data from the MAAH Agriculture Entrepreneurship Development Directorate). It should confirm or not that there is a sufficiently large number of small entrepreneurs potentially interested in the 1,000 ha of Bissan and IDB/ IFAD areas of Dangoumana. The process will also take into consideration the many parallel initiatives that will support the emergence of these private entrepreneurs (credit, training, etc.) and determine the maximum areas that should be granted to different types of entrepreneurs (small-medium, local-regional graduates, etc.). On that basis, it will be possible to finalize the engineering blueprint for the 1,000 ha (for example, by determining whether or not the terminal schemes should be included in the work specifications or whether the contractors will have the financial and technical capacity to carry them out themselves). The detailed design for the 500 ha of family farms will be carried out together with the update of the 1,000 ha. The State budget will fund the required 20 km of power lines. Both Dangoumana and Bissan are located in the Valley of Sourou where the Léry Dam is storing water to allow the development of irrigation. This dam was rehabilitated in 2014 with the MCA project "Projet de Développement Agricole (PDA)".

The main characteristics of each perimeters to be rehabilitated/developped are summarized in the following table:

Irrigation schemes	Activities financed by project	Command Area (ha)	Farmers (Number)	Existing studies	Land tenure aspects	Readiness
Banzon (Hauts Bassins, Bobo Dioulasso**)**	Existing scheme:			Identification OXFAM (2010)	No changes expected in land tenure	Feasibility study financed by PAPSA (NO granted in March 2019)
	Rehabilitation	450	630			
	Extension	77	77			
	Total	**527**	**707**			
Bissan (AMVS) (Boucle du Mouhoun, Dédougou)	New scheme:			Detailed Design 1,000 ha STUDI (PAFASP, 2013)	Resettlement process to be carried out	Update of the study for the 1,000 ha and preparation of the Detailed Design for the 500ha to be financed by SIIP
	Entrepreneurs	*1,000*	*50*			
	Family farmers	*500*	*500*			
	Total	**1,500**	**550**			
Dangoumana (AMVS) (Boucle du Mouhoun)	New scheme:			Detailed Design 2,000 ha SETICO-CINTECH (2014)	Resettlement process to be carried out	Update of the study for the 1,070 ha to be financed by SIIP.
	Family farmers	1,070	1,070			
	Total	**1,070**	**1,070**			
	Rehabilitation:			No study		Feasibility study

Sindou / Lémourdougou (Cascades, Banfora)	Family farmers	1,100	2,200		No changes expected in land tenure	financed by PAPSA
Dourou (North, Ouhigouya)	New scheme:			Detailed Design 1,000 ha CINTEC (2008)	Resettlement already process carried out	Water balance (dam) to be financed by SIIP
	Family farmers	300	300			
TOTAL collective irrigated perimeters		**4,497**				
Farmer-led support (nationwide)	New individual areas:			-	Land tenure security to be checked	Assessment of water availability to be done case by case
		1000	50			
TOTAL individual farms		**1,000**	**50**			

29. **Financing access to individual irrigation at the national level for fruit and vegetable farming.** The project will consider funding, on shared on-demand basis, investments in efficient irrigation techniques, including drip, micro-sprinkler, sprinkler and improved gravity up to 1,000 ha. The project will assess the need to broaden the spectrum of crops eligible for horticulture (not just fruit orchards).

30. **Institutional support for collective management of irrigation**. In addition to the planned developments, an institutional and organizational support sub-component is included in the sustainable management of irrigation schemes. The objectives and main activities will be to: (i) Support the Sourou Valley Development Authority (*Autorité d'Aménagement de la Vallée de Sourou*-AMVS) in its approach to improve the management performance of the Irrigation and Drainage (I&D) service, particularly through institutional reform (evolution to a Mixed Economy Company or any other institutional reform envisaged) and the reinforcement of its management tools (Maintenance Fund, O&M Plan, structure of the irrigation fee, etc.); (ii) Support the Ministry of Agriculture and Irrigation (MAAH) and the irrigation organizations in improving the operation and maintenance of small perimeters co-managed and/or transferred to users. The three other sites (Sindou/Lémourdougou, Banzon and Dourou) which are out of the AMVS command area will also be priority areas of intervention. The PReCA will coordinate them with other projects and programs (notably PARIIS) to extrapolate the results from other irrigated perimeters. The sub-component will include technical assistance, institutional and organizational studies and South-South exchanges with other irrigation perimeters (Senegal River Valley, Office du Niger, etc.) and South-North (France, Spain, Italy, etc.).

Appendix 2.2: Purchasing Counters

31. The Purchasing Counters (*Comptoirs d'Achat-CAs*) are intended as an interface between producers and cooperatives on one hand, and traders and purchasers on the other hand. They offer a locus for product sale, dialogue and exchange of information between operators at post-harvest stage. They are located close to farmgate but not at field level. This is to avoid on-field degradations by trucks and pick-ups. They enable producers to negotiate with buyers off the fields and prevent them to be subjected directly to pressures from buyers. Overall, commercial counters result in a better organization of collection and transport to final destination markets on the national territory or for exports, as well as an increase in the quality of products marketed. Since the project areas are located close to international borders (with Mali, Côte d'Ivoire and Ghana), the counters may be located right on the border, as a border post, which will facilitate purchase by foreign traders.

32. Commercial counters have been constructed over the entire national territory under the national budget and externally-funded projects, in particular under the Agricultural Diversification and Market Development Project (PAFASP AF, P147978, FY14). They consist of buildings and equipment serving several purposes to enhance the sale of products: storage, conditioning and packing, and collection and dissemination of information on quantities marketed and prices. Their capacity is typically from 2,000 to 4,000 tons of miscellaneous products per year depending on whether they operate six months or the entire year.

33. The counters are communal property. They are managed by committees representing end-users. Operating expenditures are covered by the fees paid by producers/ traders. The amortization of the assets is generally not included as part of the fees. This begs the question of the sustainability of operations and renewal of assets once the State or project funding is over. The recommendation is to fully privatize all assets as quickly as possible to private operators, so that the counters be well managed and sustainable in the long term.

Appendix 2.3: Addressing gender gaps in project-targeted agriculture value chains

National and social context

34. **Burkina Faso's National Policy promotes gender equality dynamically:** Few West African countries have a national gender equality record as complete as Burkina Faso. Among its many policies to institutionalize gender equality on a national level are the following. The national constitution affirms gender equality. It was one of the first African governments to ratify CEDAW in 1984[32]. It has ratified the Protocol on the Rights of Women in Africa, 2005. The country adopted a National Gender Policy in 2009 and established a Ministry of the Promotion of Women and Gender Equality. Since then, each ministry has a Gender Focal Group. To improve women's status in education it has established a National Strategy for the Acceleration of Girls Education (*Stratégie Nationale d'Accélération de l'Education de Filles* - SNAEF). The Ministy of National Education and Literacy as well as the Ministry of Secondary and Higher Education have both created a Directorate on the Promotion of Girls and Women's Education (2009). Maternal health is prioritized as a policy in the Ministry of Health. The Ministry of Economy and Finance, in 1990, created the *Fonds d'Appui aux Activités Rémunératrices des Femmes* (FAARF), to support women cooperatives' economic activities. In 2007, the Government adopted a national policy for land ownership to promote equitable access to ownership by men and women. There is a Conseil National pour la Promotion du Genre, composed of representatives of all the ministries as well as prominent civil society organization. It meets twice yearly to address progress in gender equality. The Ministry of Women Affairs, National Solidarity and Family recently published its Gender Action Plan (2017-2019) that addresses broader cross-sector issues.

35. **The CPF has identified women's education and participation in the economy as areas in which women are disadvantaged.** The CPF's objectives of improved agricultural sector led growth including energy access, access to markets and access to finance for SMEs address the economic sectors and areas in which the gender gap is felt most acutely. Likewise, the additional focus on human capital development and social protection including education and skill development, access to reproductive and child health and nutrition, social protection, water and sanitation, are areas which affect women greatly.

36. **Social culture and economic roles of women and agriculture:** The project area covers a variety of cultural groups. These include the: Mossi, Samo, Marka, Bobo, Gurunsi, Senoufo and Lobi. The role of women in the society and the economy is often different in each of these groups. Consequently, gender disaggregated data will have to be collected for the different cultural groups. These data include: the division of labor by sex in agriculture; control over different types of products; control of resources; marketing strategies, etc.

37. **Women's role in agricultural production and as operatives in the food processing value chains is significant:** Although allowances must be made for cultural differences, women generally play an important role in agricultural production, and, downstream in the value chains, in transformation and marketing of agricultural products. Traditional farming is household based. The strict division of labor by sex and age in field preparation, sowing, weeding and harvesting renders men and women dependent on each others' labor and expertise for the production of the household's food in the family field. Women as traditional farmers are equipped with a great deal of knowledge about crops and their cultivation.

[32] WILDAF: Burkina Faso

Traditionally women are the plant geneticists. They keep the store of seeds and choose the variety of seeds to be planted according to the rains expected. Moreover, they are experts in soil quality and in the types of weeds that are encountered in specific soils. They can therefore predict how much work will be required for a given soil type. In addition to cultivating staples in the family field and their private plots, women produce a variety of post-harvest products. These include cooking oils, shea butter, shea butter soaps and a variety of local spices from sylvan products. In the northern areas, small amounts of local cotton are grown, threaded by women and woven in local cloth by weavers.

Gender gaps

38. **Allocation of labor in the reproductive sphere of economic activity:** Women and men have labor obligations to the household. However, women have the lionesses' share of the obligation. They must process grains for cooking, fetch fuel and water for the household and care for infants. Studies have shown that younger women allocate up to 80 percent of their time to household activities. Particularly those associated with obtaining fuel and household water in drought ridden areas. During the cropping season men will spend as much as 11 hours in the fields. Women, because of their reproductive burdens, may spend half that time of which a small portion will be allocated to their own fields. Older women provide care for sick infants because they specialize in different types of infant illnesses.

39. **Owing to the interdependence of men and women in agricultural production, it is difficult to identify gender gaps in agriculture.** Men and women work together on the household farm. They use the same inputs, produce the same food, participate in the same post-harvest treatments. The household farm is prioritized because it is the most important food source for the family. Gender gaps in productivity and access to inputs in women's farms may be related to external factors which will be discussed. Many of the gaps identified in the cropping value chain may not be gender gaps necessarily; but rather, weaknesses that impede the addition of value.

40. **Gender gaps in Burkina Faso's agriculture sector.** The major gender gaps that affect women's productivity are: access to finance; access to extension services; access to productive inputs (fertilizers, improved tools); and, access to their own skilled labor owing to their roles in the reproduction of the household. Despite their knowledge and the importance of their role in rural agriculture, women's access to agricultural extension services, credit and productive resources remains limited. This is often due to project intervention strategies that prioritizes the household family field. As such, only male heads of household (who are considered owners of the family field) are provided with credit to buy tools, fertilizer, etc.

41. **Women have their separate units of production while participating in the family household unit.** The project recognizes that women are producers and entrepreneurs in their own right. A typical household in rural Burkina Faso is composed of several gender-differentiated units of activities. Regarding production, all household members are expected to work in the family field in priority. However, the wife, as well as the other members of the household, each have their own plots to cultivate produce that they control personally. In order to reach women producers, the project will have to target women's individual fields as well as the products they produce, control and market. Moreover, intervention strategies will have to be tailored to the different categories of women and the different needs and skills that they possess. The women who are most productive -- both at production level and downstream of production (processing and marketing) -- and who have the most control over their

products are the women of certain age who have less obligations to the household. The women of procreative age have the greatest obligations to the household and will require different types of assistance to decrease their household work and free up their time to engage in income earning activities.

Identifying gender gaps

42. **PReCA has been designed to improve women's access to benefits by ensuring equitable distribution of project resources and technologies, and by systematically mainstreaming gender** aspects into project resources and implementation strategies so that they duly consider women' needs. However, in the complex socio-cultural framework of the project area, this type of gender specificity can only be obtained through rigorous data gathering. Several types of information are required to inform project design and implementation, including:

43. **Social analysis: differences among women's allocation of labor to the productive and reproductive spheres of activity.** This is a key element that needs to be attended to in order to ensure sustainable attainment of the project goals given that women's time constraints are the single most important aspect of the gender gap in access to project benefits. Indicators must include the reduction of hours that women spend in the productive and reproductive economic sphere.

44. In rural areas, women's capacity to participate in the productive sphere of economic activities depends on the weight of their contribution to the household reproductive sphere. It is important to note that women differ in the extent of their contribution to the domestic sphere. Women's allocation of time to the household is closely linked to the stage in their life cycle. Young women, at the peak of their reproductive cycle, contribute a greater portion of their time to household activities. Older women tend to contribute much less time to household activities and devote much more of their time to their economic activities in the informal economy. The vast majority of women, in the project areas, are younger women.

45. Younger women's capacity to take advantage of opportunities offered by the project will be enhanced by interventions that target household activities. This includes: greater access to clean household water (bringing water sources closer to the communities); improved access to fuel and readily available preventive health care for infants[33] among other supports.

46. Older women will have the greatest capacity to benefit from value chain investments because they have fewer household obligations, have acquired a number of technical skills and spend more time in marketing activities. Providing productive resources to this category of women, including labor saving technology, will show immediate results.

47. Closing gender gaps in access to PReCA will be a combination of concerted activities such as the support of training, allocation of irrigated land, provision of inputs, market information and supporting infrastructure, preparation of investment sub-projects, as well as access to credit.

48. *Training.* Didactic methods, that do not rely on the written word, should be combined with traditional extension methods (e.g., based on demonstration plots) or such participatory methods as Farmers' Field Schools (FFSs) that can be customized to address women's needs. Non-literate approaches have been

[33] Mobile health units providing preventing health inputs have been successful in some Sahelian countries.

employed for millennia in Africa. Transmission of complex skills required to build the society, trade, produce food, etc., are common in non-literate societies and among large groups of women. Non-literate training methods would greatly and sustainably improve women's access to vital technical knowledge and methods.

49. *Irrigated land.* Care will be taken to ensuring an equitable distribution of the irrigated land of rehabilitated/ developed perimeters. The rules for distribution of the long-term leases to exploit irrigation land subsequent to development/ rehabilitation (bearing in mind that ownership will be with the State) will be clearly spelled out. These rules will be based on affirmative action principles to ensure that women received preferential treatment vis-à-vis their male counterparts.

50. *Input supply*. In addition to the farm household unit, subsidized inputs (fertilizers, pesticides and implements) will be made available to women's individual units of production based on demand on both irrigated and rainfed areas. This process will be done using coupons to ensure proper targeting of beneficiaries. The coupons will be given to women on a preferential basis.

51. *Supporting infrastructure.* Women need to have access to marketing counters and trading posts at par with their male counterparts. They need to be represented in the committees established to manage the structures and received training to that effect as required.

52. *Preparation of sub-projects.* Support for the preparation of investment sub-projects to be submitted to the project for provision of project matching grants, and to the banks for the granting of loans, will be provided through private Business Development Services. Coupons will be given to beneficiaries for the payment of these services to ensure better targeting. Beneficiaries will be able choose their own service providers. Women will receive preferential treatment in the allocation of coupons.

53. *Market information* is one of the most important resources required for the development of value chain activities. This requires reliable and up to date information from both informal markets and formal systems. It includes information on prices and currency exchange. A baseline study of current access to market information among women entrepreneurs should be conducted to identify the interventions and indicators required.

54. *Financial credit.* The availability of credit from primary banks is not only limited by their strict requirements for credit-worthiness but also by gender discriminatory laws. This is an area in which local legislation may be modified to, potentially, expand women's access to more modern financial instruments. The proposed project will ensure that equal access to credit for women and special attention is given to help them prepare their bankable initiative. The project will provide matching grants to women on a preferential basis, covering 90 percent and 60 percent of sub-project costs respectively for Windows 1 and 2 (as opposed to the regular rules of 80 percent and 50 percent). Also, project support will be given to Micro-Finance Institutions (MFIs) that are closer to women at the grassroots. Such support would enable MFIs to be connected to the primary network of commercial banks and be able to access refinancing with these banks. Credit to purchase labor, as well as for revolving fund purposes in general, should be included in the input package, as this is the area that younger women have identified as the most urgently needed, given the burden of their allocation of labor to the reproductive sphere and lack of cash. Project credit support for women will be done in close liaison with gender-specialized institutions such as FAARF.

ANNEX 3: ECONOMIC AND FINANCIAL ANALYSIS

COUNTRY: Burkina Faso
Agriculture Resilience and Competitiveness Project

1. **The Economic and Financial Analysis (EFA) of the proposed World Bank-Agriculture Resilience and competitiveness Project (PReCA) in Burkina-Faso** is built on the cost-benefit analysis (CBA) applied to a range of typical agricultural production models (lowland rice, horticulture, perennials) and agro-processing, storage, and marketing activities (rice, maize, mangoes, shea nuts, vegetables). It incorporates the estimated impact resulting from the GHG accounting, using the EX-ACT methodology, as well as the additional eco-benefits generated by project implementation. The annex is organized as follows: (i) Part I describes the methodology and assumptions used for the CBA analysis included the identification of benefit streams; (ii) Part II which summarizes the financial results of the main models; (iii) Part III presents the GHG accounting and environmental co-benefits; and (iv) Part IV summarizes the results of the economic analysis, including the economic benefits of rural roads and sensitivity analysis to explore how the results might change under different scenarios.

2. **Overall, PReCA is a profitable project, generating an NPV of US$181.2 million and an economic internal rate of return (IRR) of 26.2 percent** (on a total budget of US$261.9 million, of which US$$200 million for IDA/ SUF Financing), without the environmental benefits. The full potential of the project, if the GHG mitigation is valued at higher estimate carbon range, is to generate an NPV of US$187.3 million and an economic internal rate of return (IRR) of 26.9 percent. A more conservative estimate, including the GHG mitigation valued at social prices, indicates that PReCA could generate a NPV of US$181.6 million and an economic internal rate of return (IRR) of 26.3 percent.

I. Methodology and assumptions

3. The methodology used is a cost-benefit analysis[34]. The following steps were followed to establish the financial analysis: (i) identification of benefits and costs generated by the project; (ii) comparison of benefits/cash flow and costs between "With Project (WP)" and "Without Project (WOP)" results in order to obtain the increase in the net benefits of the project incremental situation; and (iii) calculation of the financial and economic profitability indicators such as the NPV, the Internal Rate of Return (IRR) and the Benefit/ Cost ratio (B/C), the Switching Values for costs and benefits (SVC, SVB).

4. **Identification of benefits.** The project activities are expected to generate four main benefit streams: **(i) farmers' benefits at production level**, such as increased crop yields of rice, horticulture (onions, tomatoes), perennials (mango, shea-nut) increased revenues, resilience to climate variability and change risks, alongside with more intangible social benefits such as improved food security and nutrition, women empowerment and human capital strengthening; **(ii) farmers' organizations/ individual entrepreneurs' benefits downstream of production**, such as processing, storage and marketing of products (rice, onions, tomatoes, shea nuts, mangoes) by small, medium and large rural

[34] This analysis follows the standard methodology recommended by the World Bank, as described in Gittinger (1982) and Belli et al. (2001) and is aligned to the recent guidelines for economic and financial analysis.

enterprises, along with capacity development (qualities standards of products); **(iii) benefits from rural track and roads**, such as increased product price, and better access to inputs; and **(iv) environmental benefits**, such as environmental co-benefits such natural resources protection, reduced risk due to climate variability and reduced GHG emissions through the use of sustainable technologies. The main channel for the realization of these benefit streams is through the activities of Component 1 – Development of Agriculture Infrastructure (access to irrigation water, access to marketing infrastructures, rural track and roads), of Component 2 – Support to Public Agriculture Services (technical advisory services , improved seeds , fertilizers, chemicals, small equipment and support to technical services), and Component 3 – Promotion of Private Investment (support to business development services and private investment financing).

5. **For farmers, the productivity gains and additional income generation are realized through the development of 5,497 ha of irrigation area** (3,497 ha for family farmers in average 1 ha per farmer, 2,000 ha for entrepreneurs in average 5-10 ha) and provision of access to improved seeds, other inputs (including fertilizer), equipment and extension services. Access to equipment through a subsidy at the rate of 80 percent for micro-sub-projects (Matching Grant Window 1) for the purchase of equipment such as tillers, other medium-sized equipment for groups of small producers (over 1,000 ha). For farmers' organizations and SMEs, the project is planning to invest in the development/ consolidation of at least 800[35] medium enterprises and 50 large enterprises for production and value-addition (sub-projects for processing, storage and marketing activities) financed through the financial Windows 2 and 3 respectively, set up by the project through shared-cost financing (project matching grant, personal contribution of the promoter, PFI credit). Promising innovations generated by the WAAPP are expected to be taken into account for the design of corresponding sub-projects. The project will rehabilitate/construct about 350 km of rural roads, construct eight new trading posts, rehabilitate six existing purchase counters, and construct/rehabilitate 90 product warehouses to help the beneficiaries of the project to better access the market (with increase of producer prices and enhanced processing rate). Regarding environment benefits, GHG mitigation would be derived from improved agricultural practices, decreased land degradation (given integrated soil nutrient management and gradual expansion of annual crop diversification cycles to reduce pressure on plots), and the establishment of perennials. On the positive side, further additional benefits can be expected from the support to the shea nut value chain, lesser energy used by agro-processing and other positive actions regarding mitigation. On the negative side, a non-negligible amount of GHG emission could result from the introduction of improved irrigated rice (irrigation system, increase in the use of fertilizers and other investments as agriculture building).

6. **Financial Models.** A total of 13 typical models have been prepared: (i) crop budgets for family farmers**:** rice Zone 1[36], rice Zone 2[37], onion, tomato; (ii) crop budgets for agriculture entrepreneurs: mixed horticulture (tomatoes, onions, potatoes), mangoes; and (iii) budgets for investors in storage facility, small-medium- processing unit, large processing unit of mangoes, rice, shea, horticultural products. These models are representative of the investment sub-projects likely to be developed by

[35] At least 200 on the installation of mango orchards will be financed through this window.

[36] Existing rice production areas (Banzon).

[37] News schemes.

project beneficiaries. The analysis is based on best judgement about the crop choice and mix of benefits, as well as preferred type of income-generating activities, based on decision likely to be made by beneficiaries. It is based also on plausible assumptions arising from the recent experience of the World Bank-funded WAAPP and PAFASP projects, along with the consultations with stakeholders in the project area and agricultural statistics.

7. The economic analysis followed a similar approach but using economic prices and aggregating the results at the level of the project to derive results from the society viewpoint. The economic analysis uses the incremental benefits aggregated across the total number of beneficiaries, adding the environmental co-benefits arising from additional co-benefits and reduced GHG emissions, and subtracting the total project economic costs to determine the overall economic viability of the project. The discount rates used for the estimate of the Net Present Value are in line with the World Bank guidelines, the practice of recent project and in-country discussions: 8 percent for the financial analysis and 6 percent for the economic analysis.

8. **Market prices for the financial analysis were collected on the ground during the formulation mission,** and economic prices were estimated using conversion factors designed to reflect prevailing taxes and subsidies. The conversion factors were estimated as follows:

Table 3.1: Conversion factors

Categories of goods-services	Conversion factor
Exchange rate	1,04
Imports: fuel	0,72
Imports: vehicles	0,71
Imports: IT equipment	0,82
Imports: agricultural inputs (fertilizers, treatments), equipment	0,97
Imports: other	0,78
Labour	0,83
Import substitution: Paddy rice and others	0,89
Exports: Onion (and other exportable goods)	1,17
Domestics outputs-non-tradeable domestics inputs	1,00

9. **The *without project* (WOP) and *with project* (WP) parameters for yields, prices, and outputs are presented in the Table 3.2 below.** Across the models, the analysis assumed gradual uptake of improvements over 3 to 6 years. The financial models have been developed over a 10-year period for annual crops and 15-year period for perennials.

Table 3.2: WOP and WP parameters for yields, prices and outputs

Models	Parameters	Evolution							
		WOP	**WP 1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Delta**
Rice	Yield(kg)	2,300	3,100	3,200	3,300	3,400	3,500	3,500	1,200
Family Farmers	Evolution	0%	35%	39%	43%	48%	52%	52%	52%
Tomatoes	Yield (kg)	18,000	20,000	23,000	25,000	25,000	25,000	25,000	7,000
Family Farmers	Evolution	0%	11%	28%	39%	39%	39%	39%	39%
Tomatoes	Yield (kg)	25,000	35,000	38,000	40,000	40,000	40,000	40,000	15,000
Entrepreneurs	Evolution	0%	40%	52%	60%	60%	60%	60%	60%
Onion	Yield (kg)	13,000	18,000	21,000	21,000	21,000	21,000	21,000	8,000
Family Farmers	Evolution	0%	39%	56%	62%	62%	62%	62%	62%
		WOP	**WPY1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Delta**
Onion	Yield (kg)	18,000	25,000	28,000	30,000	30,000	30,000	30,000	12,000
Entrepreneurs	Evolution	0%	39%	56%	67%	67%	67%	67%	67%
Potatoes	Yield (kg)	2,0000	25,000	28,000	30,000	30,000	30,000	30,000	12,000
Entrepreneurs		0%	40%	56%	67%	67%	67%	67%	67%
		WOP	**WPY6**	**Y7**	**Y8**	**Y10**	**Y11**	**Y12**	**Delta**
Magoes	Yield (kg)	26,400				33,000	33,000	33,000	6,600
Entrepreneurs	Evolution					37%	37%	37%	37%
		WOP	**WPY1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Delta**
Processing-Rice	Quantity/yr@ton	10	12	13	15	15	15	15	5
Medium-Entrepreneurs	Evolution	0%	20%	30%	50%	50%	50%	50%	50%
Storage Onion	Quantity/yr@ton	10	10	10	10	10	10	10	0
Large-entrepreneurs	Evolution	Harvest price	Price + 60% Storage over 3 months						Price +60%
Processing-Mangoes	Quantity proce-cessed/yr	30	45	50	50	50	50	50	20

	@ton								
Large-entrepreneurs	Evolution	0%	50%	67%	67%	67%	67%	67%	67%
Processing-Shea nuts	Quantity proce-ssed/year@ton	0	4	5	6	6	6	6	6
Small-entrepreneurs	Evolution	0%	100% generated by the project						100%
Processing-Shea nuts	Quantity proce-ssed/yr@ton	18	25	30	30	30	30	30	12
Medium-entrepreneurs	Evolution	0%	39%	67%	67%	67%	67%	67%	40%
Processing-Shea nuts	Quantity proce-ssed/year@ton	400	500	600	600	600	600	600	200
Large-entrepreneurs	Evolution	0%	25%	50%	50%	50%	50%	50%	50%

II. Financial results

10. **All of the models assessed as part of this analysis are viable, generating significant amounts of additional income and attractive returns on the investment (see Table 3.3 and 3.4 below).** The analysis of production and transformation, and storage-marketing models of products are very viable. For rice production models in rehabilitation areas such as Banzon, farmers already produce rice, the additional revenue generated is an average 93,742 FCFA/ year/ha, for new scheme irrigation the rice production sites give 145,509 FCFA/year/ha, for onion the additional benefits are of 1,530,569 FCFA/year/ ha, 1,353,809 FCFA for the tomato. For production models of horticultural and entrepreneurial mangoes the additional benefits are estimated at 2,046,000 FCFA/year/ha and 7,533,467 FCFA/year/ha, respectively. The internal rate of return is very positive for processing, storage and marketing activities: 30.9 percent for rice processing; 35.4 percent for onion storage; 27.8 percent for mango processing; 26.6 percent, 24.0 percent, 18.1 percent respectively for shea nuts processing by small, medium and large processors, compared with the 8 percent discount benchmark. Overall, all models indicate positive NPVs and cost-benefit ratios higher than one.

Table 3.3: Summary of the profitability indicators for production models

Financial model	Family farmers				Entrepreneurs	
	Rice Zone 1	Rice Zone 2	Onion	Tomato	Horticulture	Mango

					(mixed crop)	
Unit of analysis	1 ha	1 ha	1 ha	1ha	10 ha	5 ha
NPV BNA (FCFA, @8%)	136,903	301,869	8,285,672	4,564,552	108,586,003	35,833,041
IRR	24%	29%	n/a	39%	43%	16%
NPVb (FCFA, @8%)	3,317,519	3,132,707	16,558,499	14,198,820	567,163,559	101,373,585
NPVc (FCFA, @8%)	2,479,105	2,476,686	7,020,703	8,370,067	410,497,587	45,723,465
B/C ratio	1.3	1.3	2.4	1.7	1.4	2.2
Switching values Bénéfices	-25%	-21%	-58%	-41%	-28%	-55%
Switching values Coûts	34%	26%	136%	70%	38%	122%
Return to family labor	3,138	3,234	16,131	14,756		

Table 3.4: Summary of the profitability indicators for processing, storage marketing models

Financial model	Small-medium enterprises				Large enterprise	
	Processing Rice	Storage Onion	Processing Shea nut	Processing Shea nut	Processing Mango	Processing Shea nut
Unit of analysis	15 tons	10 tons	6 tons	30 tons	50 tons	600 tons
NPV BNA(FCFA, @8%IRR)	1,901,277	4,401,147	1,059,296	6,507,807	11,418,866	50,128,771
NPVb (FCFA, @8%)	30.9%	35.4%	26.6%	24%	27.8%	18.1%
NPVc(FCFA, @8%)	31,206,707	20,822,960	9,795,381	53,599,897	120,600,057	1,374,411,387
B/C ratio	1.12	1.44	1.38	1.25	1.31	1.32
Switching values Bénéfices	-10%	-30%	-27%	-20%	-24%	-24%
Switching values Coûts	12%	44%	38%	25%	31%	32%

III. Environmental co-benefits and Greenhouse Gas (GHG) accounting

11. **Environmental co-benefits.** The implementation of PReCA activities is expected to generate several environmental benefits. The dissemination of climate-smart agricultural practices to

PO/farmers such as the use of improved varieties and/or extension of crop rotations, no-till techniques, efficient water management on irrigated sites and integrated management of Soil and nutrient fertility will help strengthen the resilience of farmers to the effects of climate change. The installation of perennial crops will be a better source of carbon sequestration in the project area PReCA for the financing of Micro, medium and large enterprises will include climate change adaptation measures as requisites for financing. The diffusion of sustainable technologies to the storage transformation and marketing companies financed through the matching grant will contribute to the better energy efficiency. The incorporate of measures to adapt to climate change risks (energy efficiency improvements) for construction and rehabilitation of roads and marketing infrastructures.

12. **The environmental impact of the project was estimated using the EX-ACT tool[38].** The carbon-balance is defined as the net balance from all GHGs expressed in CO_2 equivalent that were emitted or sequestered due to project implementation (WP) as compared to a business-as-usual scenario (WOP).

13. **For PreCA, the GHG accounting calculations were based on the climate characteristics in the selected zones in Burkina Faso.** Based on FAO classification, the project has tropical dry climatic conditions with Low Activity Clay Soils (LAC). Land use and crop management practices the building of infrastructure (rural tracks, warehouse) were estimated for WP and WOP situations. The changes expected to result from the project were factored in the tool's different modules (in full alignment with the EFA assumptions and budget provisions).

[38] EX-ACT (Ex-Ante Carbon-balance) was developed by FAO. This is an appraisal system that provides estimates of the impact of Agriculture, Forestry and Other Land Use (AFOLU) development projects, programs and policies on the carbon-balance. EX-ACT is a land-based accounting system, estimating carbon stock changes (i.e., emissions or sinks of CO_2) as well as GHG emissions per unit of land, expressed in equivalent tons of CO_2 per hectare and year. The tool helps project designers to estimate and prioritize project activities with high benefits in economic and climate change mitigation terms. The tool was designed using mostly data from the Intergovernmental Panel on Climate Change (IPPCC) Guidelines for National Greenhouse Gas Inventories (NGGI-IPCC, 2006), which furnishes EX-ACT with recognized default values for emission factors and carbon values in soils and biomass (the so-called "Tier 1 level" of precision).

Table 3.5: Data inputs to EX-ACT in the current, without project and with project scenario

Activities	Current/without project scenario	With project scenario
Introducing of perennial trees	1,000 ha under set aside	1,000 ha of perennial trees under improved agronomic practices and seeds, and irrigation systems
Rehabilitation of 550 ha for Rice and horticulture productions new irrigation scheme 3,970 ha for Rice and horticulture productions	527 ha[39] exploited for rice production, under traditional practices 3,970 ha under set aside	527 ha exploited for rice and horticulture production, under improved practices, and water management 3,970 ha Irrigated for rice, horticulture, under improved practices and water management
Improved seeds Fertilizer	No improved seeds No fertilizers	over the implementation period of the project: (i) 607.2 tons of improved rice seeds (ii)28.6 tons of onions improved seeds (iii)1.6 tons of tomatoes seeds. 689 tons of N per year from NPK and urea 598 tons of P per year from NPK 416 tons of K per year from NPK
Construction – warehouse/agricultural building /rural roads	No construction	10,500 m² for agricultural/warehouse buildings

Table 3.6. Detailed results.

Project Name		*PReCA*		**Climate**
Continent		*Africa*		**Dominant Regional Soil Type LAC**
Components of the project		**Gross fluxes**		
		Without	**With**	**Balance**
		All GHG in tCO_2eq		
		Positive = source **Negative = sink**		

[39] 527 ha are exploitable on the 550ha developed

Land use changes				
Deforestation		0	0	0
Afforestation		0	0	0
Other LUC		0	4,466	4,466
Agriculture				
Annual		0	-112,982	-112,982
Perennial		0	-114,510	-114,510
Rice		101,725	116,152	14,428
Grassland & Livestock				
Grassland		0	0	0
Livestock		0	0	0
Degradation & Management		0	0	0
Coastal wetlands		0	0	0
Inputs & Investments		102,476	209,839	107,363
Fishery & Aquaculture		0	0	0
Total		204,201	102,965	**-101,236**
Per hectare		21	11	-10
Per hectare per year		1.0	0.5	-0.5

14. **The carbon balance gross results show that the without-project scenario leads to GHG emissions and carbon sequestration of 204,201 tCO_2-e.** This translates into 21 tCO_2-e per hectare over the full period of analysis, or 1 tCO_2-e per hectare and per year. The project implementation scenario has a considerably lower impact on GHG emissions and support carbon sequestration leading to a carbon balance of --101,236 tCO_2.

15. **The** difference between the without- and with-project scenario gross results achieved through project implementation, yields a total project's carbon balance of - 101,236 tCO_2-e over the full project implementation period. This result is achieved despite the introduction of improved rice previously under set aside. The gross results and carbon-balance by module identifies those practices and activities contributing to the positive carbon-balance of the with-project scenario thus leading to carbon sequestration. As a result, the central components leading to carbon sequestration are the establishment of perennial crop (-114,510 tCO_2-e) and the introduction of annual crop (-112 982tCO_2-e).

16. **Regarding mitigation,** three analyses were conducted in addition to the EX-ACT approach, two of which (a and b) following the methodology assumptions that will be used as part of future carbon operations. The two selected mitigation actions that were reviewed are the following:

a. Shea butter transformation.

17. The process from the fruit collection to the production of shea butter has been disaggregated into 16 operations. Each of them was assessed in terms of carbon to establish a baseline for the carbon emissions related to the shea butter production (business as usual). An improved process has been developed by the Ministry of Environment to reduce the emission, targeting the various actors in the supply chain (Small actors for fruit collection, larger private actors for the semi-industrial processing).

As part of Component 3, it is expected that those actors would buy the equipment needed for the improved process through the matching grants. The assessment of various scenarios was done in accordance with applicable methodologies under the VCS, CDM (methodology AMS II.G), and the Gold Standard (401.13 ER MS CS) as the planned activities would be eligible to these carbon standards in the framework of stand-alone project or program of activities.

Table 3.7: Synthesis of Shea butter Contribution to CO_2 Mitigation

	Small cooperative groups in villages	Medium Private actors	Large investor
Number of actors	500	80	3
Tons of Shea nuts to process (per actor per year)	6	30	600
Stage	Initial transformation	Semi industrial production of butter	Semi industrial production of butter
Potential carbon savings (tCO_2eq) per ton of shea per actor	1.24	1.51	1.51
Total carbon savings (tCO_2eq) for the project (per year)	3,713	3,623	2,718
Duration of the investment (years)	5	20	20
Total mitigation (tCO_2 eq)	18,562.50	72,468.00	54,351.00
		Total	**145,381.50**

18. The calculation above is exclusively based on the changes in the cooking practices. It does not take into account the sequestration by the shea trees themselves, nor the impact of reduced deforestation due to a better economic value provided by the shea parkland.

b. Promotion of compost from biodigesters as a substitute for chemical fertilizer.

19. Since 2014, Burkina Faso has launched a carbon operation (Clean Development Mechanism (CDM)) related to the use of Biodigesters. The biodigester technology is a way to transform animal waste into biogas, which can be used for local and clean energy production to replace fuelwood. Biodigesters also produce a highly nutritive compost as a byproduct, which can replace chemical fertilizer in areas where the access to those fertilizers is limited. The Ministry of Agriculture, in partnership with the National Program for Biodigesters and the General Directorate for Green Economy and Climate Change, is currently promoting the use of this bio-compost to increase agriculture productivity. It is expected that this project will be used to facilitate the broad use of the bio-compost through the Component 3 (by including the following activities as eligible for the matching grant facility: biodigester installation; support for the set-up of a network of platform for the sale/purchase of compost; local conditioning and marketing of the compost). While the methodology used in CDM project is currently accounting the emission reductions related to fuel switch, it does not yet account the emission reductions related the increase of soil carbon that results from the use of the compost. The Ministry has developed a methodology based on VCS

SALM[40], which should be registered within one year. Calculations were made using the Roth C carbon model with different scenarios for project removals of CO_2 through top-soil (0-30cm) carbon sequestration based on farm management data. It concluded that the use of household biodigester and composts removed a quantity of 0.81 tCO_2/ha per year. For the conservative assumption of 1,000 farms/household supported by the project, this would lead to 9,225 tCO_2 annual removals and 184,496 tCO_2e after 20 years.

20. In conclusion, the potential net emission reduction for the two activities to be executed in collaboration with the Ministry of Environment, Green Economy and Climate Change as part of their current efforts on the Agriculture, Forestry and other land uses would represent 184,496 tCO_2 tCO_2-e for the shea butter transformation (improve cooking) and 184,496 tCO_2-e for the broad use of compost from biodigesters.

c. Rural roads construction.

21. For the proposed rehabilitation of 214,4 km of rural roads, and construction of 130 km rural roads, the HDM4 model is used, which estimates emissions from rehabilitation and construction, amongst others. Due to lack of detailed data in Burkina Faso, the model is approximated with information from Democratic Republic of Congo (P162517) and an agricultural project in the Republic of Congo (P159979). It was deemed appropriate to use this reference information due to the comparable nature of the scopes between the projects. Traffic growth factors are assumed comparable given the characteristics of the rural environment and projected traffic flows, on both composition (vehicle typology) and volume/frequency (Average Annual Daily Traffic – AADT) within the country. Following road inauguration, it is assumed the traffic growth pattern will continue for three years, gradually reducing to a more traditional trend assumed to be 3 percent a year. Forecasted AADT is assumed to account for typology shifts that naturally occur as demand for transport varies along the corridor. The model considers specific road characteristics for the base scenario, in which roughness conditions are not modified. Over a period of 20 years, the construction and rehabilitation of rural roads results in total gross emissions of with project scenario are 297,573 tCO_2e, the total net emissions are 294,892 tCO_2e, and the annual net average emissions are 14,745 tCO_2e emission per year. The without project scenario shows a total gross CO2 emission of 2.681 tCO_2e emission.

Table 3.8. Inputs for Base Scenario AADT

Traffic (AADT)		
Vehicle Description	Without Project	With Project
Motorcycle	20	87
Delivery Vehicle		3
Truck Medium		2
Total	20	92

Table 3.9. Inputs for Base Scenario Road Characteristics

[40] see the Approved VCS Methodology VM0017: Adoption of Sustainable Agricultural Land Management for details.

Scenario	Road Condition			Speed Flow Type				
	Road Roughness (IRI, m/km)	Carriageway Width (m)	Surface Code (1-Paved 2-unpaved)	Ultimate Capacity (pc se/ hr/lane)	Free-Flow Capacity (pc se/ hr/lane	Nominal Capacity (pc se/hr/lane)	Jam Speed Capacity (km/hr)	# of Lanes
Without	10.0	5.0	2	1,200	0	840	20	1
With	6.0	7.0	2	1,400	140	1,260	25	2

22. **In conclusion, the project is a net carbon sink of -136,221 tCO_2e emissions over 20 years,** resulting in an average annual net carbon sink of – 6,811 tCO_2e emissions (that is, -9,595 tCO_2e in the first five years and -5,883 tCO_2e emissions thereafter). This value is composed of a net carbon sink of -101,236 tCO_2e emissions stemming from land use change and the introduction of improved agricultural practice, shea butter transformation (improved cooking) resulting in a net carbon sink of - 145,381.50 tCO_2-e, a net carbon sink of -184,496 tCO_2-e stemming from the use of compost from biodigesters, and a potential carbon source stemming from road improvements and increased traffic, 294,892 tCO_2e. The gross emission for the With project scenario is 400,538 tCO_2e emission, considering the impact of land use change (EX-ACT model) and rural roads construction (HDM4 model). Gross emissions could not be calculated for shea butter transformation and biodigesters.

23. Those two national initiatives are expected to set a precedent and test the national carbon accounting system that will be used to centralize carbon accounting and integrate this effort on the reporting on the NDC. It is expected that, after those two carbon operations are started, other sectors would be treated similarly, in particular the reduction of methane emissions through cattle feeding and improved rice production management. However, to be conservative, and considering the time that is necessary to develop methodologies, those GHG emission reductions have not been estimated.

24. **Economic value of the mitigation potential.** According to the World Bank Guidance Note on the Social Value of Carbon (2014), the value of carbon can be derived from three different measures: (i) the social cost of carbon; (ii) the marginal abatement costs; and (iii) the carbon market prices. The social cost of carbon attempts to capture the marginal global damage (cost) of an additional unit of CO_2e emitted. The recent draft Guidance Note on Shadow Price of Carbon in Economic Analysis (September 2017) recommends "projects' economic analysis use a low and high estimate of the shadow price of carbon starting at US$40 and US$80, respectively, in 2020 and increasing to US$50 and US$100 by 2030". Marginal abatement costs are designed to reflect the carbon price necessary to achieve various climate change targets. Carbon market prices are the market value of CO_2e emission reductions or sequestration (offsets) that are registered and sold through various market structures. Carbon market prices currently average US$8 per ton. Following the World Bank guidelines, this analysis presents three scenarios (in addition to the baseline one without the environmental benefits): using the low and high range shadow price of carbon and at market prices.

IV. Economic results

25. **Economic analysis of productive investments.** The economic analysis is based on the following assumptions: (i) the period considered is 20 years corresponding to the lifetime of the hydro-agricultural and storage infrastructure taken as the long-term investment; (ii) financial prices and costs have been converted into economic values by removing taxes, subsidies and other transfers, using the standard conversion factors (see Table 3.1); (iii) the costs of the three technical components deducting (1) direct support provided to producers, agro-processing and farmers groups in order to avoid taking into account the costs already contained in the business models, and (2) 25 percent of the project cost of Component 4 (years 8 to 20) in recurrent cost to reflect the costs incurred by the public sector for post-project advisory support and monitoring of activities; (iv) 100 percent of additional project revenues; (vi) the long-term capital opportunity cost (discount rate) retained is 6 percent; (vii) shadow exchange rate estimated at 597 FCFA per US dollar based on World Bank data based on import and export volume, duties and taxes on imports and exports in Burkina Faso.

26. **Economic analysis of rural tracks and roads**. As in the framework of several projects in the sub-region, PReCA will finance the construction and/or rehabilitation of a 344-km strip of rural roads to open up production areas and facilitate marketing of agricultural products. The expected results include: (i) increased producer prices due to improved market access for local production; (ii) increased trade through reduced cost and transportation time ; (iii) increased yields and areas planted through improved physical access to agricultural inputs and support services; (iv) reduced post-harvest losses through improved transport conditions and increased market opportunities; (v) decreased cost of operating the vehicles (maintenance, repair, fuel consumption, depreciation); and (vi) improved access to health and education centers, which has a positive impact on the development of human capital.

27. The following benefits were considered in the calculations: (i) a reduction in the post-harvest loss rate of 1 percent; (ii) an increase in the price paid to the producer of 3 percent; (iii) an increase in the area cultivated by 1 percent; and (iv) an increase in yields of 2 percent. It should be noted that the following other benefits were not considered: (i) ease of access to education and health centers; (ii) development of trade, services and income-generating activities; and (iii) lower cost of operating vehicles. The additional cost of production, resulting from the increase in the areas planted has been considered. In addition, after the rehabilitation of the tracks, an annual maintenance cost equivalent to 10 percent of the total cost of the works is planned. The economic model was built on the assumption of a zone of influence with a radius of 10 km on either side of the track segments. The zone of influence is supposed to be exploited mainly for market gardening and cereals production (rice, maize, onions, tomatoes, potatoes, mangoes, etc..), the assumption used for the cultivation rate being 8 percent of the area of the zone of influence.

28. The analysis conducted based on the assumptions results in an economic rate of return of 24 percent and an NPV of 14.3 billion FCFA or US$23.9 million. The results obtained remain close to most of the recent analyzes carried out in other projects.

29. **Under these assumptions, the overall project is profitable under all scenarios**, without and with valuation of environmental benefits (on a budget of US$261.9 million). The scenario without the valuation of environmental benefits is considered the baseline scenario. In this

scenario, the NPV is estimated to be US$181.2 million, and the economic internal rate of return (IRR) is estimated to be 26.2 percent. With environmental valuation at market prices, the project is expected to generate an NPV of US$181.6 million and an economic internal rate of return (IRR) of 26.3 percent. Including the annual GHG mitigation (an annual net carbon sink of -9,595 tCO_2e in first five years and -5,883 tCO_2e thereafter) valued at the low shadow price of carbon (on average, 51 US$/t|$CO_2e$), PReCA generates an NPV of US$184.2 million and an economic internal rate of return (IRR) of 26.6 percent. With environmental benefits valued at the high shadow price of carbon (on average, US$102/$tCO_2e$), the project's results yield an NPV of US$187.3 million and an economic IRR of 26.9 percent. These four scenarios are summarized in the Table 3.10 below.

Table 3.10: Scenarios of valuation of environmental benefits

Indicators	A) Results excl. ENV benefits	B) Results incl. ENV benefits, valued @ market cost (US$8/$tCO_2e$)	C) Results incl. ENV benefits, valued @ low estimate range (average US$51/$tCO_2e$)	D) Results incl. ENV benefits, valued @ high estimate range (av. US$102/$tCO_2e$)
NPV NAB (FCFA, @6%)	108,330,584,231	108,628,147,934	110,184,435,475	112,030,135,513
NPV NAB (US$, @6%)	181,154,823	181,652,421	184,254,909	187,341,364
ERR	26.2%	26.3%	26.6%	26.9%

30. **Sensitivity analysis shows that the baseline results are robust under most scenarios.** The robustness of these results was explored by testing the effects of changes in several critical parameters: (i) reduced project benefits; (ii) increased project costs; (iii) delayed project benefits; (iv) decreased output prices; (v) increased input prices; and (vi) reduced adoption rate. The findings are summarized in the below table.

Table 3.11: Sensitivity analysis

Net cash flow		ERR	VAN (million US$)
Base scenario		26.2%	181.2
Costs +	10%	24.9%	176.4
Costs +	20%	23.6%	171.7
Costs +	30%	22.5%	167.0
Benefits +	10%	27.6%	204.0
Benefits +	20%	28.8%	226.8
Benefits +	30%	29.9%	249.7
Benefits +	10%	24.7%	158.3
Benefits +	20%	23.1%	135.5
Benefits +	30%	19.9%	107.9
Benefits delayed by 1 year		23.1%	157.8
Benefits delayed by 2 years		20.5%	135.9
Benefits delayed by 3 years		18.3%	115.3
Production price -	10%	21.9%	141.1
Production price -	20%	17.6%	101.1
Input price +	10%	25.5%	177.7
Input price +	20%	24.8%	175.0
Adoption rate	25%	22.3%	130.0

ANNEX 5: MAP

COUNTRY: Burkina Faso
Agriculture Resilience and Competitiveness Project