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Report No: PAD3329

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED IDA SCALE UP FACILITY CREDIT
IN THE AMOUNT OF EUR 146.2 MILLION
(US\$160 MILLION EQUIVALENT)

TO THE

REPUBLIC OF BENIN

FOR AN

AGRICULTURAL COMPETITIVENESS AND EXPORT DIVERSIFICATION PROJECT

May 9, 2020

Agriculture and Food Global Practice
Africa Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective {March 31, 2020})

Currency Unit =

CFAF 589 = US\$1.00

US\$1.00 = Eur 0. 91

FISCAL YEAR

January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

AADT	Average Annual Daily Traffic
ABSSA	<i>Agence Béninoise pour la Sécurité Sanitaire des Aliments</i> (Benin Agency for Food Safety)
AfDB	African Development Bank
AIAB	<i>Association Interprofessionnelle de l'Ananas du Benin</i> (Benin Interprofessional Association of Pineapple)
ANAC	<i>Agence Nationale de l'Aviation Civile</i> (National Agency for Civil Aviation)
ANDF	<i>Agence Nationale du Domaine et du Foncier</i> (National Agency for the Management of Land Property)
ANM	<i>Agence Nationale de la Métrologie</i> (National Metrology Agency)
APIEx	<i>Agence de Promotion des Investissements et des Exportations</i> (Agency for Promotion of Investment and Exports, Office of the Presidency)
ATDA	<i>Agence Territoriale de Développement Agricole</i> (Territorial Agency for Agriculture Development)
AWPB	Annual Work Plan and Budget
BCEAO	<i>Banque Centrale des États de l'Afrique de l'Ouest</i> (Central Bank for West Africa States)
BDS	Business Development Services
CAADP	Comprehensive Africa Agriculture Development Programme
CBA	Cost-Benefit Analysis
CC	Climate Change
CFAF	Francophone Africa Community – Franc
CIMA	<i>Conférence Interafricaine des Marchés de l'Assurance</i> (African Conference of Insurance Market)
CPF	Country Partnership Framework
CRE	Competitive Reinforcement Engagements
CRI	Core Results Indicators
CSA	Climate Smart Agriculture
DA	Designated Accounts
DCA	Delegated Contracting Agencies
DGR	<i>Direction Générale des Routes</i> (National Road Office)
DPP	<i>Direction de la Programmation et de la Prospective</i> (Planning and Forecasting Department)
DPV	<i>Direction de la Production Végétale</i> (Crop Services Directorate)
DTF	Distance To Frontier
EBA	Enabling the Business of Agriculture
EFA	Economic and Financial Analysis
EHS/OHS	Environmental, Health and Safety/Occupational, Health and Safety
EIRR	Economic Internal Rate of Return
ESCP	Environmental and Social Commitment Plan
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards

EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FI	Financial Institutions
FIRR	Financial Internal Rate of Return
FM	Financial Management
FONAGA	<i>Fonds National d'Assistance aux PME</i> (National Fund for SME Support)
4PL	Fourth-Party Logistics
GBV	Gender Based Violence
GHG	Greenhouse Gas
GMP	Good Manufacturing Practices
GHP	Good Hygienic Practices
GoB	Government of Benin
GPN	General Procurement Notice
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Services
Ha	Hectare
HACCP	Hazard Analysis Critical Control Point
HDM-4	Highway Development and Management-4
ICT	Information and Communication Technology
IDA	International Development Association
IFA	<i>Interprofession de la Filière Anacarde</i> (Cashew Value Chain Interprofession)
IFAD	International Fund for Agriculture Development
IFC	International Finance Corporation
INRAB	<i>Institut National des Recherches Agricoles du Bénin</i> (National Institute for Agricultural Research)
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management
IRR	Internal Rate of Return
ISO	International Organizations for Standardization
KPI	Key Performance Indicator
LAC	Low Activity Clay Soils
LCSSA	<i>Laboratoire de Contrôle pour la Sécurité Sanitaire des Aliments</i> (Central Laboratory for Food Safety)
LMP	Labor Management Procedure.
MAEP	<i>Ministère de l'Agriculture, de l'Élevage et de la Pêche</i> (Ministry of Agriculture, Livestock and Fisheries)
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MFD	Maximizing Finance for Development
MFIs	Microfinance institutions
MG	Matching Grants
MIC	<i>Ministère du Commerce et de l'Industrie</i> (Ministry of Trade and Industry)
MSME	Micro Small and Medium Enterprises
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
NPL	Non-Performing Loans

NPV	Net Present Value
PADA	<i>Projet d'Appui à la Diversification Agricole</i> (Agricultural Productivity and Diversification Project)
PAD	Project Appraisal Document
PACOFIDE	<i>Projet d'Appui à la Compétitivité des Filières et à la Diversification des Exportations</i> (Agricultural Competitiveness and Export Diversification Project)
PAG	<i>Plan d'Action du Gouvernement</i> (Government Action Plan)
PASciB	<i>Plateforme des Acteurs de la Société Civile du Bénin</i> (Benin Platform of Civil Society Actors)
PMP	Pest Management Plan
PMU	Project Management Unit
PNDF	<i>Programme National de Développement des Filières</i> (National Program for Value Chain Development)
PNIASAN	<i>Plan National d'Investissements Agricoles et de Sécurité Alimentaire et Nutritionnelle</i> (National Plan for Agricultural Investments and Food and Nutrition Security)
PDO	Project Development Objectives
PFI	Partner Financial Institution
PIM	Project Implementation Manual
PNOPPA	<i>Plateforme Nationale des Organisations Professionnelles des Producteurs Agricoles</i> (National Platform of Professional Organizations of Agricultural Producers)
PP	Productive Partnership
PPP	Public-Private Partnership
PPSD	Project Procurement Strategy for Development
PSC	Project Steering Committee
PSDSA	<i>Plan Stratégique de Développement du Secteur Agricole</i> (Strategic Development Plan of the Agricultural Sector)
RAP	Resettlement Action Plan
R&D	Research and Development
RF	Result Framework
RPF	Resettlement Policy Framework
RSF	Risk Sharing Facility
SC	Strategic Committee
SCD	Systematic Country Diagnostic
SDG	Sustainable Development Goal
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SME	Small and Medium Enterprise
SPN	Specific Procurement Notices
SORT	Systematic Operations Risk Rating Tool
SUF	Scale Up Facility (IDA)
TC	Technical Committee
3PLs	Third-Party Logistics
UNDB	United Nations Development Business
VC	Value Chain
VfM	Value for Money

WAAPP	West Africa Agriculture Productivity Project
WAEMU	West African Economic and Monetary Union
WBG	World Bank Group (IBRD/IDA, IFC and MIGA)
WOP	Without Project
WP	With Project

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Benin	AGRICULTURAL COMPETITIVENESS AND EXPORT DIVERSIFICATION PROJECT	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P168132	Investment Project Financing	Substantial

Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input checked="" type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
02-Jun-2020	30-Nov-2026
Bank/IFC Collaboration	Joint Level
Yes	Complementary or Interdependent project requiring active coordination

Proposed Development Objective(s)

The project development objective (PDO) is to increase productivity and market access for selected agri-food value chains in Benin.

Components

Component Name	Cost (US\$, millions)
Component 1: Strengthening the enabling environment and infrastructure for agri-	35.00



food value chains development	
Component 2: Increasing productivity, connectivity, value addition and resilience	65.00
Component 3: Promoting private investment and access to finance	45.00
Component 4: Project management	15.00
Component 5: Contingent Emergency Response Component (CERC)	0.00

Organizations

Borrower: Ministry of Economy and Finance
 Implementing Agency: Ministere de l'Agriculture, de l'Elevage et de la Peche

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	160.00
Total Financing	160.00
of which IBRD/IDA	160.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	160.00
IDA Credit	160.00

IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Benin	160.00	0.00	0.00	160.00
Scale-up Facility (SUF)	160.00	0.00	0.00	160.00
Total	160.00	0.00	0.00	160.00



Expected Disbursements (in US\$, Millions)

WB Fiscal Year	2020	2021	2022	2023	2024	2025	2026	2027
Annual	0.00	10.00	20.00	28.00	33.30	31.30	29.40	8.00
Cumulative	0.00	10.00	30.00	58.00	91.30	122.60	152.00	160.00

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture and Food

Contributing Practice Areas

Finance, Competitiveness and Innovation

Climate Change and Disaster Screening

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

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	● Substantial
8. Stakeholders	● Moderate
9. Other	
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

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Relevant

NOTE: For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description



Schedule 2, Section I. 3 Strategic Committee. The Recipient shall establish no later than three (3) months after effectiveness a Strategic Committee, with composition and mandate acceptable to the Association.

Sections and Description

Schedule 2, Section I. 5 Project Management Unit. Not later than three (3) months after the Effective Date, the financial management specialist, the accountant, the environmental specialist, the social development specialist, referred to in sub-paragraph (c) of this paragraph shall have been recruited and appointed.

Sections and Description

Schedule 2, Section I. 5 Project Management Unit. Not later than three (3) months after the Effective Date, an internal auditor shall have been recruited and appointed on the basis of terms of reference, qualifications, integrity and experience acceptable to the Association.

Sections and Description

Schedule 2, Section I. 5 Project Management Unit. Not later than three (3) months after the Effective Date, the Recipient shall have acquired, installed and customized a computerized accounting software, satisfactory to the Association.

Sections and Description

Schedule 2, Section I. 5 Project Management Unit. Not later than six (6) months after the Effective Date, the statutory independent auditor shall have recruited and appointed on the basis of terms of reference, qualifications, integrity and experience acceptable to the Association,

Conditions

Type	Description
Effectiveness	Article V 5.01 (a). The Project Implementation Manual with adequate FM Accounting policies and procedures has been adopted in form and substance satisfactory to the Association.
Effectiveness	Article V 5.01 (b). The Project Agreement has been duly executed by the Association and APIEx, authorized by APIEx, and is legally binding upon APIEx in accordance with its terms.
Effectiveness	Article V 5.01 (c).The Subsidiary Agreement has been duly executed, authorized or ratified by the Recipient and APIEx, and is legally binding upon the Recipient and APIEx in accordance with its terms.
Disbursement	Schedule 2, Section III. B.1 (b). No withdrawal shall be made under Category (3) Matching Grant, until and unless the Association has received evidence satisfactory that APIEx has prepared and adopted the Matching Grant Operating Manual and Matching Grant Agreement template in form and substance satisfactory to the Association



Type	Description
Disbursement	Schedule 2, Section III. B.1 (c). No withdrawal shall be made under Category (4), until and unless the Association has received evidence satisfactory that: (i) the Risk Sharing Facility Framework Agreement has been signed in accordance with the provisions of Section I.E of Schedule 2 to this Agreement and in form and substance satisfactory to the Association; (ii) the Recipient has prepared and adopted the Risk Sharing Facility Manual in form and substance satisfactory to the Association; and (iii) FONAGA has established and maintained a separate account for the Credit Guarantee
Disbursement	Schedule 2, Section III. B.1 (d). No withdrawal shall be made under Category (5), until and unless the Association has received evidence satisfactory that APIEx has prepared and adopted a template of the Guarantee Agreement, to be signed with service providers, in form and substance satisfactory to the Association.
Disbursement	Schedule 2, Section III. B.1 (e). No withdrawal shall be made under Category (7), for Emergency Expenditures under Part 5 of the Project, unless and until the Association is satisfied, and notified the Recipient of its satisfaction, that all of the following conditions have been met in respect of said activities: (i) the Recipient has determined that an Eligible Crisis or Emergency has occurred, has furnished to the Association a request to include said activities in the CERC Part in order to respond to said Eligible Crisis or 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 activities, 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.E of Schedule 2 to this Agreement; (iii) the Recipient's Coordinating Authority has adequate staff and resources, in accordance with the provisions of Section I.E of this Schedule 2 to this Agreement, for the purposes of said activities; and (iv) the Recipient has adopted an CERC Manual in form, substance and manner acceptable to the Association and the provisions of the CERC Manual remain - or have been updated in accordance with the provisions of Section I.E of this Schedule 2 so as to be appropriate for the inclusion and implementation of said activities under the CERC Part.



I. STRATEGIC CONTEXT

A. Country Context

1. **Benin is a low-income country of about 11.8 million inhabitants (2017 estimate).** The economy is driven by agriculture and services, particularly import/export activities through the Port of Cotonou. Agriculture accounts for 25 percent of Gross Domestic Product (GDP) and 47 percent of the country's employment. Cotton is the primary export commodity. The informal sector contributes up to 56 percent of GDP. Re-export trade with Nigeria, mostly informal, accounts for 20 percent of GDP and 25 percent of government revenue¹. Steady GDP growth of about 5 percent per year during the period (2012-2017) was partially offset by a rapid population growth averaging 3.5 percent per year, which led to a modest and unequal increase in household consumption.

2. **Growth accelerated in 2018 supported by booming cotton production and port activity.** Real GDP growth was at 6.8 percent in 2018, up from 5.8 percent in 2017, due to good performance in agriculture and services, especially record-levels of cotton production (+17 percent) and increased port activity (+8.5 percent). The services sector grew by 7.5 percent because of dynamism in post and telecommunications, banking, trade, and the food and catering industries. On the demand side, growth was driven mainly by final consumption (up by 3.6 percent). The external current account deficit (excluding grants) narrowed from 10.2 percent in 2017 to 8.5 percent of GDP in 2018 reflecting an increase in agricultural exports and reduced food imports following reforms in the agricultural sector. Export growth reached 20.2 percent in 2018 compared to 2017 while imports only decreased by 4.3 percent. Economic growth prospects are good but remain vulnerable to global cotton and oil prices, weather shocks, as well as trade relationships with key trading partners such as Nigeria. Before the current pandemic, real GDP growth was projected to average 6.7 percent over 2019-2021.

3. **However, the COVID-19 pandemic has dampened growth prospects in the country,** with GDP growth expected to decline to between 3.2 to 1.7 percent in 2020. While the measures taken so far to contain the spread of COVID-19 seem to have limited the number of contaminations and contained the disease on Benin's territory, they have negatively impacted several sectors and strata of the population and have resulted in loss of livelihoods and incomes for many Beninese. External factors, such as lower commodity prices and a contraction of external demand have compounded the impacts of the pandemic on Benin's economy. For example, cotton prices are at record-lows, the demand for cashew and pineapple have decreased on international markets, compromising the prospects for Beninese exports. The economic impact is expected to be severe as the country faces two simultaneous external shocks, namely the closure of the Nigerian border since August 2019 and the current COVID-19 pandemic. International development institutions, notably the International Monetary Fund (IMF), and bilateral creditors have adopted measures to alleviate debt burdens through debt service relief or debt service moratoriums. On April 13, 2020, the IMF approved a 6-month debt service relief to 25 IDA countries, including Benin under the Catastrophe Containment and Relief Trust Fund (CCRT).

4. **Poverty reduction programs have been enshrined in successive strategies, but results have proven erratic and difficult to sustain.** Benin had a per capita income of US\$929 in 2018, which is below the Sub-Saharan Africa (SSA) regional average of US\$1,454. Poverty levels remain high, but with a declining trend. World Bank estimates based on official consumption aggregates suggest that at the US\$1.90 a day poverty line (2011 purchasing power

¹ These figures are related to the period prior to the border closure with Nigeria (before August 2019). A downward trend has been observed since.



parity), poverty declined from 49.5 percent in 2015 to 46.4 percent in 2018. Non-monetary poverty indicators have improved over this period as well. However, Benin did not meet most of the Millennium Development Goals (MDGs) by 2015, including targets on universal primary education, gender equality, child mortality, maternal health and global partnership for development². Benin is considered a low human development country as it is ranked 163rd out of 188 countries on the Human Development Index³.

5. **There are significant disparities in poverty rates between urban (36 percent) and rural areas (44 percent)⁴ and widening gaps between the two is hindering the achievement of shared prosperity and elimination of extreme poverty.** At national level, inequality increased between 2011 and 2015, from 0.464 to 0.470 as measured by the Gini Coefficient. Inequality is higher in urban areas, where the Gini coefficient rose from 0.452 to 0.467 between 2011 and 2015, while it increased from 0.373 to 0.403 in rural areas.

6. **In Benin, gender-based obstacles result in inequality of opportunity.** Women systematically occupy jobs that earn on average half that of men. Overall economic growth and development is hampered by productivity losses due to gender disparities in access to productive assets and inputs, including access to finance, and in agriculture by lack of access to land, inputs, technology and equipment. Thus, women's economic empowerment through greater access to financial services, access to land and agricultural inputs, and equality in employment opportunities can contribute to more equitable development outcomes (Benin Country Partnership Framework - CPF FY19-FY23, Report No.123031-BJ).

B. Sectoral and Institutional Context

7. **In Benin, the agriculture sector accounts for nearly 25 percent of GDP.** From 2012 to 2017, the sector grew at around 4 percent annually to reach a total value of nearly US\$2.13 billion. However, to achieve the country's economic development and poverty reduction targets, agriculture will need to grow considerably faster than the population growth as nearly half of the population is employed in agriculture.

8. **The productivity of agriculture in Benin is affected by many constraints ranging from land tenure, lack of access to inputs and reliance on traditional means of production.** The production system is highly fragmented and essentially smallholder-based. Farm sizes are small, below 2 hectares (ha) on average. In southern Benin, the land pressure is even higher, and agricultural production typically occurs on extremely small plots (averaging only 0.26 ha)⁵. Recent increases in farm production have relied more on expansion of cropped areas than increased productivity (IFC, 2016). Continuing constraints to the registration of property and the leasing of land, especially in the southern part of the country, are hindering the functioning of land markets. While the Government of Benin (GoB) has already enacted land reforms, the key constraint is the capacity for enforcement of legislation by the *Agence Nationale du Domaine et du Foncier* (ANDF), the government agency in charge of land management.

9. **Agricultural production is dominated by a small number of crops.** Nearly two thirds of Benin's food crop output (in tons) is concentrated in low-value roots and tubers. Other staples, such as maize, oil palm, and rice comprise another twenty percent of production output. Moreover, in terms of *cropped area*, production is dominated by maize (31 percent of harvested area), cashew (14 percent), cotton (12 percent), cassava (8 percent)

² UNSD, MDG Indicators (indicator availability varies by year).

³ UNDP, Human development index report, 2018.

⁴ INSAE, *Evaluation de la pauvreté au Bénin*, 2014.

⁵ Global benchmarks suggest that to be competitive in exports, farms may have to be larger and more professionalized. Yet, only a few medium and large agricultural firms exist in the country.



and yams (6 percent). A limited number of producers engage in the production of higher value fruits and vegetables and those that do have limited access to improved inputs, production methods, and farm equipment.

10. **The agri-food sector in Benin is vulnerable to the impact of climate change manifested by rising temperatures, especially in the northern part of the country.** Climate and Disaster Risk Screening performed as part of project preparation indicates that maximum daily temperatures, the number of hot and very hot days, as well as the likelihood of annual severe droughts are expected to increase throughout the coming century⁶. The negative consequences of intense and successive periods of drought and floods could reduce agricultural production by 3 to 18 percent by 2025 if no adaptive measures are taken⁷.

11. **This project will address the identified climate risks and vulnerabilities in the agricultural sector by prioritizing investments that help to increase agricultural resilience.** This will include climate-proofing of road and agricultural infrastructure to enhance adaptation and resilience to climate change, building the capacity of public institutions to address climate change in addition to promoting agribusiness investments that help to increase agricultural resilience, mainstreaming climate change and resilience in food safety and quality management, supporting the development and dissemination of agrometeorology/climate information and advisory services, and promoting climate-smart private investment and access to finance.

12. **To reduce greenhouse gas (GHG) emissions from project interventions, the program also includes activities from the approved list in Annex A.C.1 of the Joint Report on MDB's Climate Finance⁸ and the World Bank's Guidance for Addressing Climate Change Corporate Commitments in Agriculture.⁹** The project activities fully qualify as generating climate change mitigation Co-Benefits under Sub- Category 4.1. Agriculture and 9.1 from the A.C.1 List of activities eligible for classification as climate mitigation finance. The GHG accounting results are summarized in Section IV, Project Appraisal Summary.

13. **In terms of gender dimensions, women's contribution to agriculture in Benin is substantial.** Women make up to 35 percent of employment in agriculture and 14 percent of agricultural households are led by women. They are prominent in the activities that shape agricultural production, processing, distribution and marketing, and consumption. Despite their contributions to the sector, women have weaker bargaining power because of limited business skills and voice. They also face disadvantages accessing land use rights because of cultural norms¹⁰. Moreover, women also face more obstacles than men in accessing improved agricultural production technology, extension services and notably finance. The lack of productive capital available to women poses additional and considerable barriers to female farmers and agribusiness entrepreneurs. Because of this constrained access to productive assets and extension services, women usually have a lower capacity to deal with adverse climate impacts and are more vulnerable to external shocks.

14. **In terms of commercial activity, cotton production accounts for a quarter of the country's agricultural GDP and it is the country's single largest export.** More modest contributions to GDP come from other export

⁶ World Bank Group Climate Change Knowledge Portal, February 2019.

⁷ Climate Change Profile: Benin; Report from Government of Netherlands, February 2019.

⁸ Joint Report on Multilateral Development Bank's Climate Finance (2019).

<http://pubdocs.worldbank.org/en/650791574955718829/2018-joint-report-on-mdbs-climate-finance.pdf>

⁹ World Bank (2018). Climate Change Requirements: Guidance Note for Meeting Corporate Requirements in Climate Smart Agriculture <https://worldbankgroup.sharepoint.com/sites/Agriculture/Knowledge%20Base/GuidanceNoteClimateChangeRequirementsAgriculturalOperations.pdf>

¹⁰ A gender gap analysis has been undertaken during project preparation within the selected value chains to inform the selection of specific issues which the project can address (like access to productive assets, increasing opportunities for female-led agribusiness SMEs).



crops such as cashew¹¹ and pineapple¹² which contribute, respectively, to 7 percent and 4 percent of Benin's agricultural GDP. Cotton, cashew and pineapple amount to about 36 percent of Benin's agricultural GDP and almost 50 percent of the country's export basket (including agricultural and non-agricultural products). While their contribution to sector growth will continue to be important for Benin for the foreseeable future, an overreliance on a limited number of export products has made the country vulnerable to volatility in these global commodity markets where farmers are price takers from large international buyers (Dia & Lapres, 2018)¹³.

15. **A recent World Bank study has found that 'fresh' food crops – including many fruits and vegetables that are highly perishable – often tend to have higher value, albeit they require more intensive off-farm services** (Dia & Lapres, 2018). The study found that producers in more advanced economies can engage in production of such perishable crops, while making significant profit margins. Typically, the development of fresh agricultural products also tends to allow small farmers – including women – to bargain for better prices. While Benin export opportunities exist in both traditional cash crops (such as cashew) and a newer set of horticultural crops (such as pineapple, mango, tomatoes, and other fresh fruits and vegetables), it will be essential for farmers to make decisions based on market demand, while allowing the country's comparative advantage to guide investments in specific agri-food products.

16. **Global demand in the market for fruits and vegetables is expected to double by 2030, demonstrating a considerable future demand for Benin's potential exporters.** One report suggests that worldwide demand for fruits and vegetables is expected to stand at US\$5.28 trillion by 2030 (Oliver Wyman 2018¹⁴). Meanwhile in 2014, global trade in fruits and vegetables neared US\$350 billion¹⁵. Most of the highest value produce will be demanded in Europe and North America where approximately 17 percent of the current world population accounts for 32 percent of the value of global demand. These markets often pay a premium for fresh fruits and vegetables given their relative scarcity and the higher purchasing power of these economies¹⁶. The growing demand and scarcity of products suggests there would be space for Benin's producers to enter these markets, if it could resolve some supply side market failures.

¹¹ Benin produces 135,000 metric tons of cashew per year on average, of which 115,000 metric tons were exported in 2015. As such Benin ranks 9th worldwide and it is the fourth-largest cashew-exporting country in Africa. The sector employs about 60,000 households and more than 200,000 professionals (trade, processing and export), contributing 3 percent to GDP (INSAE, 2014). Nearly 98 percent of the product is exported in raw form to India and Vietnam, while the rest (2%) is processed locally and exported as kernels to Europe or North America (Janvier 2018).

¹² In 2017 Benin was the fifth largest African producer of pineapple, producing over 316,280 tons (FAOSTAT, 2017). The crop involves 15,000 producers, 70 percent of whom work on 0.5–1 ha of land. About 35 percent of pineapple production is locally consumed fresh, 15 percent is locally processed and consumed, 40 percent is sold on the markets of the sub-region, 8 percent is converted into dried fruits and exported, and only 2 percent is exported fresh by air to the EU (Dalberg 2018). In fact, only recently have 15 pineapple producers contributed to exports to the EU, but they do not yet provide significant foreign exchange earnings. However, these producers recently faced some difficulty in exporting when the government issued an export ban following the revelation of traces of chemical residues. Rather than risk an involuntary ban from the EU – which would affect the credibility of Benin's food safety controls – the government took steps to ensure chemical residues were below acceptable thresholds before it allowed exporters to continue (Gaspar 2017) (AFP 2017).

¹³ Dia & Lapres (2018). A Rapid Review of the Opportunities for the Horticulture Industry in Benin.

¹⁴ Oliver Wyman (2018). Disruption in fruit and vegetable distribution. Fruit Logistica Trend Report 2018, Berlin: Fruitnet Media International.

¹⁵ Increasingly, such trade has even been occurring between some countries in West Africa and Europe. For instance, Benin's formal exports of fruits and vegetable products in 2014 totaled US\$203 million.

¹⁶ The highest income per capita countries of Europe, such as Denmark spend 145 percent more than the EU average compared for instance to Poland which spends just 63 percent of the EU average (Eurostat 2015). This is largely due to the consumption basket, which is more geared towards perishable foods in Western and Northern Europe.



17. **An early assessment of the impacts of the COVID-19 pandemic on Benin’s agricultural sector suggests that several value chains (cotton, cashew, pineapple, vegetables, fish, processed juices) are being negatively affected** by the pandemic, as producers, processors, traders and other players in the value chains start to feel its full impacts on their livelihoods and incomes. Those impacts include local and international supply chain disruptions, increases in the prices of selected food crops, reduced demand/consumption and falling prices especially for cash crops (cotton, cashew, and pineapple), high post-harvest losses, increased unemployment, especially in the agro-processing subsector, among others.

18. **Given the employment structure of Benin, accelerated and sustained export growth in the agriculture sector is expected to have a significant effect on poverty reduction.** A 2011 World Bank study on Benin estimated that obtaining access to international markets that have a 10 percent premium in the price of an export crop would amount to 6.94 percent increase in income for producing households (Porto, Chauvin, & Olarreaga, 2011)¹⁷. The effects were estimated to reach up to 35 percent increase in income if the market structure of buyers was to become less concentrated (i.e. assumed perfect competition). While such assumptions may not be feasible for some traditional crop categories such as cotton (where the buyer bargaining power is high), they are more feasible for certain horticultural crop categories (Dia & Lapres, 2018). Given that over half of Benin’s population is employed in subsistence agriculture, growth in formal horticultural exports (to high value markets) is expected to have a significant effect on raising incomes of those engaged in it¹⁸. Therefore, improving the export performance of Benin can help achieve poverty reduction targets.

19. **Benin has displayed poor performance in several indicators that relate to agricultural competitiveness.** This is illustrated in Benin’s poor ranks on the *Enabling the Business of Agriculture* (EBA 2017) index¹⁹ compared to the 62 other countries analyzed. The Distance to Frontier (DTF) – a measure of how far off a country is from an idealized benchmark – shows significant room for improvement in all composite indicators. Those indicators show that the regulatory framework for seeds, fertilizers, water and machinery is not conducive for the development of input markets. Indicators on the regulatory framework for access to finance, transport and markets also rank poorly, explaining why Benin’s producers have not been able to improve their export performance. Without resolving these constraints, it will be difficult to improve the competitiveness of the sector and to foster exports.

Table 1: Benin’s Performance in Enabling the Business of Agriculture (EBA)

	Item	Comparative Rank out of 62	Distance to Frontier (DTF) Score out of 100
On Farm Factors (i.e. factors related to primary production)	Seed	55	32.81
	Water	38	43.15
	Fertilizer	61	14.58
	Machinery	53	25.83
Off Farm Factors (i.e. factors related to supporting services)	Finance	41	43.35
	Markets	34	56.14
	Transport	50	36.32
	ICT	31	55.56

Source: Enabling the Business of Agriculture (EBA), 2017

¹⁷ http://siteresources.worldbank.org/INTRANETTRADE/Resources/Supply_Chains.pdf

¹⁸ Staatz and Dembélé (2008) articulate, if quality and time requirements can be met, there are few demand constraints to growth in high-value exports such as horticulture.

¹⁹ Similarly, Benin’s Doing Business (DB) ranking – an index for business more broadly – stood at 151 out of 190 countries analyzed in 2018, which helps explain the performance of the economy overall.



20. **Currently, the supply of new and improved seed varieties is limited in Benin and public institutions lack the Research and Development (R&D) resources needed to support the testing, development and adaption of new varieties.** Production is increasingly concentrated in relatively few crops, and few farmers engage in the production of higher value fruits and vegetables. Those farmers that do produce higher value fruit and vegetables have some access to improved inputs, production methods, and farm equipment²⁰. The Ministry of Agriculture's National Institute of Agricultural Research (INRAB) of Benin has a mandate to produce foundation and breeder seeds, but it is underfunded²¹. Greater investment in such public R&D for breeding programs is needed to a) improve the potential of local varieties for more intensive production systems, and b) test new varieties that are not yet grown in Benin, but which are demanded by export markets. The interaction of R&D with extension systems could also be improved in order to better enable farmers to adopt new and more diversified varieties that have been validated in field trials and through market studies²².

21. **To enable the diversification of production into more profitable crops and climate-resilient cropping systems, farmers and firms will need access to finance and insurance products in order to make the necessary investments.** Benin's private sector (including farmers and firms) typically lack access to financial services outside the cotton sub sector. Commercial banks, including micro-finance institutions, are reluctant to lend to agricultural farms/firms given the high level of commercial risk involved in the sector. As a result, Benin's small farms and agri-food SMEs have limited access to the banking system. Yet, without access to finance, they cannot invest in improvements that would allow them to respond to demand and compete on export markets. The government's *National Guarantee and Small and Medium Enterprise Assistance Fund* (FONAGA) is one response to this market failure, but it remains under-funded and lacks the capacity to effectively target farmers. However, even with financing available, Benin's farmers and agri-food SMEs are constrained by the risks associated with diversified production of higher value fruits, vegetables and livestock. High post-harvest losses – often in the range 40 percent in Benin²³ – create a significant amount of risk that hinders most farmers from engaging in the segment of fresh produces. Small-scale farmers, which are typically averse to risk, do not have the ability to weather experimentation in such new crops on their own; and there are few insurance products available on the market that would cover such risk²⁴.

²⁰ For instance, a very limited number of pineapple and cashew plantations use good quality planting materials, and a very small minority use appropriate cultural practices owing to ineffective extension services.

²¹ Moreover, the R&D system often ignores the development of other related R&D topics, such as methods of reducing post-harvest losses, fresh preservation, cold chain technologies, and food logistics amongst other topics.

²² Providing services through public agencies is more challenging in the agricultural sector where public agencies tasked with R&D are sometimes de-linked from commercial needs and the farmer extension services. Lack of efficient coordination mechanism often prevent many public agencies from linking commercial needs with Agricultural Universities, R&D stations, and Extension Agents, which deliver training to the producers. In other countries, extension agents are not only providing farmers with training, but are disseminating price and weather information, advice on product standards, and are working with farmer cooperatives on business development opportunities (Theus & Zeng, 2012). Such activities are often accompanied by the supply of inputs (e.g. seeds, fertilizers or credit) to better embed these arrangements in the immediate needs of the producers. Recent reorganizations of the public agencies, which support agriculture and private sector development areas, can serve as a basis by which to reorient the government's mission around this more integrated model.

²³ Some studies have shown that over 90 percent of farmers report production losses every year with 75 percent reporting that the level of losses reached half of the expected production. However, only 1 percent of surveyed farmers subscribed to any agricultural insurance policy.

²⁴ Access to agricultural insurance services remains extremely limited due to limited collection of weather data (which is needed to price products and trigger payouts), weak capacity of service providers and a set of market failures on the producer's side. However, functional crop insurance markets can play a catalytic role in the emergence of higher value agriculture; such financial products can help manage the impacts of production shocks, which will de-risk bank lending to farmers and incentivize producer investments in higher value activities.



22. **High post-harvest losses result from poor transport connectivity and the lack of access to markets.** For example, poor rural road connectivity constrains producers (especially in the North) from transporting product in good condition to hubs in the South and onward to markets abroad. Moreover, the airport facilities in Cotonou lack the cold chain infrastructure needed to accommodate highly perishable items while waiting for onward transport. As such, the poor connectivity infrastructure (including rural roads and cold chain concession facilities at airports) are critical constraints to the export of fresh agricultural produce. To reduce post-harvest losses, there is not only a need for investment in public infrastructure, there is also a need for improvements in cold-chain logistics services, which would prevent the loss of product on the way to market.

23. **Benin's farmers need the experience of the private sector logistic firms that can provide quick and efficient cold chain services.** Currently, Benin underperforms in several indicators on logistics related to perishable fruit and vegetable produce. For instance, Benin's 2016 Logistics Performance Index (LPI) ranking was 115 out of 160 economies with an overall DTF score of 2.43 out of 5. Most notably, the indicator for timeliness of logistics has fallen drastically since 2012, suggesting that logistic services would not be able to handle increase in perishable produce that have high time pressure on delivery. As a result, the country has very few exports of fresh products or of high value fruits and vegetables. Improving privately provided cold chain logistic services will enhance the ability of farmers to participate in high value markets for fresh fruits and vegetables. Given the development context of Benin and the production patterns of its producers, qualified logistic providers are reluctant to make investments in cold chain services²⁵.

24. **While there are many market failures to address in Benin's agriculture sector, it is urgent to fix the most binding set of on-farm and off-farm constraints to export.** Experiences from other countries suggest that implementation of an effective and coordinated public response would need an agency with an understanding of market constraints and potentials as well as a strong mandate that can align the actions of relevant line ministries.

25. **The National Agency for Investment and Export Promotion (APIEx)²⁶ – a centralized agency under the Presidency – is well placed to coordinate support for the development of export-oriented agricultural value chains.** The recent reorganization of export promotion functions under APIEx provides the mandate for an integrated approach to both on-farm and off-farm value chains development. However, the agency was formed only recently after the poor performance of its predecessors. To better enable APIEx to succeed in its mandate, it will be important to learn from past failures. Specifically, the preceding agencies faced challenges in defining the scope of their support as a facilitator of export promotion and private investments in the agricultural sector. One of the key challenges is related to their insufficient understanding of global markets without which, it would be difficult to develop appropriate public service responses. To perform effectively, APIEx staff would have to be trained in strategic market analysis and equipped with the technical knowledge on how to inform the government on the type of policy actions that would be needed to increase the competitiveness of Benin agriculture products on international markets.

²⁵ Moreover, such firms lack access to a labor force trained in perishable logistics. For the public sector's part, investment in both vocational and advanced training in Logistics Management – and perishable logistics – could help improve value chain performance and quality of delivery through the professionalization of such service providers in the country (McKinnon, et al. n.d.).

²⁶ APIEx was created through the merger of three formerly separate agencies: The Enterprise Registration One Stop Shop; the Beninese Agency to Promote Trade; and, the Investment Promotion Center. The mandate of APIEx consists of: (i) Investment promotion and providing services to investors; (ii) Export Promotion and providing services to Exporters; and (iii) increasing investment in export products (in terms of quantity, quality and diversification) through sound strategy and economic intelligence. In its coordination function APIEx is tasked with promoting collaboration with Ministries in charge of Agriculture, Trade, Industry, Transport and other relevant technical bodies.



26. In addition, the institutional context for agricultural development is also shaped by the *Agence Territoriale de Développement Agricole (ATDA)*²⁷. The creation of the ATDA in 2017 marks the adoption of a territorial approach by the government, whereby the country is divided into seven agro-ecological poles (see Figure 1). The ATDA – an agency with 250 staff, of which nearly 210 are based in the regions – is responsible for coordinating agricultural extension activities in each specific pole. With this reach, ATDA can deliver critical assistance to farmers. However, while ATDA has the mandate for agricultural development and the ability to reach project beneficiaries, it lacks both knowledge of global markets and the mandate to intervene in the set of off-farm activities and services (which are necessary elements for enabling the business of agriculture). Effective and coordinated interventions of both APIEx and ATDA, which can reach producers, agro processors, service providers and coordinate off-farm public services and markets, will therefore need to be fostered in the medium to long term.

C. Relevance to Higher Level Objectives

27. **The project is aligned with national and regional priorities.** The project is aligned with the Government's Action Plan (*Programme d'Action du Gouvernement 2016-2020-PAG*) which considers agriculture as a key sector for growth, job creation and poverty reduction. The PAG focuses on promoting key value chains both for domestic market and export and defines seven agro-ecological zones according to their respective potential. In addition, the project will contribute to the Government's National Agriculture Development Strategy (*Plan Stratégique de Développement du Secteur Agricole -PSDSA 2017-2021*), notably the National Plan for Agricultural Investments and for Food and Nutrition Security (*Plan National d'Investissements Agricoles et de Sécurité Alimentaire et Nutritionnelle (PNIASAN) 2017 – 2021*). The PNIASAN takes into account cross-cutting issues like climate change, risk management, gender and youth²⁸.

28. **This project will help the agricultural sector face the economic impacts of the COVID-19 pandemic by supporting the country's recovery efforts.** Specifically, the project will help mitigate the negative impacts of the COVID-19 pandemic through interventions that restore the livelihoods of producers, agro-processors, and other affected value chains stakeholders through the value chains to be supported under component 2, including food crops that contribute to food security, such as rice, maize, soybean, poultry, among others. The project's interventions under component 1 (fostering a better investment climate) and the financing instruments under component 3 (matching grants and risk-sharing facility) will also create an enabling environment that will help the affected agribusiness SMEs to recover from the COVID-19 crisis. The project is also creating the basis for future greater returns from agriculture which will help increase Government revenues and incomes of farmers in the country and therefore contribute to poverty reduction.

29. **The project will contribute to the World Bank Group's twin goals of ending extreme poverty and boosting shared prosperity.** The project will contribute to the country's achievement of the twin objectives through increasing competitiveness, productivity and climate resilience in the agricultural sector and promoting inclusive economic growth. Benin's Systematic Country Diagnostic (SCD²⁹) argues that Benin's achievement of the twin goals begins with the realization of its vast agricultural potential. Given Benin's favorable natural endowments,

²⁷ ATDA is responsible for the coordination of public programs in the agriculture sector in each of Benin's agro-ecological poles.

²⁸ http://www.agriculture.gouv.bj/IMG/pdf/psdsa_2025_et_pniasan_2017_-_2021_version_finale_adoptee.pdf

²⁹ Report No 114822-BJ. October 17, 2017.



agriculture will be the driver of poverty reduction, jobs for un- and under-employed youth, as well as inclusive growth in rural areas; and will also help meet rising food demand in growing urban centers.

30. The project responds to the priorities identified in the World Bank Group’s Country Partnership Framework (CPF) for Benin FY19-FY23 (Report 123031-BJ). The proposed project is particularly aligned with Focus Area 1 “Structural Transformation for Competitiveness and Productivity” and will contribute significantly to achieving the CPF’s goals of: (i) strengthening competitiveness and accelerating sustainable growth in the agricultural sector; (ii) creating more decent jobs; (iii) improving the quality of infrastructure; and (iv) reducing extreme poverty, especially in rural areas, and promoting shared prosperity. The project is also a critical instrument towards structural transformation for strengthened competitiveness in the agriculture sector.

31. Adherence to Scale-Up Facility (SUF) criteria. The project meets the criteria for eligibility for funding under the SUF. SUF financing has been mobilized for the project in view of its strong transformative development impact in terms of increased and diversified agri-food exports by fostering an enabling environment for agribusiness, improving value chains competitiveness, and promoting increased private sector investment. Project interventions are expected to induce 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 Benin’s Nationally Determined Contribution (NDC) priorities; (ii) address gender issues with a special emphasis on value chain activities where women are predominant; and (iii) foster regional integration as project interventions are expected to boost trade with neighboring countries. Benin 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 SUF.

32. The project will help mitigate the effects of climate change on producers. The project will contribute to the Africa Climate Business Plan (ACBP) that includes a focus on climate-smart agriculture (CSA), adapting and building resilience of agricultural and food systems to climate change at multiple levels, and reducing greenhouse gas (GHG) emissions from agriculture. The project will do so by ensuring that adequate mechanisms are applied throughout the production and processing within targeted value chains such as pineapple, cashew, and other horticulture crops to enhance the climate resilience of those activities. By supporting measures that will help farmers mitigate and increase their adaptive capacity to climate change as well as resilience, the project will contribute to Benin’s climate change policies, both towards its adaptation as well as mitigation goals as stated in its NDC.

33. The project will contribute to reducing gender gaps that are hampering female productivity and entrepreneurship by (i) facilitating women’s access to improved agricultural inputs; (ii) targeting capacity-building activities for improved production, processing, and commercialization; and (iii) providing financial incentives to women farmers or female business owners for productive investments. These activities will contribute to increased productivity and market access for female producers and have a long-term impact on household incomes and welfare.



II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

34. The project development objective (PDO) is to increase productivity and market access for selected agri-food value chains in Benin.

PDO Level Indicators

35. The following key performance indicators (KPIs) are proposed to measure outcomes at the PDO level:
- (i) Increase in volume of agri-food products commercialized (%) by project supported beneficiaries in targeted value chains³⁰
 - (ii) Increase in yields of selected value chains for pineapple and cashews.

Relevant project indicators will be disaggregated by gender.

36. In addition, the project's M&E system will track the following three Corporate Results Indicators (CRIs):
- a) Number of farmers adopting improved agricultural technology (including women targeted at 30 percent);
 - b) Beneficiary satisfaction rate with assets and services provided by the project (percentage); and
 - c) Roads rehabilitated (kilometers).

B. Project Components

37. **The project aims to help Beninese producers foster a competitive position in selected agricultural markets, including export markets, especially those that will be key to pro-poor growth under changing climatic conditions.** By achieving competitiveness within value chains that are conducive for pro-poor growth, the project can leverage those gains to generate revenues and employment for targeted beneficiaries, thereby increasing their resilience. At its core, the project will use a value chain approach to understand and then resolve the constraints specific to each value chain and market, which inherently prohibit Benin from achieving its market potential. Targeted value chains will then be supported by a range of policy and investment instruments that will enhance Benin's access to the targeted markets for each value chain.

38. **From reviews of the sector's past performances, Benin will need to resolve several governance and market failures in its value chains to reach its agriculture export potential.** As a first step, a set of interventions will be needed to improve the functioning of input, output and related service markets. Policy advice will be provided to create an enabling environment for sector and/or value chain growth. The project will also help put in place the conditions necessary to attract private agri-business investors in a way that ensures inclusive

³⁰ This includes quantity marketed both on international as well as on domestic markets.



participation of smallholders and SMEs. At the production level, farms will need to adopt newer technologies along with resilient and environment friendly production practices.

39. **The project will seek an integrated approach to addressing the constraints to Benin’s agriculture competitiveness and export promotion by developing the capacity of APIEx to deliver on its agenda.** Given the need for action at multiple levels of government and the need to coordinate these actions with the private sector, it is necessary to strengthen the agency that is responsible for delivering on these mandates. As such, APIEx will be responsible for running Competitive Reinforcement Engagements (CREs)³¹ that facilitate a change in mindsets towards more commercially viable models and which sets a common and strategic understanding for each of the value chains identified. Through such a mechanism the public agencies involved can resolve governance and market failures in tandem with private sector actors. Targeted support will help develop investments that build critical service markets (particularly logistic services with export and distribution capacities) along with critical infrastructure and competitiveness reforms. The project would also i) strengthen local private and public institutions to increase effectiveness in public service delivery, and ii) expand financial instruments to promote private investment.

40. **The agri-food sector in Benin like that of other countries in the region is experiencing the adverse effects of climate change, specifically unpredictable rainfall and increasing temperatures.** The government of Benin has made some progress in the development of national climate change policies to reduce the vulnerability of agricultural systems to risks related to climate change. This project, through its components and activities, would generate substantial climate co-benefits by aligning with the priorities identified in the current national climate change-related policies and strategies and will contribute to this momentum. For the value chains being considered, climate-resilient and adaptation measures that would be implemented include: (i) use of climate-resilient seeds and varieties, (ii) adoption of agriculture practices that retain soil nutrients and prevent soil erosion, (iii) improved water management for extreme warm weather, (iv) flood-resilient design of production systems, and (v) efficient pest and disease management. While most of these practices already help to reduce GHG emissions, additional mitigation measures that will be considered include: (i) support for use of integrated organic and inorganic nutrient management to reduce GHG emissions from soil and increase organic carbon storage; (ii) improvement of energy efficiency in existing production units; (iii) implementation of agriculture intensification using for example higher yielding seed varieties; (iv) reduction in energy use in traction and irrigation; and (v) reduction of non-CO₂ GHG emissions from agricultural practices by reducing inorganic fertilizer use.

41. **Project interventions that will address gender gaps resulting from lack of access to improved technology, finance and extension services will be incorporated in relevant components** while ensuring consistency and synergies with other projects funded by the World Bank or other development partners. Specifically, the project will address gender gaps with respect to access to knowledge and improved technologies by (i) targeting women in the diffusion of technologies, best practices, and knowledge through the appropriate channels and (ii) by strengthening the gender-sensitivity of advisory services.

42. **The project will complement and enhance the support already provided through various Bank-funded projects,** including the Benin Agricultural Productivity and Diversification Project (PADA, P115886), the West Africa Agricultural Productivity Program (WAAPP, P122065), the Benin Digital Rural Transformation Project

³¹ The objective of a CRE is to reinforce the competitiveness of farmers and firms in a cluster or “geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated organizations in a particular field linked by commonalities and complementarities.”



(P162599) and the AfDB-funded cashew project effective as of November 5, 2019³². For example, PADA is supporting large scale adoption of improved agricultural technologies³³ and improved value chain coordination; while WAAPP has promoted the adoption of agricultural innovation and access to improved inputs³⁴ through support to agricultural research, extension and advisory services. The proposed project will complement these operations and scale up support to targeted value chains. Regarding value addition activities and access to finance for agribusiness SMEs, the project will build on recently-completed studies, namely the “A Rapid Review of the opportunities for the horticulture industry in Benin” (June 2018), the IFC “Study of the Agricultural Sector and Value Chains in Benin³⁵” (September 2016) and the “Benin Financial Sector Review: Stability for a Better Inclusion³⁶” (July 2018).

43. The project will apply the Maximizing Finance for Development (MFD) principles to attract both domestic and international private investment to increase access to targeted markets. Increasing private sector incentives to invest by reducing transaction costs and risks will help increase private sector activity and investment in the targeted value chains in a way that supports inclusive business models and improves linkages among smallholders, SMEs and larger firms. Utilizing the MFD approach will be necessary to identify where (and how) public support and policies could crowd in private capital. Thus, the MFD approach will be applied to (i) lead to increased sustainable private sector solutions including crowding-in private finance, and (ii) address binding constraints (physical, operational, regulatory and enabling environment) in a way that is expected to unlock private sector solutions with the understanding that agriculture production offers seasonal and variable returns (which makes investment returns risky and harder to achieve) and that value chain development is dependent on an efficient raw material procurement and supply network (which underlines the need for investment at farm level to bolster production, improve quality and facilitate the private sector to invest in out-grower support programs). The project will achieve these objectives through a combination of activities: (i) deep dive analysis and diagnostics on selected value chains; (ii) support to the design and implementation of adequate policy reforms; (iii) building multi-sector platforms to create or enhance direct collaboration and partnerships based on MFD; and (iv) identifying and mobilizing tools, technique and partners to de-risk investment across the supply chain segments, including support for the development of agricultural insurance instruments to protect farmers and agrobusinesses against insurable risk.

Project description

44. Project activities will be funded by a credit in the amount of US\$160 million over six years under the Scale Up Facility (SUF), with five components four of which are interrelated : (i) strengthening the enabling environment and infrastructure for agri-food value chains development ; (ii) increasing productivity, connectivity, value addition, and resilience; (iii) promoting private investments and access to finance; (iv) project management; and (v) CERC component. The initial focus will be placed on value chains with known export potential, including cashew and pineapple; and expanding gradually to other horticultural and food crops as recommended by the CRE process. The project is meant to be implemented nation-wide, starting with pineapple and cashew production areas, namely, Agricultural Development Poles 4 and 7 as presented in Figure 1 (see page 16).

³² The AfDB project is about US\$20 million and plans among other activities to rehabilitate 10,000 ha of old cashew plantations and helps establish 3,000 ha of new plantations. Thus, the 100,000 ha of plantations to be rehabilitated as well as the new 35,000 ha to be established under the project will be selected accordingly so as to enhance complementarity and avoid overlap.

³³ Including climate-smart production systems, development of production and market infrastructure to enhance productivity through efficient water management, reduction of post-harvest losses and better access to market through warehouses and other facilities.

³⁴ The WAAPP also supports mechanization by promoting access to equipment and labor-saving technologies for women.

³⁵ IFC (2016). Etude du Secteur Agricole et des Chaînes de Valeurs au Bénin.

³⁶ World Bank (2018). Benin Financial Sector Review: Stability for a Better Inclusion.



Component 1. Strengthening the enabling environment and infrastructure for agri-food value chains development (US\$35 million equivalent)

45. Component 1 will support the Government’s ability to provide an enabling environment for competitiveness enhancement. In this way, the component seeks to: (i) strengthen the public institutions, policies, and administrative frameworks related to agribusiness development; and (ii) invest in critical public infrastructure for the agri-food sector. Efforts will be made to mainstream climate resilience and adaptation, raise awareness and adoption of climate change mitigation options, and ensure sustainability of infrastructure investments through climate-proofing.

46. **Sub-Component 1.1: Enhancement of relevant public institutions and policy framework for export promotion (US\$5 million equivalent).** Sub-Component 1.1’s objective is to support the government in offering essential public services, building administrative capacity, and in making informed policy decisions that enhance competitiveness, climate resilience and export diversification in the agribusiness sector. Through this sub-component, the project will provide support to several public agencies. First and foremost, the component will provide funding for a series of CREs that will support value chain development and export promotion through a structured public private dialogue (see Box 1³⁷). Efforts will be made to prioritize agribusiness investments that help to increase agricultural resilience and mitigate climate change.

Box 1: Competitive Reinforcement Engagement (CRE) The objective of a CRE is to reinforce the competitiveness of farmers and firms in a cluster of geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated organizations all operating in a particular business and linked by commonalities and complementarities. The CRE methodology combines strategic analysis with change management tools and is implemented for an identified cluster of producers through field projects. It is comprised of three phases, which include: (1) Identification of industry challenges; (2) Development of strategic options; and (3) launch of business plans for value chain actors to become more competitive.

Project support will be delivered to train responsible agencies – APIEx and ATDA³⁸ – in strategic market analysis and cluster change management tools that they will need to run a CRE. The project will also support these agencies with the technical assistance and financial resources to carry out at least four CREs per year for three years in selected regional poles. The CREs are expected to identify common infrastructure required to enhance the competitiveness of a targeted cluster³⁹. Recommendations and actions coming out of the CRE process will also provide feedback for government policy making and program implementation. As such, the CREs will identify necessary public services, for instance agricultural extension and agrometeorology/climate information and advisory services, that must be delivered to enhance value chain competitiveness for the targeted farmers. The CRE team will make recommendations for allocating financing to specific agencies for them to provide essential public services for the targeted cluster. Activities that are eligible for financing under the project, will be included in the Annual Work Plan and Budget (AWPB) under the relevant components. The project will also support the following public agencies in the delivery of pre-identified essential public services: *National Agency for Investment and Export Promotion (APIEx)*, *Agence Béninoise pour la Sécurité Sanitaire des Aliments (ABSSA)*, *Agence Nationale du Domaine et du Foncier (ANDF)*, and the *Direction des Assurances, Agence Nationale de l’Aviation Civile (ANAC)*. The specific services to be financed through these agencies are detailed in Annex 2.

³⁷ For a more elaborate definition of CREs, see “Improving firms’ innovation to foster productivity and diversification: Competitive reinforcement of value chains in Ecuador”, Report No: ACS22413, July 24, 2017, Maria Deborah Kim and Gloria Ferrer Morera.

³⁸ The nature and extent of support to these agencies will be specified in MoUs signed between each of these agencies and the Project Management Unit (PMU). Details are provided in Annex 2.

³⁹ Such infrastructure will be considered for financing under Sub Component 1.2 (Development of critical Infrastructure).



47. The sub-component will support the implementation of the following reforms: (i) the regulation of the marketing system of targeted value chains, including those selected through the CREs; (ii) the update and implementation of the national policy on standards and quality of exported products; including addressing climate vulnerability and mitigating climate change in the agricultural sector; (iii) the harmonization of domestic technical regulations with those of the international markets for the targeted value chains; and (iv) the updating of the legislative and regulatory policies on traceability, processing, marketing, and certification of products with high export potential.

48. The sub-component will also contribute to the enhancement of 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. In this regard, the Project will support the development and improvement of food quality standards and the respect of sanitary and phytosanitary norms in the agri-food sector (HACCP, ISO and others) through collaboration and partnership with specialized agencies (ABSSA, DDAEP and ANM). Critical infrastructures and equipment necessary for these institutions will also be financed.

49. **Sub-Component 1.2: Development of critical infrastructure and market information systems (US\$30 million equivalent).** Sub-Component 1.2 will finance climate-resilient public infrastructure, namely the construction of an energy efficient cold storage freight terminal and related trade infrastructure at the new airport that will be built at *Glo-djigbé*⁴⁰, and other public infrastructure to be identified through the CREs process. To enhance climate resilience and adaptation, the infrastructure investments will be climate-proofed and connected to investment plans to be developed by APIEx in the context of the CREs, which would have identified the critical, missing infrastructure needed to enhance the competitiveness of selected value chains. Particularly, the project will finance: (i) the technical feasibility studies, climate proofing and environmental and social impact assessments for the proposed infrastructure; (ii) an energy efficient cold storage freight terminal and related trade infrastructure – including equipment – at the new airport that will be built at *Glo-djigbé* to be managed as a public concession by a private service operator; (iii) an upgrading of existing cold storage infrastructure in an energy efficient manner, including acquiring equipment at the *Cotonou* airport; and (iv) other public infrastructure to be identified through the CREs under Sub-Component 1.1. The sub-component will also provide support in establishing an effective market information system, which would enable producers to decide on the types of crops to produce, when to produce them using the best combinations of inputs, and where to sell them (domestic and international markets) to maximize their incomes, especially in the wake of COVID-19 crisis and its impact on supply chains and domestic and external demand for agri-food products, but also in the context of climate risks and shocks. In terms of market knowledge, the project will finance the collection and dissemination of market information regarding the project-supported value chains.

Component 2. Increasing productivity, connectivity, value addition, and resilience (US\$65 million equivalent)

50. Component 2 will support actions to increase the productivity and competitiveness of the agri-food products identified through the earlier described CRE process on targeted markets, starting with pineapple and cashew nuts and proceeding with other priority value chains identified. This component will finance climate-smart agricultural practices to deliver the triple wins of increased productivity, enhanced adaptation and resilience, and reduced GHG emissions. The interventions will include: (i) access to climate-smart, quality inputs, including

⁴⁰ The project has identified the need for new infrastructure and equipment at the airport – including cold chain warehouses, scanners and customs offices – in order to provide seamless border processing and an uninterrupted cold chain. Investments in infrastructure will be financed at the *Glo-djigbé* airport. Temporary cold storage solutions – such as reefer containers and other movable equipment – will be financed at the existing *Cotonou* airport upon presentation of a feasibility study and transition plan for when the new airport opens.



improved seeds and planting materials to enhance productivity, starting with cashew and pineapple and extending to other value chains, including those negatively impacted by the COVID19 pandemic (vegetable crops, soybeans, and poultry) ; (ii) the delivery of extension and other services, including climate services, through public and private institutions, as needed to ensure adequate level of sustainable production with improved quality standards; and (iii) support to the local agro-processing industry for the adoption of quality and safety standards for exports markets. All activities and investments supported under the component will include risk reduction and resilience enhancements, as well as climate-smart and good environmental management practices. The focus will be on increased productivity combined with adaptation measures. Support to private investments will also include specific mandatory mitigation options. Activities under this component will be led by the Ministry of Agriculture Livestock and Fisheries (MAEP) in close collaboration with ATDAs, APIEx and other line ministries as relevant.

51. Sub-Component 2.1: Enhancing the availability and access to quality inputs (US\$28 million equivalent).

The objective of the sub-component is to ensure the availability and access to quality inputs to boost farm productivity within the targeted value chains. In this regard, the project will: (i) support the national agricultural research and extension system for the development of high yielding climate-resilient, stress tolerant varieties of targeted crops and testing of new crops⁴¹ with high-value and market potential; (ii) support the improved performance of the certification system and enhancement of voluntary inspections at private seed nursery levels; and (iii) promote access to planting materials using appropriate incentive mechanisms. There will be no irrigation investment under the sub-component. For pineapple and cashew, specific activities will start with:

- a. **Enhancing the availability of quality planting materials for pineapple.** The project will provide support through an implementation agreement with the *Institut National de Recherches Agricoles du Bénin* (INRAB) and the *Direction de la Production Végétale* (DPV) for the production of foundation and breeder seeds of climate-smart, high-yield and wilt-resistant pineapple cultivars of the main local varieties: *Pain de sucre* and *Cayenne lisse*⁴². Mass selection of quality seedlings will be conducted under the technical supervision of INRAB and DPV. The objective is to make available 300 million quality seedlings to farmers within two years. The project will also support the production of improved *in-vitro* planting materials through the promotion of private sector investments in in-vitro seedlings production using the financial instruments under Component 3. Finally, the project will support capacity building for scientists within the research system, through specialized training as needed, especially in plant genetics, plant pathology, and plant protection in order to produce high quality climate- smart planting materials.
- b. **Enhancing the availability of quality planting materials for cashew.** The project will support the multiplication of 3,500,000 high yielding, stress tolerant, climate-resilient cashew seedlings to replace aging cashew trees and establish new plantations. For this purpose, the project will contract with private cashew seedlings producers, including, youth agri-enterprises and farmers specialized in seedling multiplication at village level. More specifically, the project will: (i) provide financial support to INRAB and DPV for the provision of high potential parent tree seeds and available grafting materials to private cashew seedlings' producers; and (ii) support trainings to upgrade the capacity of selected private cashew seedlings producers in the production, handling, storage, and distribution of planting materials, including climate change considerations. The matching grant scheme described under sub-component

⁴¹ The component will also finance a market-based study on new crops that Benin should consider for crop testing. The study to be commissioned, will narrow its scope to those crops which have high value on international markets (typically more perishable crops have higher value), and which could feasibly be grown in one of Benin's agro-ecological zones.

⁴² Farm yields of the main local varieties *Pain de sucre* and *Cayenne lisse* remain low with 35 ton/ha and 45 ton/ha respectively compared to average potential yields of 70 and 80 tons/ha respectively. A large variability in fruits size is also observed at farm level.



3.1 will be used to support the expansion of existing cashew nurseries and the establishment of new seedlings producers.

- c. **Enhancing access to stress-tolerant, high-yielding planting materials for targeted value chains.** The sub-component will specifically support the provision of subsidized climate-resilient high-yielding planting materials using the existing voucher system, starting with pineapple and cashew. For *pineapple*, the subsidy will cover the replacement of up to 5,000 hectares of existing pineapple plantations, as well as the demand-driven establishment of 5,000 hectares of new plantations. These new pineapple plantations will not be irrigated or use or risk polluting water from international waterways. Pineapple cultivars will be made available to farmers at a subsidized cost of FCFA 5⁴³. ATDA units at community levels, in collaboration with farmers' associations at village level, will be responsible for the compilation and validation of local demand for seedlings. Vouchers will then be delivered to eligible farmers to acquire their awarded quantity of seedlings through private seed multiplication operators. Delivery of the seedlings to farmers will be made upon presentation of the voucher and receipt of farmers' contribution deposit on the operators' account. For *cashew*, the objective is to support the establishment of 35,000 ha of new plantations out of an overall national target of 60,000 ha using the same voucher system described above⁴⁴. These new cashew plantations will not be irrigated or use or risk polluting water from international waterways. Details on the delivery mechanisms for planting materials of pineapple and cashew are provided in Annex 2.
- d. **Rehabilitation of existing ageing cashew plantations.** In addition to the establishment of the 35,000 hectares of new cashew plantations described above, the project will support the rehabilitation of 100,000 hectares⁴⁵ of aging cashew plantations out of an existing potential of 285,000 hectares nationwide. These rehabilitated plantations will not be irrigated or will not pose any risk to use or risk polluting water from international waterways and will be designed in anticipation of increased climate risks. The rehabilitation will be carried out by qualified service providers who will be selected through a competitive bidding process.
- e. **Providing technical support to INRAB** for: (i) the development of high yielding climate-resilient varieties of targeted crops and testing of new crops with high-value and market potential; and (ii) conducting a market-based study on new crops that should be considered for crop testing.

52. **Sub-Component 2.2: Improving farmers' access to knowledge for climate-smart agriculture, quality enhancement and value addition (US\$7 million equivalent).** The objectives of this subcomponent are to: (i) boost farm productivity and incomes within targeted value chains by promoting the adoption of climate smart good agricultural practices (GAPs); (ii) promote the strengthening of producers' organizations; and (iii) strengthen resilience by increasing the adoption of quality and food safety standards in post-harvest and processing activities. Support to farmers will follow clear and transparent processes and eligibility criteria to be defined in the Project Implementation Manual (PIM) which will be produced by effectiveness. The sub-component will support the following activities:

⁴³ Total seedlings production costs are estimated at FCFA 20 per unit. Total contribution is estimated at US\$14 million.

⁴⁴ Average production cost of cashew planting material is currently estimated at around US\$1.00. SC2.2 is expected to facilitate the acquisition of improved materials by farmers through subsidized planting materials at US\$0.20 to promote their adoption with a target to establish up to 35,000 hectares of new plantations by end of the project for an approximative cost of US\$3.0 million.

⁴⁵ A target of 100,000 hectares will be rehabilitated over the project life for an estimated cost of US\$10 million. State will contribute 50 percent to the rehabilitation program, in the amount of FCFA 55,000 (about US\$100) per hectare.



- a. Enhancing producers' technical knowledge.** The objective is to strengthen the technical and managerial capacity of producers and agro-processors in order to boost the adoption of critical innovations. To achieve this, the project will focus on training farmers across selected value chains in GAPs for crop production and quality management, including post-harvest handling and safety standards. One of the thematic focus of the capacity building of small producers' efforts will be to increase knowledge and understanding of the risks and impacts of climate change on production and yields of the targeted value chains, reduce post-harvest losses as well as climate mitigation options. This will be done through technical assistance under the coordination of ATDA. CSA field manuals for sustainable farmland management for all the targeted crops will be produced. The field manuals will support the adoption of climate-smart practices promoted by the project in a comprehensive and methodical step-by-step approach. Due to increasing frequency of droughts and erratic rainfalls, the project will support the rehabilitation and renovation of existing small-scale irrigation schemes, including providing access to solar-powered kits and water efficient systems through the matching grants scheme under sub-component 3.1.
- b. Strengthening of inter-professional bodies and producers' organizations.** In order to strengthen the legal status of inter-professional bodies in the agricultural sector, the sub-component will provide technical assistance to MAEP in the speeding up of the adoption of the already prepared law on agricultural interprofessions. In addition, the project will support capacity building activities in favor of selected inter-professional bodies (starting with the *Association Interprofessionnelle de l'Ananas du Bénin* and *Interprofession de la Filière Anacarde du Bénin*). This will enable them to better fulfill their responsibility, including the promotion of services to members, such as technical advisory services and promoting the sourcing of agricultural equipment and goods in bulk to members. Support for targeted crops producers' organizations and their unions will also include raising climate change awareness and potential agronomic practices to address climate change in agricultural production, the legal registration of such organizations, when needed, and technical and managerial training for their operational staff in areas such as good governance, operational management, financial and auditing techniques, business development, marketing plans, and creditworthiness. This training will build on experience from IFC Agribusiness Leadership Program (ALP), which is based on SCOPEinsight⁴⁶ assessments and integrates classroom training and coaching to improve the management skills and professionalism of farmer organizations. Aside from building administrative and managerial capacity, the project will provide support for forums and exchange visits.
- c. Promotion of quality control and food safety practices.** Climate change is expected to aggravate feed and food safety problems across the agricultural value chain. Temperature increases and changes in rainfall patterns will have an impact on the persistence and patterns of occurrence of food pathogens, necessitating improved capacity development for food safety and quality management. The project will also support crop storage improvements that will be more resilient to climate change impacts such as diseases, pests, or spoilage, but also resulting in less GHG emissions. In addition, the principles of quality control and food safety practices in processing and marketing targeted products will be promoted under the project, including Good Manufacturing Practices (GMPs) and Good Hygienic Practices (GHPs), as well as food safety management standards such as Hazard Analysis and Critical Control Point (HACCP). This

⁴⁶ SCOPEinsight, a standard gap analysis and baseline assessment tool used by IFC, provides comprehensive insight into the strengths and weaknesses of a farmer organization on all dimensions assessed, as well as basic organizational, production, and benchmark information.



support will be provided through technical assistance to small and medium processors in the targeted value chains. This will be done in collaboration with providers of HACCP implementation services.

53. **Sub-Component 2.3: Rehabilitation of rural roads (US\$30 million equivalent).** Sub-Component 2.3 will finance public infrastructure, namely the rehabilitation and maintenance of rural roads to enhance access to markets and the competitiveness of selected value chains. Particularly, the project will finance: (i) technical feasibility studies, climate proofing and environmental and social impact assessments for the proposed road rehabilitation; (ii) the rehabilitation of 1,200 km and the maintenance of 4,200 km of existing rural road networks in a period of six years, to enable market connectivity for project regions (see targeted regions for road rehabilitation in Annex 2 Table 2.1). This will complement the 600 km that will be rehabilitated and the 2,400 km to be maintained under the Benin Rural Digital Transformation Project. The sub-component will also provide support to the Ministry of Transport and the Ministry of Agriculture (*Direction du Génie Rural*) to guide and monitor the rehabilitation of rural roads as well as the mechanism to support the maintenance of these roads after the project closing. The rehabilitation and maintenance of rural roads in agricultural production zones in project intervention areas will complement the national rural road network rehabilitation program launched by the Government to improve connectivity and access to the main agricultural production areas in a balanced way throughout the whole country. To further enhance the resilience of the project's investments to climate change and natural disasters, the road rehabilitation works will include improvements in the drainage structures to ensure all-weather/season access. The materials and design standards for road rehabilitation will emphasize reducing the risk of flooding and associated destruction of housing and facilities.

Component 3. Promoting Private Investment and Access to Finance (US\$45 million equivalent)

54. The component will promote private sector investment all along the selected value chains, through: (i) a mechanism to support climate-smart agricultural investments, including small-scale irrigation schemes⁴⁷, through the provision of matching grants for producers, processors and other value chain stakeholders, including support to business development services; and (ii) a risk sharing mechanism.

55. **Sub-Component 3.1: Investment support (US\$25 million equivalent).** Sub-Component 3.1 will support the creation of a matching grant mechanism for business development by farms and agri-food SMEs at both production, processing and ancillary activities including Business Development Services (BDSs). Targeted beneficiaries include two categories: (i) climate-smart production activities: individual farms, production groups and cooperatives, including nurseries and producers of planting material; and (ii) processing and ancillary activities: agro-processing SMEs, transport and storage enterprises, and miscellaneous agricultural services providers. Eligibility criteria will be further specified in the PIM and will include CSA-related criteria such as adapting to and building resilience to climate change, reducing GHG emissions across food value chains, and mainstreaming climate resilience in food quality management. No support will be provided for new irrigation schemes under the matching grant scheme. The Matching Grants (MGs) will be disbursed through three windows: (i) **Window A (US\$5 million):** MGs for micro and small agro-processing operators and agriculture service providers to finance the expansion and/or upgrade of their existing activities in a climate smart way, as well as access to agriculture services up to 85 percent of eligible costs (1,000 sub-projects of average cost of US\$5,000 and a maximum of US\$7,000 per sub-grant); (ii) **Window B (US\$8.5 million):** MGs for farms, cooperatives and nurseries sub-projects to finance up to 80 percent of eligible costs (425 sub-projects of average cost of US\$20,000 and a maximum of US\$25,000 per sub-grant) for investments such as acquisition of agricultural production equipment

⁴⁷ The project will not finance the establishment of public irrigation infrastructure. Under the matching grants scheme, only private and small-scale irrigation rehabilitation schemes will be supported.



(including private small-scale irrigation rehabilitation scheme up to a maximum of 1,000 ha for all beneficiaries put together) and machinery, energy-efficient post-harvest technologies and storage facilities, and access to agriculture services; and **(iii) Window C (US\$10 million)**: MGs for small and medium agro-processing operators and agriculture service providers to finance the expansion and/or upgrade of their existing activities, as well as access to agriculture services up to 50 percent of eligible costs (250 sub-projects of average cost of US\$40,000 and a maximum of US\$100,000 per sub-grant). The MGs will be passed on directly to the beneficiaries to finance climate-smart, eligible investments. The beneficiaries will be required to provide evidence of a secured bank loan or own equity in an account at a local financing institution covering the remaining portion of the sub-project costs. For the selection of the matching grant beneficiaries, the PMU will be supported by a private management firm selected through competitive bidding. The firm in coordination with the ATDAs will be responsible for the call for proposals, the evaluation of submitted sub-projects (technical and financial viability), and the selection of beneficiaries to be vetted by a Sub-project Committee. The firm will also manage grant disbursements through a performance-based contract and assist the PMU in identifying the capacity building needs of the sub-grant project beneficiaries, as well as the experts that will provide the needed technical assistance. The project will provide free of charge technical assistance to eligible beneficiaries for advisory support throughout the investment cycle. This will include the preparation of sound business plans, appropriate choice of technology, and corresponding preparation for loan application if any. Annex 2 provides additional information on the eligibility criteria for the MGs. The matching grant mechanism will be detailed in a specific Matching Grant Operating Manual.

56. **Sub-Component 3.2: Risk Sharing Mechanisms (US\$20 million equivalent)**. The sub-component's objective is to provide increased incentives for financial institutions to lend to private sector firms and critical service providers in the agri-food sector by sharing the burden of risk associated with private agri-food initiatives, as well as supporting access to finance for agribusiness SMEs affected by the COVID-19 crisis. The risk sharing instrument and the technical assistance offered through this component will help producers in monitoring climate and weather risks and build farmers' capacity in adapting to climate change impacts through diversification and improved efficiency in production practices. The project will also train the staff of Financial Institutions (FIs) in agricultural financing and help them to customize their financial products and services to climate-smart agriculture. For that purpose, SC3.2 will finance the following twin interventions:

- a) **A risk sharing instrument (US\$10 million)** to alleviate capital constraints through guarantees that provide a first loss cover. Implementation of the guarantee mechanism will be split between two instruments – the IFC's Risk Sharing Facility, and the National Guarantee and Small and Medium Enterprise Assistance Fund (FONAGA) – in order to target both SMEs and farmers. More specifically this sub-component will finance the establishment of a guarantee line through the FONAGA existing Risk Sharing Facility, including the provision of technical assistance to reinforce FONAGA's capacity. The sub-component will also consider potential synergies with the recently launched financial services window of the national fund for agriculture development (FNDA)⁴⁸, especially for the benefits of the producers who might not be able to access FONAGA's guarantee scheme. Targeted beneficiaries for this instrument will be the same as those targeted by the matching grant facility, i.e., producers, cooperatives, private nurseries, agro-processing SMEs, agricultural input/equipment suppliers, agricultural insurance institutions and SME trucking companies (especially those providing cold chain transport), etc. In addition, the project would consider scaling-up of the existing joint IDA-IFC Risk-Sharing Facility (RSF) under the Benin Cross-Border Tourism and Competitiveness project seeking resource from the Private Sector Window-PSW. To ensure

⁴⁸ FNDA (*Fonds National de Développement Agricole*) was established by the Government of Benin as per decree no. 2017-304 of 21 June 2017, to promote financial and non-financial services for the development of the agriculture sector.



effective use, this sub-component will also finance technical assistance to participating financial institutions in order to promote the utilization of the guarantee with project beneficiaries; and

- b) **A commercial guarantee mechanism** (such as a defined minimum revenue or advanced payment guarantee) in the amount of US\$10 million. The objective of this instrument is to attract investments in critical services by providing inter alia, an incentive system for service providers to mitigate commercial risk to expanded service provision⁴⁹. Potential recipients include specialized logistics companies such as Third-Party Logistics (3PLs) or Fourth-Party Logistics (4PLs), and other service companies. Guarantees will be issued to the selected providers based on a competitive tender that lists the investment requirements and the indicators for the quality of service expected.

Component 4. Project Management (US\$15 million equivalent)

57. The objective of this component is to support project management. The project will fund the operation of the Project Management Unit (PMU) during the entire implementation period, so that it can carry out its project management and coordination functions, including fiduciary aspects, the implementation of the project's safeguards policies, project monitoring and evaluation (M&E), reporting and communication activities. This will include consultant services, provision of goods and equipment, training and incremental operating costs.

Component 5. Contingent Emergency Response Component (US\$ 0)

58. The Contingent Emergency Response Component (CERC) is an ex ante financing mechanism available to Borrowers in IPF operations to access funds rapidly to respond to an eligible crisis or emergency (includes disasters and health emergencies). The CERC will be established and managed in accordance with the provisions of World Bank Policy and Bank Directive on Investment Project Financing. The project's CERC will be triggered only when the Government has officially declared an emergency and a statement of the facts is provided justifying the request to activate the use of emergency funding. If the World Bank agrees with the determination of the disaster and associated response needs, this component allows the Government to request the World Bank to recategorize and reallocate financing from other project components to cover emergency response and recovery costs.

C. Project Beneficiaries

59. The project is expected to benefit directly or indirectly all economic agents in the project areas operating along the targeted value chains from production to consumption, including processing, storage, transport and marketing stages. The total number of expected direct project beneficiaries is estimated at about 150,000 individuals.

60. **Direct project beneficiaries.** The direct project beneficiaries are first and foremost farmers, agribusiness enterprises, processors, traders, transporters and various service providers who will be involved in project-supported activities. The project is also expected to target youth and women in their roles as entrepreneurs or employees of commercial farms. Other direct beneficiaries will include: (i) Institutions such as R&D institutes, professional organizations within the targeted value chains, and relevant public agencies. Such institutions will receive technical assistance, support and training under the project; (ii) business organizations: such as business

⁴⁹ For instance, such a guarantee for logistic providers could allow Market Failures on production side to resolve themselves over the course of a few years while the distribution channels are opened up and provide the commercial pull mechanism.



service providers, including logistic firms, insurance companies, NGOs, the Chamber of Agriculture, the Chamber of Commerce and Industry; and (iii) financial institutions.

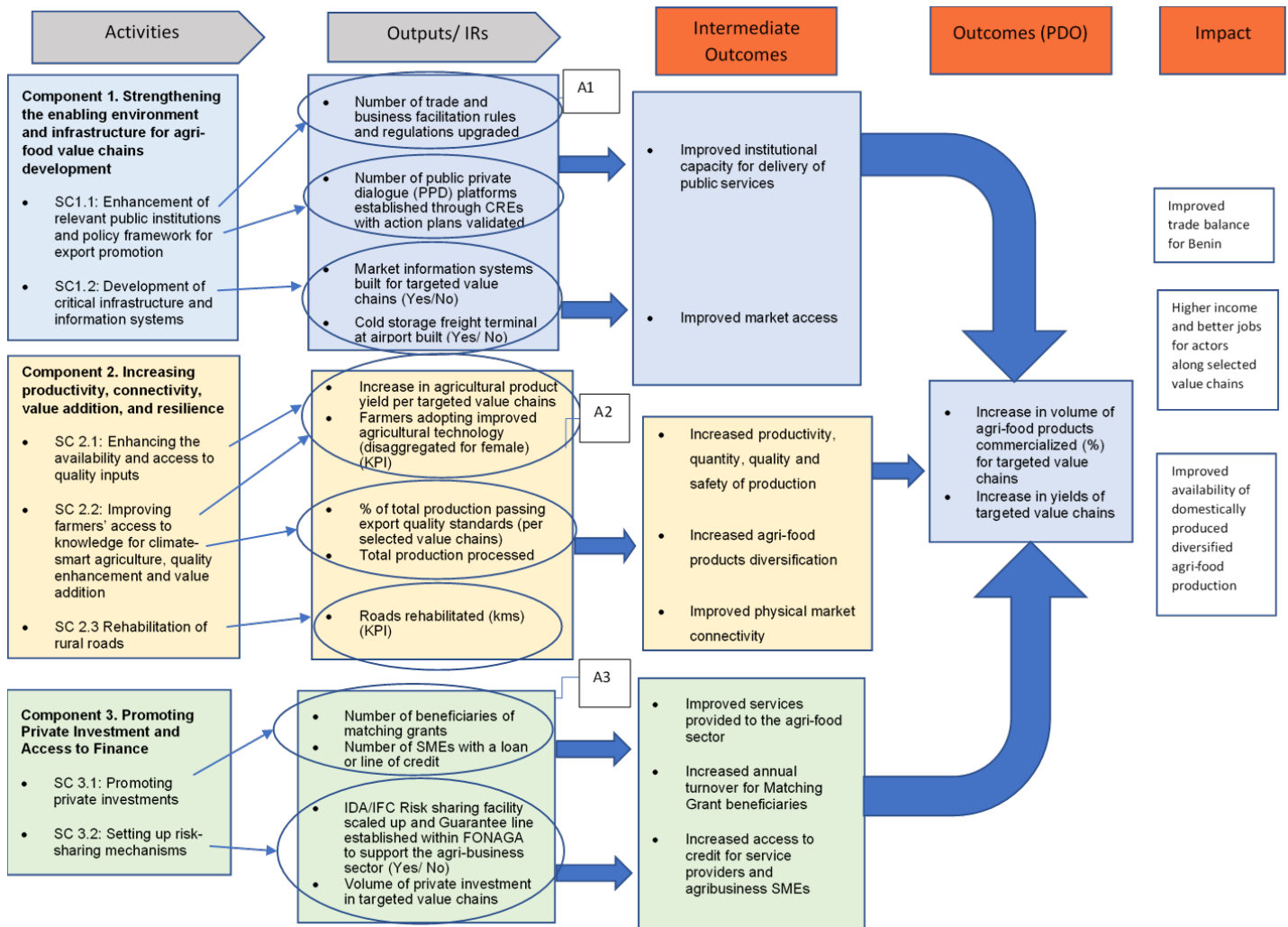
61. **Indirect project beneficiaries** include all stakeholders who will benefit from project spillover effects both at national and local level, i.e.: (i) on the production side: other farmers who will benefit from project spill-over effects regarding higher quality crop inputs and services, better connectivity with improved roads, improved market norms and standards and improved funding conditions as a result project activities; (ii) at post-harvest and market level: buyers and processors, value chain service providers, including private input providers (seeds, fertilizers, pesticides, equipment suppliers) who will benefit from overall increased supply of commodities produced and traded.

D. Results Chain

62. The project's Theory of Change (ToC) (Figure 2) is built on the problem statement that "farmers and agribusinesses operate in an environment characterized by low-productivity farming systems, limited processing and value addition, weak public institutions, and little capital investment which is not conducive for agribusiness development and hinders private sector entities from increasing competitiveness and accessing domestic and export markets." The project focuses therefore on three areas of change: (1) strengthening the enabling environment and infrastructure for agri-food value chains development; (2) Increasing productivity, connectivity, value addition and resilience; and (3) Promoting private investment and access to finance. Expected medium term outcomes include improved farming and post-harvest practices; increased specialized services and improved infrastructure to support value chain operators, including producers and exporters; streamlined export supporting documentation and administration; increased provision of financial support to farmers and agribusiness SMEs. The expected PDO level outcomes align with the Government's long-term goals for agriculture as articulated in the 2016 – 2020 PAG and PSDSA (2017-2021).



Figure 2: Results Chain and Theory of Change



Critical assumptions

A1: Knowledge of market opportunities is widespread
A2: Improved agricultural production practices, technologies, and marketing services are used leading to productivity and production increases
A3: Critical agri-business service providers for targeted value chains are established

E. Rationale for Bank Involvement and Role of Partners

63. The Bank has been providing support to the Benin agricultural sector through country and regional operations (please see section on Relevance to Higher Level Objectives) that have been instrumental in increasing agricultural productivity and value added of selected value chains (such as rice, aquaculture, pineapples and cashews) and access to finance, as well as in improving coordination in key value chains. It is timely to consolidate and scale up the positive results already achieved and to also address systemic agri-business environment constraints. The World Bank Group has the experience to help Benin engage the private sector with farmers to



integrate them into selected value-chains, including based on the experience of the Productive Alliance model that has been implemented successfully in Latin America and other regions for over a decade⁵⁰.

64. The project was prepared in close coordination with other development partners, including the African Development Bank (AfDB), International Fund for Agriculture Development (IFAD) and others. These partners would foster synergies with their ongoing operations and might even provide parallel financing to some related activities, but the platform for donor coordination set up by the Government of Benin will be used to ensure that collaboration and information sharing will occur systematically during project implementation. Broad consultations with representatives from the private sector and from producer and processor organizations during project preparation have been critical to build a coherent project design ensuring good complementarity of activities between public sector support and private ventures. The World Bank will maintain close dialogue with development partners working in the agriculture and financial sectors in Benin throughout project implementation to identify and build synergies as new operations evolve.

F. Lessons Learned and Reflected in the Project Design

65. The World Bank's experience and lessons learned in supporting the agriculture sector in Benin through closed and ongoing projects has helped to inform the design and development of the project. Lessons from the Bank's Independent Evaluation Group (IEG) review of similar operations have also been considered. These include:

- *Using a combination of capacity building activities and financial instruments facilitates the adoption of improved technologies.* The Benin Agricultural Productivity and Diversification Project (PADA) made use of a blend of targeted capacity building activities and financial instruments, i.e. matching grants and competitive funds to facilitate short-term access to finance by project beneficiaries in order to foster the adoption of the productivity-enhancing technologies.
- *Using targeted financing instruments (matching grants, competitive grants, guarantee funds) can be successful under some conditions.* Under the PADA project, the success of matching and competitive grants could be attributed to three main factors: (i) rigorous and transparent selection of beneficiaries; (ii) beneficiaries' contributions paid in installments following the disbursement schedule of the Project's fund; (iii) service providers responsible for technical and fiduciary assistance to beneficiaries continued support throughout the implementation with direct link with the project implementation unit for reporting. On the other hand, the modest success of the guarantee fund mechanism was linked with: (i) the lack of collaboration between the local banks and the proposals selection committee; and (ii) the fact that the guarantee fund mechanism covered only 50 percent of total amount, and the bank requires additional guaranty to cover 100 percent.
- *Constant monitoring and timely adjustments in institutional arrangements are necessary to ensure efficient performance of agri-food exporters.* In a dynamic agriculture export environment, the relative strengths of different producer and exporter organizations can change rapidly. Therefore, institutional arrangements need to be adjusted accordingly to ensure efficient performance of agri-food exporters⁵¹.

⁵⁰ WBG report: *Linking Farmers to Markets through Productive Alliances – An Assessment of the World Bank Experience in Latin America* – November 2016

⁵¹ *Independent Evaluation Group (IEG) Implementation Completion Report (ICR) Review for SN-Agr Markets & Agribus Dev (FY06)(P083609).*



- *Continuous capacity building of farmers and agribusiness MSMEs is needed.* In the context of a highly demanding international market with regards to the quality of exported products, small-scale private sector entities need to maintain adequate product quality standards and good agricultural practices. This requires continuous capacity building⁵².
- *An effective communication strategy is critical for the success of projects seeking to introduce transformational institutional innovations.* The strategy should use all forms of media and be in place from the very beginning of the project, to inform the public on how to participate in the project⁵³.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

66. Implementation arrangements feature several players whose roles will be further detailed in the PIM. These arrangements build on similar successful projects in Benin.

67. **Project Steering Committee (PSC).** Project implementation arrangements include the following two-level project steering committee: (1) **Strategic committee (SC).** This committee will be established to provide overall strategic, oversight and guidance on project implementation and will review and approve AWPB and serve as the ultimate authority to solve potential impasses that may arise with respect to specific reforms and strategic decisions. The SC will be chaired by the Minister of Plan and Development or his representative and will include representatives from: (i) the Minister of Agriculture, Livestock and Fisheries (ii) the Minister of Finance, (iii) the Minister in charge of Infrastructure, (iv) the Minister of Trade and Industry, (iv) the Chairman of the board of APIEx; and (v) two representatives of the private sector organizations. The SC will meet every six months; (2) **Technical committee (TC).** A committee will be established under the SC to (i) supervise project implementation (for example, ensuring that implementation is in line with the objectives and scope of the project; (ii) ensure that the AWPB to achieve the project objectives is within the agreed time frame and budget; and (iii) manage risks and issues that arise during project implementation. The TC will be chaired by the Minister of Agriculture, Livestock and Fisheries or his representative and will meet on a quarterly basis and ad hoc, as needed.

68. **Implementation Arrangements for Project Components.** The Ministry of Agriculture, Livestock and Fisheries (MAEP) will be responsible for the coordination of project implementation. A PMU housed under the Ministry of Agriculture will be in charge of implementing Components 2 and 4 of the project while APIEx will be responsible for the implementation of Components 1 and 3. The PMU will consolidate the financial information and M&E and present one consolidated report to the SC. Both the PMU and APIEx will be responsible for procurement, disbursement and accounting for activities under their responsibility and will each have a separate Designated Account (DA) for those activities. APIEx and the PMU will liaise closely with the Ministry of Infrastructure and Transport, the Ministry of Trade and Industry and other Ministries and agencies as necessary for the smooth implementation of project activities.

⁵² Independent Evaluation Group (IEG) Implementation Completion Report (ICR) Review for SN-Agr Markets & Agribus Dev (FY06)(P083609).

⁵³ Independent Evaluation Group (IEG) Implementation Completion Report (ICR) Review for SN-Agr Markets & Agribus Dev (FY06)(P083609).



69. **Project Management Unit.** The Project Management Unit (PMU) under the Ministry of Agriculture will be headed by a Project Coordinator and consist of dedicated and competitively selected staff, including (i) a procurement specialist; (ii) a financial management specialist; (iii) an internal auditor; (iv) an accountant; (v) a monitoring and evaluation specialist; (vi) an agricultural specialist; (vii) a rural infrastructure specialist; (viii) an environmental specialist; and (ix) a social development specialist.

70. The project will also hire additional staff housed at APIEx, including: (i) a component coordinator, (ii) a private sector and value chains development specialist; (iii) a market infrastructure specialist; (iv) a chief accountant; and (v) a procurement specialist.

71. The PMU will be responsible for reporting of project progress and for ensuring the auditing of project accounts. The Project Coordinator will report to the Project TC at least once every quarter on the progress achieved, highlight implementation issues and challenges, and seek guidance and direction on project implementation.

72. The PMU and APIEx will work in close collaboration with the different ministries and agencies involved in the project, including the Ministry of Trade and Industry, the Ministry in charge of Infrastructure and transport, the Territorial Agency for Agricultural Development (ATDA) under the Ministry of Agriculture, the National Agency for Food Safety (ABSSA), the National Metrology Agency (ANM); and the National Institute of Agricultural Research (INRAB), as well as with private sector representative bodies and other stakeholders, through designated focal points. The PIM will provide details on procedures for project operational implementation, encompassing the administrative, fiduciary, M&E, procurement and social and environmental safeguards procedures. It will include detailed TORs for all Project staff and the detailed procedures related to the financial instruments established under the project (matching grants, risk sharing facility and commercial guarantee mechanism).

B. Results Monitoring and Evaluation Arrangements

73. A comprehensive M&E system will be implemented to provide quality data to inform the Results Framework (RF) and allow the Government and the Bank to monitor the implementation progress toward achieving the project development objective and make any necessary adjustment. 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. This will support project supervision by ensuring that baseline and follow-up survey data on the key performance indicators are available and regularly updated. 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).

74. The project will support the PMU to develop and implement a M&E system and framework to monitor progress toward the PDO and intermediate indicators. The PMU will be responsible for overall M&E of project outputs and impact, as well as for the development and monitoring of AWPB. A dedicated full-time M&E officer/specialist will be appointed at the Unit by effectiveness, for leading the results measurement exercises, with guidance from the World Bank team, and for compiling M&E data for consolidation into the semi-annual and annual project progress reports. The M&E system will include a MIS that will record all information related to



project activities, including the financial management data from which Statements of Expenditure will be provided to the World Bank, and project management information for the semi-annual progress reports on physical implementation and results monitoring. The M&E system will also include baseline, mid-term and end of project surveys and studies to be carried out by independent specialists that will be recruited under the project. Semi-annual joint supervision missions with representatives from the World Bank and the Government of Benin will ensure compliance with legal covenants and assess the status of key project documents. A midterm review will be undertaken two years after project effectiveness to review progress and if necessary, adjust project design. An Implementation Completion and Results Report will be prepared by the Government and by the World Bank team within six months after the project closes to assess the project's achievements.

75. The PMU will formally report progress on all indicators (summarized in the Results Framework in section VII) during implementation support missions. The Results Framework (RF) will include the complete list of indicators for all project components, the frequency and methodology of data collection for each, and the entity responsible for collecting the data. The M&E system will focus explicitly on disaggregating results by gender, and for climate smart agriculture and nutrition, wherever possible. The PIM and the associated M&E Manual will detail the organizational and technical setup that will govern the project's M&E procedures that will satisfy World Bank requirements, including the Grievance Redress Mechanisms, and the mechanism to be used for disseminating information. Beneficiaries will be surveyed subsequently at mid-term review and at project end to track changes in their livelihood conditions because of project interventions. M&E results will inform a communication and outreach strategy that will be developed by the PMU.

C. Sustainability

76. Sustainability considerations, including possible exit strategies, have been factored into the design of project components. Sustainability considerations that have guided project design include: (i) Agribusiness participation and financial viability. The project seeks to leverage private sector investments. These are expected to be an accurate reflection of the longer-term sustainability of the agriculture production and value chain investments. In addition, the matching grants program includes a detailed review process of feasibility studies to ensure the technical, financial, and market viability of individual investment proposals that will be supported under the project's matching grants scheme; and (ii) Policy support. The project's support to improving the overall enabling environment for agriculture is expected to contribute to the project's long-term sustainability.

77. 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. Regarding value chain private business activities, any productive asset, equipment or infrastructure, financed through the sub-projects under Component 3, will be accompanied by well-conceived business plans indicating clearly the arrangements and division of responsibilities between partners regarding operation, management and maintenance. Support will be provided all along the investment cycle from design to implementation until sub-projects achieve their expected performance. The project will give priority to investments promoting climate resilience, such as (i) climate smart technologies and practices 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.

78. In addition, the project will strengthen the capacities of both public and private institutions. Public institutions will be strengthened through staff training, more efficient organization and provision of adequate



support under Component 4. The performance of the public support services will be closely monitored through effective use of Information and Communication Technology (ICT) tools under the MIS system, 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 the capacity of private entities to ensure they can continue their economic ventures beyond the project lifespan. The enhanced capacity of local NGOs and service providers, and the creation of business-based dialogue platforms under the project, would enable beneficiaries to continue negotiation and mediation processes with all other actors in the value chains after the project ends.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis (if applicable)

Rationale for project technical design

79. **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 affect producers/ agro-processors' ability to respond to market demand (e.g., insufficient access to market demand and signals). In that context, the added value of the World Bank's support includes global knowledge and operational know-how brought from international experience in order to address those market failures.

80. **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)⁵⁴, 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 Bank and the Borrower. In this sense, the Climate Smart Agriculture (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

81. **General methodology for Economic and Financial Analysis (EFA).** The economic and financial analysis (EFA) has determined the viability of project interventions 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 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 of Return (FIRR), Economic Internal Rate of Return

⁵⁴ Stern review: 'the Economics of Climate Change', Oct. 20, 2006



(EIRR), 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, including the environmental and social externalities such as GHG emissions and environmental co-benefits in the context of Benin.

82. **Project overall benefits.** The project is expected to achieve the following inter alia: (i) improve the livelihoods of beneficiaries, including small producers, traders, processors, transporters and other service providers involved along the value chains; (ii) increase the efficacy of support institutions within the agriculture and related sectors; (iii) reduce the trade balance deficit by enhancing exports of targeted products; (iv) create employment at both farm and industry/processing level, including engaging youth and women in profitable agri-business activities; and (v) increase tax revenues for the Government resulting from greater economic activities in the formal agriculture sector.

83. **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 seeds/planting materials or crop rotation enhancements, efficient water management and integrated management of soil and nutrient fertility will help strengthen the resilience of producers to the negative impact of climate change. The project will promote other environmentally beneficial activities, such as reduced tillage practices, the use of combined livestock manure and agricultural waste as organic fertilizers, improved post-harvest handlings that will reduce the impact of diseases, pests or spoilage. By providing support to small private irrigation to switch from petrol engine-powered to solar-operated pumps, the project will help reduce GHG emissions, in addition to enabling producers to build resilience and hedge against the lack of and erratic pattern of rainfalls due to climate change. The establishment of perennial crops (cashew) will be a source of greater carbon sequestration in the project area. The investments financed through the matching grant mechanism, will also include climate change adaptation measures. In addition, measures to adapt to climate change for rehabilitation of rural roads and construction of marketing infrastructure will reduce climate-related risks.

84. **Greenhouse Gas (GHG) analysis.** The carbon-balance was estimated using the EX- ACT tool. It is defined as the net balance from all GHG expressed in CO₂ equivalent that were 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 in Benin. Based on the Intergovernmental Panel on Climate Change (IPCC) classification, the project area has tropical Moist climatic conditions with Low Activity Clay Soils (LAC). Land use and crop management practices and the building/rehabilitation of infrastructure (rural roads, 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 allocations).

85. **Overall, 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. Under this scenario, the net present value (NPV) is estimated to be US\$412.8 million (on a total budget of US\$160 million) and the economic internal rate of return (IRR) is estimated to be 28.1 percent. With environmental valuation at market prices, the project is expected to generate an NPV of US\$416.5 million and an IRR of 28.3 percent. Including the GHG mitigation valued at the low estimate shadow price of carbon (on average US\$51/t CO₂ equivalent), the project generates an NPV of US\$435.9 million and an economic IRR of 29.1 percent. With environmental benefits valued at the high estimate shadow price of carbon (on average US\$101/t CO₂ equivalent), the project yields an NPV of US\$458.9 million and an IRR of 30.1 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; (iii) delayed project benefits; as well as (iv) decreased output prices; and (v) increased input prices. In all negative scenarios considered, the project profitability remains substantial. With a 30 percent reduction of project benefits under (i) the IRR decreases to 21.8 percent, with an increase in project costs of 50 percent under (ii), the IRR decreases to 22.4 percent, and with a two-year delay in project benefits under (iii) the IRR decreases to 22.1 percent. Details are presented in Annex 3.

Rationale for public sector provisioning/financing

86. **The project will support the transformation of agriculture, in part through public provisioning of goods, services and financing, as required for activities which are still at development stage.** It will address market failures and remove/reduce distortions that stand in the way of these activities. It will strengthen operational 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 capacity building for public entities to enable them to provide enhanced services. The project will also train professionals who will be directly involved in project implementation, as well as private operators needing assistance to implement their investment sub-projects. At project completion, these professionals, public or private, will be expected to further assist the development of the agricultural sector in the country.

Value added of the Bank's support

87. By its strong presence and engagement in Benin, along with relevant experience in Sub-Saharan Africa and elsewhere in the world, the Bank has the capacity and convening power to aggregate the knowledge and efforts to unleash Benin agriculture potential as envisaged under the project. Bank financing will support the strengthening of public sector services and private investments. Along with the Bank, IFC will play an important role in engaging the private sector and raising the investment opportunities to leverage the public funds. In this regard, the project will provide real opportunities for partnerships between actors in the selected value chains and act as a motor to developing agribusiness. Several Development Partners have expressed interest in collaborating closely with the Bank within the framework of the project.

B. Fiduciary

(i) Financial Management

88. **Project activities and payments will be executed both by the PMU (for components 2 and 4) and APIEx (for components 1 and 3).** The assessment focused on the FM capacity in terms of planning and budgeting, accounting, funds flow, financial reporting, internal controls and external auditing in place to satisfy the World Bank's Policy and Directive – Investment Project Financing (IPF), which describes the overall FM policies and procedures. The implementing entities' arrangements are acceptable if they are considered capable of recording correctly all budgets, transactions and balances, supporting the preparation of regular and reliable financial statements, safeguarding the entities' assets, and are subject to auditing arrangements acceptable to the World Bank. The FM assessment conducted in March 2020 to ensure that APIEx has the minimum requirements to manage the project funds revealed some weaknesses. These include (i) lack of familiarity with IDA procedures for reporting, disbursement arrangements, and auditing; (ii) lack of qualified financial management staff; (iii) lack of financial management tools: accounting software, manuals of accounting procedures and financial management.



The FM assessment was carried out in accordance with the FM Manual for World Bank Investment Project Financing Operations that became effective on March 1, 2010 and re-issued on February 10, 2017.

89. The overall FM risk rating for the project is assessed as Substantial considering the country context, the multiplicity of actors and beneficiaries combined with the nature of activities supported by the project and the Bank's minimum requirements under the World Bank Policy and Directive – IPF which describes the overall FM policies and procedures. To mitigate the financial management risks, the project design incorporates the following actions: (i) the recruitment of a qualified and experienced Financial Management specialist (housed at the PMU), and a qualified and experienced Chief Accountant (based at APIEx) dedicated to the project under the FM Specialist, (ii) the recruitment of a qualified and experienced internal auditor (housed at the PMU) fully dedicated to the project internal auditing, based on quarterly internal audit report preparation using a risk-based approach, (iii) the development of a comprehensive Administrative, Accounting and Financial Manual of procedures, as part of the PIM (Project Implementation Manual) in form and substance acceptable to the Bank; (iv) the setup of an adequate accounting software with multi-projects, multi-sites, and multi-donors' characteristics. Finally, the project annual accounts will be audited by an independent external auditor to be recruited in compliance with Terms of Reference acceptable to IDA.

90. The proposed additional risk mitigation measures (see FM Action Plan) will strengthen the internal control environment and maintain the continuous timely and reliability of information produced by the PMU with inputs from APIEx and an adequate segregation of duties. These mitigation measures have been incorporated into the design of the project FM arrangements. The proposed financial management arrangements including the mitigation measures for this financing are considered adequate to meet the World Bank's minimum financial management requirements under WB Policy and Directive – IPF. Detailed FM arrangements are provided in Annex 1.

91. **Procurement**

92. The Borrower will carry out procurement for the proposed project in accordance with the World Bank's "Procurement Regulations for IPF Borrowers" (Procurement Regulations) dated July 2016 and revised in November 2017 and August 2018 under the "New Procurement Framework (NPF), and the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated July 1, 2016, and other provisions stipulated in the Financing Agreements.

93. Procurement activities shall be carried out both by the Project Management Unit (PMU) that will be established under the Ministry of Agriculture, Livestock and Fisheries (for activities related to Components 2 and 4) and APIEx (for activities related to components 1 and 3). All procuring entities as well as bidders, and service providers, i.e. suppliers, contractors and consultants shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with paragraph 3.32 and Annex IV of the Procurement Regulations.

94. The Borrower (with assistance from the Bank) has prepared the Project Procurement Strategy for Development (PPSD) which describes how procurement activities will support project operations for the achievement of project development objectives and deliver Value for Money (VfM). The procurement strategy will be linked to the project implementation strategy ensuring proper sequencing of activities to be supported. It considers institutional arrangements for procurement; roles and responsibilities; thresholds, procurement methods, and prior review, and the requirements for carrying out procurement. It also includes a detailed assessment and description of state government capacity for carrying out procurement and managing contract implementation, within an acceptable governance structure and accountability framework. Other issues



considered includes the behaviors, trends and capabilities of the market (i.e. Market Analysis) to respond to the procurement plan.

95. The project procurement risk prior to the mitigation measures is rated “Substantial”. The risk can be reduced to a residual rating of “Moderate” upon consideration of successful implementation of the mitigation measures.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

96. **The Project triggers OP 7.50 related to Projects on International Waterways.** This policy is triggered because some of the investments to be supported through the matching grants under Component 3 include small-scale irrigation schemes located in the Niger River, Volta River, Oueme, Mono and Couffo Rivers. These river systems are considered international waterways as defined in paragraph 1 of OP 7.50. The World Bank task team has determined that (i) the impacts of project activities on both the quantity and quality of water in the affected international waterways are negligible; and (ii) the project investments will not adversely affect the other riparian countries’ possible water use, because the ratios of water withdrawals to potential water flows available in the affected rivers are very small. A maximum of 1,000 ha may be rehabilitated under the Project, corresponding to an annual maximum water requirement of 14.25 million cubic meters. Most of the investments will focus on the rehabilitation and minor alteration of small-scale irrigation schemes. An exception to the Riparian Notification Requirement under OP 7.50 was approved by the Bank Management on April 16, 2020. The World Bank team will work closely with the GoB and the relevant respective basin authorities to ensure full compliance with the policy.

D. Environmental and Social

97. The expected environmental and social impacts of the project will be overall positive. The project will finance the construction of critical public infrastructure (rehabilitation of rural road network). The project will not finance public irrigation infrastructure, but it is expected that the project will build cold chain infrastructure at the airport. Some of the mentioned activities could potentially lead to the loss or the disruption of income or livelihood activities for individuals or groups of people, or restriction of access to resources. Based on the nature of those activities and their magnitude, the potential adverse impacts on environment and communities are expected to be site specific, manageable on an acceptable level and reversible.

98. The Environmental and Social Risk Classification (ESRC) conducted under the new Environmental and Social Framework (ESF) rated the project overall risk as Substantial and environmental and social standards which are relevant for the project are : Assessment and Management of Environmental and Social Risks and Impacts (ESS 1), Stakeholder Engagement and Information Disclosure (ESS 10), Labor and Working Conditions (ESS 2), Resource Efficiency and Pollution Prevention and Management (ESS 3), Community Health and Safety (ESS 4), Land Acquisition, Restrictions on Land Use and Involuntary Resettlement (ESS 5), Cultural Heritage (ESS 8) and Financial Intermediaries (ESS 9). Based on this assessment, the Government has prepared, adopted and disclosed the



appropriate safeguards instruments including: (i) an Environmental and Social Management Framework (ESMF); (ii) a Pest Management Plan (PMP); and (iii) a Resettlement Policy Framework (RPF). Three additional documents which are required under the new ESF have also been prepared, adopted and disclosed, namely the Environmental and Social Commitment Plan (ESCP), the Stakeholder Engagement Plan (SEP) and the Labor Management Procedures (LMP) (all disclosed on the Bank's website on April 30, 2020).

Environmental Safeguards

99. The ESMF and the PMP have been prepared, in full compliance with national legal and regulatory framework and World Bank environmental and social standards, including a broad consultation framework involving all relevant stakeholder groups, both public and private, as well as civil society. The ESMF describes the procedures and processes to be followed in preparing and disclosing site-specific safeguard instruments namely the 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 a specific activity is 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 was disclosed within Benin and at the World Bank website on May 3, 2020. Like the ESMF, the Pest Management Plan (PMP) was also disclosed within Benin and at the World Bank website on May 3, 2020. The document encourages the use of organic fertilizers and biological techniques to fight against agriculture predators and pests. In addition, it sets up guidance and guidelines with the aim of protecting population health and environment integrity in promoting best practices in the case of use of chemical products.

100. Guidelines on Environmental, Health and Safety/Occupational, Health and Safety (EHS/OHS) requirements will be included in bidding documents so that companies take them into account in their companies' Environmental and Social Management Plan (Works-ESMP). The PMU and its partners will have to approve Works-ESMPs including those guidelines prior to the commencement of the works.

101. To ensure that the safeguard instruments prepared in line with the Environmental and Social Standards (ESS) applicable to the project are implemented properly, the PMU will hire an environmental safeguard specialist and a social safeguards specialist. The environmental safeguards specialist must have additional experience in EHS/OHS, and the social safeguards specialist in Gender-Based Violence (GBV), social inclusion and labor risks management competencies. Both specialists will be fully in charge of all aspects of environmental and social safeguards aspects and will regularly monitor all safeguard requirements. More specifically, the two specialists, the whole PMU, APIEx, the implementing agencies as well as the other stakeholders will ensure that children are not employed in civil works as labor force. World Bank implementing support missions will also include environmental and social safeguards specialists to ensure that all safeguard issues are addressed properly and, in a timely manner.

Social Safeguards

102. **Land acquisition, restrictions on land use and involuntary resettlement:** The construction and rehabilitation of infrastructure expected under the project could involve land acquisition that would lead to restrictions on land use and/or involuntary resettlement issues (e.g. loss of land and/or property, loss or disruption



of sources of income or livelihood, access restriction to natural resources for individuals or groups of persons). Given that the exact locations of the expected investments are not yet known, a Resettlement Policy Framework (RPF) has been developed in full compliance with the national legal and regulatory framework and ESS 5 as a due diligence measure to mitigate potential negatives effects of involuntary resettlement operations. The RPF has been reviewed, consulted upon, approved and disclosed within Benin on December 10, 2019 and at the World Bank's website on May 3, 2020. The RPF will serve as guide for the preparation and implementation of possible Resettlement Action Plans (RAP) that will also be reviewed, consulted upon and disclosed both in the country and the Bank's web site prior to the commencement of the related civil works.

103. **Gender:** The project will support activities meant to reduce gender disparities by (i) facilitating women's access to improved agricultural inputs; (ii) targeting women for capacity-building activities for improved production, processing, and commercialization; and (iii) providing financial incentives to women farmers or female business owners for productive investments. The project gender mainstreaming will rely on approaches to promote equity and social inclusion in favor of vulnerable groups (widows, women heads of households, disabilities, minorities groups, etc.).

104. **Gender Based Violence:** The realization of the expected critical infrastructures and rural roads rehabilitation in the context of component 1 and 2 activities would involve labor influx both with workers from or out of the areas where the works are implemented. The Gender Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) risk of the project has been deemed moderate according to the assessment carried out through the GBV risks assessment tool. Mitigation measures will be recorded in an action plan to ensure that people mainly women and girls are informed and have a safe and confidential venue to report GBV/SEA risks or/and cases created by project implementation. The action plan with information, communication and capacity building activities to disseminate information related to project's GBV/SEA risks, advocated mitigation measures and the question and response services available to survivors, will be developed and regularly updated during project implementation. The mitigation measures will be fully reflected in the project ESMPs and in contractors' proposals and sites' ESMPs. The costs of GBV mitigation measures will be considered in contracts and procurement documents. Codes of conduct will also be developed and included in bidding documents. The code of conduct will be translated in all relevant languages of each area, displayed in the contractor's main facilities in such a way that local populations are also informed. The code of conduct will be implemented and closely monitored for any civil works during project implementation. The GBV prevention and response services available in the project area will be mapped out and a survivor-centered response protocol will be established to ensure that project's GBV incidents are properly reported and that all survivors reporting a GBV incident receive timely access to available package of services, including health, psychosocial, and legal support. The GRM to be set up will include provisions to safely and ethically register, document complaints and properly address GBV allegations. During project implementation, GRM reports will detail the cases of GBV/SEA incidents through specific reporting mechanisms in line with best practices on the collection and reporting of GBV-related information and by engaging with key stakeholders (PMU, engineers, contractors, etc.).

105. **Citizen Engagement:** A Stakeholders Engagement and Information Disclosed Plan (SEIDP) reflecting the project's key stakeholders and consultation and participation activities has been prepared. At the beginning of the first year of activities, the project will develop a comprehensive consultation and participation strategy for better involving and engaging citizen and local communities of the project's area on the identification, selection and implementation of any works. Two main approaches will be used: (i) Collecting, recording and reporting on inputs from citizens: beneficiaries' feedback on project implementation (effectiveness, inclusiveness, quality, delivery, and targeting) will be collected periodically during supervision missions and during evaluation of project



achievements through focus group discussions and satisfaction surveys. The information gathered would then be used to improve project implementation and address issues raised by the beneficiaries for better results; and (ii) Citizen-led monitoring: Civil Society Organizations and communities will be involved in Bank supervision missions as well as in joint evaluation of project results upon completion. The PMU will develop a citizen mainstreaming action plan covering activities to ensure that (i) citizen's consultation and participation process in the project activities is inclusive, effective, transparent and responsive to the needs of their community, and (ii) citizens are really engaged in the activities' implementation to strengthen their ownership and translate their responsibility for the achievement of the project objectives. The PMU will ensure that the citizen engagement plan is properly implemented whether project-affected peoples' points of view and concerns are fully considered.

106. **Grievance Redress Mechanism (GRM):** The project's GRM already described in the SEIDP will be finalized and set up in the first year of project activities to allow stakeholders and interested parties to bring up any concern regarding project implementation issues to the PMU with the aim of finding solutions. The project's GRM will incorporate provisions to allow the safe and ethical registration, documentation and management of complaints including GBV/SEA complaints. A specific reporting mechanism of GBV response protocol will be established for ensuring that all survivors disclosing an incident of GBV are referred for assistance based on their needs and wishes.

V. GRIEVANCE REDRESS SERVICES

107. Communities and individuals who believe that they are adversely affected by a World Bank (WB) 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 Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VI. KEY RISKS

108. **The overall risk of project implementation is Substantial.** The Political and Governance, Macro-economic, Technical Design, Institutional Capacity for Implementation and Sustainability, Fiduciary, and Environment and Social risks are rated Substantial. Sector strategies and policies and Stakeholders risks are rated as Moderate. The risks related to the project activities are described in the Systematic Operational Risk Tool (SORT) and summarized below:

- a. **Macroeconomic risks are Substantial.** In the context of the ongoing border crisis with Nigeria, the ongoing COVID-19 pandemic, the decline in commodity prices (cotton, cashew, pineapple), the macroeconomic and fiscal situation could be severely affected. This could affect the business climate and the willingness of the private sector to invest in the targeted value chains. A prolonged closure of the shared border with or downturn



in the Nigerian economy, or adverse weather conditions may also weigh negatively on exports. A rise in US and European interest rates may also complicate the planned reprofiling of public debt and efforts to reduce debt service cost. The ongoing Enhanced Credit Facility (ECF) program with the IMF and policy dialogue with the World Bank on macroeconomic, structural and public financial management issues will help mitigate these risks.

b. **Political and governance risks are considered Substantial.** Potential volatility in the political environment creates a substantial risk as demonstrated by the riots that followed the legislative elections in April 2019. There are also upcoming local and presidential elections in 2021 that will add to the existing social tension. There are also governance issues. As noted by the Government Action Plan, some of the challenges are rooted in lack of transparency in procurement. This situation could negatively affect the procurement process under the project, reduce the efficiency of investments, and discourage private sector investments in the targeted value chains. The President has proposed to revise the Constitution to foster transparency and accountability by public office holders, but the National Assembly rejected the proposed revision in April 2017. To mitigate against this risk, multilateral institutions will support the Government's transparency agenda. This commitment is a continuous performance criterion of the IMF-supported program which partially mitigates political and governance risks. The project is also ringfenced with a dedicated procurement specialist in each of the main implementing agencies. Implementation review and support by the World Bank will be enhanced with particular attention to the prior and post review of procurement documents;

c. **Institutional Capacity for Implementation and Sustainability risks are assessed as Substantial.** The reasons for this assessment include weak, and/or contradictory legislation and regulations, along with various distortions for private sector promotion in the agriculture and agribusiness sector. Proposed mitigation actions include: (i) strengthening implementation agencies policy design capacity and regulatory framework, and (ii) supporting policy formulation, legislation/ regulations for improving the agribusiness and agro-processing regulatory environment and delivery of support services.

d. **Risks related to Project Design are assessed as Substantial,** due to the multisectoral nature of project intervention, and to complexity in developing and implementing innovative solutions in the various components despite efforts made recently by GoB to develop a sound and comprehensive development strategy that serves as backdrop for project design. The project management team will develop an adequate implementation plan and adhere to a sequential approach to project implementation.

e. **Fiduciary risks are assessed as Substantial,** due to the multiplicity of actors and beneficiaries combined with the nature of activities supported by the project. The risk associated with lack of transparency as described in the governance section may increase the fiduciary risk. This will be remedied by recruiting qualified experts in the Ministry of Agriculture and at APIEx with concomitant staff training in the fiduciary areas, implementing the detailed mitigation plans in Annex 1, and close supervision and tailored support to project team by Bank relevant specialists (financial management and procurement).

f. **Environment and social safeguard risks are assessed as Substantial,** due to the activities related to rehabilitation of rural roads and the construction of marketing infrastructure such as the cold storage freight terminal at the airport. Implementation of the environmental and social safeguards will be adhered to and combined with regular close supervision of activities.



VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Benin

AGRICULTURAL COMPETITIVENESS AND EXPORT DIVERSIFICATION PROJECT

Project Development Objectives(s)

The project development objective (PDO) is to increase productivity and market access for selected agri-food value chains in Benin.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Enabling environment for value chain development and market access							
Increase in volume of agri-food products commercialized (%) by project supported beneficiaries in targeted value chains (Percentage)		0.00	5.00	15.00	25.00	35.00	40.00
Increasing productivity							
Yield increase in pineapple in metric tons per hectare (Number)		40.00	50.00	60.00	65.00	70.00	70.00
Yield increase in cashew in metric tons per hectare (Number)		0.40	0.50	0.70	0.75	0.80	0.80



Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Strengthening the enabling environment and infrastructure for agri-food value chains development							
Number of trade and business facilitation rules and regulations upgraded (Number)		0.00	2.00	4.00	4.00	4.00	4.00
Public private dialogue (PPD) platforms established through CREs with action plans validated (Number)		0.00	2.00	4.00	6.00	6.00	6.00
Cold storage freight terminal built and operating at airport (Yes/No)		No	No	No	No	Yes	Yes
Transitory Cold Chain Facilities at Cotonou Airport (Yes/No)		No	No	Yes	Yes	Yes	Yes
Cold Storage freight terminal built at Glo Djigbe New Airport (Yes/No)		No	No	No	No	Yes	Yes
Increasing productivity, connectivity, value addition and resilience							
Farmers adopting improved agricultural technology (CRI, Number)		0.00	15,000.00	30,000.00	45,000.00	48,000.00	50,000.00
Farmers adopting improved agricultural technology - Female (CRI, Number)		0.00	5,000.00	8,000.00	12,000.00	14,000.00	15,000.00
Farmers adopting improved agricultural technology -		0.00	10,000.00	20,000.00	30,000.00	34,000.00	35,000.00



Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
male (CRI, Number)							
Percentage of production passing export quality standards (per selected value chains) (Percentage)		93.00	95.00	98.00	98.00	100.00	100.00
Share of cashew samples tested by LCSSA which meet international standards (Percentage)		90.00	95.00	98.00	100.00	100.00	100.00
Share of pineapple samples tested by LCSSA which meet international standards (Percentage)		95.00	97.00	99.00	100.00	100.00	100.00
Number of beneficiaries adopting climate smart technologies and practices (Number)		0.00	24,000.00	42,000.00	60,000.00	78,000.00	90,000.00
Male (Number)		0.00					60,000.00
Female (Number)		0.00					30,000.00
Roads rehabilitated (CRI, Kilometers)		0.00	400.00	800.00	1,200.00	1,200.00	1,200.00
Roads rehabilitated - rural (CRI, Kilometers)		0.00					1,200.00
Roads rehabilitated - non-rural (CRI, Kilometers)		0.00					0.00
Total crop area established with project support (Hectare(Ha))		0.00	0.00	12,000.00	26,000.00	40,000.00	40,000.00
Total crop area rehabilitated with project support (Hectare(Ha))		0.00	21,000.00	43,000.00	65,000.00	87,000.00	105,000.00



Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Promoting private investment and access to finance							
Establishment of risk sharing and guarantee mechanisms under the project (Yes/No)		No	No	Yes	Yes	Yes	Yes
IDA/IFC Risk Sharing Facility Scaled up under the project (Yes/No)		No	No	Yes	Yes	Yes	Yes
Guarantee Line established within FONAGA (Yes/No)		No	No	Yes	Yes	Yes	Yes
Volume of private investments in targeted value chains mobilized through project support (Amount(USD))		30,000,000.00	90,000,000.00	150,000,000.00	210,000,000.00	270,000,000.00	300,000,000.00
Number of SMEs receiving a loan or line of credit as a result of project support (Number)		0.00	250.00	500.00	800.00	1,100.00	1,250.00
of which Youth-owned SMEs (Number)		0.00	50.00	100.00	150.00	200.00	250.00
of which Female-owned SMEs (Number)		0.00	50.00	100.00	150.00	200.00	250.00
Number of beneficiaries of matching grants (Number)		0.00	450.00	900.00	1,350.00	1,675.00	1,675.00
Of which Youth beneficiaries (Number)		0.00	180.00	360.00	540.00	670.00	670.00
of which Female beneficiaries (Number)		0.00	180.00	360.00	540.00	670.00	670.00
Project management							
Total number of beneficiaries (gender disaggregated) (Number)		0.00	40,000.00	70,000.00	100,000.00	130,000.00	150,000.00



Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Male (Number)		0.00	30,000.00	50,000.00	70,000.00	90,000.00	105,000.00
Female (Number)		0.00	10,000.00	20,000.00	30,000.00	40,000.00	45,000.00
Percentage of complaints addressed within the period specified in the Project Operations Manual (Percentage)		0.00	60.00	75.00	85.00	95.00	100.00
Beneficiary satisfaction with assets and services provided by the project (Percentage)		0.00	60.00	70.00	75.00		80.00

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Increase in volume of agri-food products commercialized (%) by project supported beneficiaries in targeted value chains	Quantity of marketed agricultural and agri-food products (for export or domestic markets) by project supported beneficiaries in targeted value chains	Yearly.	Monitoring and evaluation data system.	Secondary data and market surveys.	M&E function of PMU
Yield increase in pineapple in metric tons per hectare	This indicator measures the increase in the yield per hectare of pineapple produced by targeted	Yearly	PMU progress report	Yearly crop surveys administered with representative samples of targeted project	Monitoring and evaluation unit of the PMU



	project beneficiaries who receive various types of support.			beneficiaries and control group.	
Yield increase in cashew in metric tons per hectare	This indicator measures the increase in yield per hectare of cashew produced by the targeted project beneficiaries who received support.	Yearly	PMU progress reports	Yearly crop surveys administered with representative sample of targeted project beneficiaries and control group.	Monitoring and evaluation unit of the PMU.

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Number of trade and business facilitation rules and regulations upgraded	Rules and regulations to include completion of targeted food safety actions, such as quality standards, control procedures, according to international standards.	Yearly	PMU progress reports	Monitoring and evaluation data system	M&E Unit of PMU
Public private dialogue (PPD) platforms established through CREs with action plans validated	The indicator measures the number of Public private dialogue (PPD) platforms established as a results of the CRE process with action plans validated.	Yearly	PMU Progress reports	Monitoring and evaluation data system	M&E Unit of PMU
Cold storage freight terminal built and operating at airport	This indicator measures progress made in building and making operational, the	Twice a year	Monitoring and evaluation	Data collected by PMU from implementing agencies .	M & E Unit of PMU



	cold storage freight terminal and related trade infrastructure-including equipment- built at the airport.		data system. Data collected by the PMU at locations where the infrastructure is built with the support of Minister of transport, APIEx and control firms.		
Transitory Cold Chain Facilities at Cotonou Airport	This indicator measures progress made in building and making operational the transitory cold chain facilities at Cotonou Airport	Twice a year	Data collected by M &E Unit of the PMU at locations where the infrastructure is being built	Data collected by PMU from implementing agencies.	M&E Unit of the PMU
Cold Storage freight terminal built at Glo Djigbe New Airport	This indicator measures progress made in building and making operational the cold storage freight terminal built at Glo Djigbe New Airport.	Twice a year	Data collected by the M &E Unit of the PMU at locations where the infrastructure	Data collected by PMU from implementing agencies.	M&E Unit of the PMU



			e is being built.		
Farmers adopting improved agricultural technology	<p>This indicator measures the number of farmers (of agricultural products) who have adopted an improved agricultural technology promoted by operations supported by the World Bank.</p> <p>NB: "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber and non-timber forest products.</p> <p>Adoption refers to a change of practice or change in use of a technology that was introduced or promoted by the project.</p> <p>Technology includes a change in practices compared to currently used practices or technologies (seed preparation, planting time, feeding schedule, feeding ingredients, postharvest storage/</p>	Yearly	PMU Progress reports	Field surveys	M&E Unit of PMU



	<p>processing, etc.). If the project introduces or promotes a technology package in which the benefit depends on the application of the entire package (e.g., a combination of inputs such as a new variety and advice on agronomic practices such as soil preparation, changes in seeding time, fertilizer schedule, plant protection, etc.), this counts as one technology.</p> <p>Farmers are people engaged in farming of agricultural products or members of an agriculture related business (disaggregated by men and women) targeted by the project.</p>				
Farmers adopting improved agricultural technology - Female		Yearly	PMU Progress reports	Field surveys among project beneficiaries	M&E Unit of the PMU
Farmers adopting improved agricultural technology - male		Yearly	PMU progress reports	Field surveys among project beneficiaries	M&E Unit of the PMU
Percentage of production passing export quality standards (per selected value	This indicator measures the proportion of total	Yearly	PMU Progress	Data collected by M&E Unit of PMU with	M&E Unit of PMU



chains)	production presented for exports that meets the quality standards set for the value chain concerned		reports	inputs from ABSSA/LCSSA	
Share of cashew samples tested by LCSSA which meet international standards	This indicator measures the share of cashew samples tested which meet international standards	Yearly	PMU progress reports	Data collected by M&E Unit of PMU with inputs from ABSSA/LCSSA	M&E Unit of the PMU
Share of pineapple samples tested by LCSSA which meet international standards	This indicator measures the share of pineapple samples tested which meet international standards	Yearly	PMU progress reports	M&E Unit of the PMU with inputs from ABSSA/LCSSA	M&E Unit of the PMU
Number of beneficiaries adopting climate smart technologies and practices	This indicator measures the number of beneficiaries adopting climate smart technologies and practices promoted by the project	Yearly	PMU progress reports	Field Surveys	M&E Unit of the PMU
Male	This indicator measures the number of male beneficiaries adopting climate smart technologies and practices promoted by the project	Yearly	PMU progress reports	Field surveys	M&E Unit of the PMU
Female	This indicator measures the number of female beneficiaries adopting climate smart technologies and practices promoted by the project	Yearly	PMU progress reports	Field surveys	M&E Unit of the PMU
Roads rehabilitated		Twice a year	M&E data collection	Physical measurement of km rehabilitated.	M&E Unit of the PMU



			system	Data collected from implementing agencies (DGR)	
Roads rehabilitated - rural		Twice a year	M&E data collection system	Physical measurement of km rehabilitated. Data collected from implementing agencies (DGR)	M&E Unit of the PMU
Roads rehabilitated - non-rural					
Total crop area established with project support	This indicator measures the total area (ha) of plantations/orchards established with project support	Yearly	PMU progress reports	Annual Crop survey	M & E Unit of PMU
Total crop area rehabilitated with project support	This indicator measures the total area (ha) of plantations/orchards rehabilitated with project support	Yearly	PMU progress reports	Annual crop survey	M&E Unit of the PMU
Establishment of risk sharing and guarantee mechanisms under the project	This indicator measures progress achieved in establishing and making operational the risk sharing and guarantee mechanisms under the project	Yearly	PMU Progress reports	M&E data collection system	M&E Unit of PMU
IDA/IFC Risk Sharing Facility Scaled up under the project	This indicator measures progress achieved in establishing and making operational, the IDA/IFC	Yearly	PMU progress reports	M&E data collection system with inputs from APIEx	M&E Unit of the PMU



	Risk Sharing Facility scaled up under the project				
Guarantee Line established within FONAGA	This indicator measures progress achieved in establishing and making operational the Guarantee Line within FONAGA	Yearly	PMU Progress Reports	M&E data collection system with inputs from APIEx	M&E Unit of PMU
Volume of private investments in targeted value chains mobilized through project support	This indicator measures the amount of private investment in targeted value chains mobilized through project support	Twice a year	PMU Progress reports with inputs from APIEx Tracking Investment System	Monitoring and Evaluation Data Collection System	M&E Unit of PMU
Number of SMEs receiving a loan or line of credit as a result of project support	This indicator measures the number of SMEs receiving a loan or line of credit as a result of increased access to finance through project support	Yearly	PMU Progress Reports	Yearly survey of project beneficiaries	M&E Unit of PMU
of which Youth-owned SMEs	This indicator measures the number of male-owned SMEs receiving a loan or line of credit as a result of increased access to finance through project support	Yearly	PMU progress reports	Yearly survey of project beneficiaries	M&E Unit of PMU
of which Female-owned SMEs	This indicator measures the number of female-owned SMEs receiving a loan or line of credit as a result of	Yearly	PMU progress reports	Annual survey of project beneficiaries	M&E Unit of PMU



	increased access to finance through project support				
Number of beneficiaries of matching grants	This indicator measures the number of beneficiaries of the matching grants scheme established under the project	Yearly	PMU progress reports	M&E data collection system with inputs from APIEx	M&E Unit of the PMU
Of which Youth beneficiaries	This indicator measures the number of male beneficiaries of the matching grants scheme established under the project	Yearly	PMU Progress reports	M&E data collection system with inputs from APIEx	M&E Unit of the project
of which Female beneficiaries	This indicator measures the number of female beneficiaries of the matching grants scheme established under the project	Yearly	PMU Progress reports	M&E data collection system with inputs from APIEx	M&E Unit of the PMU
Total number of beneficiaries (gender disaggregated)	This indicator measures the total number of individuals benefiting directly from project interventions and support	Yearly	PMU Progress reports	Annual survey with inputs from all implementing partners	M&E Unit of PMU
Male	This indicator measures the number of male direct beneficiaries of project support	Yearly	PMU progress report	Annual survey with inputs from all implementing partners	M&E Unit of PMU
Female	This indicator measures the number of female direct beneficiaries of project support	Yearly	PMU Progress Reports	Survey with inputs from all implementing partners	M&E Unit of PMU



Percentage of complaints addressed within the period specified in the Project Operations Manual	Numerator: number of complaints addressed within specified number of weeks during the quarter, as determined by the Project Operations Manual Denominator: number of complaints received during the quarter	Quarterly	Progress reports	M&E data collection system	M&E Unit of PMU
Beneficiary satisfaction with assets and services provided by the project	This indicator measures the percentage of beneficiaries who express satisfaction with the services provided in the project areas based on formal surveys (carried out twice throughout the life of the project : at mid-term and at the end of the project). The sample should be representative of the total number of project beneficiaries	At mid-term and at the end of the project.	PMU progress reports	Survey of a representative sample of project beneficiaries and control group	M&E Unit of PMU

ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Benin

AGRICULTURAL COMPETITIVENESS AND EXPORT DIVERSIFICATION PROJECT

A. Project Institutional and Implementation Arrangements

- 1. Project Steering Committee (PSC).** Project implementation arrangements include the following two-level project steering committee: **(1) Strategic committee.** This committee will be established to provide overall strategic oversight and guidance on project implementation and will review and approve AWPB and budgets and serve as the ultimate authority to solve potential impasses that may arise with respect to specific reforms and strategic decisions. The SC will be chaired by the Minister of Plan and Development or his representative and will include representatives from (i) the ministry in charge of agriculture; (ii) the ministry of finance; (iii) the ministry in charge of Infrastructure; (iv) the ministry in charge of trade and industry; (v) the Chairman of the Board of APIEx and two representatives of private sector organizations. The SC will meet every six months; **(2) Technical committee (TC).** A committee will be established under the SC to supervise project implementation (for example, ensuring that implementation is in line with the objectives and scope of the project; ensuring that the AWPB to achieve the project objectives is within the agreed time frame and budget; and managing risks and issues that arise during the project implementation). The TC will be chaired by the Minister of Agriculture, Livestock, and Fisheries, and will comprise representatives of the ministries in the PSC and the Director of APIEx or his representative. The TC will meet on a quarterly basis and ad hoc, as needed.
- 2. Implementation Arrangements for Project Components.** The Ministry of Agriculture, Livestock and Fisheries (MAEP) will be responsible for the coordination of project implementation. A PMU housed under the Ministry of Agriculture will be in charge of implementing Components 2 and 4 of the project while APIEx will be responsible for the implementation of Components 1 and 3. The PMU will consolidate the financial information and M&E and present one consolidated report to the SC. Both the PMU and APIEx will be responsible for procurement, disbursement and accounting for activities under their responsibility and will each have a separate DA for those activities. APIEx and the PMU will liaise closely with the Ministry of Infrastructure and Transport, the Ministry of Trade and Industry and other Ministries and agencies as necessary for the smooth implementation of project activities.
- 3. Project Management Unit.** The Project Management Unit (PMU) under the Ministry of Agriculture will be headed by a Project Coordinator and consist of dedicated and competitively selected staff, including (i) a procurement specialist; (ii) a financial management specialist; (iii) an internal auditor; (iv) an accountant; (v) a monitoring and evaluation specialist; (vi) an agricultural specialist; (vii) a rural infrastructure specialist; (viii) an environmental specialist; and (ix) a social development specialist.
- The project will also hire additional staff to be housed at APIEx, including: (i) a component coordinator; (ii) a private sector and value chains development specialist; (iii) a market infrastructure specialist; (iv) a chief accountant and (v) a procurement specialist.
- The PMU will be responsible for reporting on project progress and for ensuring the auditing of project accounts. The Project Coordinator will report to the Project TC at least once every quarter on the progress

achieved, highlight implementation issues and challenges, and seek guidance and direction on project implementation. The PMU and APIEx will work in close collaboration with the different ministries and agencies involved in the project, including the Ministry of Trade and Industry, the Ministry in charge of Infrastructure and transport, the Territorial Agency for Agricultural Development (ATDA) under the Ministry of Agriculture, the National Agency for Food Safety (ABSSA), the National Metrology Agency (ANM); and the National Institute of Agricultural Research (INRAB), as well as with private sector representative bodies and other stakeholders, through designated focal points. Detailed implementation arrangements will be described in the Project Implementation Manual (PIM). The PIM will provide details on procedures for project operational implementation, encompassing the administrative, fiduciary, M&E, procurement and social and environmental safeguards procedures. It will include detailed TORs for all Project staff and the detailed procedures related to the financial instruments established under the project. The PIM will be prepared and adopted by effectiveness.

Figure 1.1: Project Institutional Framework

Institutional Framework

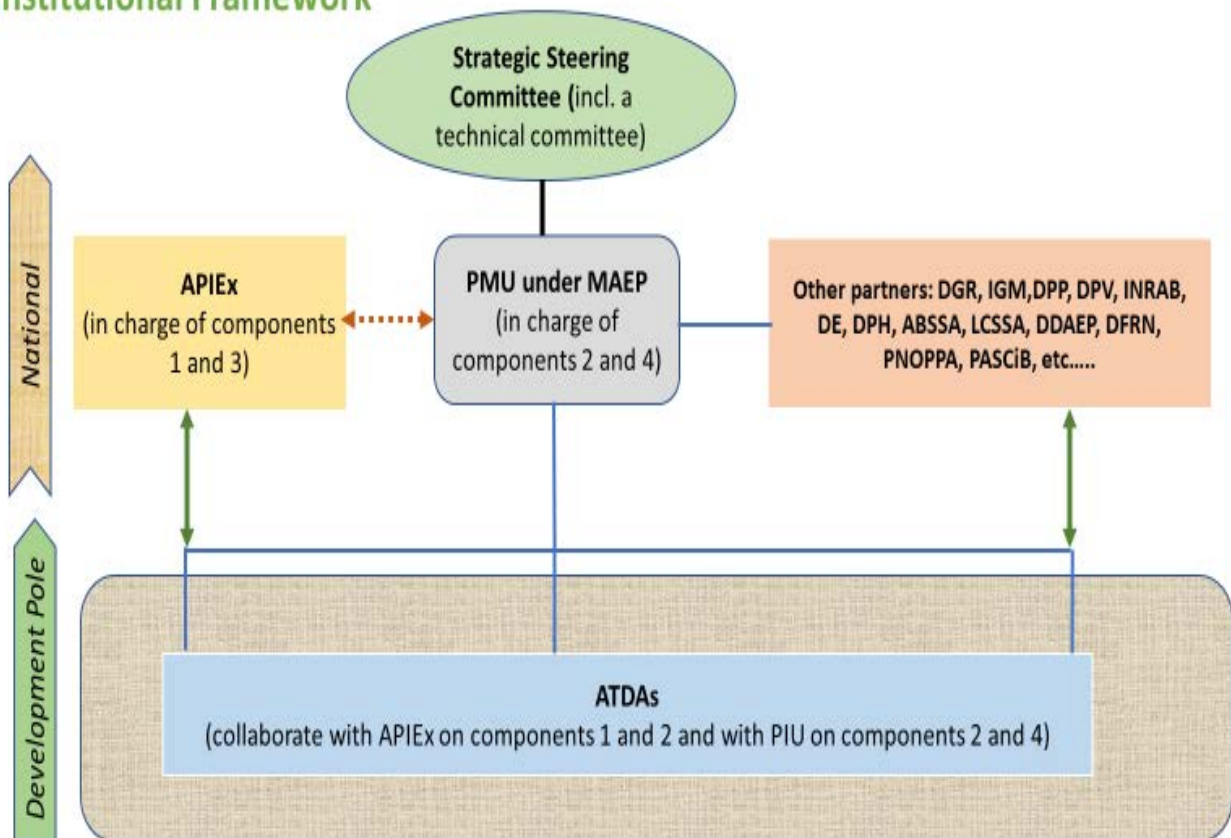


Table 1.1: Institutional arrangements for the implementation of project components⁵⁵

Components	Leading agency	Other partners involved	Mechanisms/arrangements
Component 1	APIEx		
Sub-component 1.1	APIEx	MIC, ATDAs ANDF, ANAC, Insurance Directorate ABSSA, ANM, MAEP (DDAEP, DPP)	Contracts and /or Implementation agreements
Sub-component 1.2	APIEx	MAEP, MIC, IFA, AIAB, other interprofessions	Contracts and /or Implementation agreements
Component 2	PMU/MAEP		
Sub-component 2.1	PMU/MAEP	DPV, INRAB, ATDAs, LCSSA, ABSSA, seed producers, farmers	Contracts and /or Implementation agreements
Sub-component 2.2	PMU/MAEP	ATDAs, NGOs, IFA, AIAB, IFA, AIAB, other interprofessions	Contracts and /or Implementation agreements
Sub-component 2.3	PMU/MAEP	DGR, APIEx, private contractors	Contracts and /or Implementation agreements
Component 3	APIEx		
Sub-component 3.1	APIEx	PMU, ATDAs, private contractor farmers, cooperatives, agro-processing SMEs, NGOs, producers, processors	Contracts and /or Implementation agreements
Sub-component 3.2	APIEx	PMU, FONAGA, FNDA, 3PL and 4PL logistics companies	Contracts and /or Implementation agreements
Component 4	PMU/MAEP	SC, APIEx, PNOPPA, PASCiB	Contracts and /or Implementation agreements
Component 5	PMU/MAEP	Apiex, ATDAs, private contractor farmers, cooperatives, agro-processing SMEs, NGOs, producers, processors	Contracts and /or Implementation agreements

6. Monitoring and Evaluation

- a) **M&E Plan.** The PMU will be responsible for developing a detailed M&E plan. This M&E plan will include all project indicators, including all indicators listed in this document as well as any additional indicators deemed

⁵⁵ AIAB: Association Interprofessionnelle de l'Ananas du Benin ; DDAEP : Direction Départementale de l'Agriculture, de l'Élevage et de la Pêche ; DGR : Direction Générale des Routes ; DFRN: Direction des Forêts et des Ressources Naturelles, DPH : Direction de la Production Halieutique, DE: Direction de l'Élevage ; DPP: Direction de la Programmation et de la Prospective, IFA : Interprofession de la Filière Anacarde ; IGM: Inspection Générale du Ministère ; LCSSA : Laboratoire de Contrôle pour la Sécurité Sanitaire des Aliments ; MIC : Ministère de l'Industrie et du Commerce ; PASCiB: Plateforme des Acteurs de la Société Civile du Benin; PNOPPA: Plateforme Nationale des Organisations Professionnelles des Producteurs Agricoles .



necessary to effectively monitor implementation; identify data sources and data collection protocols for all indicators; detail logistical arrangements for data collection; and explain communication needs related to M&E, especially to project stakeholders (rural communities, value-chain players, cooperatives, ATDAs, etc.) and other beneficiaries.

- b) **The PMU will be primarily responsible for collecting the data needed to measure implementation progress, as specified in the project's results framework.** The PMU will obtain all of the relevant data needed from the data sources identified in the M&E plan to calculate the different required indicators from relevant project stakeholders as necessary. For any data sources that are not under the PMUs' purview, the PMU will be responsible for identifying a focal point and to detail a data-sharing plan between institutions in compliance with international good practice on data privacy as well as any applicable local laws. These inter-institutional arrangements should be detailed in the M&E plan. The PMU will be responsible for data collection, consolidation, analysis, and evaluation. The PMU will submit an M&E quarterly report to the World Bank as well as to the SC that will include an updated country-level Results Framework and corresponding Action Table listing corrective actions to be implemented with deadlines and persons responsible clearly identified.
- c) **Results indicators.** Progress toward the achievement of the PDO will be measured based on the PDO-level and intermediate results indicators as part of the project's results framework (see Section VII). The M&E system will be used to collect relevant data and information pertaining to measuring results, including project outcomes and quality of project execution. Progress reports will be closely reviewed by the SC and the PMU will provide quarterly monitoring tables and progress reports on all PDO- and intermediate-level results indicators as well as any additional indicators specified in the project's M&E plan to the World Bank during routine implementation-support missions.
- d) **Success assessment and corrective actions.** The success of this operation will be measured against the target values of the PDO indicators. During implementation, the PMU and APIEx will be able to measure whether implementation is on track or not by benchmarking against yearly targets. If project execution underperforms against these yearly indicators, the two implementing entities must propose a list of corrective actions. To the extent possible, the M&E system will use project geographical data and reports will include updated maps available online.
- e) **Direct beneficiaries.** The views of direct beneficiaries will be brought into the M&E process. Periodically, the PMU will ensure that the views of direct project beneficiaries, including local communities and individuals (those receiving new services), have been accounted for in the project M&E. The M&E plan details how and at what intervals the views of both groups will be assessed. Data sources may include consultations conducted as part of project citizen engagement, data from the GRM, as well as separate data-collection efforts as necessary.

B. Financial Management and Disbursement arrangements

7. The PMU will be the Bank's main counterpart and focal point for financial management aspects of the project regarding components 2 and 4, while APIEx will be the Bank's main counterpart and focal point for financial management aspects of the project regarding components 1 and 3. This includes budgeting, financial reporting, supervision, and management of the DA. There would a consolidated single audit under the project.



Budgeting arrangements

8. The PMU and APIEx, in close collaboration with all involved implementing partners and technical units, will prepare a consolidated AWPB for implementing project activities considering the project's objectives. The work plans and budgets will identify the activities to be undertaken and the role of respective parties in implementation. AWPB will be approved by the SC and submitted to the World Bank for no objection not later than November 30 of each year proceeding the year the work plan should be implemented. The budgetary discussions will begin at least six months before the fiscal year of implementation and will consider the procurement plan as the starting point. Once the budget is approved, it will be integrated in the computerized accounting system to serve as a basis for a budget execution monthly follow-up, based on variance analysis.

Accounting and Reporting Arrangements

9. **Accounting policies and procedures.** As part of the project preparation, and by effectiveness, the borrower will prepare a Project Implementation Manual (PIM) with adequate FM arrangements that are acceptable to the World Bank as an effectiveness condition. The accounting systems, policies, and administrative and financial procedures will be documented in the PIM.

10. **Accounting staff.** Both the PMU and APIEx will retain staffing resources that are adequate for the level of project operations and activities and are enough to maintain accounting records relating to project financed transactions, and to prepare the project's annual financial reports. The FM function will be carried out by a team composed of: (i) a qualified and experienced Financial Management specialist and a qualified and experienced Accountant in charge of the project's FM activities under the PMU's responsibility including coordination of project's overall FM activities. They are both to be based with the PMU in MAEP, and (ii) a qualified and experienced Chief Accountant to be hired by the PMU and based with APIEx. All these FM staff will be recruited through a competitive process in compliance with the World Bank's Procurement Regulations. The team at each implementing agency level will have the overall FM responsibility over budgeting, accounting, financial reporting, flow of funds, and internal control. There would a consolidated single audit under the project. The FM staff will have their capacity reinforced over the project implementation through the rolling out of the training plan that includes training on IDA disbursement procedures and financial reporting arrangements, among others.

11. **Accounting information systems software.** The PMU will purchase an adequate accounting software with multi-projects, multi-sites and multi-donor features, and will ensure that it is customized to generate its financial reports. This software must be installed within three months after project effectiveness at both the PMU and APIEx level.

12. **Accounting standards.** The PMU and APIEx will use SYSCOHADA accounting standards which is commonly used amongst West African Francophone countries. Accounting procedures will be documented in the PIM.

Internal Control and Internal Audit Arrangements

13. **Internal controls.** The internal control policies and procedures will be documented in the Administrative, Accounting and Financial Manual of procedures to be included in the PIM which will be prepared and agreed by the Bank by project effectiveness. The PIM will document the financial management and disbursement arrangements including internal controls, budget process, assets safeguards, and clarify roles and responsibilities of all the stakeholders.



14. **Internal audit.** An Internal Audit Unit will be established within the PMU and will implement the Project's internal audit of the AWPB with special attention to operations costs, including per diems and other soft expenditures, to ensure they are used in an economical manner and for the purposes intended. This internal audit unit will be staffed with an experienced internal auditor to be recruited three months after project effectiveness and will need to strengthen project governance by providing governance advice to the project team and by conducting internal audit missions quarterly using a risk-based approach to ensure due compliance with agreed procedures. These quarterly internal audit reports need to be submitted to the World Bank within 45 days after the end of the quarter.

15. **Governance and Anti-Corruption (GAC) arrangements.** To enhance transparency and accountability, the PMU will have to deal with fraud and anti-corruption in accordance with the World Bank Anti-Corruption Guidelines referred to in the Financing Agreement.

Flow of Funds and Disbursements Arrangements

16. **Designated Account.** There will be four (04) Designated Accounts (DA) which will be opened at the Central Bank of West African States (*Banque Centrale des Etats de l'Afrique de l'Ouest* - BCEAO). A first Designated Account (DA. A) will finance all eligible expenditures under Components 2 and 4. The second DA (DA. B) will finance all eligible expenditures under Components 1 and 3 excluding eligible expenditures under the FONAGA Risk Sharing Facility (RSF) and the commercial guarantee. The third DA (DA. C) will finance all eligible expenditures under the Risk Sharing Facility (RSF) and the fourth DA (DA. D) will finance all eligible expenditures under the Commercial Guarantee. The funds from these DAs will be released to Operational Accounts to be opened in a reputable commercial bank acceptable by the Association to be managed respectively by the PMU (for DA. A) and APIEx (for DAs B, C and D). All DAs will be used to make payments in accordance with the Disbursement Letter (DL). Additionally, DA. C will respect the terms and conditions established in the RSF Framework Agreement and the RSF Manual. Cash withdrawal transactions from the Operational Account related to the DAs B, C and D will be authorized by the APIEx's FM Specialist and the Director while cash withdrawal transactions from the Operational Account related to the DA.A will be authorized by the PMU's Coordinator and the FM Specialist. The accounts are set up to fund eligible expenditures based on the approved AWPB. The DAs' ceiling will be determined in the disbursement letter. For the smooth implementation of activities under component 2, the PMU could open sub-accounts to be used at ATDA's level to pay suppliers and consultants selected through acceptable Bank procurement procedures. Replenishment of this account will be done by the project upon submission of acceptable supporting documents and justification for the utilization of the previous advance.

17. Disbursements will be made in accordance with the Disbursement Guidelines for Investment Project Financing dated February 2017. The Autonomous Amortization Fund (*Caisse Autonome d'Amortissement, CAA*) is the assigned representative of the Recipient for the mobilization of IDA funds. Withdrawal application requests will be prepared by the Project's FM Specialist and signed by a duly authorized person designated by the Minister of Finance in a letter to the Bank. This procedure applies to all Bank-financed projects in Benin. The Project will submit applications using the electronic delivery tool, "e-Disbursements", available at the Bank's Client Connection website/web-based portal. The Authorized Signatory Letter signed by the GoB will include authorization for the designated signatories to receive Secure Identification Credentials from the World Bank for delivering such applications by electronic means.

18. **Disbursements under the Project will be transaction-based.** In addition to making advances to the DA, other disbursement methods (reimbursement, direct payment and special commitment) will be available for use



under the Project. Further instructions on the withdrawal of proceeds will be outlined in the Disbursement and Financial Information Letter and details on the operation of the DA will be provided in the Project Administrative, Accounting and Financial Manual of procedures (as part of the PIM).

Financial Reporting Arrangements

19. **The PMU will prepare consolidated quarterly un-audited IFRs in form and content satisfactory to the World Bank, which will be submitted to the World Bank within 45 days after the end of the quarter to which they relate.** The quarterly IFR will include the following information: (i) Statement of Sources and Uses of Funds; (ii) Statement of Uses of Funds by project Activity/Component including comparison with budget for the quarter and cumulative; and (iii) the Designated (all designated accounts) and project Account Reconciliation Statements and related bank statements.

20. **External Audit Arrangements.** An external independent and qualified private sector auditor will be recruited to carry out the audit of the project's financial statements under the supervision of the supreme audit institution. It would be a single consolidated audit for the project covering all accounts. The annual audits will be conducted based on ToR agreed with the supreme audit institution and that are satisfactory to the World Bank. The Auditor will express an opinion on the Annual Financial Statements and perform his audit in compliance with International Standards on Auditing. The auditor will be required to prepare a Management Letter detailing observations and comments and providing recommendations for improvements in the accounting system and the internal control environment. The audit report on the annual project financial statements and activities of the DA shall be submitted to the WB within six (6) months of the end of each fiscal year.

21. In accordance with World Bank Policy on Access to Information, the Borrower is required to make its audited financial statements publicly available in a manner acceptable to the Association; following the World Bank's formal receipt of these statements from the borrower, the World Bank also makes them available to the public.

Figure 1.2 Funds Flow Diagram

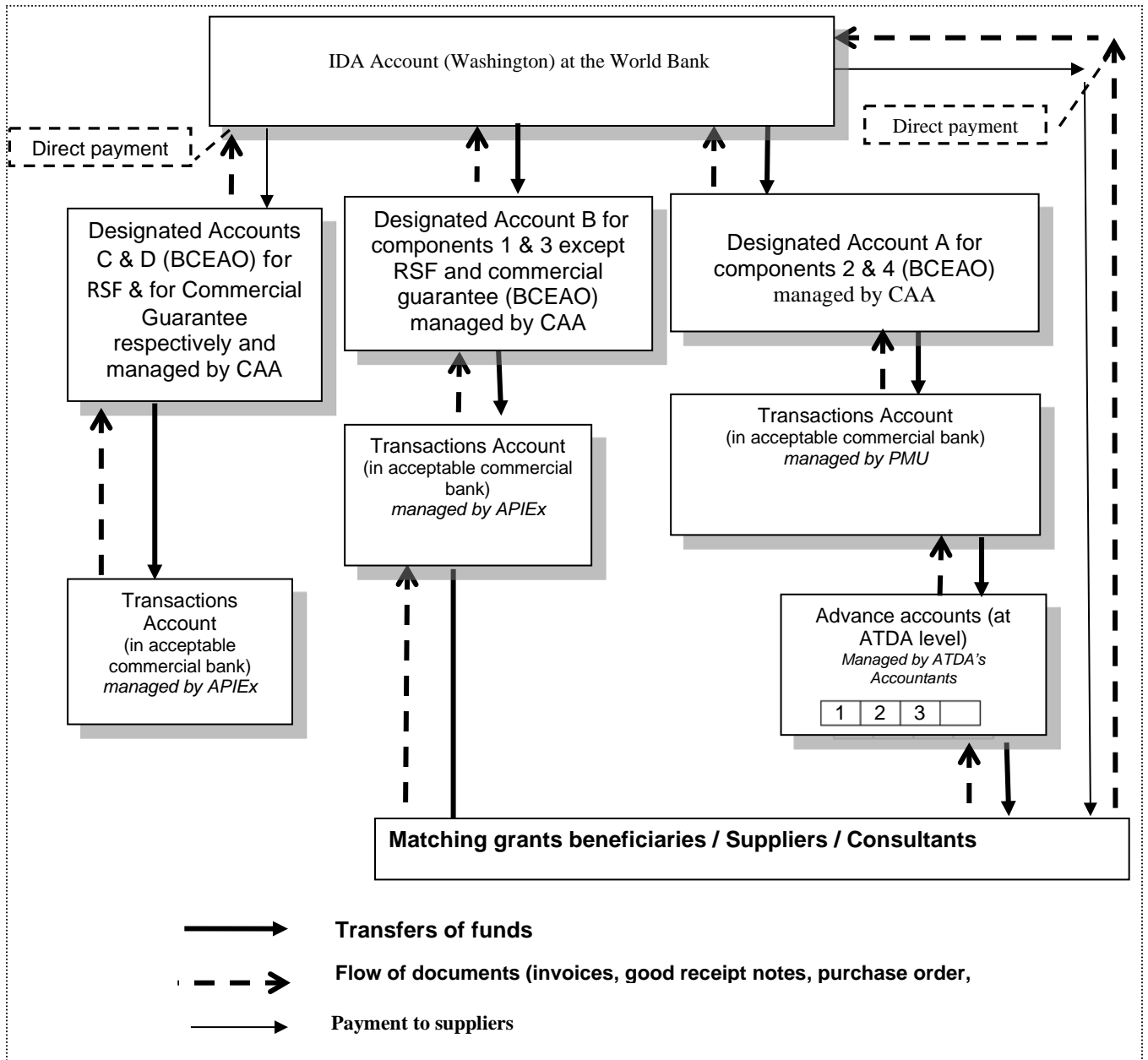


Table 1.2 FM action plan

Issue	Remedial action recommended	Responsible entity	Completion
Staffing	Recruit a qualified and experienced Financial Management specialist and a qualified and experienced Accountant in charge of project's FM activities under PMU's responsibility including Project's overall FM activities coordination, both to be recruited at PMU's level, and (ii) a qualified and experienced Chief Accountant to be hired and based at APIEx.	PMU/APIEx	Three months after effectiveness
Information system accounting software	Set up a "multi-project" computerized accounting system to fit project needs and generate useful information and financial statements	PMU/APIEx	Three months after effectiveness
Financial reporting: IFR	Format, content, and frequency of the IFR was agreed during project negotiation	PMU/APIEx	During negotiations
Administrative, Accounting and Financial Manual of procedures	Develop an Administrative, Accounting and Financial Manual of procedures (as part of the PIM) that also includes detailed procedures describing the system to pay recurrent expenditure with specific sections on anti-corruption aspects.	PMU	Prior to effectiveness
Internal audit	Recruit a qualified and experienced internal auditor fully dedicated to the project internal auditing; Submit quarterly internal audit reports to the WB within 45 days after the end of the audit period.	PMU	Three months after effectiveness
External financial auditing	Appoint an external auditor acceptable to IDA	PMU	Six months after effectiveness

22. Implementation Support Plan. FM implementation support missions will be carried out twice a year based on the substantial FM residual risk rating. Implementation Support will also include desk reviews such as the review of the IFRs and audit reports. In-depth reviews may be done where deemed necessary. The FM implementation support will include FM training missions for all implementing entities and will be an integrated part of the project's implementation support plan.



FM Activity	Frequency
Desk reviews	
Interim financial reports review	Quarterly
Audit report review of the project	Annually
Review of other relevant information such as interim internal control systems reports.	Continuous as they become available
On site visits	
Review of overall operation of the FM system	Twice per year (Implementation Support Mission)
Monitoring of actions taken on issues highlighted in audit reports, auditors’ management letters, internal audit and other reports	As needed
Transaction reviews (if needed)	As needed
Capacity building support	
FM training sessions	During implementation and & as needed.

23. The conclusion of the assessment is that the FM arrangements in place meet the World Bank’s minimum FM requirements under World Bank Policy and Directive for IPF Operations, and subject to the implementation of the FM action plan above, are therefore adequate to provide, with reasonable assurance, accurate and timely information on the status of the project required by WB. The project’s FM risk of the project is assessed as Substantial and is expected to be Moderate once the mitigation measures are implemented after the project effectiveness date. This is justified by the project nature and design and the multiplicity of actors and beneficiaries who are located in remote and dispersed areas around the country combined with the nature of activities supported by the project and the Bank’s minimum requirements under Bank Policy and Directive – IPF which describes the overall FM Bank policies and procedures.

C. Procurement

24. The Borrower will carry out procurement under the proposed project in accordance with the World Bank’s “Procurement Regulations for IPF Borrowers” (Procurement Regulations) dated July 2016 and revised in November 2017 and August 2018 under the NPF, and the “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants”, dated July 1, 2016, other provisions stipulated in the Financing Agreement.

25. Procurement activities shall be carried out both by the Project Management Unit (PMU) that will be established under the Ministry of Agriculture, Livestock and Fisheries (for activities related to Components 2 and 4) and APIEx (for activities related to components 1 and 3). All procuring entities as well as bidders, and service providers, i.e. suppliers, contractors and consultants shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with paragraph 3.32 and Annex IV of the Procurement Regulations.



26. The Bidding Documents-BD, Request for Proposals-RfP, elaborated by the PMU will be submitted to the person in charge of procurement (*Personne Responsable des Marchés Publics*) to request the clearance of the Procurement Control Commission of the Presidency or the National Procurement Control Directorate (*Direction Nationale de Contrôle des Marchés Publics*) under the Ministry of Finance depending of the competency of the procurement control threshold.

27. All procuring entities as well as bidders, and service providers, i.e. suppliers, contractors and consultants shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with paragraph 3.32 and Annex IV of the Procurement Regulations.

28. The Borrower shall prepare and submit to the World Bank a General Procurement Notice (GPN) and the World Bank will arrange for publication of the GPN in the United Nations Development Business (UNDB) online and on the World Bank's external website. The Borrower may also publish it in at least one national newspaper.

29. The Borrower shall publish the Specific Procurement Notices (SPN) for all goods, works, non-consulting services, and the Requests for Expressions of Interest (REOIs) on their free-access websites, if available, and in at least one newspaper of national circulation in the Borrower's country, and in the official gazette. For open international procurement selection of consultants using an international shortlist, the Borrower shall also publish the SPN in UNDB online and, if possible, in an international newspaper of wide circulation; and the World Bank arranges for the simultaneous publication of the SPN on its external website.

30. Project Procurement Strategy for Development (PPSD): As part of the preparation of the project, the Borrower (with assistance from the World Bank) prepared the PPSD which describes how procurement activities will support project operations for the achievement of project development objectives and deliver Value for Money (VfM). The procurement strategy is linked to the project implementation strategy ensuring proper sequencing of the activities. It considers institutional arrangements for procurement; roles and responsibilities; thresholds, procurement methods, and prior review, and the requirements for carrying out procurement. It also includes a detailed assessment and description of state government capacity for carrying out procurement and managing contract implementation, within an acceptable governance structure and accountability framework. Other issues considered includes the behaviors, trends and capabilities of the market (i.e. Market Analysis) to respond to the procurement plan.

31. The recruitment of civil servants as individual consultants or as part of the team of consulting firms will abide by the provisions of paragraph 3.23 (d) of the Procurement Regulations.

32. Procurement Plan: The Borrower prepared a detailed 18-month procurement plan, which was agreed upon by the Government and the World Bank during negotiations. The Procurement Plan will be updated in agreement with the World Bank Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. The scope of procurement is described in the Project Procurement Strategy for Development and the Procurement Plan agreed by the World Bank and summarized below.

33. The procurement activities that are critical for the success of this operation will consist for most of the contracts of:

- a. **Works:** These mainly concern the rehabilitation and maintenance of rural roads, and the construction of cold storage freight terminal at the new airport. Although knowledge exists at the local level, the use of external expertise may be needed in some cases. This external expertise will mainly focus on ensuring that local contractors commit to: the availability of experts; the mobilization of public works equipment;



the involvement of SMEs in the organization and management of construction sites; the respect of the deadlines of execution of the works; the quality of the implementation of the works.

- b. **Consulting services:** They will play an important role in the success of the project. As a result: (i) good pre-selection of consultants for the establishment of short lists; (ii) accurate wording of the terms of reference; (iii) the proper evaluation of the technical proposals; and (iv) a good appreciation of the reports that will be delivered by the consultants is extremely important. The support of the identified technical teams will be important, and measures will be taken to ensure their effective participation when called upon during requests for proposals.
 - c. **Acquisitions of goods:** Goods will be mostly locally procured; digital equipment and materials; cars; equipment, furniture and office supplies, etc. which are currently distributed by many local suppliers who may respond based on procedures open at national level in relation to the estimated amounts and the size of the contracts involved.
 - d. **Training, Workshops, Study Tours, and Conferences:** Workshops, Seminars and Conferences. Training activities would comprise workshops and training, based on individual needs, as well as group requirements, on-the-job training, and hiring consultants for developing training materials and conducting training. Selection of consultants for training services follows the requirements for selection of consultants above. All training and workshop activities (other than consulting services) would be carried out on the basis of approved Annual Work Plans / Training Plans that would identify the general framework of training activities for the year, including: (i) the type of training or workshop; (ii) the personnel to be trained; (iii) the institutions which would conduct the training and reason for selection of this particular institution; (iv) the justification for the training, how it would lead to effective performance and implementation of the project and or sector; (v) the duration of the proposed training; and (vi) the cost estimate of the training. A report by the trainee(s), including completion certificate/diploma upon completion of training, shall be provided to the Project Coordinator and will be kept as parts of the records, and will be shared with the World Bank if required. A detailed training and workshop plan outlining the nature of the training/workshop, number of trainees/participants, duration, staff months, timing and estimated cost will be submitted to IDA for review and approval prior to initiating the process. The selection methods will derive from the activity requirement, schedule and circumstance. After the training, the beneficiaries will be requested to submit a brief report indicating what skills have been acquired and how these skills will contribute to enhance their performance and contribute to the attainment of the project objective.
 - e. **Operational Costs:** Operational costs financed by the project means the incremental expenses incurred by the project as necessary for the required purpose, based on the AWPB as approved by the Association, on account of: Project implementation, management, and monitoring and evaluation; office space rental; computers; utilities; supplies; equipment maintenance; bank charges; vehicle operation, maintenance, and insurance; communications and public awareness-related media expenses; travel and supervision; salaries, bonuses and incentives of contractual and temporary staff; but excluding those of members of Benin's civil service.
34. **Procurement Manual:** Procurement arrangements, roles and responsibilities, methods and requirements for carrying out procurement shall be elaborated in detail in the Procurement Manual which will be a section of the PIM. The PIM will be prepared and agreed with the World Bank by effectiveness.



35. **Procurement methods:** The Borrower will use the procurement methods and market approach in accordance with the Procurement Regulations. Open National Market Approach is a competitive bidding procedure normally used for public procurement in the country of the Borrower and may be used to procure goods, works, or non-consultant services provided it meets the requirements of paragraphs 5.3 to 5.6 of the Procurement Regulations. The thresholds for market approaches and procurement methods are indicated in the below table. The thresholds for the World Bank’s prior review requirements are also provided in the table below:

Table 1.3 Thresholds for Procurement Methods, and Prior Review⁵⁶,

No	Expenditure Category	Contract (C) Value Threshold* [eq. US\$]	Procurement Method	Contracts Subject to Prior Review / [eq. US\$]
1	Works	$C \geq 10,000,000$	Open Competition International Market Approach and Direct Contracting	$\geq 10,000,000$
		$200,000 < C < 10,000,000$	Open Competition National Market Approach	None
		$C \leq 200,000$	RfQ	None
2	Goods, IT and non-consulting services	$C \geq 1,000,000$	Open Competition International Market Approach and Direct Contracting	$\geq 2,000,000$
		$100,000 < C < 1,000,000$	Open Competition National Market Approach	None
		$C \leq 100,000$	RfQ	None
3	National shortlist for selection of consultant firms	$C < 100,000$	for Consulting Services	None
		$C \leq 300,000$	for Engineering and Construction Supervision	None
4	International shortlist for selection of consultant firms	$C \geq 100,000$	for Consulting Services	$\geq 1,000,000$
		$C > 300,000$	for Engineering and Construction Supervision	$\geq 1,000,000$
5	Selection of Individual consultants	All Values	All Approaches	$\geq 300,000$
6	Direct contracting	All Values		Per the Procurement Plan
7	Training, Workshops,	All Values	Based on approved AWPB	AWPB

⁵⁶Note: The thresholds are for all countries unless indicated otherwise for specific items. They are set for the purposes of the initial procurement plan for the first 18 months. The thresholds will be revised periodically based on re-assessment of risks. All contracts not subject to prior review will be post-reviewed.



36. Procurement **Risk Rating:** The project procurement risk prior to the mitigation measures is rated “Substantial”. The risk can be reduced to a residual rating of “Moderate” upon consideration of successful implementation of the mitigation measures. The risks and mitigation measures are provided in the table below.

Table 1.4 Procurement Risk Assessment and Mitigation Action Plan

Procurement Risk	Mitigation measure	Responsibility and Deadline	Risk level Initial/residual
Ministry of Agriculture, Livestock and Fisheries			Substantial/ Moderate
Establishment of the PMU including the support unit under APIEx	<ul style="list-style-type: none"> Recruit of two (02) procurement specialists Prepare the procurement manual as part of the PIM satisfactory to the Bank 	<p>MAEP Within 3 months after signing of the Financial Agreement</p> <p>By effectiveness</p>	Substantial
Non-designation of the person in charge of procurement	<ul style="list-style-type: none"> Nominate the person in charge of procurement and establish the procurement control commission in accordance with articles 10 to 17 of the new procurement code No 2017-04 dated of October 19, 2017 	<p>APIEx By effectiveness</p>	High
Weak capacity of the PMU and support unit under APIEx in NPF procedures	<ul style="list-style-type: none"> Capacity building will be provided by the World Bank on NPF procurement. 	<p>WB During project implementation</p>	Moderate
Delay in developing Terms of Reference (TORs)	<ul style="list-style-type: none"> Invite beneficiaries to submit a draft TOR for the registration of the activity in the PTA; Anticipate soliciting from the World Bank TOR templates upon approval of the PTA; Use consultants to develop TORs in case of lack of in-house expertise. 	<p>MAEP/APIEx During project implementation</p>	Moderate
Long delay of the procurement process	<ul style="list-style-type: none"> Put in place a mechanism for monitoring the execution of the different phases of the procurement process To sensitize the actors, the organs and authorities involved in the procurement process to the respect of the regulatory deadlines of the procurement Code. 	<p>MAEP/APIEx</p>	High



D. Environmental and Social Safeguards

37. The Environmental and Social Review Summary (ESRS) conducted under the new Environmental and Social Framework (ESF) rated the project overall risk as Substantial. The environmental and social standards which are relevant for the project are: Assessment and Management of Environmental and Social Risks and Impacts (ESS 1), Stakeholder Engagement and Information Disclosure (ESS 10), Labor and Working Conditions (ESS 2), Resource Efficiency and Pollution Prevention and Management (ESS 3), Community Health and Safety (ESS 4), Land Acquisition, Restrictions on Land Use and Involuntary Resettlement (ESS 5), Cultural Heritage (ESS 8), and Financial Intermediaries (ESS 9). Based on this assessment, the Government has prepared, approved and disclosed the appropriate safeguards instruments including: (i) an Environmental and Social Management Framework (ESMF); (ii) a Pest Management Plan (PMP); and (iii) a Resettlement Policy Framework (RPF). Three additional documents which are required under the new ESF have also been prepared, adopted and disclosed, namely the Environmental and Social Commitment Plan (ESCP), the Stakeholder Engagement Plan (SEP) and the Labor Management Procedures (LMP).

Environmental Safeguards

38. The ESMF and the PMP have been prepared, in full compliance with national legal and regulatory framework and World Bank environmental and social standards, including a broad consultation framework involving all relevant stakeholder groups, both public and private, as well as civil society. A GRM will be set up to allow stakeholders and interested parties to bring up any concern regarding the project to the PMU with the aim of finding a solution. Safeguards documents will include guidelines on Occupational, Health and Safety (EHS/OHS) and clearly mentions that the company Environmental and Social Management Plan (Works-ESMP) must be approved by the PMU and their partners prior to the works commencement. The bidding documents and the contracts for main contractors as well as the sub-contractors must also include sections related to EHS/OHS. With respect to potential labor influx, the project will establish guidance and rules for (i) contractors to enhance the ESMPs and (ii) workers contracts will include measures for managing the potential impacts of such an outside workforce on the local community. Specific details will be prepared during the investment activities for contractors who will bring in workers and operators from outside the area.

Social Safeguards

39. National contractors' presence and capacity in some areas covered by the project may be insufficient for the type of work (rehabilitation and maintenance of access rural roads) that will be funded by the project. Therefore, some contracts might involve labor influx through the contracting of firms coming from other regions and the involvement of workers that are not from the area. To mitigate the risks associated with the labor influx including the risk of gender-based violence (GBV), all infrastructure contracts executed under this project will include explicit contractual clauses prohibiting GBV, including the enforcement of a code of conduct by all workers. The code of conduct will be translated in all relevant languages and will be displayed in the contractor's main facilities in such a way that local populations are also informed. Specific reporting mechanisms of GBV incidents will also be established through the GRM, the supervision engineers, the PMU and the project's safeguards specialists.



40. To ensure that safeguard instruments prepared in line with the environmental and social standards, the PMU will hire an Environmental Safeguards Specialist and a Social Safeguards Specialist. Both specialists will be fully in charge of all aspects of environmental and social safeguards and will regularly monitor all safeguard requirements. World Bank implementing support missions will also include environmental and social safeguards specialists to ensure that all safeguard issues are addressed properly, in a timely manner.

41. The construction and rehabilitation of infrastructure under the project could involve land acquisition that would lead to loss of land and/or property, loss or disruption of sources of income or livelihood, restriction to natural resources access for individuals or groups of persons. Given the fact that the exact locations of investment are not yet known, a Resettlement Policy Framework (RPF) has been prepared, adopted and disclosed as a due diligence measure to mitigate potential negatives risks and impacts of the involuntary resettlement operations. The RPF will serve as guide to the preparation and implementation of possible Resettlement Action Plans (RAP) that will also be reviewed, consulted upon and disclosed prior to the commencement of any related civil works.

Other Safeguards

42. The Project triggers OP 7.50 related to Projects on International Waterways. This policy is triggered because some of the investments to be supported through the matching grants under Component 3 include small-scale irrigation schemes located in the Niger River, Volta River, Oueme, Mono and Couffo Rivers. A maximum of 1,000 ha may be rehabilitated under the Project, corresponding to an annual maximum water requirement of 14.25 million cubic meters. Most of the investments will focus on the rehabilitation and minor alteration of small-scale irrigation schemes. An exception to the Riparian Notification Requirement under OP7.50 has been approved by Bank management on April 16, 2020. The World Bank team will work closely with the GoB and the relevant respective basin authorities to ensure full compliance with the policy.

43. **Grievance Redress Mechanism (GRM).** A Grievance Redress Mechanism (GRM) was set up to allow stakeholders and interested parties to bring up any concern regarding the program to the PCU with the aim of finding solutions. In this regard, communities and individuals who believe that they are adversely affected by a World Bank (WB) 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 Grievance Redress Service (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

E. Implementation Support Plan

44. 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 supervision missions will be maintained at periodic intervals of at least two missions per year. The first Implementation Support Mission (ISM) will be undertaken no later than three 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. Members of the project task team will organize and undertake field visits to verify compliance with the policies and procedures spelled out in the Project Implementation 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 to 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 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.

45. **Implementation support missions** will be conducted at least twice a year. Missions will be based on the latest quarterly implementation and financial monitoring reports prepared and submitted by the PMU. Missions will allow the World Bank team to perform evaluations of implementation progress to ensure that project resources are being used effectively to achieve the PDO and provide technical support to the PMU and any other implementing institutions. Additional implementation support will be provided by field-based World Bank staff in between formal missions.

Table 1.5: Implementation Support Plan.

Time	Focus	Skills Needed	Location	Number of Trips per year	Resource Estimate (Staff Weeks) per year
First 12 months	Project management, coordination, and supervision	TTL, Co-TTL	Lome, Cotonou	3	20
	FM experience, knowledge of World Bank FM norms, and training	FM Specialist	Cotonou	0	6
	Procurement experience, World Bank procurement norms knowledge, and training	Procurement Specialist	Cotonou	0	6
	Social Safeguards supervision and monitoring, training as needed	Environmental Safeguards Specialist	Abidjan	2	6



	Environmental Safeguards supervision and monitoring, training as needed	Social Safeguards Specialist	Ouagadougou	2	6
	Technical implementation support and monitoring	Agriculture Economist	Cotonou	1	4
		Senior Private Sector Specialist	Abidjan	2	6
		Senior Agriculture Economist	Abidjan	2	6
12-72 months	Project management, supervision, and coordination	TTL and Co-TTL	Lome, Cotonou	2	24
	FM (FM reviews and supervision, training, and monitoring)	FM Specialist	Cotonou	0	4
	Procurement management (reviews and supervision, training as needed)	Procurement Specialist	Cotonou	0	4
	Social supervision and monitoring, training as needed	Social Safeguards Specialist	Ouagadougou	2	8
	Environmental safeguards, supervision and monitoring, training as needed	Environmental Safeguards Specialist	Abidjan	2	8
	Technical implementation support and monitoring	Rural Road Specialist - consultant	Dakar	2	8
		Agriculture Economist	Cotonou	2	8
		Senior Private Sector Specialist	Abidjan	2	8
		Senior Agriculture Economist	Abidjan	2	8

- a) Mid-term review (MTR): A MTR will be carried out mid-way in the implementation phase. It will include a comprehensive assessment of the progress in achieving PDO as laid out in the Results Framework. The MTR will also serve as a platform for revisiting design issues that may require adjustments, assess progress and make recommendations if necessary, for any changes in the PDO, the content of the components, resource allocation, and performance indicators to ensure satisfactory achievement of the project’s objective.
- b) At project closing, the PMU will prepare a completion report documenting the project’s achievements and results and drawing lessons for future interventions. The completion report will be based in part on the project’s technical, economic, social, and environmental impact survey studies, as well as an assessment of beneficiaries’ (both functional users and individuals) satisfaction. The Bank will carry out an implementation completion review to assess the success of the project and draw lessons from its implementation

46. **Implementation Support Plan and Resource Requirements.** In general, the World Bank task team will conduct two annual implementation support missions and field visits to the target regions. During the first year

of project implementation, 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. 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.

47. The table below summarizes the implementation support plan and the estimated inputs that will be needed from the World Bank to provide appropriate and adequate implementation support for the proposed project during implementation.

Table 1.6 Resource Requirements for Implementation Support Plan

Time Year	Focus	Primary Skills Needed	Nb. of Missions	Budget (US\$)
Year 1	<ul style="list-style-type: none"> • Project launch • Initialization of project components • FM systems functioning effectively • Procurement practices following World Bank norms • ESMF in place 	<ul style="list-style-type: none"> • Team lead • FM, procurement • Environmental Specialist • Social Safeguards Specialist • Financial Sector Specialist • Value Chain/Business Plan Specialist • Agriculture Economist • Gender Specialist • M&E Specialist 	3	260,000
Year 2	<ul style="list-style-type: none"> • Monitor implementation of project activities • FM, procurement, safeguards 	<ul style="list-style-type: none"> • Team lead • FM, procurement • Environmental Specialist • Social Safeguards Specialist • Financial Sector Specialist • Value Chain /Business Plan Specialist • Agriculture Economist • Gender Specialist • M&E Specialist 	2	195,000
Year 3	<ul style="list-style-type: none"> • Monitor implementation of project activities • FM, procurement, safeguards • Midterm review 	<ul style="list-style-type: none"> • Team lead • FM, procurement • Environmental Specialist • Social Safeguards Specialist • Financial Sector Specialist • Irrigation Specialist • Value Chain/Business Plan Specialist • Agriculture Economist • Gender Specialist • M&E Specialist 	2	195,000
Year 4	<ul style="list-style-type: none"> • Monitor implementation of project activities • FM, procurement, safeguards 	<ul style="list-style-type: none"> • Team lead • FM, procurement • Environmental Specialist • Financial Sector Specialist • Social Safeguards Specialist • Value Chain/Business Plan Specialist • Agriculture Economist • Gender Specialist • M&E Specialist 	2	195,000
Year 5	<ul style="list-style-type: none"> • Monitor implementation of project activities • FM, procurement, safeguards 	<ul style="list-style-type: none"> • Team lead • FM, procurement • Environment Specialist • Social Safeguards Specialist • Financial Sector Specialist • Value Chain/Business Plan Specialist 	2	195,000

Time Year	Focus	Primary Skills Needed	Nb. of Missions	Budget (US\$)
		<ul style="list-style-type: none"> • Agriculture Economist • Gender Specialist • M&E Specialist 		
Year 6	<ul style="list-style-type: none"> • Project withdrawal and closure • Implementation Completion and Results Report (ICR) 	<ul style="list-style-type: none"> • Team lead • FM, procurement • Environmental Specialist • Financial Sector Specialist • Social Safeguards Specialist • Value Chain/Business Plan Specialist • Agriculture Economist • Gender Specialist • M&E Specialist • ICR writer 	2	195,000



ANNEX 2: DETAILED PROJECT DESCRIPTION

COUNTRY: Benin

AGRICULTURAL COMPETITIVENESS AND EXPORT DIVERSIFICATION PROJECT

- 1. The project aims at laying the foundation for a profound structural transformation of Benin’s agriculture sector to foster a competitive position in the targeted markets for the selected value chains.** Moreover, by achieving competitiveness in key value chains for pro-poor growth, the project can leverage those gains to generate revenues and employment for targeted beneficiaries. Targeted value chains will be supported by a range of policy and investment instruments that will enhance Benin’s access to the targeted markets for each value chains. At its core, the project will use an integrated value chain approach to understand and then resolve the constraints specific to each value chain and market, which inherently prohibit Benin from achieving its market potential.
- 2. Project activities will be funded by a loan of US\$160 million over six years under the Scale Up Facility (SUF),** with four interrelated components: (i) strengthening the enabling environment and infrastructure for agri-food value chains development ; (ii) increasing productivity, connectivity, value addition, and resilience ; (iii) promoting private investments and access to finance; (iv) project management; and (v) CERC component. The initial focus will be on value chains with known export potential, including cashew, pineapple and expanding gradually to other horticultural and food crops as recommended by the CRE process. Project targeted regions will initially include Agricultural Development Pole 4 (which represents about 80 percent of total production of cashew) and Pole 7 (which represents about 95 percent of total production of pineapple). The project will progressively roll out to new value chains based on their competitiveness and market potential.
- 3. Component 1. Strengthening the enabling environment and infrastructure for agri-food value chains development (US\$35 million equivalent).** This component aims to strengthen and reinforce the enabling environment for Benin’s competitiveness in agribusiness and export development, in the following three areas: (i) policy and regulatory framework; (ii) design and implementation of competitiveness strategies; and (iii) critical infrastructure. Efforts will be made to mainstream climate resilience and adaptation and ensure sustainability of these investments through climate-proofing. Some of the key bottlenecks that hinder agricultural export diversification at the level of the enabling environment include: inadequate regulatory frameworks and administrative capacity for the delivery of public goods in agribusiness; lack of internal capacity within the Government to develop strategic analysis and field methodologies for improving the competitiveness of value chain actors; inefficient institutions and systems tasked with agricultural value chain development; lack of critical public infrastructure for the agri-food supply chain; and, gaps in the skills programs available to entrepreneurs and workers and mismatch with actual needs of agribusiness sector. Component 1’s areas of intervention constitute enabling conditions for private enterprises and will be implemented with the objective of developing the private sector.
- 4. Sub-Component 1.1: Enhancement of relevant public institutions and policy framework for export promotion (US\$5 million equivalent).** Sub-Component 1.1’s objective is to support the government in offering essential public services, building administrative capacity, and in making informed policy decisions that enhance competitiveness, climate resilience and export diversification in the agribusiness sector. Through this sub-component, the project will provide support to several public agencies. First and foremost, the component will provide funding for a series of CREs that will support value chain development and export promotion. Efforts will



be made to prioritize agribusiness investments that help to increase agricultural resilience and mitigate climate change. Project support will be delivered to train responsible agencies – APIEx and ATDA – in strategic market analysis and cluster change management tools that they will need to run a CRE. The project will also support these agencies with the technical assistance and financial resources to carry out at least four CREs per year for three years in selected regional poles. The CREs are expected to identify common infrastructure required to enhance the competitiveness of a targeted cluster. Recommendations and actions coming out of the CRE process will also provide feedback for government policy making and program implementation. As such, the CREs will identify necessary public services, for instance agricultural extension and agrometeorology/climate information and advisory services, that must be delivered to enhance value chain competitiveness for the targeted farmers. The CRE team will make recommendations for allocating financing to specific agencies for them to provide essential public services for the targeted cluster. Activities that are eligible for financing under the project, will be included in the AWPB under the relevant components. In addition, the project will provide technical assistance to the following public agencies in the delivery of pre-identified essential public services: National Agency for Investment and Export Promotion (APIEx), *Agence Béninoise de la Sécurité Sanitaire des Aliments* (ABSSA), *Agence Nationale du Domaine et du Foncier* (ANDF), the *Direction des Assurances du Bénin*, and *Agence Nationale de l'Aviation Civile* (ANAC).

5. The main project-targeted areas to improve the delivery of public good services and the recipient public agencies in need of investment include:

- *Agence Béninoise de la Sécurité Sanitaire des Aliments*. ABSSA will be supported in developing appropriate norms and quality standards for selected products identified through the CREs under Sub-Component 1.2. Moreover, support will be provided to (i) obtain ISO 17020 accreditation for inspection services and ISO 17025 accreditation for laboratories, as well as training for ABSSA staff; (ii) acquire trucks and refrigerated vehicles needed to collect samples for microbiological analyses under controlled conditions; and (iii) technical assistance for developing a payment model for sustaining operating costs.
- *Agence Nationale du Domaine et du Foncier*. The project will provide technical assistance to ANDF in reviewing, establishing and/or enforcing regulations regarding the ownership, leasing and adjudication of land to facilitate agribusiness investments.
- *Direction des Assurances du Bénin*. The project will provide the Insurance Regulatory Agency in the Ministry of Economy and Finance with technical assistance on the design and supervision of agricultural insurance regulations⁵⁷. The project will also finance technical assistance to clarify policy options and strategies for the promotion of the micro-insurance agenda in the agricultural sector, including relevant fiscal support. The technical assistance will build the administrative capacity to run information and sensitization campaigns for rural households to increase insurance uptake.
- *Agence Nationale de l'Aviation Civile* (ANAC) will be supported in the primary/local collection and publication of agro-meteorological data for use by private insurance markets and researchers. This will entail the procurement of equipment and the training of existing staff.

⁵⁷ The technical assistance will entail harmonization of legal and regulatory practices with the *Conférence Interafricaine des Marchés d'Assurances* (CIMA) region, the common insurance regulation for the CFA franc zone.



- *Independent assessments of regulations and procedures.* In addition to the above, the component will finance independent assessments on institutional topics that streamline other existing procedures governing entry and operations in the targeted sectors. These will be identified through the CRE process under Sub-Component 1.1, such as business registration and licensing⁵⁸, customs procedures⁵⁹, contract enforcement and/or policy frameworks for investment and taxation. Areas for reform/administrative enhancements will be prioritized under Sub-Component 1.1. Support to the overhaul of relevant regulatory and administrative procedures should aim to enable the private sector to access markets in selected value chains.

6. The sub-component will contribute to the implementation of the following institutional reforms (i) the regulation of the marketing system of targeted value chains, including those selected through the CREs; (ii) the definition and implementation of the national policy on the standards and quality of exported products; (iii) the harmonization of domestic technical regulations with those of the international markets for the targeted value chains and; (iv) the updating of the legislative and regulatory policies on traceability, processing, marketing, and certification of products with high export potential. The sub-component will also contribute to the enhancement of 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. In this regard, the project will support the development and improvement of food quality standards and the respect of sanitary and phytosanitary norms in the agri-food sector (HACCP, ISO and others) through collaboration and partnership with specialized agencies (ABSSA, DDAEP and ANM). Critical infrastructures and equipment necessary for these institutions will also be supported.

Box 2.1 Territorial Agency for Agricultural Development (ATDA)

ATDA was created in 2017 with a mission to promote priority value chains in each of the seven national agricultural development poles, as identified in the National Program for the Development of Value Chains (*Programme National de Développement des Filières - PNDF*). ATDA has four technical directors: *Directeur des programmes* (with *Chefs de programmes* for specific value chains); *Directeur de renforcement de capacité*; *Directeur de l'aménagement et l'infrastructure*; and *Directeur Administratif et Financier*. It operates through autonomous decentralized units that act as decentralized departments of the Ministry of Agriculture, one each in the seven development poles. Each ATDA unit is led by a general manager and includes four services (Monitoring and Evaluation, Procurement, Accounting, and Administrative Secretariat). Within each pole, there are also Communal Units (*Cellule communale* ATDA). For example, in Pole 7 there are 24 communes and 24 *cellules communales* ATDA – one for each commune. Each communal unit has a *Chef de cellule* and technicians. ATDA also operates in collaboration with private service providers, recruited as needed by each ATDA.

7. APIEx and ATDA will jointly implement at least four CREs per year for two years in selected regional poles.⁶⁰ The first set of CREs will focus on value chains that are more export-ready, as such, likely to include pineapple, cashew and two other fresh product value chains. The second and third rounds of CREs will be based on a selection

⁵⁸ For instance, an assessment of the Ministry of Transportation's regulatory and administrative procedures related to trucking firms will be financed to assess its conformity to best practice and to competition policies that are applicable to the sector.

⁵⁹ This could include automating customs procedures to ensure that they are time-efficient and in conformity with export market requirements.

⁶⁰ This is a SUF funding scenario. If there are additional IDA resources, other non-export-oriented products would be added.



to be conducted by the Government using a screening methodology with an established set of criteria. The final CRE in the first set of four will include a CRE with national-level stakeholders on the horticulture sector more broadly. The CREs will be facilitated jointly by APIEx and ATDA staff, who will be responsible for applying the strategic analysis, change management and public-private dialogue tools that they will acquire through training and coaching. APIEx and ATDA will also be responsible for (i) compiling summary investment plans for each project region (arising from the CRE process) for consideration by the PMU, and (ii) facilitating beneficiary access to other project instruments through information campaigns. Furthermore, recommendations and actions coming out of the CREs will provide feedback for government policy making and program implementation

8. For the purpose of conducting the CREs, the Benin's seven agricultural development poles will be grouped into three zones: *Zone Nord* (Pole 1,2,3); *Zone Centre* (Pole 4); and *Zone Sud* (Pole 5, 6,7) (see Figure 2.1 below). The staffing for CRE implementation will be comprised of existing APIEx and ATDA staff, complemented by new staff (consultants) to be supported by the project. In order to implement the CREs, APIEx will have 4 staff per zone (for a total of 12) dedicated to working on the CREs. ATDA would require 2 staff per pole, for a total of 14 staff. The teams undertaking the CREs will be a mix of existing APIEx and ATDA staff, along with consultants who would work within each institution under their respective Managing Directors. In order to ensure sustainability and continuity, the Government will aim to hire the consultants as permanent staff by the end of the project.

9. **Sub-Component 1.2: Development of critical infrastructure and market information systems (US\$30 million equivalent).** Sub-Component 1.2 will finance public infrastructure, namely construction of a cold storage freight terminal and related trade infrastructure at the new airport that will be built at *Glo-djigbé*⁶¹, and other public infrastructure to be identified through the CREs process. . To the extent possible, the infrastructure investments will be climate-proofed and connected to investment plans to be developed by APIEx in the context of the CREs, which would have identified the critical, missing infrastructure needed to enhance the competitiveness of selected value chains. Particularly, the project will finance: (i) the technical feasibility studies and environmental and social impact assessments for the proposed infrastructure; (ii) a cold storage freight terminal and related trade infrastructure – including equipment – at the new airport that will be built at *Glo-djigbé* to be managed as a public concession by a private service operator; (iii) an upgrading of existing cold storage infrastructure, including the acquisition of equipment at the *Cotonou* airport; ; and (iv) other public infrastructure to be identified through the CREs under Sub-Component 1.1. The project will incorporate energy efficiency measures in the cold storage and trade infrastructure. Energy-efficient solar-powered storage systems confer mitigation benefits by reducing the consumption of petroleum. They also help to reduce postharvest losses and maintain the quality of agricultural produce, thereby enhancing resilience. The sub-component will also provide support in establishing an effective market information system, which would enable producers to decide on the types of crops to produce, when to produce them using the best combinations of inputs, and where to sell them (domestic and international markets) to maximize their incomes, especially in the wake of COVID-19 crisis and its impact on supply chains and domestic and external demand for agri-food products. In terms of market knowledge, the project will finance the collection and dissemination of market information regarding the project-supported value chains. It will support the strengthening of the existing Agricultural Market Information System under APIEx in close collaboration with the Ministry of Agriculture, Livestock and Fisheries, particularly concerning trends and opportunities on international markets of agri-food products.

⁶¹ The project has identified the need for new infrastructure and equipment at the airport – including cold chain warehouses, scanners and customs offices – in order to provide seamless border processing and an uninterrupted cold chain. Investments in infrastructure will be financed at the *Glo-djigbé* airport. Temporary cold storage solutions – such as reefer containers and other movable equipment – will be financed at the existing *Cotonou* airport upon presentation of a feasibility study and transition plan for when the new airport opens.



10. Component 2. Increasing productivity, connectivity, value addition, and resilience (US\$65 million equivalent). Component 2 will finance activities to increase the competitiveness of agri-food products identified through the earlier described CRE process on targeted markets, starting with pineapple and cashew nuts and proceeding with other priority value chains identified. This component will finance climate-smart agricultural practices to deliver the triple wins of increased productivity, enhanced adaptation and resilience and reduced GHG emissions. The interventions will include: (i) access to climate-smart quality inputs, including improved seeds and planting materials to enhance productivity starting with cashew and pineapple and extending to other value chains, including those negatively impacted by the COVID-19 pandemic (for example vegetable crops, soybeans, and poultry); (ii) the delivery of extension, climate information and other advisory services, through public and private institutions, as needed to ensure adequate level of sustainable production with improved quality standards; and (iii) support to the local agro-processing industry for the adoption of quality and safety standards for exports markets. All activities and investments supported under the component will include risk reduction and resilience enhancements, as well as climate-smart and good environmental management practices. The focus will be on increased productivity combined with adaptation measures. Support to private investments will also include specific mandatory mitigation options. Activities under this component will be led by the Ministry of Agriculture Livestock and Fisheries (MAEP) in close collaboration with APIEx and other line ministries as relevant.

11. Sub-Component 2.1: Enhancing the availability and access to climate-smart quality inputs (US\$28 million equivalent). The objective of the sub-component is to ensure the availability and access to quality inputs to boost farm productivity within the targeted value chains. In this regard, the project will : (i) support the national agricultural research and extension system for the development of high yielding climate-resilient varieties of targeted crops and testing of new crops with high-value and market potential; (ii) support the improved performance of the certification system and enhancement of voluntary inspections at the level of private seed nurseries; and (iii) promote access to planting materials using appropriate incentive mechanisms. There will be no irrigation investment under the sub-component. For pineapple and cashew, specific activities will start with:

a. **Enhancing the availability of quality planting materials for pineapple.** The project will provide support through an implementation agreement to the *Institut National de Recherches Agricoles du Bénin* (INRAB) and the *Direction de la Production Végétale* (DPV) for the production of foundation and breeder seeds of climate-smart, high-yield and wilt-resistant pineapple cultivars of the main local varieties: *Pain de sucre* and *Cayenne lisse*⁶². Mass selection of quality seedlings will be conducted under the technical supervision of INRAB and DPV. The objective is to make available 300 million quality seedlings to farmers within two years. DPV will monitor onward multiplication by contracted private seedlings producers and perform the certification of second-generation quality seedlings. The project will also support the production of in-vitro improved planting materials. This will be done through the promotion of private sector investments in in-vitro seedlings production using the financial instruments under Component 3. The project will also support capacity building for scientists within the research system, through specialized training as needed, especially in plant genetics, plant pathology, and plant protection.

b. **Enhancing the availability of quality planting materials for cashew.** The project will support the multiplication of 3,500,000 high yielding, stress tolerant, climate resilient cashew seedlings to replace aging cashew trees and establish new plantations. For this purpose, the project will contract with private cashew seedlings' producers, including youth agri-enterprises and farmers specialized in seedling multiplication at

⁶² Farm yields of the main local varieties *Pain de sucre* and *Cayenne lisse* remain low with 35 ton/ha and 45 ton/ha respectively compared to average potential yields of 70 and 80 tons/ha respectively. A large variability in fruits size is also observed at farm level.



village level. More specifically, the project will : (i) provide financial support to INRAB and DPV for provision of high potential parent tree seeds and available grafting materials to private cashew seedlings producers; and (ii) support trainings to upgrade the capacity of selected cashew seedlings' producers in seedlings production, handling, storage, and distribution. Currently, 40 cashew seedlings producers have already been certified by the Government for the multiplication of improved cashew seedlings. The matching grant scheme described under sub-component 3.1 will also be used to support the establishment of new operators and the expansion of existing nurseries. Eligible activities will include the provision of nursery equipment, materials, and appropriate facilities.

c. Enhancing the access to stress-tolerant, high-yielding planting materials for targeted value chains. The sub-component will specifically support the provision of subsidized climate-smart, high-yielding planting materials using the existing voucher system, starting with pineapple and cashew. For pineapple, the subsidy will cover the replacement of up to 5,000 hectares of existing pineapple plantations, as well as the establishment of 5,000 hectares of new plantations. These new plantations of pineapple will not be irrigated or use or risk polluting water from international waterways. Pineapple cultivars will be made available to farmers at a subsidized cost of FCFA 5⁶³. ATDA units at community levels, in collaboration with farmers' associations at village level, will be responsible for the compilation of the local demand for seedlings. They will conduct on-site field visits to confirm and validate producers' requests for pineapple seedlings. Vouchers will then be delivered to eligible farmers to acquire their awarded quantity of seedlings through private seedlings multiplication operators. Delivery of the seedlings to farmers will be made upon presentation of the voucher and receipt of farmers' contribution deposit on the operators' account. Payment is then made by ATDA to the operator upon presentations of co-signed delivery slips and receipts of farmers contribution deposits. For cashew, the objective is to support the establishment 35,000 ha of new plantations⁶⁴ out of an overall national target of 60,000 ha using the same mechanism described above. These new plantations of cashew will not be irrigated or use or risk polluting water from international waterways.

d. Rehabilitation of existing ageing cashew plantations. In addition to the establishment of the 35,000 ha of new cashew plantations described above, the project will support the rehabilitation of 100,000 ha of aging cashew plantations⁶⁵ out of an existing potential of 285,000 ha nationwide. These rehabilitated plantations of cashew will not be irrigated and will not pose any risk to polluting water from international waterways. The rehabilitation of old cashew plantations will be carried out by qualified service providers who will be selected through a competitive bidding process.

e. Providing technical support to INRAB for (i) the development of high yielding climate-resilient varieties of targeted crops and testing of new crops with high-value and market potential; and (ii) conducting a market-based study on new crops that should be considered for crop testing.

⁶³ Total seedlings production costs are estimated at FCFA 20 per unit. The total cost of support is estimated at US\$14 million

⁶⁴ Average production cost of cashew planting material is currently estimated at around US\$1.00. SC2.2 is expected to facilitate the acquisition of improved materials by farmers through subsidized planting materials at US\$0.20 to promote their adoption with a target to establish up to 35,000 hectares of new plantations by end of the project for an approximative cost of US\$3.0 million.

⁶⁵ Average cost for rehabilitation is FCFA 110,000 per hectare. The project will support 50 percent of the total cost, in the amount of FCFA 55,000 (about US\$100) per hectare. For the 100,000 hectares to be rehabilitated over the project life, the estimated cost is about of US\$10 million.



12. Sub-Component 2.2: Improving farmers' access to knowledge for climate-smart agriculture, quality enhancement and value addition (US\$7 million equivalent). The objectives of this sub-component are to: (i) boost farm productivity and incomes within targeted value chains by promoting the adoption of climate-smart good agricultural practices (GAPs); (ii) strengthen producers' organizations and; (iii) strengthen resilience by increasing the adoption of quality and food safety standards in post-harvest and processing activities. Support to farmers will follow clear and transparent processes and eligibility criteria to be defined in the Project Implementation Manual which will be produced by effectiveness. The sub-component will support the following activities:

a. Enhancing producers' technical knowledge. The objective is to strengthen the technical and managerial capacity of producers and agro-processors in order to boost the adoption of critical innovations. To achieve this, the project will focus on training farmers across selected value chains in GAPs for crop production and quality management, including post-harvest handling and safety standards. One of the thematic focus of the capacity building of small producers' efforts will be to increase knowledge and understanding of the risks and impacts of climate change on production and yields of the targeted value chains and reduce post-harvest losses. This will be done through technical assistance under the coordination of ATDA. CSA field manuals for sustainable farmland management for all the targeted crops will be produced. The field manuals will support the adoption of climate-smart practices promoted by the project in a comprehensive and methodical step-by-step approach. Due to increasing frequency of droughts and erratic rainfalls, the project will support the rehabilitation and renovation of existing small-scale irrigation schemes, including providing access to solar-powered kits and water efficient systems through the matching grants scheme under sub-component 3.1. In addition, the project will support on-demand training activities regarding the use of good agricultural practices (GAPs) for crop production and quality management, including post-harvest handling and safety standards which will help producers build resilience and reduce GHG emissions. The trainings to be provided under the sub-component will be delivered through contractual arrangements with NGOs and other private service providers under the coordination of ATDAs.

b. Strengthening inter-professional bodies and producers' organizations. In order to strengthen the legal status of inter-professional bodies in the agricultural sector, the sub-component will provide technical assistance to MAEP in the speeding up of the adoption of the already prepared law on agricultural interprofessions. In addition, the project will support capacity building activities in favor of selected inter-professional bodies (starting with the *Association Interprofessionnelle de l'Ananas du Bénin* and *Interprofession de la Filière Anacarde du Bénin*). This will enable them to better fulfill their responsibility, including the promotion of services to members, such as technical advisory services and promoting the sourcing of agricultural equipment and goods in bulk to members. Support for targeted crops producers' organizations and their unions will also include raising climate change awareness and potential agronomic practices to address climate change in agricultural production, the legal registration of such organizations, when needed, and technical and managerial training for their operational staff in areas such as good governance, operational management, financial and auditing techniques, business development, marketing plans, and creditworthiness. This training will build on experience from IFC Agribusiness Leadership Program (ALP), which is based on SCOPEinsight assessments and integrates classroom training and coaching to improve the management skills and professionalism of farmer organizations. Aside from building administrative and managerial capacity, the project will provide support for forums and exchange visits.

c. Promotion of quality control and food safety practices. Climate change is expected to aggravate feed and food safety problems across the agricultural value chain. Temperature increases and changes in rainfall



patterns will have an impact on the persistence and patterns of occurrence of food pathogens, necessitating improved capacity development for food safety and quality management. The project will also support crop storage improvements that will be more resilient to climate change impacts such as diseases, pests, or spoilage. In addition, the principles of quality control and food safety practices in processing and marketing of targeted agri-food products will be promoted as well, including Good Manufacturing Practices (GMPs) and Good Hygienic Practices (GHPs), as well as food safety management standards such as Hazard Analysis and Critical Control Point (HACCP). This support will be provided through technical assistance to small and medium processors in the targeted value chains. This will be done in collaboration with providers of HACCP implementation services.

13. Sub-Component 2.3: Rehabilitation of rural roads (US\$30 million equivalent). Sub-Component 2.3 will finance the rehabilitation and maintenance of climate-resilient rural roads to enhance access to domestic markets and the competitiveness of selected value chains. Particularly, the project will finance: (i) technical feasibility studies, climate proofing, and environmental and social impact assessments for the proposed road rehabilitation; (ii) the rehabilitation of 1,200 km and the maintenance of 4,200 km of existing rural road networks in a period of six years, to enable market connectivity for project regions (see targeted regions for road rehabilitation in Annex 2 Table 2.1). This will complement the 600 km that will be rehabilitated and the 2,400 km to be maintained under the Benin Rural Digital Transformation Project. The sub-component will also provide support to the Ministry of Transport and the MAEP (*Direction du Génie Rural*) to guide and monitor the rehabilitation of rural roads as well as the mechanism to support the maintenance of these roads after the project closing. The rehabilitation and maintenance of rural roads in agricultural production zones in project intervention areas will complement the national rural road network rehabilitation program launched by the Government to improve connectivity and access to main agricultural production areas in a balanced way throughout the whole country. To enhance the resilience of the project's investments to climate change and natural disasters, the road rehabilitation works will include improvements in the drainage structures to ensure all-weather/season access.

14. The project will ensure climate-proofing of infrastructure through feasibility studies and infrastructure design that are informed by detailed climate risk assessments. Climate proofing will enhance adaptation and resilience to climate change. To protect the infrastructure against extreme events, the project will collect and compile relevant climate change information, identify climatic trends and impacts on infrastructure planning, document time horizon of the planning relevant to climatic trends, and distinguish the planning elements (exposure units) that are particularly affected by climate change and address these in the design. The materials and design standards for road rehabilitation have an emphasis on reducing the risk of flooding and associated destruction of housing and facilities. The rural roads to be rehabilitated will be selected in close collaboration with the Committee for Rural Roads (comprised of the Ministry of Infrastructure and the MAEP) and in close consultation with targeted communities. The project will provide technical assistance to ensure that efficient management (including cost-recovery) systems are in place for public infrastructure, including through concessions to specialized private-sector operators or through infrastructure maintenance mechanisms to be established with project support.



Table 2.1 Project regions targeted for rural road rehabilitation and maintenance

Project /Road	Road to be rehabilitated	Road to be maintained	Total	Zones
Benin Digital Rural Transformation Project	600km	2,400km	3,000km	Malanville, Karimama, Kandi, Banikoara, Ségbana, Gogounou, Kouandé, Kérou, Péhunco, Sinendé, Kalalé, Bembéréké
Benin Agricultural Competitiveness and Diversification Project (SUF)	1,200km	4,200km	5,400km	Nikki, Tchaourou, Péréré, Parakou, Ndali, Djidja, Savalou, Bante, Dassa, Glazoué, Save, Ouesse, Djougou, Ouaké, Parts of Atlantic and Ouémé Departments

15. Component 3. Promoting Private Investment and Access to Finance (US\$45 million equivalent).

Component 3 will provide investment support all along the targeted value chains selected to foster the adoption of climate-smart agricultural practices and develop viable businesses. Component 3 will support: (i) a mechanism to stimulate agri-business investment through the provision of matching grants, and (ii) a risk sharing mechanism for private sector actors engaged in agri-business to better manage climate-related and market risks. The matching grant scheme will entail financial support to farms and relevant agribusiness SMEs to increase their access to critical facilities and development services. This scheme will be paired with a finance mechanism that will provide guarantees to targeted farmers and SMEs to access commercial lending⁶⁶. In this regard, risk sharing guarantees will be provided to private sector firms in order to enable (i) lending by commercial banks, and (ii) private sector investment by other key service operators. This will help address the insufficient capacity to manage exposure to specific agricultural and weather-related risks in Benin.

16. Sub-Component 3.1: Investment support (US\$25 million equivalent).

Sub-Component 3.1 will support the establishment and operation of a Matching Grant mechanism for farms and firms to invest in agri-business. Targeted beneficiaries include two categories : (i) climate-smart production activities in individual farms and cooperatives, including nurseries⁶⁷, at production level, and (ii) agro-processing SMEs, transport companies, cold storage entities and other types of eligible agricultural service suppliers⁶⁸ specified in the PIM⁶⁹ and will include CSA-related criteria such as adapting to and building resilience to climate change, reducing GHG emissions across food value chains, and mainstreaming climate resilience in food quality management. Volatile agricultural production volumes and high post-harvest losses underline an urgent need to improve cold chains. Unreliable

⁶⁶ As part of this activity, a detailed analysis of the gender gaps in the selected value chains has been conducted to inform how the project could ease up access to finance or lower collaterals for female and young entrepreneurs.

⁶⁷ Eligibility criteria for this group will be limited to only those farmers, cooperatives or nurseries that have been formally registered In the Ministry of Agriculture for at least one year.

⁶⁸ Eligibility criteria for this group will be limited to only those firms which have been formally registered for at least one year prior to receiving the subsidy.

⁶⁹ The matching grant operating manual will be developed to highlight the operating principles and procedures of the fund, as well as the governance and internal control mechanisms.



electricity grids in Benin make solar cold storage an important technology to be supported under this project. Among other investments, the project will support the installation of energy-efficient solar-powered storage systems that confer mitigation benefits by reducing the consumption of petroleum. They also help to reduce postharvest losses and maintain the quality of agricultural produce, thereby enhancing resilience. The Matching Grants (MGs⁷⁰) will be disbursed through the following three windows:

- (a) **Window A (US\$5 million):** MGs for micro and small agro-processing operators and agriculture service providers to finance the expansion and/or upgrade of their existing activities, and access to agriculture services up to 85 percent of eligible costs of sub-projects (1,000 sub-projects of average cost of US\$5,000 and a maximum of US\$7,000 per sub-grant);
- (b) **Window B (US\$8.5 million):** MGs for farms, cooperatives and nurseries sub-projects to finance up to 80 percent of eligible costs (425 sub-projects of average cost of US\$20,000 and a maximum of US\$25,000 per sub-grant) for investments such as acquisition of agricultural production equipment (including private small-scale irrigation rehabilitation scheme up to a maximum of 1,000 ha for all beneficiaries put together and a maximum of 5ha per beneficiary), and machinery, energy-efficient post-harvest technologies and storage facilities, and access to climate information and agriculture services. No new investment in small-scale irrigation scheme will be supported under the matching grant. Grants will cover up to 80 percent of the costs of the subproject, while the beneficiaries will have to provide a minimum of 20 percent. Women- and youth-led SMEs and producer groups, will be given a preferential treatment: they will be required to provide only 10 percent contribution and will receive grants covering up to 90 percent of the costs of the sub-project. All beneficiaries will be required to open formal accounts in a financial institution (microfinance, bank, or mobile account); and
- (c) **Window C (US\$10 million):** MGs for small and medium agro-processing units and agriculture service providers to finance the expansion and/or upgrade of their existing facilities up to 50 percent of eligible costs (250 sub-projects of average cost of US\$40,000 and a maximum of US\$100,000 per sub-grant). The MGs will be directly passed onto the beneficiaries to finance climate-smart, eligible investments. The beneficiaries will be required to provide evidence of a secured bank loan or own equity in an account at a local financing institution covering up to 50 percent of the subproject costs. In the specific case of women- or youth-led SMEs, beneficiaries will receive grants up to 50 percent of the sub-project costs while they will have to obtain a loan or have secured financial equity for only up to 40 percent of the subproject costs; for the remaining 10 percent, in kind contributions will be accepted.

17. The project will provide free of charge technical assistance to eligible beneficiaries for advisory support throughout the investment cycle. This will include the preparation of sound business plans, appropriate choice of technology, and corresponding preparation for loan application if any. Once the loan proceeds as well as the own contribution of the beneficiaries become available, the project will disburse the matching grant to support the type of services requested for by the beneficiaries including, but not limited to (i) consultancy services, (ii) logistic services, e.g., for trucking or storage, (iii) brokerage services, (iv) agricultural insurance coverage services⁷¹,

⁷⁰ Information about the MGs as well as on other financial instruments of the projects would be disseminated to stakeholders through various communication channels (awareness meetings with eligible beneficiaries, distributions of leaflets, radio/TV messages, ...). Call for proposals for MGs would be published by the PMU who will also be responsible for the selection of final list of beneficiaries based on the recommendations of the Specialized Firm to be recruited to manage the selection process.

⁷¹ TA will be provided to the insurance firms in order to enhance their ability to design and commercialize crop insurance products. Support



(v) equipment rental services, and (vi) other business development services that may be approved in the Project Implementation Manual. Implementation responsibilities for the sub-component will be outsourced to a single private management firm under the supervision of the Project Management Unit (PMU) in MAEP. The firm will oversee the selection of beneficiaries (in coordination with APIEx and ATDA) and manage grant disbursements through a performance-based contract. The matching grant scheme is expected to target about 1,675 investment sub-projects over the course of project implementation.

18. Sub-Component 3.2: Risk-Sharing Mechanisms (US\$20 million equivalent). Sub-Component 3.2's objective is to provide increased incentives for financial institutions to lend to private sector firms and critical service providers in the agri-food sector, as well as supporting access to finance for agribusiness SMEs affected by the COVID-19 crisis. The risk sharing instrument and the technical assistance offered through this component will help producers in transferring climate and weather risks. To that end, Sub-Component 3.2 will design innovative mechanisms and adapt other existing systems to leverage additional sources of both public and private capital that can be directed toward climate-smart investments in agriculture. The project will finance the following interventions:

- a. **Risk sharing instrument (US\$10 million).** The instrument is meant to alleviate capital constraints through guarantees that provide a first loss cover. Farms and beneficiary SMEs will require financing for their capital investments⁷², operating expenses, and to access the set of services being offered under Sub-Component 3.1. However, given the starting point of the industry, the collateral and credit histories of the targeted farms/ firms is likely to be insufficient to access commercial financing sources⁷³. As such, this sub-component will help alleviate capital constraints by improving access to finance for farmers, cooperatives, nurseries, agro-processing SMEs, agricultural input/equipment suppliers, agricultural insurance institutions and SME trucking companies (especially those providing cold chain transport). Financing for the risk sharing instrument will mitigate creditor risk through guarantees that provide a first loss cover. The project will support service providers eligible under the BCEAO MSME refinancing window⁷⁴ in order to achieve greater leverage. Implementation of the guarantee mechanism will be carried out through the *National Guarantee and Small and Medium Enterprise Assistance Fund (FONAGA)*⁷⁵ (see Box 2.2). The project will also consider scaling up of the existing joint IDA-IFC *Risk Sharing Facility (RSF)* under the Benin Cross-Border Tourism and Competitiveness project seeking resource from the Private Sector Window-PSW; and

to agricultural insurance firms will be designed and delivered in partnership with IFC through the Global Index Insurance Facility which will partially cover the cost of the TA.

⁷² Agribusiness SMEs need financing to upgrade or modernize their existing production, storage, equipment manufactures and processing facilities.

⁷³ I.e., lacking credit history or accounts receivable is insufficient to incentivize commercial banks to lend to entirely new companies without collateral.

⁷⁴ <https://www.bceao.int/fr/content/presentation-du-dispositif-de-soutien-au-financement-des-pme/pmi>

⁷⁵ FONAGA is a recognized public utility association with the objectives of: (i) promoting and developing small and medium enterprises (SMEs) using a partial guarantee facility for commercial loans granted by local banks and financial institutions to interested SMEs with enough financial capability. It also provides warranty bonds for SMEs to carry out works and service contracts. The FONAGA's Board is composed of representatives from the Ministry of Economy and Finance, the Ministry of Trade and Industry, the National Directorate of the BCEAO, the Professional Association of Banks, Benin's Chamber of Commerce and Industry, the National Council of Employers, Benin's Chamber of Agriculture, as well as a representative of each donor contributing to the Fund.



Box 2.2: FONAGA’s Risk Sharing Facility

A guarantee line will be created through the existing FONAGA Risk Sharing Facility (RSF) to encourage private commercial banks to lend to farmers and small enterprises. Guarantees to FONAGA will be given to target farmers – through on-lending to microfinance institutions – who even with the IFC’s RSF would not be considered bankable. As such, project funds for FONAGA will need to cover between 50 to 80 percent of the commercial loan contracted. The FONAGA’s financing instruments will be adjusted (per the implementation manual) for these groups of beneficiaries.

b. **Commercial guarantee mechanism (US\$10 million).** This mechanism aims at attracting investments in critical services by providing *inter alia*, an incentive system for service providers to mitigate commercial risk to expanded service provision⁷⁶. Sub-Component 3.2 will finance the design of the guarantee (such as a defined minimum revenue or advanced payment guarantee) for the specific value chains and services needed. Potential recipients include: Specialized Logistics Companies such as Third-Party Logistics (3PLs) or Fourth-Party Logistics (4PLs), and others that may be identified through Sub-Component 1.1⁷⁷. The design of the guarantee will specify requirements for the quality of service provision to be expected from the service providers. Guarantees will be issued to selected providers based on a competitive tender that lists the investment requirements and the indicators for the quality of service expected. The commercial guarantee mechanism will be implemented through contracts managed by APIEx.

19. **To ensure effective use of the instruments established under the project, Sub-Component 3.2 will also finance technical assistance to participating financial institutions (FIs)** to build their operating institutional capacity for lending to the agriculture sector and to promote the utilization of the guarantee for project beneficiaries. The project will train the staff of the FIs in agricultural financing and help them to customize their financial products and services to the needs of targeted beneficiaries under the project. Moreover, it will provide financing to FIs which want to deliver advisory support directly to their designed clients during the investment cycle. Such advisory support could include the preparation of sound business plans, the preparation of loan applications, the preparation of feasibility studies, and other TA services that increase the “bankability” of their clients’ operations.

20. **Component 4. Project Management (US\$15 million equivalent).** The Ministry of Agriculture, Livestock and Fisheries will have responsibility for the overall coordination of project implementation⁷⁸. The project will be implemented by a Project Management Unit (PMU) under the oversight of a Strategic Committee (SC), which will be created to provide overall strategic direction for the implementation of the project. The SC will review and approve AWPB and will be the ultimate authority in the resolution of any issues that may arise during project implementation. The Strategic Committee will be chaired by the Minister of Plan and Development or his representative and will meet twice a year. The PMU coordinator will serve as secretary for the SC. A TC will be created within the SC to ensure that the implementation of the project is in full compliance with the objectives of the project and respects the agreed timetable and budget. The TC will be chaired by the Minister of Agriculture,

⁷⁶ For instance, such a guarantee for logistic providers could allow Market Failures on production side to resolve themselves over the course of a few years while the distribution channels are opened up and provide the commercial pull mechanism.

⁷⁷ E.g. Private Labs (for testing of product quality and conformity to export market standards, etc.), or Specialized Agricultural Insurance Companies (to manage production and post-harvest risk externalities).

⁷⁸ The other key entities involved in the implementation of project activities are the Agency for the Promotion of Investment and Exports (APIEx), the Ministry of Trade and Industry and the Ministry of Transport.



Livestock, and Fisheries or his representative and will meet on a quarterly basis.

21. The PMU, under the supervision of the MAEP is made up of a team headed by a project coordinator. The PMU will be responsible for implementation of components 2 and 4, including accounting, financial management, monitoring and evaluation, consolidation of status reports and progress of the project. The PMU will consolidate the project progress reports and the AWPB of the project and will work in close collaboration with APIEx and the various ministries and agencies involved in the project, as well as with the representative bodies from the private sector and other stakeholders.

22. APIEx will be responsible for the implementation of components 1 and 3 in collaboration with the PMU, the ATDAs and the technical departments of the MAEP. In addition, APIEx will work in close collaboration with the various ministries and agencies involved in the project, as well as with representative bodies from the private sector and other stakeholders. The Agency will be responsible for activities under these two components, including procurement, disbursements, accounting, financial management and reporting on progress made under these components. APIEx will have specialized staff and support staff recruited by the project and will have a designated account to facilitate a smooth implementation of activities.

23. Component 4 will support the establishment of the PMU through provision of appropriate staffing and operating resources to take charge of project management and monitoring & evaluation. These include: (i) incremental costs associated with the staff of the Project Management Unit, and training costs; (ii) equipment and operating costs, including costs associated with the project's financial management system (including external audits, periodic activity planning and budgeting at departmental and national levels); (iii) costs for establishing and running the project's monitoring and evaluation system; and (iv) costs related to the implementation of safeguards-related activities.

Component 5. Contingent Emergency Response Component – CERC (US\$0 million)

24. The CERC will be established and managed in accordance with the provisions of World Bank OP/BP 10.00 (Financing of Investment Projects), paragraphs 11, 12, and 13. The Project's CERC will be triggered only when the Government has officially declared an emergency and a statement of the facts is provided justifying the request to activate the use of emergency funding. If the World Bank agrees with the determination of the disaster and associated response needs, this component allows the Government to request the World Bank to recategorize and reallocate financing from other project components to cover emergency response and recovery costs. Disbursements would be made against a list of critical goods or procurement of works and consultant services required to support immediate response and recovery needs. A specific Emergency Response Operations Manual will apply to this CERC component that will include detailed operational guidelines for implementation and its approval by the World Bank will be a disbursement condition. All expenditures under the CERC will be appraised and reviewed to determine if they are 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 reconstruction.

25. Project activities will be implemented through Project Implementation Agencies (PIAs) and private contractors. These entities will be responsible for pre-determined activities (see description of project components), under specific arrangements as part of MOUs (for public entities) or contracts (for NGOs or private service providers), including contracts of 'delegation of authority' to implement certain activities like the MG scheme. To that effect, the public entities will receive capacity building support specifically under the operational sub-components and activities they will implement, as well as under Component 4. Public entities to receive support will be first and foremost APIEx in charge of the agriculture export policy and regulatory framework and



the CREs (Sub-Component 1.1), trade-related infrastructure and market information systems (Sub-Component 1.2), matching grant scheme (sub-Component 3.1), and risk sharing facility (Sub-Component 3.2), ATDA in charge of agriculture extension activities (Sub-Component 2.2) and key MAEP directorates and autonomous structures, including the Directorate of Rural Roads in charge of Sub-Component 2.3, the Directorate of Plant Protection and the Directorate of Agriculture, as well as the National Agronomic Research Institute (INRAB), National Agency for Food Safety (ABSSA) under Sub-Component 2.2. The capacities of ATDAs, particularly in human resources, will be strengthened to enable them to play their part effectively in the implementation of the project. Additionally, some MAEP directorates will receive support under Component 4 to assist the PMU in activities such as M&E data collection (Directorate of Planning and Projects, and Directorate of Agriculture Statistics). MAEP will be supported for the purpose of: (i) developing agricultural policies and strategies that prepare the country to mitigate and adapt to climate challenges, and (ii) establishing a modern agricultural information system combining remote sensing tools (satellite data) with agro-meteorological models to enhance data quality and availability for commercial use⁷⁹. Support to the ministry will help in the development of a plan to raise awareness on the challenges that climate change poses for agriculture and specifically for the targeted value chains, and the range of solutions available for both mitigation and adaptation activities. Detailed implementation procedures will be detailed in the Project Implementation Manual (PIM).

26. Citizen Engagement. The ESMF includes consultations with key project stakeholders to provide information on the proposed project, the potential social and environmental risks and source their contribution to overall project design. The government will undertake a series of beneficiary consultations to include, *inter alia*, key activities such as gender-representative consultations in all beneficiary communities. A community monitoring system will be implemented and complemented by a GRM that will allow project beneficiaries to submit questions, complaints, or suggestions via email, phone, text message, or regular mail. The project will incorporate a comprehensive citizen's engagement strategy, to be developed following community meetings prior to the identification of any works. Two main approaches will be used: (i) Collecting, recording and reporting on inputs from citizen: beneficiaries feedback on project implementation (effectiveness, inclusiveness, quality, delivery, and targeting) will be collected periodically during supervision missions and during evaluation of project achievements through focus group discussions and satisfaction surveys. The information gathered would then be used to improve project implementation and address issues raised by the beneficiaries for better results; and (ii) Citizen-led monitoring: Civil Society Organizations and communities will be involved in Bank supervision mission as well as in joint evaluation of project results upon completion. The The project will ensure that citizen engagement during project implementation is effective and will monitor whether beneficiary feedback is indeed considered.

⁷⁹ Partnerships will be established *inter alia* with other Bank and donor projects as well as organizations such as the Bank's agriculture observatory. The project will also work with the forthcoming Bank-financed Benin Digital Rural Transformation Project (P162599) to support the Ministry of Agriculture in establishing a modern agricultural information system combining remote sensing tools (satellite data) with agro-meteorological models to enhance data quality, regarding the annual assessment of yields and agricultural production.



ANNEX 3: ECONOMIC AND FINANCIAL ANALYSIS

1. **The Economic and Financial Analysis (EFA) of the Agricultural Competitiveness and Export Diversification Project (PACOFIDE) in Benin** is built on the cost-benefit analysis (CBA) applied to a range of typical agricultural models (cashew and pineapple) and agribusiness enterprises (raw cashew nut export, cashew nut processing, fresh pineapple export, pineapple juice processing, pineapple trading). It incorporates the estimated mitigation impacts (using the Ex-Ante Carbon Balance Tool – Ex-Act) as well as other additional benefits, such as those arising from rural roads. The annex is organized as follows: (i) Part I describes the methodology and underlying assumptions; (ii) Part II summarizes the financial results of the main models; (iii) Part III details the greenhouse gas accounting (GHG) accounting, and (iv) Part IV summarizes the results of the economic analysis and sensitivity analysis to test how results change under different modeling scenarios.

2. **Overall, PACOFIDE is a profitable project, generating a net present value (NPV) of US\$412.8 million (at 6 percent discount rate) and an economic internal rate of return (IRR) of 28.1 percent** (for a total cost of US\$160 million from SUF) without the environmental benefits. When environmental externalities are included, the project generates an NPV of US\$416.5 million and an IRR of 28.3 percent. The sensitivity analysis shows that the project's results remain robust under various modeling scenarios.

I. Methodology and assumptions

3. The methodology used is a CBA⁸⁰. The following steps were followed to establish the financial analysis: (i) identification of benefits and costs generated/ incurred by the project; (ii) comparison of benefits and costs between the "With Project (WP)" and "Without Project (WOP)" scenarios in order to obtain the net incremental benefits; and (iii) calculation of the financial and economic profitability indicators such as the NPV, the IRR and the Benefit/ Cost ratio (B/C), the switching values for costs and benefits (SVC, SVB).

4. **Identification of benefits.** Project activities are expected to generate five main benefit streams: (i) *production benefits at farmers' level*, such as increased crop yields of cashew and pineapple and, increased revenues, resilience to weather variability and climate change risks, together with more intangible social benefits such as improved food security and nutrition and human capital strengthening; (ii) *benefits at the agribusiness level*, arising from capacity building, access to finance and linkages to new markets (cashew and pineapple), (iii) *benefits at the level of farmers' organizations and individual entrepreneurs' operating downstream the value-chain*, arising from improved processing, storage and marketing of products (cashew and pineapple), along with capacity development (qualities standards of products); (iv) *benefits from rural roads*, such as increased product price and better access to inputs; and (v) *environmental co-benefits*, such as natural resources protection and reduced GHG emissions through the adoption of climate-smart technologies.

5. For farmers, the productivity gains and additional income generation are realized through the rehabilitation of 100,000 ha of cashew plantation, the development of 35,000 ha of new cashew plantation, the support for the replacement of cultivars in pineapple plantations covering up to 10,000 ha and the access to improved seeds, inputs (including fertilizer), equipment and extension services. For farmers' organizations and SMEs, the project is planning to invest in the development/ consolidation of at least 1,070 small and medium

⁸⁰ 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 World Bank guidelines for economic and financial analysis.



enterprises for production and value-addition (processing, storage and marketing activities) financed through the matching grant and risk-sharing mechanism⁸¹. The project will establish 1,200 km of rural roads and develop logistic/ market platforms to improve market access (with increase of producer prices and enhanced processing rate). Regarding environmental benefits, reduced GHG emissions would result from improved agricultural practices, decreased land degradation (given integrated soil nutrient management and expansion of perennial crop to reduce pressure on plots), and the development/rehabilitation of perennial agroforestry crop (cashew).

6. **Financial Models.** A total of nine (9) models have been prepared: (i) crop budgets for cashew and pineapple and (ii) budgets for investors in small and medium agribusiness activities (raw cashew nut export, cashew processing, fresh pineapple export, pineapple juice processing and fresh pineapple trading). These models are representative of the investments likely to be developed by 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 projects⁸², along with the consultations with stakeholders in the project area and agricultural statistics.

7. **The economic analysis** followed a similar approach but used economic prices and aggregated 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, and subtracting the total project economic costs (using COSTAB) to determine the overall economic viability of the project.

8. **Limitations of the EFA.** Some activities of PACOFIDE are based on demand-driven approaches. The *ex-ante* EFA of investments that are locally identified during implementation is always difficult to perform because it is not possible to fully predict in advance: (i) which combinations of technologies will be pursued by the beneficiaries; and (ii) what will be the exact cost and benefits of these activities. For this reason, EFAs for such demand-driven projects are not always performed. In addition, the opportunities that will arise from other value chains (vegetables, for example) that may be supported by the project are not considered. The present analysis, however, attempted to build the EFA on activities, within the two main targeted values chains (cashew and pineapple), that are broadly known from stakeholders, supported by the project under different components.

9. **The discount rates** used to compute the financial and economic NPVs are in line with the World Bank recent guidance notes, the practice of recent project and in-country discussions: 8.5 percent for the financial analysis and 6 percent for the economic analysis⁸³.

⁸¹ PACOFIDE will support: (i) a mechanism to stimulate the agricultural services market through the provision of matching grants for business development services, and (ii) a risk sharing mechanism for private sector actors. The matching grant will entail support to farms and relevant agribusiness SMEs to increase their access to critical development services. However, since matching grants could have limited uptake, due to an inability to pay, the project will be paired with an access to finance mechanism that will provide credits to targeted farmers and SMEs who can then spend their loans on such productivity enhancing services on a demand driven basis.

⁸² WAAPP and PADA

⁸³ The Financial Discount rate (8.5 %) is the average of the real interest rate of the deposits (5%) and the interest rate at which the beneficiaries have access to credit (12%). The economic discount rate of 6 percent corresponds to the yield of public bills issued by Benin in 2017, with a maturity of between 5 and 7 years. <https://www.bceao.int/>



10. **Prices⁸⁴**. Market prices for the financial analysis were collected in the field during the preparation mission, and economic prices were calculated 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	1.1
Agricultural inputs	0.85
Tradable goods	0.85
Labour	0.75
Cashew nut	1.15
Pineapple	1.19
Domestics outputs-non tradeable domestics inputs	1.00

11. **The WOP and WP parameters for yields, prices, and outputs are presented in the table below.** Across the models, the analysis assumed a gradual uptake of improvements over 3 to 6 years. The financial models ⁸⁵were developed over a 20-year period.

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

models		parameters	evolution			
			WOP	WP	Δ	Δ (%)
Cashew rehabilitation		yield increase	400	800	400	100%
Cashew new plantation		yield increase	400	1,200	800	200%
Pineapple	cayenne lisse	yield increase	45,000	70,000	25,000	56%
	pain de sucre	yield increase	35,000	50,000	15,000	43%
Raw cashew nut Export		quantity processed/year (tons)	2,790	6,175	3,385	121%
Cashew nut processing		quantity processed/year (tons)	2,023	5,229	3,206	158%
Fresh Pineapple export europe		quantity processed/year (tons)	1,530	4,180	2,650	173%
Pineapple juice processing		quantity processed/year (tons)	918	1,924	1,006	110%
Pineapple trading local and regional		quantity processed/year (tons)	2,228	4,513	2,285	103%

⁸⁴ The official exchange rate used for Costab, is 595 FCFA for US\$1 (as of October 10, 2019).

⁸⁵ The models' parameters were developed based on the guidance from the PADEFA's project document, PSDSA 2025 and PNFOT and the technical meetings with the potential's PACOFIDE stakeholders during the design mission from 18 to 28 March 2019.



II. Financial results

12. All the models assessed as part of this analysis are viable, generating significant amounts of additional income and attractive returns on investment (see Table 3.3 below). The analysis of production and agribusiness models are very viable. Overall, all models indicate positive NPVs and cost-benefit ratios higher than one.

Table 3.3: Summary of the profitability indicators for production models

Summary of the profitability indicators for the financial models				
Model	Production activities			
	Cashew rehabilitation	Cashew new plantation	Pineapple cayenne lisse	Pineapple (sugarloaf or <i>pain de sucre</i>)
Discount rate	8.5%	8.5%	8.5%	8.5%
NPV @ 0.085 (MFCFA)	1.21	2.09	14.98	6.43
NPV @ 0.085 kUS\$)	2.03	3.52	25.17	10.81
IRR	41.3%	45.6%	52%	30.7%
NPVb (MFCFA)	0.88	1.53	27.08	17.92
NPVc (MFCFA)	0.58	0.52	12.11	11.48
B/C ratio	1.52	2.94	2.2	1.56
Switching values Benefits	-34%	-66%	-55.3%	-35.9%
Switching values Costs	52%	194%	123.7%	56.0%

MFCFA= 1000000 CFA

1kUS\$= US\$ 1,000

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

Summary of the profitability indicators for the financial models					
Model	Agribusiness activities				
	Raw cashew nut export	Cashew nut processing	Fresh pineapple export europe	Pineapple juice processing	Pineapple trading local and regional
Discount rate	8.5%	8.5%	8.5%	8.5%	8.5%
NPV @ 0.085 (MFCFA)	1,438	292	653	1,270.4	151
NPV @ 0.085 (1kUS\$)	2,417	0	1,121	2,179	254
IRR	46.2%	36.2%	37%	32.4%	34.8%
NPVb (MFCFA)	37,659	190,744	7101	11,464	3,499
NPVc (MFCFA)	35,985	168,409	6,303	9,335	3,398
B/C ratio	1.05	1.13	1.1	1.23	1.03
Switching values Benefits	-4%	-12%	-11.2%	-18.6%	-2.9%
Switching values Costs	5%	13%	12.7%	22.8%	3.0%

MFCFA= 1000000 CFA

1kUS\$= US\$ 1,000



III. Greenhouse Gas Accounting

13. **Environmental co-benefits.** PACOFIDE is expected to generate several environmental benefits. The promotion of climate-smart agriculture practices such as the use of improved varieties, agroforestry techniques, no-till techniques and integrated management of soil and nutrient fertility will help strengthen the resilience of farmers to the effects of climate change. The installation and rehabilitation of perennial agroforestry crops will be a key source of carbon sequestration in the project area. PACOFIDE’s support to small and medium enterprises will include climate change adaptation measures as requisites for financing. The diffusion of sustainable technologies to the agribusiness financed through the Maximizing Finance for Development approach will contribute to better energy-use efficiencies.

14. **The environmental impact of the project was estimated using the EX-ACT tool.**⁸⁶ The carbon-balance is defined as the net balance from all GHG expressed in CO₂ equivalent (CO₂eq) that were emitted or sequestered due to project implementation (WP) as compared to a business-as-usual scenario (WOP).

15. **For PACOFIDE, the GHG accounting calculations were based on the climate characteristics in the selected zones in Benin.** Based on the Intergovernmental Panel on Climate Change (IPCC) classification, the project has tropical Moist climatic conditions with Low Activity Clay Soils (LAC). Land use and crop management practices, the building of infrastructure (rural roads, warehouse) were estimated for WP and WOP situations. Changes brought by the project were factored into the tool’s different modules (in full alignment with the EFA assumptions and budget provisions).

Table 3.5: Data inputs to EX-ACT in the current, WOP and WP

Activities	Current/without project scenario	With project scenario
Introducing of perennial Agroforestry crop	45,000 ha under set aside	45,000 ha of perennial crop under improved agronomic practices, cultivars (pineapple) and seedling (cashew)
Rehabilitation of 100,000 ha of perennial tree crop	100,000 ha exploited for cashew production, under traditional practices	100,000 ha exploited for cashew under improved practices and agroforestry management
Improved cultivars and seedling	No improved cultivars and seedlings	(i) 35,000 ha exploited with improved cashew seedling (ii) 10,000 ha of pineapple exploited with improved cultivars
Fertilizer	No fertilizers	2,711 tons of N per year from NPK and urea

⁸⁶ 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 CO₂) as well as GHG emissions per unit of land, expressed in equivalent tons of CO₂ 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 (IPCC) 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).



		1,125 tons of P per year from potassium sulfate 2,115 tons of K per year from NPK
Construction – warehouse/agricultural building /rural roads Liquide or gaseous – Gasoil/diesel	No construction 0	1,200 km of road for medium traffic 4000 m ² for agricultural/warehouse buildings 1000 m ³

16. 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 agroforestry crop (cashew).

17. The project plan to support a comprehensive grafting and pruning program for cashew plantations covering up to 100,000 hectares and the development of new plantations up to 35,000 ha for cashew. These key activities were integrated in Ex-Act based on the guidance from “revisiting IPCC Tier 1 coefficients for soil organic and biomass carbon storage in agroforestry systems” published in the 2018 Environmental Research letters by Remi Cardinael⁸⁷ and all.

Table 3.6: Pineapple requirements per ha (based on budgeted quantities)

			N	P	K
			15	15	15
NPK	450	kg/ha	150	150	150
			0	0	48%
Potassium sulfates	275	kg/ha	0	0	132
			47%	0	0
Urea	450	kg/ha	211.5	0	0
Total (kg per ha)			361.50	150.00	282.00
Total for 10,000 ha	10,000	ha	3,615,000	1,500,000	2,820,000
Total per year (12 months) for 10,000 ha of pineapple (vegetative cycle is 16 months)		ton	2,711	1,125	2,115

⁸⁷ Revisiting IPCC Tier 1 coefficients for soil organic and biomass carbon storage in agroforestry systems (2018 Environ. Res. Lett. 13 124020) Rémi Cardinael, Viviane Umulisa, Anass Toudert, Alain Olivier, Louis Bockel and Martial Bernoux4



Table 3.7: Detailed results

Project Name		<i>PACOFIDE</i>		Climate Tropical Moist
Continent		<i>Africa</i>		Dominant Regional Soil Type LAC
Components of the project	Gross fluxes			
	Without	With		Balance
All GHG in tCO ₂ eq				
Positive = source / negative = sink				
Land use changes				
Deforestation	0	0		0
Afforestation	0	0		0
Other land use change	0	-790,515		-790,515
Agriculture				
Annual	0	0		0
Perennial	-1,400,000	-9,014,000		-7,614,000
Rice	0	0		0
Grassland & Livestocks				
Grassland	0	0		0
Livestocks	0	0		0
Degradation & Management	0	0		0
Coastal wetlands	0	0		0
Inputs & Investments	0	588,566		588,566
Fishery & Aquaculture	0	0		0
Total	-1,400,000	-9,215,949		-7,815,949
Per hectare	-10	-64		-54
Per hectare per year	-0.5	-3.2		-2.7

18. The gross carbon balance resulting from agricultural and processing activities show that the without-project scenario leads to combined effects from GHG emissions and carbon sequestration that add up to – 1,500,000 tCO₂-e. This translates into -10 tCO₂-e per hectare over the full period of analysis, or -0.5 tCO₂-e per hectare and per year. The project implementation scenario has a moderate impact on GHG emissions and carbon sequestration leading to a removal of -9,215,949 tCO₂ (-9,014,000 tCO₂-e from the agriculture activities, and mitigation activities).



19. The difference between the without and with-project scenario gross results achieved through project implementation, yields a total project's carbon balance of -7,815,949 tCO₂-e in carbon sequestration over the full project implementation period.

Data inputs and analysis with RED and HDM-4 Models

20. This analysis estimates the emissions from the road rehabilitation and maintenance project included in the PACOFIDE, using the Highway Development and Management-4 (HDM-4). The HDM4 model estimates emissions from rehabilitation and construction, computing unit road user costs and emissions for a road section with 1 km length (document A attached). In order to obtain the estimations, the model considers the following data (including the assumptions mentioned above): road condition (road roughness, carriageway and surface condition), road geometry, speed adjustment factors, rolling resistance factors, road traffic, vehicle fleet accident rates, traffic flow patterns and speed flow types. The GHG accounting analysis was generated to obtain yearly transport related emission estimates per km of road intervened, allowing for future refinement in the accounting process if more detailed information is available.

Project characteristics

21. The project will finance public infrastructure that will consist on the rehabilitation of 1,200 km and the maintenance of 4,200 km of existing rural road networks in a period of six years, to enable market connectivity for project regions. This will complement the 600 km that will be rehabilitated and the 2,400 km to be maintained under the Benin Rural Digital Transformation Project⁸⁸; The rehabilitation and maintenance of rural roads in agriculture production zones in project intervention areas will complement the national rural road network rehabilitation program launched by the Government to improve connectivity and access to main agricultural production areas in a balanced way throughout the whole country. To enhance resilience of the project impacts on climate change and natural disasters, the road rehabilitation works will include improvements in the drainage structures to ensure all-weather/season access. The materials and design standards for road rehabilitation will emphasize reducing the risk of flooding and associated destruction of housing and facilities.

Basic assumptions

22. Given the absence of some reference data on traffic volumes, road conditions, geometry and alignment, among other infrastructure and operational elements within the Benin's context, the calculations and estimates were made using data obtained from i) the Burkina Faso Agriculture Resilience and Competitiveness Project (P167945); ii) the impact evaluation of the PARRSA⁸⁹ project funded by the World Bank in 2012 in the Democratic Republic of Congo (P162517); and iii) 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 Benin and Burkina Faso Agriculture Resilience and Competitiveness Project in terms of rural roads infrastructure improvement and rehabilitation in isolated rural regions within Burkina Faso. 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.

⁸⁸ Financing for rural roads will include the rehabilitation of all-weather rural roads to ensure access throughout the year to the project-targeted regions. Given limits in the financing envelope rural roads will be targeted to regions producing perishable and sensitive crops that require quick and networked access to markets.

⁸⁹ PARRSA= Projet d'Appui à la Relance et Réhabilitation du Secteur Agricole



23. It is assumed that the traffic growth pattern will continue the traditional trend to be 6 percent a year⁹⁰, based on the data collected by the American Journal of Civil Engineering from Benin. These findings show that over the last 15 years there had been approximately a 6-7 percent increase per year of traffic on rural roads, which is the growth assumed for the period of 20 years. For the first three years, it is assumed a higher traffic growth pattern following the inauguration and then stabilizing at the 6 percent trend. Forecasts on changes of vehicle composition are not available, however the forecasted AADT is assumed to account for typology shifts that naturally occur as demand for transport varies along the network.

24. Although sub-component 2.3 refers to the financing and implementation of the rehabilitation of 1,200 km and the maintenance of 4,200 km of existing rural road networks in a period of six years, for this analysis it is considered that both activities have similar effects in terms of GHG emissions, since both will bring similar annual generated daily traffic. The GHG accounting analysis was generated to obtain yearly transport related emission estimates per km of road intervened, allowing for future refinement in the accounting process once more detailed information is available.

25. **Inputs.** The Annual Average Daily Traffic flow (AADT) is calculated from similar projects with similar characteristics and it is shown in document attached B (input data and traffic) and table 18.

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

26. Following the same criteria, the model considers specific road characteristics for the base scenario, in which roughness conditions are not modified. (See attached documents B) and table 19.

Table 3.9. Inputs for Base Scenario Road Characteristics

Scenario	Road Condition			Speed Flow Type				
	Road Roughness (IRI, m/km)	Carriageway Width (m)	Surface Code (1-Paved / 2-Unpaved)	Ultimate Capacity (pcse/hour/lane)	Free-Flow Capacity (pcse/hour/lane)	Nominal Capacity (pcse/hour/lane)	Jam Speed at Capacity (km/hour)	Number of Lanes (#)
	Without	10.0	5.0	2	1200	0	840	20
With	6.0	7.0	2	1400	140	1260	25	2

27. With all these parameters, the analysis estimates emissions comparing two scenarios: with and without project. For the 20-year period, estimations (considering the 6 percent growth mentioned above) includes i) the base year estimated by the HDM4 model for the length of the project, ii) emission for every year assuming the

⁹⁰ Boko-haya, Dossa & Li, Yadong & Changrong, Yao & Liu, Saizhi & Xiang, QiQi. (2017). Road and Bridge Infrastructure Development Issues in Benin Republic: Analysis and Perspectives. American Journal of Civil Engineering, 5. 9-15. 10.11648/j.ajce.20170501.12.



AADT and growth mentioned in the previous paragraph, and the estimations obtained for the year 2039. This process is done combined for both the rehabilitated and the maintained roads. Table 20 shows the results of the analysis.

Table 3.10. Emission projections with and without project

Year	Annual Normal Daily Traffic (veh/day)	Annual Generated Daily Traffic (veh/day)	Total Daily Traffic (veh/day)	6% Growth		
				Gross		Net
				W/O	W	
2020	122	0		2606,25	13.995	11388,94
2021	268	55	323	2762,63	48.646	45883,63
2022	590	121	712	2928,39	83.297	80368,94
2023	1299	266	1565	3104,09	117.948	114844,31
2024	1377	282	1659	3290,33	152.599	149309,13
2025	1460	299	1759	3487,75	187.251	183762,78
2026	1547	317	1864	3697,02	221.902	218204,59
2027	1640	336	1976	3918,84	256.553	252633,84
2028	1738	356	2095	4153,97	291.204	287049,78
2029	1843	378	2220	4403,21	325.855	321451,61
2030	1953	400	2354	4667,40	360.506	355838,49
2031	2070	424	2495	4947,45	395.157	390209,51
2032	2195	450	2645	5244,29	429.808	424563,74
2033	2326	477	2803	5558,95	464.459	458900,15
2034	2466	505	2971	5892,49	499.110	493217,68
2035	2614	536	3150	6246,04	533.761	527515,20
2036	2771	568	3339	6620,80	568.412	561791,51
2037	2937	602	3539	7018,05	603.063	596045,33
2038	3113	638	3751	7439,13	637.714	630275,32
2039	3300	676	3976	7885,48	672.366	664480,04
TOTAL Rehab + Maintenance Emissions per year					6.863.607	6.767.735
						338.387

28. **HDM-4 Results.** For the proposed roads rehabilitation of 1,200 km and the maintenance of 4,200 km of existing rural road networks, over a period of 20 years, the total gross CO₂ emissions for the same activities are 6,863,607 tons, the total net emissions are 6,767,735 tons, and the annual net average emissions are 338,387 tCO₂ emission per year (table 3). The without project scenario shows a total gross CO₂ emission of 95.872 tons.

Overall emissions

29. Overall the estimation results show that interventions constitute a net carbon source, with road interventions constituting a sizable net carbon source. Summarizing the results of EX-ACT model for the additional funding interventions and the HDM-4 Models for the rehabilitation and maintenance of rural roads, over a period of 20 years, the gross emission for with project scenario are -2,352,342 tCO₂e emission, with an annual gross average emission of -117,617.1 tCO₂e. The difference between the without and with-project scenario gross results achieved through project implementation, yields a total project’s carbon balance of -1,048,214 tCO₂-e in carbon sequestration over the full project implementation period.



30. **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 CO₂e 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 carbon price starting at US\$40 and 80, respectively, in 2020 and increasing to US\$50 and 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 CO₂e 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 social cost of carbon and at market prices.

IV. Economic results

31. **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 perennial agroforestry crop and infrastructures 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 12); (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) the sum of the cost of component 4 (in year 6) and 10 percent of the infrastructures costs for years 7 to 20 in recurrent cost to reflect the costs incurred by the public sector for post-project activities and maintenance of the infrastructure ; (iv) 100 percent of additional project benefits; (v) the long-term capital opportunity cost (discount rate) retained is 6 percent ; (vi) the shadow exchange rate estimated at 635 F CFA per US dollar based on World Bank data based on import and export volume, duties and taxes on imports and exports in Benin.

32. **Economic analysis of rural tracks and roads.** PACOFIDE will finance the construction and/or rehabilitation of a 1,200 km strip of rural roads in order 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.

33. The following benefits were taken into account in the calculations: (i) an increase in the price paid to the producer of 1 percent; (ii) an increase in the area cultivated by 0.5 percent; (iii) an increase in yields of 1 percent and a reduction of 1 percent in postharvest losses. It should be noted that the following other benefits were not taken into account: (i) ease of access to education and health centers; (ii) development of trade, services and income-generating activities; and (iv) 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 pineapple and cashew production and transportation. The assumption used for the cultivation rate being 4.5 percent of the area covered by the zone of influence.



34. The analysis conducted based on the aforementioned assumptions results in an economic IRR of 28.1 percent and a NPV of 262.3 billion FCFA or US\$412.8 million. The results obtained remain close to most of the recent analyzes carried out in other projects.

35. **Under these assumptions, the overall project is profitable under all scenarios**, without and with valuation of environmental benefits (on a budget of US\$160 million). The scenario without the valuation of environmental benefits is considered the baseline scenario. In this scenario, the NPV is estimated to be US\$412.8 million, and the economic IRR is estimated to be 28.1 percent. With environmental valuation at market prices, the project is expected to generate an NPV of US\$416.5 million and an economic IRR of 28.3 percent. Including the GHG mitigation valued at the low estimate range (on average, US\$51 /tCO₂e), PACOFIDE generates a net present value (NPV) of US\$435.9 million and an economic IRR of 29.1 percent. With environmental benefits valued at the high estimate range (on average, US\$101 /tCO₂e), the project's results yield an NPV of US\$458.9 million and an economic IRR of 30.1 percent. These four scenarios are summarized in the table below.

Table 3.11: Scenarios of valuation of environmental benefits

Indicators	A) Results excl. ENV benefits	B) Results incl. ENV benefits, valued @ market cost (8 USD/tCO ₂ e)	C) Results incl. ENV benefits, valued @ low estimate range (average 51 USD/tCO ₂ e)	D) Results incl. ENV benefits, valued @ high estimate range (average 101 USD/tCO ₂ e)
	NPV NAB (FCFA, @6%)	262,303,616,598	264,659,832,854	276,974,528,138
NPV NAB (USD, @6%)	412,829,527	416,537,885	435,919,508	458,950,600
ERR	28.1%	28.3%	29.1%	30.1%
NPVb (USD, @6%)	513,337,009	517,045,367	536,426,990	559,458,082
NPVc (USD, @6%)	100,507,482	100,507,482	100,507,482	100,507,482
Discount rate	6%	6%	6%	6%
Switching values - Benefits	-80%	-81%	-81%	-82%
Switching values - Costs	411%	414%	434%	457%

36. **The 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 3.12: Sensitivity analysis

Scenarios		EIRR	NPV (6,0%)	
			USD	FCFA
Base scenario		28.1%	412,829,527	262,303,616,598
Costs	+	10%	402,778,779	255,917,572,390
Costs	+	20%	392,728,031	249,531,528,181
Costs	+	50%	362,575,786	230,373,395,557
Benefits	+	10%	464,163,228	294,920,022,466
Benefits	+	20%	515,496,929	327,536,428,334
Benefits	+	30%	566,830,630	360,152,834,202
Benefits	-	10%	361,495,826	229,687,210,730
Benefits	-	20%	310,162,125	197,070,804,862
Benefits	-	30%	248,777,676	158,068,354,786
Benefits delayed by 1 year		24.8%	349,467,278	222,044,512,221
Benefits delayed by 2 year		22.1%	317,107,454	201,483,727,672



ANNEX 4: EXPORT OPPORTUNITIES FOR BENIN: OVERVIEW OF SELECTED VALUE CHAINS WITH MARKET POTENTIAL

4.1 Opportunities in the Pineapple Industry

1. Benin has significant potential for pineapple production and export⁹¹. With a production of 374,601 tons in 2018, Benin is the fifth largest African producer of pineapple in terms of volume, behind Nigeria, Ghana, Angola and Tanzania. The crop covered about 6,314 hectares in 2018 and involves 15,000 producers, 70 percent of whom work on 0.5–1 ha of land. About 35 percent of pineapple production is locally consumed fresh, 15 percent is locally processed and consumed, 40 percent is sold in the markets of the sub-region (Sahel and Nigeria), 2 percent is exported fresh by air to the European Union (mainly France and Belgium), 8 percent is converted into dried fruits and exported to the European Union (EU) market. Based on current trends and market preferences, West Africa, the EU, the Middle East and North Africa offer the best export potential for Beninese pineapple⁹². The current trends in Benin's exports are mainly directed towards Nigeria for the regional market and to the European Union for the international market. There are opportunities for the country to position its products in new markets in West Africa and in the EU, but also in emerging and geographically close regions such as the Middle East and North Africa. Given the level of competitiveness of Benin and regional exports of fresh pineapple, several priority products could be targeted, for example (i) fresh pineapple; (ii) conventional or concentrated pineapple juice; (iii) organic pineapple juice; and (iv) organic dried pineapple fruit. With well targeted investments across the various segments of the value chain, Benin's market shares for pineapple over a 5-year period could increase and are roughly estimated at: US\$104 million (domestic market); US\$90 million (regional markets); US\$15 million (EU market); US\$2.6 million (Middle East) and US\$1.5 million (North Africa) (Dalberg, 2018). Thus, in the EU market, Beninese pineapple has some room to gain export market share while remaining in a relatively narrow niche. However, the regional market (Sahel, Nigeria) of fresh and processed products seems promising and easily accessible. To fully realize the export potential of pineapple in Benin, the Dalberg study further identified five major constraints which need to be alleviated : (i) limited access to fertilizers and good planting materials, (ii) lack of use of good agricultural practices among producers and limited marketing capacity of aggregators, (iii) difficult access to finance for producers, (iv) lack of investment to improve processing equipment; and (v) logistical and coordination problems of supply chains for air and sea freight.

4.2 Opportunities in the Cashew Industry

2. There are also potential and unexploited opportunities for cashew export⁹³. The dynamics of international trade and the strong demand for cashew by Asian countries (China, Indonesia, Vietnam, India), the European Union and the United States, offer promising export opportunities for Benin. With an average annual production of 135,000 T/year between 2014 and 2017, and 103,558 tons of exports in 2018, Benin ranks 9th worldwide and fourth-largest cashew-exporting countries in Africa, behind Côte d'Ivoire (670,000 tons), Guinea Bissau (204,500 tons), and Tanzania (182,000 tons). The cashew subsector employs about 60,000 agricultural households and

⁹¹ For pineapple development strategy, the Government prepared and endorsed the *Programme National de Développement de la Filière Ananas (PNDFa)*. Janvier 2018.

⁹² Dalberg (2018). *Etude des opportunités de marché pour la production commerciale de l'ananas au Benin*. IDH Sustainable Trade Initiative and Grow Africa; April 2018.

⁹³ For cashew development strategy, the Government prepared and endorsed the *Programme National de Développement de la Filière Anacarde au Benin (2017-2021)*. Janvier 2018



more than 200,000 professionals (trade, processing and export) and contributes 3 percent to the national GDP (INSAE, 2014). It represents an average of 16 percent of Benin's export earnings, placing it second after cotton (PSDSA, 2016-2021). Most products (98%) are exported in raw form directly to India and Vietnam, while the rest (2%) is processed locally and exported as kernels to European countries and North America. There is an opportunity to increase the market share of exported Beninese cashew kernels as only about 60 percent of the domestic processing capacity of 28,000 tons is currently utilized for two main reasons: (i) difficulties in purchasing raw cashew nuts as exporters generally offer higher prices to producers; and (ii) lack of access to working capital finance to purchase at harvesting period, all the quantities needed for processing at full capacity. Cashew consumption is increasing in emerging countries: India, China, Brazil, Russia, but also in East Asia (Thailand, Pakistan) and the prospect for cashew products on international markets looks promising. Benin could increase

Box 4.1: Cashew market trends and perspectives

Global demand for cashew nuts has been growing at a compounded annual growth rate (CAGR) of 8.3 percent for the five years to 2015 and 7.8 percent for the fifteen years to 2015. Production has not kept pace, growing at a five-year CAGR of 4.2 percent and a ten-year CAGR of 3 percent. With declining production in Brazil and Vietnam and stagnating production in India, the surplus of the first half of the last decade has turned into a tight supply/demand balance, pushing prices upward at all levels.

Demand for cashew nuts is expected to grow steadily, albeit more slowly than in the last decade. Growth markets include the main consumer markets—India, the USA, and Europe, which together represent close to 75 percent of world demand—and emerging markets such as Russia, the Middle East, and China.

its market share both as exporter of raw cashew nuts and kernels on the international market. To realize this potential, key constraints need to be overcome in Benin, namely: (i) low productivity of plantations, (ii) insufficient funding of stakeholders' needs, (iii) low level of local processing of cashew nuts, (iv) insufficient recycling and waste management during processing, (v) difficult access to energy and to packaging facilities for processors, and (vi) non-compliance with quality standards.

4.3 Opportunities in other horticultural crops (tomato, pepper, onion, okra, etc.)

3. Benin's vegetable subsector contributed about 15 percent to Agriculture GDP in the country (PNDF, 2018). Currently, there is an unmet local demand for vegetables, especially during lean seasons. A niche market for organic vegetables is also developing and needs to be scaled up given the growing demand among consumers. Furthermore, growth in the global market for horticultural goods is expected to double by 2030 (World Bank, 2018)⁹⁴, offering potential markets for Benin's vegetables. Vegetables can be produced year-round in Benin, but the South and the Extreme North of the country offer the highest potential given the abundance of water and lowlands in these regions. Small farms dominate the subsector with an average farm size of 0.39 ha (PNDF, 2018)⁹⁵. In the dry season, from December to March when water is limited, local supply is far less than demand, resulting in the importation of vegetables (e.g. tomatoes) in the country. This trend can be reversed if intensive production systems, including adequate irrigation systems are adopted. The production of vegetables has increased in recent years due to increased demand. Between 2008 and 2015, vegetable production increased by 95 percent with an average of 577,677 tons annually, owing to a combination of Government policies and

⁹⁴ The World Bank (2018). Fruits and Vegetables: A Rapid Review of the Opportunities for the Horticulture Industry in Benin.

⁹⁵ Gouvernement du Bénin (2018) : Etude de faisabilité du Programme National de Développement de la Filière Maraîchère, Rapport final, Cotonou, Bénin.



partners' interventions (PNDF, 2018). However, this increase in production is mostly due to area expansion. For example, tomato production increased over the past three years from 335,412 tons to 360,195 tons, in 2016 and 2018, respectively. Likewise, pepper production has increased by 11 percent between 2017 and 2018. In 2018, the areas cultivated for tomato and pepper amount to 47,588 ha and 30,324 ha, respectively. The vegetable subsector is characterized by low productivity, which is due to the unavailability of quality inputs (seeds and specific fertilizer), poor water management, insufficient irrigation infrastructures, and low adoption of improved technologies. In addition, post-harvest losses of vegetables are quite high in the country due to the high perishability of the crops and inadequate post-harvest handling. The potential for exporting Benin's vegetables is also limited by the non-existent on-farm cold storage and the limited local, regional, and international logistics networks in the country. The financial and economic analyses of the several value chains in the vegetable subsector indicate that the production of vegetables is financially profitable for producers, traders and economically profitable for the country.

4. Furthermore, the development of the vegetable subsector has the potential to generate employment and incomes for the population, especially for women and the youth. In short, Benin has some potential comparative advantages in producing vegetables and can take advantage of the increasing demand on the local, regional, and international markets. Differences in harvesting seasons with other competitor regions around the world creates space for value capture on global markets. For example, India supplies nearly two thirds of global okra production, but Indian harvesting season is largely over by the time harvests are made in Benin (and the rest of West Africa). Benin may have an advantage at supplying global markets and fetching higher prices for local producers between June and October because okra harvesting is mostly done between August and October in the country. However, positioning Benin's vegetables on the international market would require a set of targeted interventions to unlock the subsector's full potential. This would require improved access to quality inputs, better water management, off-season farming, and export market development (PNDF, 2018). To seize the market opportunities on the regional and global markets, the logistics network would need to be improved. Regional markets (Nigeria, Ghana) could be served through refrigerated trucking networks. For distant markets, such as Europe and the Middle East, air freight would be the most practicable way of exporting vegetables. However, air freight is expensive, and its use should be justified by high volume of products and low cost of transportation. Training on food safety and quality standards and certification are essential as buyers and consumers are increasingly demanding on food safety.



ANNEX 5: OVERVIEW OF BENIN'S BANKING AND MICROFINANCE SECTOR

- 1. The informal sectors (agriculture and services) represent up to 70 percent of GDP and continue to dominate the economy with approximately 90 percent of the labor force.** The agricultural sector employs approximately 50 percent of the labor force with cotton (typically responsible for 25–40 percent of exports), cereals, starchy roots, and increasingly cashews, pineapples, and rice as main agricultural crops. Benin is recording a shift from the value-added industry in the informal sector toward the value-added industry in the service sector. The formal economy employs approximately only 10 percent of the labor force. Indeed, the economy is characterized by a small number of very large formal firms, very few medium-size enterprises, and an extremely large number of informal small and microenterprises. Informality has contributed to the adoption by the financial sector of a cautious approach to lending in-country.
- 2. The Government of Benin adopted a five-year program (2016–2021) for the economic and social development of the country.** This Government Action Plan (PAG) revolves around three pillars: to consolidate democracy, the rule of law, and good governance; to engage the structural transformation of the economy; and to improve the living conditions of the population. This plan includes 45 projects and institutional reforms with an estimated budget of CFAF 9,039 billion for five years. To initiate the structural transformation of the economy, an investment of more than CFAF 7,000 billion is needed for projects in agriculture, tourism and culture, digital economy and information and communication technology (ICT), energy, transport infrastructure and processing units, and so on. Approximately CFAF 3,529 billion is projected from public financing excluding public-private partnerships and CFAF 5,510 billion is expected from private financing. The financial sector will thereby play a key role in the program delivery.
- 3. Benin's financial sector is segmented, with 15 banks, over 600 microfinance institutions (MFIs) —of which are 87⁹⁶ authorized and the remaining are unauthorized institutions⁹⁷ —and nonbank financial institutions (two licensed e-money issuers, 14 insurance companies, and two pension funds).** Commercial banks and other credit institutions are governed by the regional banking law and supervised by the Banking Commission (*Commission Bancaire*). The Central Bank of West African States (BCEAO) also supervises large MFIs falling under “Article 44” (that is, MFIs with an outstanding credit portfolio or total of deposits of at least CFAF 2 billion). In Benin, 10 MFIs are supervised by the BCEAO. E-money issuers are also within the remit of the BCEAO. The insurance sector is regulated by the *Conférence Interafricaine des Marchés de l'Assurance* (CIMA).
- 4. Banks dominate the financial sector in Benin, accounting for over 90 percent of total assets with persistent problems with nonperforming loans (NPLs).** Total bank assets are estimated at

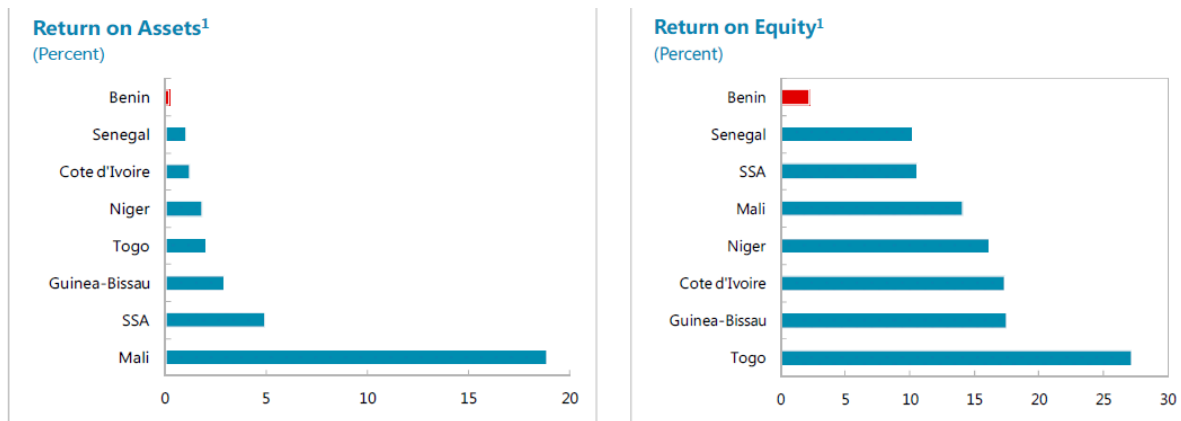
⁹⁶ Banque mondiale, *Revue du secteur de la microfinance*, 2015.

⁹⁷ In the West Africa Economic and Monetary Union (WAEMU), the terminology “decentralized financial systems” refers to MFIs. It is used in the Microfinance Act.



CFAF 3,442 billion as of June 2017. Of the 15 banks⁹⁸ in operation, four of the largest banks are pan-African. The number of branches reached 208 at the end of June 2017. The banking sector is characterized by high NPLs with a ratio of 20.3 percent (BCEAO 2016), which is among the highest in West Africa Economic and Monetary Union (WAEMU) countries. IMF (2015) reported that reducing Benin’s NPL to the WAEMU average level is estimated to be able to raise private credit growth by about 4 to 6 percentage points.

Figure 5.1: Benin banking sector profitability compared to WAEMU countries



Source: IMF (2015) Benin selected issues.

5. **Beninese banks lend to the dominant sector of the economy (services) and to a small number of customers, exposing them to loan concentration risk.** The industry sector that generally accounts for formal businesses is the sector where Benin’s share of credit is below the WAEMU average. As aforementioned, commercial banks have less appetite to lend to private businesses. The main reasons raised by banks not to extend credit beyond a select customer base are the lack of creditworthy investment projects and weaknesses in the legal and judicial environment.

6. **Concentration of bank loans is high, mainly in the trade sector, and it is closely related to trade with Nigeria.** This concentration makes banks’ assets vulnerable to the current volatile environment of the Nigerian economy. In addition, rising exposure to government debt creates sovereign-financial links that would generate a negative feedback in case of fiscal troubles or tightened liquidity conditions. Government securities accounts for approximately 45 percent of the banking system’s loan asset and Beninese banks have dramatically increased holdings of government securities over the period 2015-16. The main reason is that government bonds pay about 6 percent a year and they could be used as collateral for refinancing at BCEAO at 2.5 percent. Thereby, banks appetite for government securities is increasingly

⁹⁸ The 15 operating banks are Orabank Benin; Bank of Africa Benin (BOA); Ecobank Benin; Banque Internationale du Benin (BIBE) ; UBA Benin ; Diamond Bank; Société Générale Benin ; Banque Sahelo-Saharienne pour l’Investissement et le Commerce (BSIC) ; Banque de l’Habitat du Benin (BHB) ; Banque Atlantique Bénin (BABN) ; CCEI Bank; BAIC; CBAO; Coris Bank; and BGFI Bank Benin.



growing their direct exposure to sovereign risk as well. Such exposure to the government in a shallow financial market like Benin's amplifies risks and vulnerabilities.

7. Analysis of the microfinance sector in Benin has provided the following key findings:

- The microfinance sector in Benin plays a key role in financial inclusion of individuals as it reaches double the population of the banking sector with 2.2 million clients/members (ANSSFD 2017);
- The country is one of the few in the WAEMU zone where no greenfield-type microfinance institutions (MFIs) intervened. The only foreign-owned MFI owned by a foreign investor is FINADEV, whose sole shareholder is the investment fund, ECP Africa Fund III PCC;
- Several MFIs established partnerships with mobile money operators to offer cash transfer (person-to-person [P2P]) and payment services to their clients, and two institutions applied for e-money issuer license;
- The microfinance sector in Benin is composed of over 600 institutions. However, of the institutions operating in the sector, only 100 MFIs hold a license issued by the Ministry of Finance, and the remaining are informal savings and credit institutions. These significantly numerous unauthorized institutions provide loans and collect deposits from the public. IMF (2016) estimated that the deposits collected by unauthorized MFIs are about 0.5 percent of GDP;
- Benin's microfinance sector is exposed to risks that threaten its stability and could compromise its growth. Shortcomings are recorded in terms of governance, financial and accounting management, internal control, and credit processing of MFIs. In the formal microfinance sector, many MFIs continued to operate despite operational and performance anomalies. Indeed, the overall quality of the credit portfolio in 2016 was 7 percent (ANSSFD 2017), largely above the BCEAO standard set at 3 percent. Also, the growth of the sector could be undermined by the low profitability. In addition, the slow cleaning up of unauthorized MFIs since the 2010/11 crisis is worrying. Since the Investment Consultancy and Computerizing (ICC) crisis, fewer than 15 institutions (ANSSFD 2017) have been closed by the microfinance supervisor authority; and
- Transparency, fair and respectful treatment of clients, and mechanisms for complaint resolution emerge as the Client Protection Principles that resonate most as priorities for microfinance client protection.

8. The microfinance sector serves a large segment of the Beninese population. About 37 percent of adults in Benin hold an account with an MFI, the second-highest penetration in the WAEMU zone. The sector reaches almost double the population served by the banking sector with approximative 2.2 million clients/members (Consortium Alafia 2017) in 2016 through 697 points of services. In 10 years, the number of clients/members served by MFIs tripled.

Figure 5.2: Percentage of adults with MFIs account

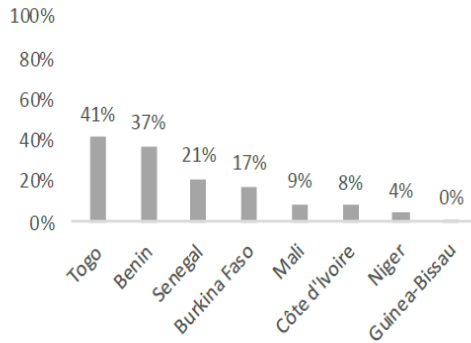
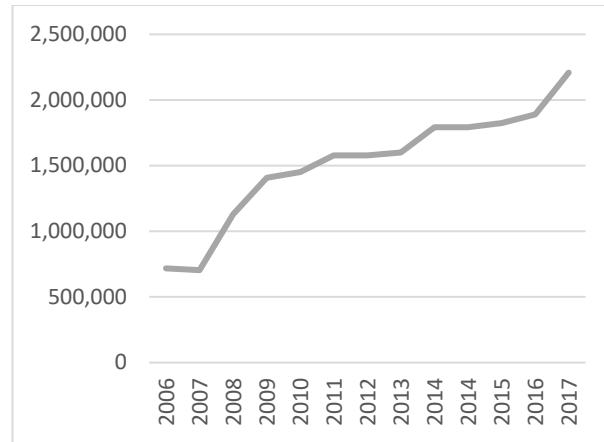


Figure 5.3: MFIs clientele evolution in Benin



Source: FAS, WDI 2015.

Source: ANSSFD 2017.

9. A small number of MFIs dominated the microfinance sector in Benin. As of July 2017, the five largest MFIs in the country (FECECAM, PADME, PEBCo, FINADEV, and VITAL FINANCE) accounted for 75 percent of the total deposits; 71 percent of outstanding loans portfolio, and 65 percent⁹⁹ of clients. As of December 2017, the country has 18 large MFIs¹⁰⁰ representing 90 percent of the sector, an increase compared to 2016 where 16 institutions were considered large representing 86 percent¹⁰¹ of the sector.

10. While MFIs operate in most regions of the country, many points of services are concentrated in the southern coastal areas. Several factors are likely to contribute to these outcomes, including proximity to the capital and the coast, agglomeration effects (the population density is high in the south, where 57 percent [World Bank Group 2017a] of the population can be found), and informal trade with Nigeria. There are approximately 10.48 MFIs branches or outlets per 100,000 adults in Benin, which is more than the double of the figure for banks.

11. The microfinance sector offers a range of financial services. The sector offers a full range of products and services, from basic transaction services to a variety of savings, microinsurance, and instant money transfer between cashier and credit products. MFIs use a range of different delivery channels to bring their services closer to clients, including branches, roving MFI staff to serve clients directly particularly for savings known as “SUSU collector” and mobile money through partnerships with mobile network operators, while others plan to issue their own e-money. For microinsurance, some MFIs have

⁹⁹ ANSSFD (2017) statistics on the sector 2016.

¹⁰⁰ Large MFIs are defined in the microfinance law under Article 44 in the WAEMU as MFIs having an outstanding loans or deposits of at least CFAF 2 billion.

¹⁰¹ Benin Ministry of Finance webpage consulted on January 25, 2018.



also established partnerships with insurance companies, while others, owing to the *Conference Interafricaine des Marchés de l'Assurance* (CIMA) regulation on microinsurance, have established their own insurance company.

12. **MFIs supply a range of credit products, foremost of which are short-term products designed for the trade sector.** Credits are mainly short-term with 65 percent (BCEAO 2017) of loans having a maturity of less than 12 months. The time between the loan application and the granting varies according to the institutions from one week to one month. In general, credit renewal occurs within the same time frame. In 73 percent of instances, credits are granted to the trade and service sectors. The agricultural sector accounts for about 15 percent of the loans portfolio, 2 percent for crafts, and the remaining for consumption. The MFIs' association recognizes that loans registration per sector is done by loan officers and to some extent with limited consideration of the different economic sector. Thereby, this distribution is an approximation. The MFIs' association considers the share of the loan portfolio dedicated to agriculture higher, signaling the need for institutions to strengthen the capacity of for their loan officers. FECECAM, the largest MFI in Benin, had a growing agriculture lending portfolio which stood at 30 percent in 2016, 23 percent in 2015, and 17 percent in 2014. In addition, MFIs operating in urban areas have a growing portfolio for consumer credit (school fees, employees) and for liberal professions.

13. **MFIs offer a variety of loan products tailored to meet the needs of their clients.** Medium and small MFIs mainly provide loans to groups or individuals backed with nontraditional collateral (sewing machine, and so on). Large MFIs have specific products for agriculture (inventory credit, commercialization of agriculture production, micro-leasing) and for women. In addition, their loans are backed with the following types of collateral: personal guarantees (group caution for group lending, individual caution, and so on); financial guarantees (credit guarantees, security deposit, insurance, and so on); and materials guarantee constituted by the non-possessory pledge (pledge on vehicles, inventory, professional equipment, land title, the establishment of an agreement to sell land in case of non-refund of credit). Overall, these collateral practices of MFIs do not fully comply with the provisions of the OHADA Collateral Registry. Most MFIs operating in rural areas offer limited amounts of credit, below CFAF 500,000, thereby contributing to the limited financing of agriculture, which nevertheless requires significant credits. FECECAM is one of the rare MFIs that grants credits of several million francs for rural economy (farming and nonfarming activities).

14. **The GoB implements various actions designed to promote the microfinance sector, particularly in terms of taxation.** The GoB has set up two exemptions from taxation for MFIs and their customers. According to the tax regulations applicable to MFIs in the WAEMU, savings and credit cooperatives benefit from an exemption from all direct or indirect taxes or fees relating to their collection operations, savings, and credit distribution. Their members are also exempt from all taxes on shares, income from their savings, and interest payments on credits they have obtained from the institution. On the other hand, the MFIs constituted in the form of capital companies are subject to the common law tax of each of the WAEMU countries. For all types of MFIs, the GoB has implemented an exemption from the Financial Activities Tax on refinancing as well as the exemption from taxes on the credit to their customers.



15. **The total value of the microfinance sector's assets almost tripled in 10 years.** Between 2006 and 2016, the total sector assets grew from CFAF 88.75 billion to CFAF 233.31 billion, which corresponds to a growth of 163 percent. **Despite the important scope of its clientele, the microfinance sector weighs relatively small in the financial sector.** The financial sector in Benin is bank centric. The value of the microfinance sector's total assets stood at only 4.6 percent of GDP, much smaller than the total assets of the banking sector, which stood at 70 percent of GDP in 2016 (IMF 2017). The microfinance sector controlled only 6.5 percent of the banking sector's total assets, 9.6 percent of total loans, and 4.7 percent of total deposits

16. **Overall, the microfinance sector remains fragile.** In many instances, the sector proves to not be compliant with prudential rules, and the number and weight of unauthorized MFIs are unknown even though they are collecting deposits from the public. The cleanup of the sector has been slow to date due to limited capacities (human, technical and tools, financial resources). The sector profitability is low, and the interest rate cap is not helping. Helms and Reille (2004) found that the imposition of interest caps on microfinance loans in the WAEMU resulted in MFIs withdrawing from more rural and remote areas and increasing average loan sizes to improve efficiency and returns. The Beninese microfinance sector seems to follow the same path with 62.7 percent (Consortium Alafia 2017a) of the clients living in urban areas.

ANNEX 6: MAP of Benin

