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Report No: PAD5306

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF SDR 113 MILLION
(US$150 MILLION EQUIVALENT OF WHICH US$40 MILLION
FROM THE WINDOW FOR HOST COMMUNITIES AND REFUGEES)

TO THE

REPUBLIC OF CHAD

FOR A

CHAD AGRIBUSINESS AND RURAL TRANSFORMATION PROJECT

APRIL 4, 2024

Agriculture and Food Global Practice
Western and Central Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective February 29, 2024)

Currency Unit =	XAF (Central African CFA franc)
XAF 605 =	US$1.00
SDR 0.75 =	US$1.00

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Ousmane Diagana
Regional Director:	Chakib Jenane
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ABBREVIATIONS AND ACRONYMS

AIE	Agro-Industrial Enterprise
AM	Accountability Mechanism
ANADER	National Agency for Rural Development *(Agence Nationale de Développement Rural)*
ANIE	National Agency for Investments and Exports (*Agence Nationale des Investissements et des Exportations)*
ATNOR	Chadian Agency of Norms (*Agence Tchadienne de Normalisation)*
AWP&B	Annual Work Program and Budget
BDS	Business Development Services
BEAC	Bank of Central African States *(Banque des Etats d'Afrique Centrale)*
CE	Citizen Engagement
CCIAMA	Chamber of Commerce, Industry, Agriculture, Mining and Craft *(Chambre de Commerce, d'Industrie, d'Agriculture, des Mines et d'Artisanat)*
CECOQDA	Food Quality Control Center (*Centre de Contrôle de Qualité des Denrées Alimentaires)*
CEMAC	Central Africa's Currency Union (*Communauté Economique et Monétaire d'Afrique Centrale)*
CERC	Contingent Emergency Response Component
CGF	Credit Guarantee Facility
CNARR	The National Commission for Refugees and Returnees (*Commission Nationale d'Accueil et de Réinsertion des Réfugies)*
CNCPRT	National Dialogue Council for the Rural Producers of Chad *(Conseil National de Concertation des Producteurs Ruraux du Tchad)*
COBAC	Central Africa Banking Commission (*Commission Bancaire de l'Afrique Centrale)*
CPF	Country Partnership Framework
CPSD	Country Private Sector Diagnostic
CSA	Climate-Smart Agriculture
DA	Designated Account
DEAFPR	Directorate for Agricultural Education and Vocational Training (*Direction de l'Enseignement Agricole et de la formation Professionnelle)*
DEPS	Directorate for Studies, Planning and Monitoring (*Direction des Etudes de la Planification et du Suivi)*
DFIL	Disbursement and Financial Information Letter
DGGRHA	General Directorate for Rural Engineering and Irrigation (*Direction Générale du Génie Rural et de l'Hydraulique Agricole)*
DPAVA	Department of Fisheries, Aquaculture and Aquaculture Products Valorization *(Direction des Pêches, de l'Aquaculture et la Valorisation des produits Aquacoles)*
DPSA	Directorate of Production and Agricultural Statistics (*Direction de la Production et des Statistiques Agricoles)*
DPSP	Directorate for the Promotion of Private Sector (*Direction de la Promotion du Secteur Privé)*
DPVC	Directorate for Plant Protection and Food Storage and Packaging (*Direction de la Protection des Végétaux et du Conditionnement)*
DSP	Directorate for Seeds and Seedlings (*Direction des Semences et des Plants)*
DSPP	Directorate for monitoring of Projects and Programs, Ministry in charge of Planning (*Direction de Suivi des Projets et Programmes- Ministère en charge du Plan)*
EFA	Economic and Financial Analysis

EIRR	Economic Internal Rate of Return
ESCP	Environmental and Social Commitment Plan
ESMF	Environmental and Social Management Framework
EX-ACT	Ex-Ante Carbon-balance Tool
FAO	Food and Agriculture Organization of the United Nations
FM	Financial Management
FMS	Financial Management Specialist
FPO	Farmers' Professional Organization
FSRP	Food Systems Resilience Project
GBV	Gender-based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communication Technologies
IDA	International Development Association
IFC	International Finance Corporation
IFR	Interim Financial Report
IPCC	Inter-Governmental Panel on Climate Change
IPF	Investment Project Financing
IPMP	Integrated Pest Management Plan
IRED	Livestock Research Institute for Development (*Institut de Recherche en Elevage pour le Développement)*
IRR	Internal Rate of Return
ITRAD	Chadian Institute for Agriculture Research and Development (*Institut Tchadien de Recherche Agricole pour le Développement)*
M&E	Monitoring and Evaluation
MIS	Market Information System
MOD	Delegated Project Management Agency (*Maitrise d'Ouvrage Déléguée)*
MoU	Memorandum of Understanding
MPTA	Ministry of Agricultural Production and Transformation (*Ministère de la Production et de la Transformation Agricole)*
MSME	Micro, Small and Medium Enterprise
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
NPV	Net Present Value
NPSC	National Project Steering Committee
OHADA	Organization for the Harmonization of Business Law in Africa (*Organisation pour l'Harmonisation en Afrique du Droit des Affaires)*
ONUDI	United Nations Industrial Development Organization (*Organisation des Nations Unies pour le développement industriel)*
OP/BP	Operations Policy/Bank Procedure
PCU	Project Coordination Unit
PDO	Project Development Objective

PFI	Partners Financial Insitution
PIM	Project Implementation Manual
PND	National Development Programme *(Programme National de Développement)*
PNISR	National Investment Plan for the Rural Sector of Chad (*Plan National d'Investissement pour le Secteur Rural)*
PPP	Public-private Partnership
PPSD	Project Procurement Strategy for Development
PRA	Prevention and Resilience Allocation
PRAPS	Regional Sahel Pastoralism Support Project (*Projet Régional d'Appui au Pastoralisme au Sahel)*
ProAGRI	Agribusiness and Inclusive Rural Transformation Project *(Projet d'Agrobusiness et de Transformation Rurale Inclusive)*
ProPAD	Climate Resilient Agriculture and Productivity Enhancement Project *(Projet de Renforcement de la Résilience Climatique et de la Productivité Agricole Durable)*
RAP	Resettlement Action Plan
RGA	Revenue-Generating Activity
RHC	Refugees and Host Communities
RPA	Refugee Policy Assessment
RPF	Resettlement Policy Framework
SCD	Systematic Country Diagnosis
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SDR	Special Drawing Rights
SH	Sexual Harassment
SME	Small and Medium Size Enterprises
STEP	Systematic Tracking of Exchanges in Procurement
TIMP	Technology, Innovation and Management Practice
ToR	Terms of Reference
UNHCR	United Nations High Commissioner for Refugees
WBG	World Bank Group
WFP	World Food Program
WHR	Window for Host Communities and Refugees
WOP	Without Project
WP	With Project
XAF	Central African CFA Franc

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DATASHEET

BASIC INFORMATION

Project Beneficiary(ies)	Operation Name		
Chad	Chad Agribusiness and Rural Transformation Project		
Operation ID	Financing Instrument	Environmental and Social Risk Classification	
P179238	Investment Project Financing (IPF)	Substantial	

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[✓] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternative Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
25-Apr-2024	31-Jul-2030
Bank/IFC Collaboration	Joint Level
Yes	Complementary or Interdependent project requiring active coordination

Proposed Development Objective(s)

The project Development Objective (PDO) is “to improve the resilience , competitiveness , and inclusiveness of selected agricultural value chains in project intervention areas in Chad."

Components

Component Name	Cost (US$)
Component 1: Institutional Strengthening and Enabling Agribusiness Development	11,283,800.00
Component 2: Promoting Inclusive and market-led climate-smart Production	53,634,200.00
Component 3: Access to Market, Finance, and Value Addition	93,410,600.00
Component 4: Contingent Emergency Response Component	0.00
Component 5. Project Coordination, Management, Monitoring and Evaluation	21,919,400.00

Organizations

Borrower:	Republic of Chad
Implementing Agency:	Ministry for Agricultural Production and Transformation

PROJECT FINANCING DATA (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	Yes
Is this project Private Capital Enabling (PCE)?	Yes

SUMMARY

Total Operation Cost	**180.25**
Total Financing	**180.25**
of which IBRD/IDA	**150.00**
Financing Gap	**0.00**

DETAILS

World Bank Group Financing

International Development Association (IDA)	150.00
IDA Grant	150.00

Non-World Bank Group Financing

Counterpart Funding	10.50
Borrower/Recipient	0.74
Local Beneficiaries	9.76
Commercial Financing	19.75
Unguaranteed Commercial Financing	19.75

IDA Resources (US$, Millions)

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount
National Performance-Based Allocations (PBA)	0.00	110.00	0.00	0.00	110.00
Window for Host Communities and Refugees (WHR)	0.00	40.00	0.00	0.00	40.00
Total	**0.00**	**150.00**	**0.00**	**0.00**	**150.00**

Expected Disbursements (US$, Millions)

WB Fiscal Year	2024	2025	2026	2027	2028	2029	2030
Annual	4.27	20.34	23.20	23.39	32.50	43.54	2.76
Cumulative	4.27	24.61	47.81	71.20	103.70	147.24	150.00

PRACTICE AREA(S)

Practice Area (Lead)

Agriculture and Food

Contributing Practice Areas

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Operation Document

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	High
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Substantial
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	Substantial
9. Other	High
10. Overall	Substantial

POLICY 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

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

E & S Standards	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant
ESS 2: Labor and Working Conditions	Relevant
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4: Community Health and Safety	Relevant
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
ESS 8: Cultural Heritage	Relevant
ESS 9: Financial Intermediaries	Not Currently 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

Legal Covenants

Sections and Description
The Recipient through the PCU shall not later than three (3) months after the Effective Date recruit: (a) a senior accountant; (b) a security specialist; (c) an internal auditor; (d) an environmental safeguards specialist; (e) a social safeguards specialist; (f) a gender and gender-based violence specialist; (g) monitoring and evaluation specialist; and (h) a communications specialist, all with terms of reference, qualifications and experience acceptable to the Association (Schedule 2, Section I, A, 3).
Not later than three (3) months after the Effective Date, the Recipient shall establish and throughout Project implementation, maintain Regional Coordination Units in Moundou, Abeché, Massakory and Faya, with resources, with competent staff in adequate numbers and with terms of reference, qualifications and experience satisfactory to the Association (Schedule 2, Section I, A, 5).

Not later than three (3) months after the Effective Date, the Recipient shall prepare and adopt a Project implementation manual, and shall carry out the Project activities in accordance with said manual (Schedule 2, Section I, C, 1).
Not later than six (6) months after the Effective Date, the Recipient shall prepare and adopt, in form and substance acceptable to the Association a Warehouse Receipts Systems Manual (Schedule 2, Section I, C, 2.)
Establish and maintain a project coordination unit (PCU) with qualified staff and resources to support management of ESHS risks and impacts of the Project including an environmental specialist, a social specialist, a gender/GBV specialist to be recruited not later than three (3) months after the Effective Date, and any other E&S positions that may be deemed necessary during implementation (ESCP, ESS1, 1.1)

Conditions

Type	Citation	Description	Financing Source
Effectiveness	Article V, 5.01, (a)	The Association is satisfied that the Recipient has an adequate refugee protection framework	IBRD/IDA
Effectiveness	Article V, 5.01, (b)	The recipient has established a National Project Steering Steering Committee (NPSC) with a mandate, and with terms of reference and resources, all satisfactory to the Association and in accordance with the provisions of the Financing Agreement (Section I.A.1. of Schedule 2)	IBRD/IDA
Effectiveness	Article V, 5.01, (d)	The Recipient has established a Project Coordination Unit (“PCU”), including hiring a Project coordinator, a financial management specialist and a procurement specialist, all under terms of reference and with experience and qualifications, and in form and manner satisfactory to the Association.	IBRD/IDA
Effectiveness	General Conditions, Section 10.02 (a)	A legal opinion confirming that the financing	IBRD/IDA

		Agreement has been duly authorized by, and executed and delivered on behalf of, the recipient and is legally binding upon the recipient in accordance with its terms.	
Disbursement	Schedule 2, Section III, B, 1, (b)	Under Category (2), unless the Recipient has prepared and adopted a Matching Grants Manual in form and substance satisfactory to the Association and in accordance with Section I.B.3.	IBRD/IDA
Disbursement	Schedule 2, Section III, B, 1, (c)	Under Category (3), unless the Recipient has prepared and adopted a National Seed Fund Manual, in form and substance satisfactory to the Association and in accordance with Section I.B.4.	IBRD/IDA
Disbursement	Schedule 2, Section III, B, 1, (d), (i)	For Emergency Expenditures under Category (4), unless and until all of the following conditions have been met in respect of said activities: the Recipient has determined that an Eligible Crisis or Emergency has occurred, has furnished to the Association a request to withdraw Financing amounts under Category; and the Association has agreed with such determination, accepted said request and notified the Recipient thereof.	IBRD/IDA
Disbursement	Schedule 2, Section III, B, 1, (d), (ii)	For Emergency Expenditures under Category (4), unless and until all of the following conditions have been met	IBRD/IDA

		in respect of said activities: the Recipient has adopted the CERC Manual and Emergency Action Plan, in form and substance acceptable to the Association.	

I. STRATEGIC CONTEXT

A. Country Context

1. **Chad is a large (1,284,000 km^2), landlocked Sahelian country with a population of 17.7 million inhabitants (2022), 78 percent of whom live in rural areas.** In recent years, the country's economy has been under severe stress. Following the 2014-2015 oil price shock - oil constitutes about 20 percent of Gross Domestic Product (GDP), 35 percent of revenue, and 75 percent of exports- Chad experienced negative growth in 2016 and 2017. A modest economic recovery in 2018 and 2019 was reversed in 2020 by the impact of the Coronavirus disease (COVID-19) pandemic, and the setback was accentuated in 2021 by a shortfall in oil production. The GDP recovery in 2022 was a modest 2.2 percent due to inadequate rainfall distribution and severe floods.[1] In 2023, Chad's economy was expected to grow by 3 percent (-0.2 percent per capita).[2]

2. **Chad is one of the poorest countries in the world, with a GDP per capita estimated at US$715.52 in 2023[3].** It was ranked 189th out of 193 countries[4] on the United Nations Human Development Index in 2023. Chad's extreme poverty rate (US$2.15/day per capita, 2017 Purchasing Power Parity) was estimated at 35.4 percent in 2023, corresponding to 6.4 million people. There are several deep-rooted structural factors contributing to Chad's poor outcomes, including a high population growth rate. Chad's rapid population growth rate of 3.3 percent (on average) places enormous strain on per capita economic growth. For instance, whereas annual GDP growth averaged +0.3 percent over the past six years, per capita income fell by -2.9 percent annually over the same time period. Other constraints to sustained economic and social development include vulnerability to climate change, oil dependence and poor oil management, weak governance, poor trade networks, weak human capital investment, a large infrastructure gap, and insecurity both in the country and in the region.

3. **Chad is considered the world's most vulnerable country to the adverse effects of climate change and the least resilient (NDGAIN 2023)**[5]. Precipitation is highly variable from year to year and from one decade to another. In addition, temperatures have increased by 0.8° Celsius countrywide since 1975, with potential for reducing crop harvests and pasture availability, and for amplifying the impact of droughts. These climatic changes are exacerbating the negative trends in per capita food production. This is, in turn, significantly contributing to food insecurity and malnutrition. For instance, during June - August 2023, about 1,864,000 individuals were projected to need food assistance. Over the past three years, Chad's global acute malnutrition averaged 11.5 percent, and severe acute malnutrition averaged 2.1 percent[6]. Indeed, 31 percent of children under five are chronically stunted; and 10 percent of children under five suffer from acute malnutrition (wasting). Micronutrient deficiencies are also prevalent and 46 percent of women have anemia. Persistent food insecurity and malnutrition are stymying the country's efforts to eradicate poverty which remains very high.

4. **Chad is classified as fragile and in a conflict-affected situation as well as a host country for refugees**. Fragility and insecurity have risen sharply since 2015 due to the proliferation of both internal and external drivers. Internal drivers of fragility include political, social, and economic grievances, and inter-communal tensions that are exacerbated by increasing natural resource scarcity and climate change. Following the death of the president on April 20, 2021, the military instituted a transitional authority. The first 18-month transition period was renewed in October 2022 after national dialogue and signing of a peace accord with 40 armed groups. However, several non-state armed groups have remained active around the country. Nonetheless, the authorities held successfully a constitutional referendum on December 16, 2023 and presidential elections are expected to take place on May 6, 2024. External sources of risk include spillovers from regional conflicts which have induced massive, forced human displacement. The resumption of the conflict in Sudan in April 2023 has serious political, macroeconomic

[1] Macro Poverty Outlook - World Bank, April 2022.
[2] Macro Poverty Outlook-World Bank, October, 2023.
[3] https://www.imf.org/external/datamapper/NGDPDPC@WEO/OEMDC/ADVEC/WEOWORLD
[4] https://hdr.undp.org/system/files/documents/global-report-document/hdr2023-24reporten.pdf
[5] https://gain.nd.edu/our-work/country-index/. NDGAIN stands for Notre Dame Global Adaptation Initiative.
[6] https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1155350/

and humanitarian consequences with the forced displacement of hundreds of thousands of people. As of January 2024, the country was hosting 1.1 million refugees and asylum seekers, as well as more than 200,000 internally displaced persons mostly in the Lake Chad region (United Nations High Commission for Refugees – UNHCR, 2024). The largest refugee populations are from Sudan (931,000 in Eastern Chad), Central African Republic (136,000 along Southern border), Cameroon (23,000) and Nigeria (22,000) living around Lake Chad (see Map 1 in Annex 7). In Eastern Chad, many of the refugees live in the main camps or in surrounding villages of host communities. Many of the Sudanese refugees have remained in Chad for over 15 years. Host and refugee populations have similar livelihood strategies, mostly based on irrigated agriculture, herding, small trade and services. The influx of refugees is putting an additional pressure on scarce natural resources. Refugee-hosting areas are affected by food insecurity which in turn increases the fragility in these areas.

5. **The socioeconomic inclusion of refugees represents a sharp development challenge for Chad, requiring a long-term approach.** Refugees face specific difficulties in gaining access to limited arable land on favorable terms. This keeps refugees highly dependent on humanitarian services (including food aid), mainly provided in camps. A large number of female-headed households face problems in pursuing livelihoods to achieve food security. A combination of climatic, demographic, and structural barriers impedes improvements to local food production and livelihoods.[7] Addressing these challenges requires investments in infrastructure for production, market development, and connectivity. The World Bank, after consultation with the United Nations High Commissioner for Refugees (UNHCR), confirms that the protection framework for refugees continues to be adequate in Chad. The Government of Chad has taken some important measures to strengthen its legal and institutional framework for refugees, notably through the asylum law, adopted on December 23, 2020, promulgated under decree number 27, on December 31, 2020, and its implementing decree 486 promulgated on April 25, 2023. The new legal framework gives refugees the same rights as Chadian citizens, except for political rights. It states the right of access to land and the securing of allocated land, the policy of alternatives to the camp, and villagization as a means of promoting self-sufficiency and local integration. It affirms the freedom of movement and the right of refugees to settle in places suitable to their empowerment. The decree confers on the refugee identity card the value of a residence permit. Chad's continued eligibility for support through the Window for Host Communities and Refugees (WHR) was confirmed in IDA19 and maintained through IDA20[8] and underlined most recently by the latest Refugee Policy Assessment (RPA) from UNHCR (dated February 13, 2024.) In addition to recognizing the adequacy of the refugee protection framework, the RPA highlights one of the pledges made by the Chadian Government during the 2023 Global Refugee Forum to "facilitate access to employment from the private sector and grant and secure 30,000 hectares in refugee-hosting areas for agro-pastoral activities."

6. **In order to tackle the country's immense economic development challenges, the Chadian Government adopted a National Development Plan (*Programme National de Développement,* PND, 2017-2021) which prioritizes agricultural industrialization as well as boosting agricultural exports to reduce dependence on oil**. This plan is intended to operationalize "Vision 2030, *The Chad We Want*", which aims at tripling the country's average GDP per capita by 2030. The Plan emphasizes the rural sector as a key driver of Chad's economic growth and an essential ingredient for the country's food and nutrition security. This is further expounded in the National Rural Sector Investment Plan (*Plan National d'Investissement pour le Secteur Rural,* PNISR, 2016-2022) which aims at: (i) promoting adaptation to climatic change and strengthening resilience; (ii) developing rural infrastructure and improving access to input and output markets, equipment, and finance; (iii) adding more value to Chadian products and making them more competitive; (iv) improving food and nutritional security; and (v) enhancing the integration of youth and women into agricultural production systems.

[7] Further details on the context for host communities and refugees in Chad are provided in Annex 6.
[8] As per IDA20 WHR guidelines, the updated Strategy note of the Chadian Government describing the concrete steps towards long-term development solutions for HCR was finalized on February 27, 2023, for the first WHR-funded project of the IDA20 cycle (Chad Territorial Development and Resilience Project, P177163).

B. Sectoral and Institutional Context

7. **Agriculture (crops and livestock) remains the backbone of the Chadian economy, contributing 54 percent to GDP in 2021 and 75 percent to employment in 2019**.[9] The predominant crops are cereals which are oftentimes intercropped with legumes, roots, and tubers, and mostly cultivated for household consumption. Cereal prices have increased by 30 – 40 percent between 2016 and 2021, in part due to erratic weather patterns which impacted production. For cash crops, cotton had been Chad's flagship export, but now falls behind sesame (US$33.8 million in exports in 2019) and gum arabic (US$21.5 million in exports in 2019).[10] Groundnuts (15 percent of cropped area) is another important crop. On a comparatively smaller scale, Chad produces mangos and farmers collect fruits and wild plants, particularly shea nuts. However, there is little value-addition or exports of these commodities. Livestock is another important sector. In Chad, which is the fourth largest producer in Africa (Food and Agriculture Organization of the United Nations, FAO, 2021), there are 43.7 million goats, 41.8 million sheep, 33.3 million cattle, 9.4 million camels, and 26.6 million poultry.[11] Chad also possesses significant fish resources. Lake Chad, which is shared between Chad, Niger, Nigeria, and Cameroon, is the largest water body (nearly 25,000 km² in periods of high water) and has a production capacity of 50,000 – 150,000 tons of fish per year.[12] The other four smaller lakes are Iro, Léré, Fitri, and Fianga. Despite agriculture's importance in the economy and the significant agribusiness opportunities, the sector is characterized by major weaknesses, and include, among others: (i) high vulnerability to climate change; (ii) low crop productivity and high post-harvest spoilage due to extreme weather events; (iii) poor value chain structuring and inefficient marketing systems; (iv) a weak agribusiness sector and inadequate and low-quality processing infrastructure; (v) inadequate access to credit, in particular for smallholder farmers; (vi) policy, regulatory, and institutional frameworks that are not conducive for nurturing value chain development and climate-smart agriculture (CSA); and (vii) gender inequality. The following is a summary of key constraining factors.

8. ***First*, low use of climate-smart inputs (e.g., less than 5 percent for seeds), lack of access to fertilizers (less than 2.5 percent), and limited use of other climate-smart agricultural practices has contributed to very low productivity**. Limitations to their use include: (i) inadequate seed multiplication and distribution systems; (ii) unaffordability by smallholder farmers; (iii) lack of mechanisms, such as a National Seed Fund, for financing security seed stocks to cope with natural disasters and to compensate affected seed producers; (iv) inadequate facilities and limited parent stock of improved breeds (e.g., poultry); (v) low capacity for production and distribution of quality fish fingerlings; and (vi) limited coverage of extension services. There is also a lack of physical infrastructure, e.g., laboratories and training centers, to enhance and disseminate knowledge and climate-smart agricultural (CSA) technologies and practices.

9. ***Second*, the agricultural sector lacks structured mechanisms for fostering collective and collaborative action and knowledge sharing among farmers, as well as between farmers and other value chain actors**. Farmers' organizations are weak, and Productive Alliances are only getting introduced into the country or are absent. Also, Information and Communication Technologies (ICT) for knowledge dissemination, such as e-extension, needs scaling up given the low coverage and poor funding of the current government-run extension service.

10. ***Third*, the evolutionary pace of Chad's agricultural value chains continues to be slowed down by the lack of appropriate market infrastructure and post-harvest handling of farm output**. Post-harvest infrastructure can facilitate various processes including drying, de-husking, cleaning, polishing, sorting, and temperature control which enhances quality and adds value. They can also facilitate access to short-term finance through Warehouse Receipt Systems.

11. ***Fourth*, the agribusiness sector remains small and weak.** Apart from capital investments, these

[9] World Bank, 2022. Chad Agriculture sector diagnostic.
[10] World bank, 2021. Playing to its strengths: A country private sector diagnostic for Chad, 72 p.
[11] http://www.fao.org/africa/news/detail-news/en/c/1128900/
[12] Raimond, Christine et al.. Le Tchad des lacs : Les zones humides sahéliennes au défi du changement global. Marseille: IRD Éditions, 2019.

agribusinesses also lack skills and reliable market information for improving their overall strategic and operational performance, as well as their competitiveness. In addition, there is a need for maintaining adequate food safety standards that are in sync with the evolving market demands and to diversify into new products.

12. ***Fifth*, the agribusiness sector is constrained by several inadequacies in the policy and regulatory environment, shortcomings in government service delivery, and lack of basic auxiliary agribusiness support services**. Examples of elements which could help to improve the agribusiness environment include: (i) strengthening plant protection enforcement frameworks to improve food safety; (ii) better propagation and enforcement of grades and standards, especially for key exports such as sesame and processed products; and (iii) critical auxiliary support services, such as business advisory and support services on the establishment, registration, and strategic planning of agribusinesses.

13. ***Sixth*, even though agriculture is the most important source of income for most of the population, it receives only 2.2 percent of financial sector credit (see Annex 8 for Financial Sector Assessment).** Some of the reasons include the sector's perceived risks (increasingly accentuated by climate change) and lack of suitable collateral, high transaction costs for services to micro, small, and medium enterprises (MSMEs), limited demand for finance, and lack of expertise within financial institutions for managing agricultural loan portfolios, among other factors. Innovations such as credit secured by stored grain and credit guarantees could help alleviate some of these constraints. For major transformative investments, public-private partnerships could be considered. The inadequate access to credit limits the adaptive capacity of farmers to climate change, and thus increasing their vulnerability.

14. ***Seventh*, gender inequality remains very high.** In 2022, Chad had a gender inequality index of 0.570, and was ranked as number 145 out of 146 countries.[13] Women are particularly active in the groundnut, mango, fish, shea butter, and dairy value chains. However, they face major difficulties in accessing: (i) farming equipment; (ii) extension services; (iii) agricultural inputs such as certified seeds, fertilizers, and crop protection materials; and (iv) financial services. As a result, women-headed households have 40 percent lower productivity than male-headed households and earn less income. Although women own 57 percent of non-farm enterprises, they make 77 percent less profit than enterprises owned by men because of lack of access to business advisory services and, finance.[14] Farm-based enterprises (target of the proposed project) owned by women are not well developed. In addition, women entrepreneurs, on average, have less access to electricity, running water, machinery, and telephones for their businesses.

15. ***Eighth*, there is a need for greater inclusion of various segments of society in the development process, including Refugees and Host Communities (RHC).** It is established that many refugees who stay in a host country for a long period prefer more sustainable means of meeting their needs instead of relying on humanitarian support. Therefore, the project aims to enhance collaboration with humanitarian agencies to reduce the future scale and costs of food aid distribution and to improve local food security by strengthening local agricultural production that would also benefit RHC households. Specific needs of RHC pertinent to the project identified during project preparation by World Food Programme (WFP) and UNHCR are (i) refugees' access to land; (ii) access to agricultural inputs; and (iii) income generation through revenues-generating activities, all contributing to food and nutrition security. Integrating RHC as economic agents in the development of agricultural value chains would not only reduce the burden on humanitarian agencies, but would also reduce potential friction between RHC particularly over access to land, water, etc.

16. **In view of the above multifaceted nature of constraints and challenges stunting agribusiness development, the government envisages an integrated approach for agribusiness promotion[15]**. This approach includes: (i) improving the institutional and regulatory framework and strengthening support services to stimulate private

[13] https://www.weforum.org/publications/global-gender-gap-report-2023/in-full/benchmarking-gender-gaps-2023/#:~:text=The%20Global%20Gender%20Gap%20score,compared%20to%20last%20year's%20edition.
[14] http://globaldev.blog/blog/gender-inequality-chad-and-impact-covid-19
[15] PNISR (2016-2022).

investment; (ii) facilitating smallholder access to CSA practices and markets; and (iii) encouraging private sector participation in value addition and overall value chain development.

C. Relevance to Higher Level Objectives

17. **The proposed project is aligned with the government's development strategies.** It is consistent with the government's overall goals outlined in its "*Vision 2030: The Chad We Want"* of transforming Chad through modernization and diversification, with the private sector playing a central role. It is also aligned with the third pillar of the PND 2017-2021, currently in use, which aims at "developing a diversified and competitive economy" and the new agro-sylvo-pastoral and fishery's policy (2023).

18. **The proposed project is also aligned with the World Bank's ongoing strategies.** It is aligned with the World Bank mission on aiming at ending poverty on a livable planet and contributes to the Western and Central Africa Global Challenges Programs on Food and Nutrition Security. The project is also aligned with the *Western and Central Africa Regional Strategy*, especially Goal 2 – Promoting job creation, and Goal 4 – Promoting "climate resilience".[16] It is also consistent with the FY23-24 *Country Engagement Note for Chad* discussed by the Board in November 2022,[17] especially Objective 4 regarding "promoting natural resource management and sustainable agriculture". The *Systematic Country Diagnostic,*[18] discussed by the Board in April 2022, underscored the importance of: (i) encouraging private sector participation in key agricultural input markets and supporting CSA practices; (ii) ensuring sustained agricultural productivity growth through innovation; and (iii) adopting sector-specific policies to incentivize private investment.

19. **The proposed project also operationalizes key elements of the World Bank Group (WBG) Strategy for Fragility, Conflict, and Violence (FCV), 2020-2025, the Prevention and Resilience Allocation (PRA) and the Global Crisis Response Framework.** Specifically, it addresses two of the six high-priority issues outlined in the FCV strategy: (i) creating jobs and economic opportunities; and (ii) building the resilience and preparedness of communities, including the ability to manage climate change and environmental degradation. The project will also support some of the government's priorities under the PRA, in particular Strategic Objective 3 – Increase access to basic services and enhance local development strategies, especially in the rural, border, and conflict-affected areas", by improving access of RHC to livelihoods through their inclusion in the development of agricultural value chains, as well as Strategic Objective 4 – "Preventing and Managing Conflicts Linked to Governance of Natural Resources", which it addresses through agricultural intensification to counter agricultural extensification and reduce conflicts over land.

20. **The project will support Chad in achieving its Nationally Determined Contribution (NDC) and contribute to efforts of climate change mitigation and adaptation, and therefore consistent with Chad's climate change strategies**. In the latest update (2021) to its 2015 original NDC, Chad commits to a 19.3 percent reduction in its Greenhouse Gas (GHG) emissions by 2030, compared to the business-as-usual scenario. Agriculture and forestry sector mitigation priorities in the NDC are based on the increase of carbon sinks in forestry (LULUCF). The project is aligned with these mitigation priorities through its support for promoting the adoption of CSA technologies (Component 2) and support for institutional strengthening and creating an enabling environment for agribusiness development and mainstreaming of CSA (Component 2). Chad's NDC cites the development of adaptation actions in the agricultural sector with a view to ensuring food and nutrition security through an enhanced crop and livestock productivity, agroforestry, and CSA (Chad's first National Adaptation Plan-NAP, 2022). It includes the promotion of improved crop varieties, improvement of animal breeds, and promoting green entrepreneurship for women and youths. The project will contribute to these adaptation efforts through its support for developing

[16] The World Bank. Supporting a Resilient Recovery, The World Bank's Western & Central Africa Region Priorities 2021-2025, 2021.
[17] The World Bank, International Development Association, International Finance Corporation, Multilateral investment guarantee agency Country Engagement Note For The Republic of Chad for the period FY23-FY24, 2022.
[18] The World Bank, Boosting Shared Prosperity in a Landlocked Country Beset by Fragility and Conflict, Systematic Country Diagnosis (SCD), 2022.

inclusive and market-led climate-smart production, especially for women, youth, smallholder farmers, refugees, and host communities (Component 2), for institutional strengthening and support services for agribusiness development (Component 1), and for support to increase climate-smart marketing infrastructures for selected value chains (Component 3). The project also responds to the agriculture sector priority interventions identified in the World Bank Country Climate and Development Report (CCDR) for Chad, which was part of the Sahel G5 CCDR's analysis. These include economic diversification in more inclusive, resilient, and lower-carbon ways through targeted investments, which the project will contribute to under Components 1, 2 and 3. The CCDR also prioritizes mainstreaming the use of early warning systems and hydro-meteorological information which the project will support under Components 2 and 3.

II. PROJECT DESCRIPTION

A. Project Development Objective

21. **PDO Statement:** The Project Development Objective (PDO) is "to improve the resilience[19], competitiveness[20], and inclusiveness[21] of selected agricultural value chains in project intervention areas in Chad".

PDO Level Indicators

22. The Key Performance Indicators (KPIs) are:
    (i) People with enhanced resilience to climate risks (Number) (Female, Youth disaggregated) (*Scorecard).*
    (ii) Increase of yields produced by targeted beneficiaries among selected value chains (Percentage) principally Sesame, Ground nut, and Maize.
    (iii) Incremental sales in targeted value chains (Percentage).
    (iv) Share of selected commodities sold through new marketing channels (Percentage).
    (v) Beneficiaries satisfied with the project's interventions (Percentage) (female, youths, refugees, host communities' members, disaggregated), and
    (vi) Project direct beneficiaries (Number) (female, youths, refugees, host communities' members, internally displaced people, disaggregated)

B. Project Approach and Components

Project Approach

23. **The Chad Agribusiness and Rural Transformation Project (ProAGRI)[22] is a proposed six-year investment project.** *First*, based on analytical work[23], studies on targeted value chains[24] and priorities of sectoral policies[25], consultations and field investigations, it focuses on value chains that were carefully selected for (i) their potential for growth and evidence-based demand in domestic and regional markets; (ii) potential job creation for youth, women, refugees, and host communities; (iii) quantitative and qualitative multiplier effects in particular on import substitution; and (iv) contribution to food security and nutrition.[26] These principal value chains are Maize, Fish,

[19] Resilience refers to adoption of climate resilient practices and technologies.
[20] Competitiveness refers to improved productivity and sales performance.
[21] Inclusiveness refers to mainstreaming women and youth concerns in the different segments of the targeted value chains and support to refugees and host communities.
[22] Projet d'Agrobusiness et de transformation Rurale Inclusive.
[23] Country Private Sector Diagnostic (CPSD-IFC, 2023); Chad Agriculture Sector Review (World Bank, 2022); Chad evaluation (CADDP, 2021).
[24] Développement des filières karité et Arachide (Caritas, Swissaid, 2015) ; Etudes de faisabilité Dattes, Natrons, Sésame (ONUDI, 2015).
[25] Politique Agro-Sylvo-Pastorale et Halieutique (2023) ; Plan National de Dév. de l'élevage - PNDE 2 (2017) ; PNISR 2016-2021 (2016).
[26] These value-chains only partially overlap with those identified in the CPSD for the following reasons. The CPSD was largely focused on export-oriented value chains (sesame, gum-arabic, livestock, and cotton). However, the criteria for value chains selected under this project are more robust. In addition, the livestock sector is addressed in a separate ongoing project. Issues and investment opportunities for Gum-Arabic are not yet clear. As a result, there is a deep-dive assessment currently underway led by IFC.

and Oilseeds (sesame and groundnuts). Whereas the project's principal focus is on these primary value chains, the project will also lay the foundation for promising secondary value chains, namely poultry, mango, and dates. There will also be the flexibility to invest in future "niche products" following a simple decision-making mechanism based on demand as expressed by farmers, associations or Small and Medium Size Enterprises (SMEs). *Second*, ProAGRI intervenes to improve productivity, the business environment, market infrastructure, and access to finance simultaneously to maximize impact. *Third*, it facilitates farmers' access to climate-resilient technologies and promotes more intensive production systems to reduce GHG emissions per unit of output to promote resilience. *Fourth*, it promotes inclusion by targeting women, youth, smallholder farmers, and collaboration with humanitarian agencies to address the needs of refugees and their host communities. The WHR will target those important beneficiaries in Eastern and Southern Chad. Where agronomic and other factors permit, the same value chains supported elsewhere under the project will also be supported in those communities. In addition, a community demand-driven approach will be used whereby the refugees, and their host communities will have at their disposal a robust menu of income-generating activities related to production beyond the project value chains (such as vegetables), transformation, marketing, etc., as well as constructing and upgrading collective infrastructure. They will be supported by matching grants and capacity-building activities. *Fifth*, in partnership with International Finance Corporation (IFC), the project will attract private capital and financial sector investment, by leveraging matching grants, and promoting Credit Guarantees. *Sixth*, the project will maximize finance for development (MFD), and its activities have been evaluated against a cascade approach. *Seventh*, although several assets created under the project either belong to farmers organizations or the government, the project will explore possibilities for private sector in managing these assets as appropriate.

24. **The project will maximize synergies with the World Bank portfolio in Chad.** This will include: (i) building on, and scaling-up the achievements of the closed ProPAD Project 27 (P162956) regarding CSA technology dissemination; (ii) complementing the regional Food Systems Resilience Project (FSRP)-II (P178132) which also promotes maize and sesame value chains by focusing on areas outside this project's geographic scope and coordinating in such areas as warehouse receipts; and (iii) complementing PARCA Project (P1647480)28 and RESITCHAD (P177163).[29]

25. **The project aims to benefit both host community and refugee households by reducing the future scale and costs of food aid distribution and improving local food security by strengthening local agricultural production.** Achieving this objective will require the project to collaborate closely with the humanitarian agencies that are providing the bulk of assistance to refugee in Eastern and Southern Chad. The integration of host communities as economic agents in the development of agricultural value chains will reduce the burden on humanitarian agencies. It will also reduce potential friction between local and refugee populations over access to scarce natural in the dissemination of climate-smart technologies among RHC in the project's intervention areas.resources.

Project Components

COMPONENT 1: INSTITUTIONAL STRENGTHENING AND ENABLING AGRIBUSINESS DEVELOPMENT (US$11.28 MILLION EQUIVALENT OF WHICH US$9.50 MILLION IDA, US$0.74 MILLION GOVERNMENT, AND US$1.04 MILLION BENEFICIARIES)

Subcomponent 1.1: Institutional Strengthening of Relevant Government Agencies for Effective Agribusinesses Support (IDA US$5.17 million)

26. The project will finance: (i) climate resilient construction/rehabilitation and accreditation of key laboratories for seed quality and for sanitary and phytosanitary (SPS) control to improve service delivery; (ii) construction/rehabilitation of infrastructure for research on resilient and low-GHG aquaculture and tree crop farming; to accelerate technology generation and dissemination; (iii) logistics and equipment necessary for

[27] Projet de renforcement de la productivité agricole et résilience au climat.
[28] Projet d'Appui aux Réfugiés et aux Communauté d'Accueil
[29] Projet de Développement Territorial et de Résilience au Tchad

participating government departments to successfully perform their tasks under the project, including climate-informed policy and regulatory enforcement, and monitoring and evaluation (M&E); (iv) training for students and technicians to fill the knowledge gaps on CSA, seed sciences, climate-smart mechanization, fisheries, food sciences, SPS, plant and poultry breeding; and (v) training of a pool of specialized technical staff on reviews and formulation of climate-informed policies and regulations which will promote CSA practices and technologies. All physical infrastructure will have energy-efficiency considerations and climate-resilient design standards to increase resilience to extreme weather events.

Subcomponent 1.2: Creating an Enabling Environment for Agribusiness Promotion (US$6.11 million of which US$4.33 million-IDA; US$0.74 million-Government; US$1.04 million-Beneficiaries)

27. The project will finance: (i) strengthening the capacity of the Chamber of Commerce, Industry, Agriculture, Mining and Craft (*Chambre de Commerce, d'Industrie, d'Agriculture, des Mines et d'Artisanat,* CCIAMA) in fostering and accelerating the creation and growth of Agri-enterprises; (ii) creating and capitalizing a National Seed Fund[30] for more sustainable management of Chad's seed sector, including developing the fund's manuals and establishing its governing bodies; (iii) preparing an operational climate-informed strategic Agribusiness Plan based on the principal goals of the Agro-Sylvo-Pastoral Policy, in partnership with IFC, line ministries, Farmers' Professional Organizations (FPOs), and development partners; and (iv) updating policies, regulations, and standards, including: (a) sanitary and phytosanitary standards to facilitate exports of national brand products; (b) updating national agricultural sector policies, including mainstreaming climate change in these policies; and (c) activities related to updating Law 14 on SPS, [31] and formulating laws on Warehouse Receipt Systems, entrepreneurship, and commercial fishing. Specific activities will include workshops, study visits, equipment, and technical assistance.

COMPONENT 2: PROMOTING INCLUSIVE AND MARKET-LED CLIMATE-SMART PRODUCTION (US$53.63 MILLION EQUIVALENT OF WHICH US$19.95 MILLION-IDA; US$31.44 MILLION-WHR; AND US$2.25 MILLION-BENEFICIARIES)

Subcomponent 2.1: Supporting FPO's-led Dissemination and Adoption of CSA Technologies (US$13.65 million of which US$12.17 million-IDA and US$1.48 million-WHR)

28. The project will finance: (i) technical assistance to map and structure FPOs in the target value chains to build their capacity, introduce and foster the adoption of new climate-smart technology through events like knowledge sharing and exchange visits, including among RHC; (ii) training producers through workshops and pedagogical field demonstrations led by FPOs on CSA production and good agricultural practices, including among refugees and their host communities – these activities would be carried out by public and private advisory service providers (National Agency for Rural Development *(Agence Nationale de Développement Rural,* ANADER), Non-Governmental Organizations (NGOs), and contractors); (iii) ICT (equipment and consultancy services) to scale-up the e-extension and e-voucher platforms established under ProPAD; and (iv) technical assistance to establish fora that facilitate FPOs' links to input and output markets. This will enable producers to adopt CSA practices that could help them to adapt to changing conditions, increase their productivity and income, and mitigate the impacts of climate change on their livelihoods.

Subcomponent 2.2: Facilitating Farmers' Access to Climate-Resilient Inputs (US$39.98 million of which US$7.77 million-IDA; US$29.96 million-WHR; US$2.25 million-Beneficiaries)

29. The project will finance: (i) multiplication of quality, diversified, climate-resilient foundation and certified seeds[32] for maize and oilseed crops and seedlings for mango and date palm, and construction/rehabilitation of seed warehouses (incorporating energy efficient and climate resilient design standards) in partnership with

[30] The National Seed Fund will be established by law with provisions regarding its governance, revenue generation, use, and other relevant provisions contained in the law and its implementation decrees.
[31] Law No. 14/PR/95 on plant protection.
[32] The project is focusing on multiplication of existing seeds and technologies (nationally or regionally sourced) and not on research and development of new ones.

Chadian Institute for Agriculture Research and Development (*Institut Tchadien de Recherche Agricole pour le Développement,* ITRAD), Directorate for Seeds and Seedlings (*Direction des Semences et des Plants,* DSP), and FSRP; (ii) acquisition of equipment and parent stock of improved climate-resilient poultry breeds to produce eggs for hatcheries to produce and supply day-old chicks to poultry producers and similar acquisition and distribution of fingerlings for fisheries; (iii) soil fertility enhancement by acquiring mineral fertilizers and scaling-up the e-voucher platform established under ProPAD to increase access to inputs which will increase productivity, promoting the production and/or use of organic fertilizer (compost, animal manure, etc.), and investing in sustainable soil management; and (iv) access to fertilizers for food crop production associated with the development of small-scale irrigation[33] for RHC. The contribution of beneficiaries will be about 20 percent for subsidized inputs. For RHC, contributions will be done through revenues from the targeted value chain produce. The project will foster refugees' access to land including social services such as sanitation and drinking water in production areas. An indicator to monitor RHC' access to land is included in the results framework. Another indicator to monitor refugees and host community members' access to food is incorporated in the results framework. Inputs are supplied by the private sector, and smallholder farmers receive subsidies through electronic vouchers, which are necessary given the prevailing high input prices and farmers' low purchasing power – subsidies are for farmers cultivating up to five hectares. The project takes deliberate measures to ensure that women farmers receive e-vouchers to access improved inputs through the e-voucher enrollment survey, with dedicated advisory services to ensure their effective use/application. For RHC, direct distribution of inputs will be use if constraints on receiving vouchers are observed. Climate resilient infrastructure, improved seeds/breeds, and sustainable soil management will reduce producers' vulnerability to extreme weather, and land degradation.

COMPONENT 3: ACCESS TO MARKETS, FINANCE, AND VALUE ADDITION (US$ 93.41 MILLION EQUIVALENT OF WHICH US$60.82 MILLION-IDA; US$6.37 MILLION-WHR; US$6.47 MILLION BENEFICIARIES; AND US$19.75 MILLION-PARTNERS FINANCIAL INSTITUTIONS (PFIS)

Subcomponent 3.1: Increasing Chad's Agribusiness Sector Marketing Capacity (US$14.44 million IDA)

30. This subcomponent will finance constructing/rehabilitating wholesale markets with modern climate-smart warehouses; cleaning, packaging and cold storage facilities equipped with solar energy which will contribute to reducing post-harvest food losses; and efficient water harvesting and management. It will also support a range of climate-informed business development services (BDS) for agri-enterprises (including, marketing, negotiation, advertising, certification), and their participation in domestic and international fairs in partnership with CCIAMA. It will build stakeholder capacity to comply with SPS norms and standards and other quality standards for selected value chains and strengthen certification services in partnership with the Chadian Agency of Norms (*Agence Tchadienne de Normalisation,* ATNOR) and Food Quality Control Center (*Centre de Contrôle de Qualité des Denrées Alimentaires,* CECOQDA). Finally, this subcomponent will strengthen the market information system (MIS) and undertake market scans and studies, which will incorporate considerations on the marketing of low-carbon agricultural products. The infrastructure and services will also be available in areas of RHC.

Subcomponent 3.2: Support to Access to Finance and Value Addition (US$78.97 million of which US$46.38 million-IDA; US$6.37 million-WHR; US$6.47 million-Beneficiaries; and US$19.75 million-PFIs)

31. The subcomponent will support four activities: (a) basic warehouse receipt systems (*Warrantage*); (b) Climate-smart based matching grants; and (c) business advisory services. To mitigate against elite capture, technical assistance will be provided through independent entities to support the implementation of warehouse receipt systems and matching grants. The Project Implementation Manual (PIM) provisions pertaining to these financing mechanisms will ensure maximum transparency, independence, and monitoring.

- Warehouse receipts systems (*Warrantage*). The project will finance: (i) climate-smart warehouse construction including in refugee-hosting areas; (ii) workshops to train farmers and participating financial

[33] These new schemes will not rely on the Lake Chad system.

institutions on the use of these systems, including grain storage and management; and (iii) the *modus operandi* of these financial instruments. The project expects to co-finance about 100 *Warrantage* schemes.

- Matching grant scheme. The project will have three climate-smart based matching grant windows: (a) an Individual and Cooperative Window for about 3,200 micro-enterprises including about 600 Matching grants for RHC, with at least 40 percent being women-owned enterprises through a targeting mechanism applied during the selection of beneficiary applications for revenue-generating activities (RGA); (b) a Productive Alliances (PA) window for about 130 SMEs; and (c) a Public-Private Partnerships (PPPs) window for at least four Agro-Industrial Enterprises (AIEs) to improve value addition and services in selected value chains. A more detailed set of examples will be outlined in the PIM. It will elicit potential PPPs through investor outreach campaigns and preparing and disseminating bankable sub-projects in collaboration with CCIAMA. Overall, the three windows will co-finance about 3,344 subprojects (see Table 1 for the co-financing matrix). The eligibility criteria and procedures for appraising and approving matching grants and PPPs will be detailed in the PIM. One of the eligibility criteria for receiving matching grants will be the climate-smartness of the proposed activities. The results framework incorporates an indicator to monitor refugees and host community members' access to matching grants.

- Credit guarantees.[34] IFC will establish a Credit Guarantee Facility (CGF) for SMEs and AIEs in collaboration with PFIs, building on its successful experience with a similar credit guarantee mechanism in Chad. The guarantee facility will be administered by an individual PFI or a pool of PFIs to be identified (see Annex 8). Organization for the Harmonization of Business Law in Africa (*Organisation pour l'Harmonisation en Afrique du Droit des Affaires,* OHADA) law will be the applicable legislation. Eligibility criteria, reporting, fiduciary and implementation arrangements will be agreed upon with the individual PFI or pool of PFIs in charge of administrating the guarantee facility. Extensive awareness and outreach campaigns will be made to ensure that the mechanism is well known by stakeholders of agricultural value chains.

- Business development services (BDS). The project will finance technical assistance to: (i) strengthen the capacity of agri-entrepreneurs to attract investors and improve value addition; (ii) train financial institutions on products and services most suitable for their agricultural clients; and (iii) prepare business plans for SMEs and PPPs and connecting them with PFIs to facilitate access to credit.

Table 1. Co-financing matrix for matching grants

Sub-project Cost (US$)	Enterprise Size	Enterprise Type	Financing Plan (Percent)					Max. MG (US$)	Expected Number of Projects
			MG	Enterprise Own Funds					
				Men	Women and Youth	Host Communities and Refugees	Credit PFIs		
6,670	Micro	Individual ME	80-90	20	10	N/A	N/A	6,000	2731
11,667	Micro	Cooperative	90	10				10,500	476
100,000	Small	PA (SME)	70	10			20	70,000	108
333,000	Medium	PA (SME)	50	10			40	166,500	25
5,000,000	Large	PPP (AIE)	40	10			50	2,000,000	4
TOTAL									**3,344**

COMPONENT 4: CONTINGENT EMERGENCE RESPONSE (CERC) (US$0.00 MILLION)

32. This component will enable the government to quickly mobilize funds in the event an of eligible emergency as defined in OP 8.00.[35] An Annex to the PIM ('CERC Annex') will be prepared to guide the activation and implementation of the CERC, and a CERC ESMF will be prepared within three months after grant effectiveness. The Project's ESMF includes the CERC environment and social (E&S) assessment and initial requirements. For the

[34] IDA fund will not be used to finance the Credit Guarantee Facility (CGF).

[35] An eligible emergency is defined as an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact associated with natural or man-made crises or disasters. Such events include a disease outbreak.

CERC to be activated, and financing to be provided, the government will need (i) to submit a request letter for CERC activation and the evidence required to determine eligibility of the emergency, as defined in the CERC Annex; (ii) an Emergency Action Plan, including the emergency expenditures to be financed; and (iii) to meet the environmental and social requirements as agreed in the Emergency Action Plan and ESCP. WHR funds reallocated to the CERC will only be used to benefit RHC.

COMPONENT 5: PROJECT COORDINATION, MANAGEMENT, AND MONITORING AND EVALUATION (US$21.92 MILLION EQUIVALENT OF WHICH US$19.73 MILLION IDA; US$2.19 MILLION WHR)

33. The objective of this component is to ensure effective and transparent project management and M&E systems. The project will finance: (i) the operational costs for project management both at central and regional level; (ii) monitoring and implementation of the requirements of the World Bank's Environmental and Social Framework (ESF); (iii) M&E; (iv) communication and knowledge management of project activities; and (v) citizen engagement (CE) activities and the project's grievance redress mechanism (GRM), among others.

34. **Closing the Gender Gap:** To close gender gaps, the project will: (i) include value-chains highly favored by women (such as, the fish value-chain where women dominate trading); (ii) ensure at least 30 percent[36]of the farmers receiving e-vouchers for improved inputs are women, and use a team of workers specialized in gender to provide advisory services to female farmers on how to enroll in the e-voucher platform, collect subsidized inputs once they receive the voucher and to effectively use the inputs; (iii) dedicate CCIAMA staff to support women agri-businesses by facilitating registration, business-planning, financial management (FM), etc., to enhance their profitability; (iv) require women MSMEs[37] to provide 10 percent contribution to access the same grant amount of matching grants instead of the 20 percent for men-owned businesses (Table 1), and require at least 40 percent of project-supported MSMEs be women-owned based on a targeting mechanism during the selection of beneficiary applications to facilitate women-owned businesses' access to the factors of production they need to close the profitability gap; (v) disaggregate all principal project performance indicators by gender to facilitate continuous gender monitoring throughout implementation and undertake corrective measures as necessary; and (vi) distribute mobile phones to the most vulnerable women farmers in rural areas (using the same criterion as that for access to subsidized inputs) to facilitate their access to agricultural advisory services through the market information platforms and provide a toll-free number.

35. **Filling the Nutritional Gap:** The project-supported value chains are all nutrition-sensitive and aim to alleviate the country's enormous nutrition challenges. Ground nuts, sesame, and fish are significant sources of proteins and lipids, whereas maize is a significant source of calories. Fish is an important source of omega 3 fatty acids, rich in calcium and phosphorus and minerals, such as iron, zinc, iodine, magnesium, and potassium, which are all critical for normal fetal and early childhood development. Fruits, such as mangoes, are significant sources of vitamins, including vitamin A, important to reducing child stunting.

Project Cost and Financing

36. The project's indicative cost is about US$180.25 million, composed of: a regular IDA grant allocation of US$110.00 million; a WHR grant allocation of US$40.00 million, value chain beneficiaries (BEN) contribution of US$9.76 million; projected PFI financing of US$19.75 million; and counterpart funding of about US$0.74 million (see Table 2).

[36] The numerical target under the female farmers accessing climate-resilient inputs through the e-voucher mechanism is based on the estimates mentioned in the main text of the PAD (30% of the e-vouchers recipient being female farmers).
[37] The numerical target under the women MSMEs receiving grants is based on the estimates mentioned in the main text of the PAD (40% of matching grants recipient being female farmers).

Table 2. Estimated Costs and Financing (US$ million)

Components	IDA	WHR	BEN	PFI	Govt	Total
C1. Institutional Strengthening and Enabling Environment for Agribusiness Development	9.50	0.00	1.04[38]	0.00	0.74[39]	11.28
C2. Promoting Inclusive and Market-led Climate-Smart Production	19.95	31.44	2.25[40]	0.00	0.00	53.64
C3. Access to Market, Finance, and Value Addition	60.82	6.37	6.47[41]	19.75[42]	0.00	93.41
C4. Contingent Emergency Response Component	0.00	0.00	0.00	0.00	0.00	0.00
C5. Project Coordination, Management, M&E	19.73	2.19	0.00	0.00	0.00	21.92
Grand Total	**110.00**	**40.00**	**9.76**	**19.75**	**0.74**	**180.25**

C. Project Beneficiaries

37. The project will benefit an estimated 1,120,000 people of whom 800,000 individuals (including 192,000 RHC with a refugee/host community ratio of 55/45 percent, 5,000 internally displaced people) will be direct beneficiaries. Direct beneficiaries include crop producers, fish farmers, fishermen, poultry producers, seed producers, agri-entrepreneurs, cooperatives, FPOs, SMEs and AIEs. Other direct beneficiaries include researchers, technicians, students, and technical and managerial staff of government departments and agencies involved in implementing the project's activities. At least 30 percent and 20 percent of all beneficiaries will be respectively women and youth. Indirect beneficiaries include traders, processors, and transporters.

38. **Geographic targeting.** The geographical intervention areas were selected to match the main production basins of the targeted value chains. Table 3 summarizes the project intervention areas and targeted value chains, including intervention areas for refugees and their host communities. In case of need or of a crisis, new intervention areas could be added to the project.

Table 3. Geographic targeting of project interventions

Project RCU	Provinces for promotion of Agricultural value chains	Provinces of RHC	Value chains/interventions
Center-West	LAC, N'Djamena, Hadjer-Lami, Chari-Baguirmi	LAC	Maize, Aquaculture (fish) and Poultry, RGA for RHC
South	Logone Oriental, Logone Occidental, Mayo-Kebi Ouest	Logone Oriental	Oil seeds (sesame, ground nut), Maize, aquaculture (fish), Mango and Poultry, and other RGA for RHC
East	Ouaddaï, Sila	Wadifira, Ouaddaï, Sila	Oil seeds (sesame, ground nut), Poultry, RGA for RHC
North	Borkou	N/A	Dates, value chains associated to date-palm.

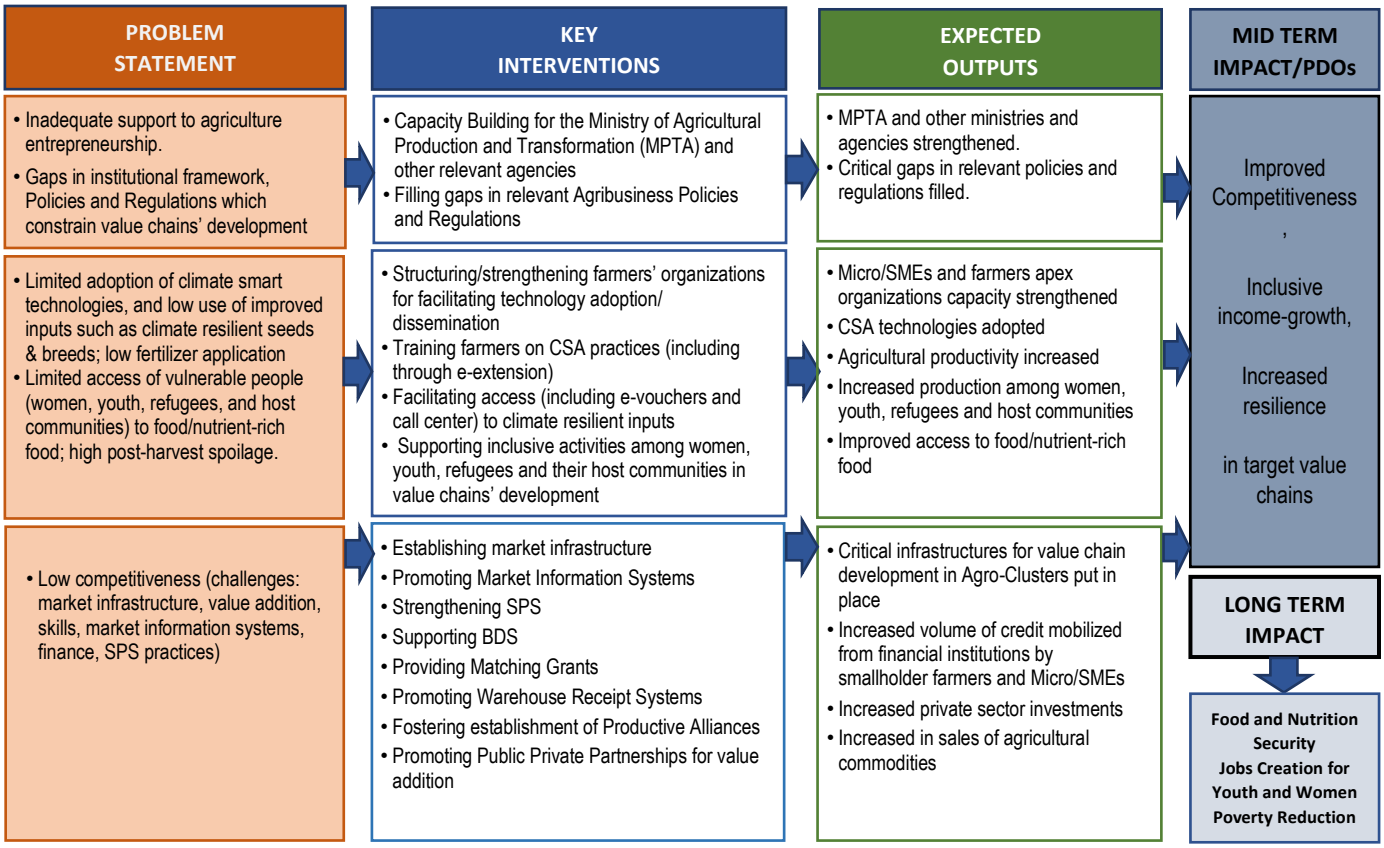
D. Results Chain

39. Theory of Change (TOC) recognizes the importance of smallholder farming to food and nutrition security, job creation, and poverty reduction (Figure 1). It also recognizes that the multifaceted causes of the sector's chronic poor performance—are interconnected and require a holistic, transformative value chain approach, acting on each node of the principal value chains, within an eco-system that is conducive to agribusiness development. It acknowledges that improving sector performance incentivizes investment in productivity enhancing technologies thus creating a positive and transformational growth dynamic. This growth is further accentuated by enhancing social inclusivity, including refugees. Addressing these challenges entails: (i) improving government's capacity to support value chain/agribusiness development; (ii) promoting proven climate-smart technologies; and (iii)

[38] Contribution of CCIAMA to set-up a one-stop-shop (US$0.17 million); Contribution of beneficiaries to the National Seed Funds US$0.87 million.
[39] Government contribution to the National Seed Fund.
[40] Beneficiary contribution to inputs acquisition (seed and fertilizers).
[41] Beneficiary contribution for Matching grants.
[42] Credit from PFIs.

strengthening access to markets and finance and promoting value addition. Critical assumptions include: (i) farmers adopt the recommended technologies; (ii) value chain actors embrace new collaborative concepts (such as Productive Alliances); (iii) financial institutions engage with a perceived high-risk sector; and (iv) regional conflicts or internal fragility do not disrupt project implementation.

Figure 1. ProAGRI Theory of Change



Abbreviations: SPS: Sanitary and Phytosanitary Measures**; BDS:** Business Development Services**; SME:** Small and Medium Enterprise

E. Rationale for World Bank Involvement and Role of Partners

40. **The World Bank has historically been involved in the development of Chad's agriculture sector and supports several projects currently under implementation**. The government extended another request to the World Bank dated February 23, 2023, for continued support in this sector. In this particular request, the World Bank's value added sought by the government relates to bringing its global knowledge to bear on improving the performance of the targeted value chains and strengthening the public sector's institutional capacity to support agro-enterprise development, establishing a conducive policy and regulatory environment for their growth, promoting climate-smart technologies for productivity enhancement and resilience to climate change, and fostering SME growth/agribusiness development including supporting the establishment of institutional frameworks and leveraging matching grants and public-private partnerships to attract private sector capital. The expected triple CSA outcomes on productivity, adaptation, and mitigation are consistent with the WBG Climate Change Action Plan 2021–2025[43] as well as the goals of the Paris Agreement. The WFP will play a role in the targeting and supervision of project activities planned for refugees and their host communities.

[43] The World Bank, 2021. World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development, World Bank, Washington, DC. http://hdl.handle.net/10986/35799 License: CC BY 3.0 IGO.

41. **There are several potential areas for collaboration with IFC and other development partners**. There will be strong collaboration with IFC in form of regular exchanges on the best options for promoting agribusiness in Chad, as well as aligning planned investments. In particular, collaboration with IFC will include: (i) joint actions to facilitate beneficiaries access to credit through a Credit Guarantee Facility (CGF) IFC will put place in collaboration with PFI; (ii) carrying out deep dive studies on selected value chains; (iii) establishing warehouse receipt systems to increase financing for value chain actors; (iv) attracting regional/international investors in Agri-enterprises in Chad through sector scans and mapping studies, and through Advisory Services Support trainings e.g., on Sanitary and Phytosanitary Services; (v) promoting SMEs development, including with technical assistance, and (vi) strengthening synergies with ongoing and future operations that provide complementary support.

F. Lessons Learned and Reflected in the Project Design

42. **The project considers in its design several lessons drawn from Niger, Burkina Faso, and other similar countries**. These include the following.

- Functional farmers' organizations and their federated structures have been demonstrated to be highly effective partners in technological change and rural transformation by facilitating input and knowledge dissemination, output aggregation, and quality control. These efficiency gains and quality improvements increase profitability and implicitly incentivize technology adoption, thus enhancing productivity and resilience. They will, therefore, be promoted under this project.
- Tapping into the growing rural telephone service network coverage and rural solar systems allows wider electronic technology dissemination through e-extension, facilitates customized assistance through call centers, fosters wider CE, eases usage of GRMs, enables access to market information, and many other services. The project will build on these experiences from Chad and elsewhere by placing strong focus on ICT enabled services in project design.
- It has been demonstrated[44] that a triple combination of a narrow focus on judiciously selected value chains around micro growth poles and along the entire length of the value chains generates strong synergy and a growth dynamic that amplifies development impact. Therefore, the project focuses on a select number of value chains, adopts an agro-cluster approach, and intervenes along multiple dimensions of the growth nexus simultaneously.
- Involving communities in the selection of activities while ensuring that vulnerable groups such as women, youth, displaced populations, refugees and their host communities, minorities, and people with disabilities actively participate in the decision-making process ensures greater ownership and sustainability of investments. Global experience suggests that consultations with and participation of target beneficiaries have instrumental benefits (better needs assessments, greater efficiency, and sustainability of investments) and value-based benefits (empowerment and capacity building of affected communities, inclusion of marginalized groups).
- The need to target RHC and allocate support on an equitable basis when implementing matching grant schemes/revenues-generating activities for the benefit of RHC.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

43. **Project implementation will be the responsibility of the Ministry of Agricultural Production and Transformation (*Ministère de la Production et de la Transformation Agricole,* MPTA).** A National Project Steering Committee (NPSC) chaired by the Secretary General of MPTA and with representation from the Ministries in charge of Livestock, Environment and Fisheries, Planning, Finance, Commerce and Industry, Gender, Youth, and from producer organizations and the private sector, will be responsible for providing the implementation team with technical guidance and approving annual work plans and budgets (AWP&B). The NPSC will convene at least

[44] https://www3.weforum.org/docs/ACR/2013/ACR_Chapter2.3_2013.pdf

twice a year.

44. **There will be a PCU established within MPTA to lead day-to-day implementation of project activities.** The PCU will be led by a competitively recruited National Coordinator and will include competitively selected specialists who will be responsible for fiduciary, M&E, environmental and social safeguards, gender and gender-based violence (GBV), and communication aspects. The PCU will also be backed by a Production Development Specialist, with oversight responsibility over Component 2, an Agribusiness specialist, with oversight responsibility over Subcomponent 3.1, an Enterprise Capacity Building specialist, with joint oversight over Subcomponent 3.1, a Rural Finance specialist (Matching grants and PPPs), with oversight responsibility over Subcomponent 3.2, a Warehouse Receipt System specialist, with joint oversight over Subcomponent 3.2. An FPO Structuring specialist to oversee FPO structuring along the segments of the targeted value chains, and an infrastructure specialist to oversee all the project's civil engineering works will also be recruited. The PCU will recruit specialists as needed to facilitate implementation of Component 1. Project specialists will be supported by appointed value chain Focal Points in the relevant technical directorates in charge of Crop production, Poultry, and Fisheries for effective coordination with the PCU.

45. In order to implement the project over a vast territory as Chad, the PCU will need field staff (Regional Coordination Units-RCU), to oversee day-to-day activities. Therefore, at the regional level, the project will be implemented through four RCUs located in Moundou, Abeché, Massakory, and Faya which will be staffed with relevant technical expertise. The RCUs will be responsible for monitoring and reporting on the project's activities and will not have any fiduciary responsibilities. A Security specialist will be recruited and shared with FSRP. The ESCP will set out mitigation measures prior to the start of activities and during implementation to address reliance upon security personnel in the project. The NPSC will be established and key officials of the PCU (Coordinator, Procurement Specialist, Financial Management Specialist) hired before effectiveness, while the RCUs will be set up within three months after effectiveness. To mitigate the weak technical capacity of the country in implementing large operational projects, and mitigate against elite capture, technical assistance will be provided to support the implementation of key activities including (i) Warehouse Receipt System, (iii) Matching grants, PPPs, and FPO's structuring.

46. To ensure strong complementarity between the immediate, humanitarian financed interventions required to address food insecurity and the project's objectives of improving resilience, integrating, and developing market opportunities for higher value crops, the Recipient will enter into an Output Agreement with WFP. The Output Agreement will cover all the tasks related to targeting of beneficiaries, negotiating, and securing land in partnership with the central government, local authorities and local landowners within reasonable distance from current refugee camps, implement and monitor activities related to the development of 5,300 hectares of land (4,600 for food crops, 700 for vegetable production). It is anticipated that 192,000 RHC will benefit from the project's assets and services. The project will fund joint planning exercises to support integration of RHC. It will closely coordinate with and support representatives of the CNARR, donors, and other World bank supported projects. CNARR will remain the interface between the authorities, the humanitarian community, and the beneficiaries.

B. Results Monitoring and Evaluation Arrangements

47. The PCU will acquire an M&E software to establish a comprehensive project Management Information System (MIS). M&E data will inform the Results Framework (RF) and allow the government and the World Bank to react immediately to any issues that might arise regarding project implementation. The M&E system will serve both as a day-to-day management tool to guide project implementation, and as a mechanism for periodic assessment of project performance to gauge project impact. It will combine the collection of quantitative data on the RF performance indicators with the provision of qualitative information on the project impacts that cannot be fully assessed quantitatively. It will comprise both regular quantitative data collection with periodic qualitative surveys on key thematic areas.

48. The M&E specialist at the PCU who will be recruited by project will be responsible for all ProAGRI's M&E

activities and will be assisted by a team of M&E specialists in the four regional coordination units. The project will use the Geo-Enabling Monitoring System (GEMS) developed by the World Bank using geo-enabled methods to undertake M&E, particularly data collection in areas difficult to reach due to insecurity or conflict. It will also use third party monitoring where needed, through UN agencies, national NGOs, or firms hired by the PCU, to collect just-in-time information via mobile apps/tablets, building on geo-tagging of activities. As part of the legacy from ProPAD, provision has also been made for the project to use the toll-free number which permits collecting feedback directly from beneficiaries.

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

C. Sustainability

50. **Sustainability considerations have been integrated into all project components.** Regarding Component 1, the operation and maintenance of government facilities (mostly laboratories) to be established/rehabilitated are generally small in scope and fall within government's fiscal space. Laboratory staff will be trained for continued effective utilization of these facilities. In addition, the capacity of participating public institutions will be strengthened through staff training and equipment, including enhancing the availability and use of modern ICT tools and methods, to ensure continued effectiveness of these institutions after project implementation. Regarding Component 2, the CSA technologies promoted are generally easy to learn and apply by the farmers, and FPOs will be strengthened to continue to offer support to their members. Regarding fertilizer, given that its price is likely to remain high in the medium term, exacerbated by the impact of Russia's invasion of Ukraine, its consumption by smallholder farmers might moderate after the project in the absence of continued government. Therefore, in order to sustain the project anticipated productivity gains during project implementation the project will also promote the production and use of organic manure, and other soil conservation and fertility enhancement techniques and practices that have been proven to be effective in the Sahelian context. Regarding Component 3, private sector capacity will be enhanced through business advisory service providers, business-based dialogue platforms, and business relationships promoted through Productive Alliances. Overall, the prospects for sustaining project outcomes beyond project implementation are high.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

Rationale for project technical design

51. The project's technical design is sound. The project uses a holistic approach to agribusiness development by identifying and concentrating efforts on critical nodes of purposefully selected value chains in targeted geographical clusters with a view to maximizing economic and social impact. The judicious balance of the envisaged activities (technical assistance, training, construction/rehabilitation of simple but critical infrastructure, logistics) are within the implementation capabilities of the agencies responsible for carrying out the requisite procurement, supervision, and execution of those activities. The design of project activities draws heavily from experiences gained from other projects in the country which are supported by the World Bank and by other development partners, and with which this project is fully coordinated to avoid overlaps and maximize synergy. It also capitalizes on experiences and lessons from similar interventions outside Chad. Project design also draws from extensive consultations carried out among various stakeholders to ensure that it fully reflects their needs and aspirations, hence generating strong ownership. There is very strong emphasis on climate adaptation and resilience, a particularly pertinent concern given that Chad is one of the most vulnerable countries to climate change in the world. The CSA practices under the project also aim at lowering GHG emissions per unit of commodity produced.

Economic and Financial Analysis

52. Overall, ProAGRI investments are economically viable. benefits are expected to accrue from increased productivity and resilience, value-addition, and incremental incomes induced by improving efficiency and competitiveness. A cost-benefit analysis was carried out on a with- and without-project basis. Key assumptions included a 20-year investment horizon with a 6 percent discount rate. The project has a net present value (NPV) of US$256.25 million and an economic internal rate of return (EIRR) of 22.7 percent, not accounting for environmental benefits. These economic results are robust when simulated under diverse adverse developments, including delays in implementation, cost overruns, and reductions in benefits. For instance, a 3-year delay in implementation would result in an NPV of US$178.4 million and an EIRR of 15.7 percent. Similarly, an increase in costs of 30 percent would result in an NPV of US$226.7 million, and an IEIRR of 18.9 percent, whereas a drop in projected income of 30 percent would result in an NPV of US$149.8 million, with a corresponding EIRR of 17.5 percent. These economic return estimates are conservative since a number of potential benefits that are not easily quantifiable were not incorporated in the analysis. These include benefits from better food security and nutrition, the multiplier effect from increased government tax revenues, the impact of a reduction in the trade deficit, enhanced social cohesion among refugees and host community members, reduced conflicts over land/land use between RHC, improved resilience and food security for RHC, and potential peace dividends by engaging the youth in productive activities.

53. **GHG accounting.** Project activities will, through the adoption of climate-smart technologies and practices, generate environmental benefits, including reduced GHG emissions. The Ex-Ante Carbon-balance Tool (EX-ACT) was used to estimate GHGs emitted or sequestered due to the proposed project compared to a scenario without the project. Over 20 years (6 years of project implementation and 14 years for capitalization of its effects), the ex-ante analysis shows that project activities will lead to a carbon sink of about 179,730 tons of carbon equivalent. The annual mitigation potential is roughly 6,364 tons of CO2e, or 2.5 tons of CO2e per hectare. The additional emissions generated by the increase in livestock, input use, and new construction are offset and surpassed by the reductions in emissions due to crop production, ensuring the project's carbon neutrality. When evaluating these environmental benefits using estimates for the social price of carbon,[45] the overall NPV of the project increases to US$209.5 million, with a corresponding EIRR of 22.9 percent (using a low range pricing of US$63/ton on average) and an NPV of US$214.7 million and an EIRR of 23.2 percent (using a high range pricing of US$126/ton on average).

54. **Climate Co-Benefit:** The project addresses a range of climate-related challenges. Climate Co-Benefits will be derived from (i) sustainably enhancing crop and non-ruminant livestock productivity; (ii) enhancing the resilience of farmers' livelihoods in the face of climate change and weather variability; (iii) reducing GHG emissions; and (iv) increasing carbon sequestration through improved soil health, tree-crop orchards and land management. Under Component 1, institutional strengthening, climate-resilient construction/rehabilitation of infrastructure, climate-informed policies and regulations, CSA and agrometeorological training, climate information services, and climate- informed business plans are all intended to mitigate climate impacts and increase stakeholders' long-term climate resilience. Under Component 2, climate adaptation and mitigation activities include the dissemination and adoption of CSA technologies, CSA training for producers, scaling up of e-extension and e-vouchers, increased access and availability of climate resilient seeds, improved breeds (chicken), CSA animal health practices, sustainable plant and soil health management, and small-scale irrigation. Under Component 3, the project's interventions in climate-smart market infrastructure, climate-informed BDS, and CSA-based grants (Climate-smartness is one of the eligibility criteria for financing) and guarantees are designed to accelerate climate change adaptation and mitigation. Annex 4 provides a summary of adaptation and mitigation benefits under the project.

[45] Based on the World Bank Guidance note on shadow price of carbon in economic analysis (2022).

55. **Paris Alignment: The operation is aligned with the goals of the Paris Agreement on both adaptation and mitigation.** *Assessment and reduction of adaptation risks.* Droughts, floods, strong winds, and increased impacts of pests and diseases from extreme temperatures are the main climate and disaster risks likely to affect the project investments for institutional capacity building such as laboratories, training facilities, and in inclusive and market-led climate-smart Production, and marketing infrastructures, such as warehouses, sales counter, poultry, and fish farming infrastructures. The project design takes into consideration the drought, floods, and related climate risks that threaten the outcomes of the project. Specifically, climate change risks and vulnerability to floods, strong winds, droughts, and pests and diseases will be managed and mitigated through targeted adaptation measures, by combining structural, nature-based, and soft adaptation solutions, including following climate-resilient design standards to reduce the degradation or destruction of marketing infrastructures (Components 1 and 3) as well as the promotion of CSA practices in agro-pastoral production systems and strong capacity building of producer organizations on CSA practices (Component 2). The promotion of climate-smart crops and livestock that combine adapted seeds, breeds, and pasture, with sustainable soil and water management practices will enhance the resilience of farmers and ecosystems to unreliable rains, high temperatures, drought, and floods. In addition, the project's finance under matching grants for sub-projects will reduce crop failure or reduced productivity due to drought. Therefore, the operation adequately reduces the physical climate risks to project outcomes, and the project's climate resilience and adaptation design considerations limit the exposure to a low level of residual risk.

56. Assessment and reduction of mitigation risks: The operation supports activities that are neutral or encourage the country's progress towards low-carbon development. Under Component 1, the rehabilitation and construction of infrastructures through locally sourced material (e.g., baked bricks largely used in Chad) and the use of renewable energy, such as solar energy, are considered to have lower GHG emissions and to be consistent with low-GHG development pathways. Under Component 2, the promotion and adoption of CSA practices and technologies, crop and livestock production using CSA approaches, sustainable soil management aimed at improving soil health, are on the Universally Aligned list and considered to be fully consistent with low-GHG development pathways. The project design integrates an e-extension mechanism to reduce extension workers' carbon footprint through reduced travel intensity and fossil fuel use to deliver agricultural advisory services to farmers which will be universally aligned. Input distribution under the project will be done through the e-voucher platform, which will contribute to lower transaction impacts on CO2 emissions. The expansion of mango and date palm orchards will act as a CO2 sink and will contribute to increasing carbon sequestration under the project. In Component 3, the project will invest in energy-efficient marketing infrastructure and technologies, including the use of solar energy and water harvesting as a selection criterion for PAs and PPPs sub- projects and for cold-chain infrastructures (fish markets, etc.). All construction/rehabilitation in Components 1 and 3 will be fully energy-efficient and powered by renewable energy sources. The use of ICT in marketing will also reduce traders' CO2 emissions due to commercial transactions. Thus, the project is considered to be aligned with Chad's climate strategies and plans, and with the country's pathway towards climate-resilient development and low GHG emissions.

57. *GHG emissions.* Chad is a low emitter of GHG both in absolute and per capita terms, but agriculture (73.76 million tons) and land use change and forestry (24.03 million tons) account for virtually all Chad's emissions.

B. Fiduciary

(i) Financial Management

58. An assessment was undertaken to evaluate the adequacy of the FM arrangements for ProAGRI. This FM assessment was conducted in accordance with the FM Manual for World Bank Investment Project Financing (IPF) Operations. The assessment focused on FM capacity in terms of planning, budgeting, financial accounting, financial reporting, internal controls, and external auditing established to satisfy the World Bank policy and directive on IPF.

59. **The overall FM residual risk rating for the project is assessed as Substantial,** considering the mitigation measures included in the project's design. The proposed FM arrangements for this financing are considered adequate to meet the World Bank's minimum FM requirements under the FM Manual for the World Bank for IPFs. To mitigate the FM risks, the project's design incorporates the following actions: (i) the recruitment at project effectiveness of a qualified and experienced FMS; (ii) the development, within three months after project effectiveness of a comprehensive Administrative, Accounting and Financial Manual of Procedures, as part of the PIM in form and substance acceptable to the World Bank; (iii) the recruitment within three months after project effectiveness of the following qualified and experienced personnel – one senior accountant and junior accountant at PCU level, one assistant accountant for each RCU, and one internal auditor fully dedicated to the project; and (iv) the purchasing within three months after project effectiveness of a multi-site financial and accounting management software in a manner satisfactory to the World Bank. Furthermore, the PCU will submit quarterly unaudited Interim Financial Reports (IFRs) to the World Bank. Finally, the Project's annual accounts will be audited by an independent external auditor to be recruited within six months after effectiveness in compliance with the Terms of Reference (ToRs) acceptable to the World Bank. The proposed FM arrangements, including the risk mitigation measures (see FM Action Plan) are considered adequate to meet the World Bank's minimum FM requirements under World Bank Policy and Directive– IPF. Detailed FM arrangements are provided in Annex 1.

(ii) Procurement

60. **Applicable procurement rules and Procedures:** Procurement under the project will be carried out in accordance with the following World Bank procedures: (a) the World Bank Procurement Regulations (PR) for IPF Borrowers, dated September 2023; and (b) "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and revised in January, 2011 and on July 1, 2016 and other provisions stipulated in the Financial Agreements, using the Standard Procurement Documents accompanying the Regulations.

61. **The proposed project will use the Systematic Tracking of Exchanges in Procurement (STEP) system.** The project will be implemented using STEP, a planning and tracking system, in accordance with clause 5.9 of the Procurement Regulations. Procurement Plans and their updates and requests for prior reviews will be sent to the World Bank for clearance through this tool. Procurement activities not requiring World Bank prior reviews will be recorded in STEP as well.

62. **The procuring entity as well as bidders and service providers, that is, suppliers, contractors, and consultants** will need to observe the highest ethical standards during the procurement and execution of contracts financed under the project in accordance with paragraph 3.32 and Annex 6 of the Procurement Regulations. For all works contracts, procurements that apply standard procurement documents will adopt the provisions of the World Bank related to environmental, social (including sexual exploitation and abuse (SEA) and GBV), and health and safety risks and impacts. This includes codes of conduct that include prohibitions against sexual harassment (SH) and sexual abuse.

63. **Special Considerations.** Given that insecurity and fragility affect considerable areas in Chad where the project will operate and the country is also facing capacity constraints, the project will use flexibility and simplification in procurement. These procurement arrangements will draw on the World Bank Guidance on Procurement These measures include the use of the Recipient's national procurement systems provided the arrangements are consistent with the World Bank's Core Procurement Principles. Other key measures to fast-track procurement include the use of United Nations agencies, NGOs, Direct Selection and/or Limited Competition, Community-driven Development, and Request for Quotations with identified manufacturers and suppliers for other urgent items. If need be, the Recipient can also request Hands-on Expanded Implementation Support on procurement. The simplified procurement arrangements will be detailed in the procurement section of the PIM.

64. **Procurement capacity assessments.** An assessment of the project's implementation entities reveals that the main procurement-related risks identified are related to the country procurement system, which may cause delays, inadequate communication, insufficient competition, and poor contract management and filing both at

the PCU and RCU. More details are provided in Annex 1.

65. **Procurement risk of the project.** The overall procurement risk is Substantial, but it will be regularly assessed and adjusted as needed based on the outcomes of the risk mitigation measures. The summary of these measures include: (a) hiring, in a competitive selection process, an experienced Senior Procurement Specialist at effectiveness, and a Junior Procurement specialist three (3) months after effectiveness, at the National-level PCU; (b) training all project staff involved in Procurement Regulations; (c) organizing procurement red flags training in collaboration with the Integrity Vice Presidency (Preventive) for implementing agencies at appropriate times including procurement and contracts management experts from the early stage of project implementation; (d) developing a section on procurement procedures as part of the PIM to clarify the roles of each team member involved in the procurement process and define the maximum timeframe for each procurement stage (specifically with regard to review and approval systems and the signing of contracts); (e) developing contract management plans for prior-review contracts; (f) transferring the major risks (identified in the Procurement Risk Assessment and Management System exercise) to a day-to-day monitoring matrix and monitoring it through project implementation monthly meetings with the Recipient during the first two years, to ensure things are on track; and (g) improving the filing system to ensure compliance with the World Bank Procurement Filing Manual.

66. **Project Procurement Strategy for Development (PPSD) and Procurement Plan.** The PPSD and its Procurement Plan covering the first 18 months of the project implementation have been drafted by the project and approved by the World Bank. In accordance with paragraph 5.9 of the Procurement Regulations, the Recipient shall use the World Bank's online procurement planning and tracking tools to prepare, clear, and update its Procurement Plans and conduct all procurement transactions. To the extent possible, procurement will be consolidated, and multiple interventions synchronized for streamlining the procurement process. Procurement will be centralized.

C. Legal Operational Policies

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Area OP 7.60	No

67. OP 7.50 is applicable to this project because the project will finance activities that may use or risk polluting waters of the Lake Chad system, which is considered an international waterway. The exception to the riparian notification requirement according to paragraph 7(a) of the Policy applies because activities are limited to upgrading and modernization of existing, small-scale schemes which will not adversely change the quantity and quality of water flows to other riparians. The exception to the notification requirement was approved by the Regional Vice President on February 28, 2024.

D. Environmental and Social

68. **Environmental and social risks and impacts.** The project will be implemented under the World Bank's Environmental and Social Framework, which contains general guidelines for the identification and management of environmental and social risks for sub-projects. The project's PCU will be staffed with an environmental and a social specialist, with the expertise required to assess and monitor sub-projects and implement mitigation measures.

69. **Environment risk is rated Substantial.** The environmental risk of the project is assessed as substantial due to the large impact area of the project, civil engineering work, development of infrastructure for irrigation (in case

some of the private agribusiness invest in irrigation[46]), potential use of chemicals (pesticides and fertilizers) and Chad's capacity in environmental impacts and risk management in relation to the new environmental and social framework of the World Bank.

70. Component 1 will involve: (i) small civil works related to construction/rehabilitation of laboratories, research facilities, and office space (e.g., for CCIAMA); (ii) logistical equipment; (iii) training; and (iv) technical assistance. . Potential environmental impacts relate to: (i) construction noise and dust pollution; (ii) water and air contamination from improper laboratory waste disposal; and (iii) safety risks and occupational hazards.

71. Component 2 will involve: (i) technical assistance and training; and (ii) promotion of improved seed and livestock (poultry and fish), as well as inorganic and organic fertilizer. Potential impacts relate to: (i) possible contamination of surface and underground water; (ii) improper disposal and management of veterinary wastes and agrochemical containers; (iii) occupational health and safety of workers; and (iv) loss of diversity in case new fields are opened for crop production.

72. Component 3 will involve: (i) small civil works (warehouses for warehouse receipt systems); (ii) matching grants ; and (iii) business advisory services. Potential impacts relate to: (i) construction noise and dust pollution, and emissions from processing activities; (ii) water and air contamination from improper chemical, construction, as well as industrial waste disposal; (iii)occupational health and safety of workers; and (iv) loss of diversity in case new fields are opened up for crop production, warehouse construction, and processing facility establishment/expansion. The following Environmental and Social Standards (ESS) are applicable to this project: ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, and ESS10.

73. **The social risk is rated as Substantial.** Under Components 2 and 3, the project will finance activities associated with the construction or/and rehabilitation of infrastructure, funding of individual investments through matching grant mechanism and capacity building to key stakeholders in the main production basins. The key social risks and impacts include: (i) possible exclusion of marginalized and vulnerable groups from project benefits, including youth and women; (ii) physical and/or economic resettlement arising from the modernization and upgrading of existing warehouses and other facilities in case the current physical footprint of these needs to be increased and requires land acquisition; and (iii) depending on specific project areas, insecurity may pose risks for the project activities. The implementation of project activities may also be associated with potential social risks such as child and/or forced labor in the agriculture sector and risks for SEA/SH. These risks would be mitigated by improving communication, awareness campaigns, strengthening the institutional capacities of key stakeholders, more inclusive consultations and CE mechanisms, and functional grievance mechanisms.

74. **To manage the impacts and risks during project implementation, the Recipient has prepared an Environmental and Social Management Framework (ESMF), which was publicly disclosed in country and in World Bank Website and prior to appraisal.**[47] The ESMF contains procedures for screening sub-projects, possible mitigation measures, and implementation arrangements as well as an action plan on SEA/SH. The ESMF will guide the preparation of Environmental and Social Impact Assessments/Environmental and Social Management Plans (ESIAs/ESMPs) for the sub-projects once these are identified. The ESMF incorporates the general and sector-specific environmental, health, and safety guidelines. As the construction and/or rehabilitation of infrastructure sites are unknown at this stage, a Resettlement Policy Framework (RPF) was prepared by the Recipient and

[46] Under the matching grants, it is possible (though not a given) that some agribusinesses might engage in small scale irrigation activities in the order of 4-5 hectares each. Any project activities involving irrigation that rely on the water from international waterways (i.e., Lake Chad system) will be limited to the rehabilitation and/or improvement of existing irrigation schemes or installations and no new irrigation investments or other investments in new infrastructure/works involving the use or potential pollution of international waterways will be financed under the project.

[47] The ESMF has been publicly disclosed on March 5, 2024 in country (https://dsp-tchad.com/agri-business/) and in World Bank Web Site on March 6, 2024 (https://documentsinternal.worldbank.org/search/34276285)

disclosed in the World Bank Web site and in-country.[48]It includes provisions that will guide the preparation of subsequent Resettlement Action Plans (RAPs), if required, to manage potential negative risks and impacts of land use and involuntary resettlement. It includes the principles and procedures for the involuntary resettlement and/or compensation of project-affected people, and establishes standards for identifying, assessing and mitigating the negative impacts of project supported activities. It also includes the following topics: (i) the assessment of national regulatory and institutional frameworks; (ii) the likely categories of affected assets and parties, including an entitlement matrix; (iii) eligibility criteria and a compensation framework consistent with ESS5 and national legislation; (iv) measures to assist vulnerable groups; (v) a consultation framework to enable the continuous participation of the affected populations in the preparation of specific resettlement plans; (vi) an institutional framework for the implementation of the RPF; (vii) a grievance mechanism; and (viii) an M&E framework as well as a budget.

75. During project preparation, the Recipient requested the World Bank to contemplate the possibility of financing with IDA funds the resettlement compensation costs related to the implementation of the RAP under the project. Due to limited information on this particular request, it was agreed with the Recipient that this request would be revisited during project implementation, once a detailed RAP has been prepared, and processed in accordance with applicable World Bank policy and procedures.

76. To manage any labor-related risks and impacts, the Recipient prepared Labor Management Procedures (LPM)[49] that include provisions on working conditions, management of worker relationships, protection from workplace hazards, issues on non-discrimination, minimum work age, and the prohibition of forced labor and child labor.

77. Some of the proposed livelihood and value chain development activities may require the use of agrochemicals such as pesticides and fertilizers. To this end, the Recipient has prepared an Integrated Pest Management Plan (IPMP) to provide key guidance on pesticide use to project beneficiaries. The IPMP provides a detailed review of common pests which may be relevant to the project, a review of applicable pest management options and finally a management plan presenting recommendations on pest management and rational use of pesticides under the project. The IPMP was completed and disclosed prior to appraisal.[50]

78. Project activities may affect natural resources and protected areas in its intervention zones, with adverse impact. of the development of targeted value chains on biodiversity conservation and sustainable management of natural resources. The same goes for activities related to the restoration of landscapes through watersheds and flood plains, water mobilization, better water retention in soils, use of vegetation as windbreaks, and irrigation development (should some agribusinesses engage in irrigation activities). Therefore, necessary measures need to be taken to prevent any potential environmental risks. Potential impacts to habitats and ecological risk factors (wildlife corridors, parks, reserves, and classified forests) will be captured in the ESMF. The ESMF provides guidance on risk assessment, the mitigation hierarchy and precautionary principles in the design and implementation of such activities. Thereafter, ESIAs prepared during the implementation phase will provide mitigation measures to ensure that project activities do not alter or cause the destruction of any natural habitats.

79. **The Recipient has prepared a Stakeholder Engagement Plan (SEP)[51] which details how to identify, meaningfully consult and include stakeholders in the project lifecycle.** The SEP identifies and assesses the level of project impact on stakeholders and their interest and support for the project; lays out an approach to build

[48] The RPF has been publicly disclosed on March 5, 2024 in country (https://dsp-tchad.com/agri-business/) and in World Bank Web Site on March 6, 2024 (https://documentsinternal.worldbank.org/search/34276243)
[49] The LMP has been publicly disclosed on March 5, 2024 in country (https://dsp-tchad.com/agri-business/) and in World Bank Web Site on March 6, 2024 (https://documentsinternal.worldbank.org/search/34276290)
[50] The IPMP has been publicly disclosed on March 5, 2024 in country (https://dsp-tchad.com/agri-business/) and in World Bank Web Site on March 6, 2024 (https://documentsinternal.worldbank.org/search/3427629)
[51] The SEP has been publicly disclosed on March 5, 2024 in country (https://dsp-tchad.com/agri-business/) and in World Bank Web Site on March 6, 2024 (https://documentsinternal.worldbank.org/search/34276244)

and maintain a constructive relationship, especially with project (WP) affected parties; promotes and provides means for effective and inclusive engagement with the vulnerable groups throughout the project life cycle; and ensures that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format. During project implementation, the SEP will be continuously reviewed, and any major revisions effected to the SEP publicly disclosed to stakeholders.

80. **Environmental and Social Commitment Plan (ESCP).** The Recipient has prepared an ESCP[52] setting out the necessary actions to ensure that the project complies with the ESSs. The ESCP identifies the material measures and actions that are required as well as their timeframe and dates of completion and defines the responsibilities of different institutional partners.

81. **Citizen Engagement (CE).** Organizations and institutions participating in the project are committed to ensuring CE throughout the project's implementation. CE interventions will be strengthened through local-level capacity building and access to information for all beneficiaries including refugees and host community members, promoting informed responsible and responsive feedback. The project's design, therefore, integrates several mechanisms to ensure CE including: (i) consultation during the project's formulation, development, and implementation; (ii) strengthening capacity building of project stakeholders to effectively engage with communities including RHC; (iii participatory planning; and (iv) beneficiary satisfaction surveys which provide a quantitative assessment of services provided by the project. Survey results will inform improvements and calibrations to project implementation. The project will convey to citizens how their feedback was used, effectively closing the 'feedback loop. 'The project, therefore, includes CE indicators measuring the satisfaction of beneficiaries (gender, youth, refugees, and host community members-disaggregated) with services provided by the project. The protocol, mechanisms, and elements of the CE framework will be detailed in the PIM and SEP.

V. GRIEVANCE REDRESS SERVICES

82. ***Grievance Redress.*** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank'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 Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, visit https://accountability.worldbank.org.

VI. KEY RISKS

83. The overall risk rating of the project is Substantial.

84. **Political and governance risk is rated High.** Transitional periods always create uncertainty on political and governance situation of countries. General elections in Chad are yet- to-be organized after a transitional period of three years. The weak institutional capacity, weak decentralization, coupled with possible governance changes after the transitional period, including for the agency in charge of refugees, represent a high risk that may affect the project's implementation. The project will mitigate this risk by ensuring very strong buy-in by a diverge range

[52] The ESCP has been publicly disclosed on March 5, 2024 in country (https://dsp-tchad.com/agri-business/) and in World Bank Web Site on March 17, 2024 (https://documentsinternal.worldbank.org/search/34282448)

of stakeholders, including independent civil society organizations, reinforcing CE to enhance transparency in the execution of project activities, and working very closely with other development partners.

85. **Macroeconomic risk is rated Substantial.** Chad's economy is highly dependent on oil. The uncertainty regarding future oil prices and oil production, the volatile security situation, unsustainable debt (according to the most recent International Monetary Fund-World Bank Debt Sustainability Analysis of December 2021), and inflation are likely to undermine core development spending and the overall investment climate. This may delay the achievement of project's development objectives. The project will closely monitor the macroeconomic risks and take appropriate measures, e.g., monitoring market prices and food and nutrition security and calibrating project implementation accordingly.

86. **Technical design of project risk is rated Substantial.** The project's design builds on the experience and lessons learned from similar projects supported by the World Bank and development partners in the country and outside the country. However, introducing approaches such as Productive Alliances, Warehouse Receipt Systems, PPPs could be challenging to the government technical departments and the private sector stakeholders. This risk will be mitigated by a strong capacity building program that is integrated in the project's design and technical assistance. The World bank and IFC implementation support teams comprising broad expertise across multiple Global Practices and areas will also be put in place.

87. **Institutional capacity for implementation and sustainability risk is rated Substantial.** Chad is a country with weak technical and institutional capacity. Capacity weaknesses at the national and province levels will be remedied through a well-designed and diversified capacity-building program as well as technical assistance to support implementation. In addition, for specific activities e.g., Matching grants management, Warehouse Receipt System management, FPO's structuring, etc., the project will contract delegated project management agencies (MOD-Maitrise d'ouvrage déléguée) to support the PCU during the implementation.

88. **Fiduciary risk is Substantial.** This is due to weak internal controls, inadequate capacity of the Court of Accounts of Chad to perform financial audits of government projects, and lack of FM skills. In addition, weak national procurement systems which delay procurement processing, compounded with the weak capacity of human resources in project procurement management, are also fiduciary challenges. To mitigate these risks, the project will competitively recruit FMSs (accountants, procurement, internal auditors) with experience in managing World Bank or similar projects, promote flexibility and simplification in procurement, and provide training and capacity building to the PCU.

89. **Sector strategies and policies risks are Substantial.** Existing policies and regulations are not suitably adapted for value chain development with inadequate technical support to agriculture entrepreneurship. This will be mitigated through the Preparation of the Agribusiness Master Plan, update sub-sectoral strategies, laws or policies governing the Agribusiness sector.

90. **Environment and social risks are Substantial.** The environmental and social risk is rated as "Substantial" due to the small-scale civil work activities and matching grants that will be financed by the project. The implementation of such activities may be associated with potential social risks such exclusion of women, people with disabilities, refugees, and engaging in child and/or forced labor, SEA/SH, potential social tensions in areas with host populations and refugees. A screening process will be put in place to ensure that potential risks and impacts are properly identified and managed. These risks would be managed by improving communication, awareness campaigns and dissemination of information, strengthening the institutional capacities of key stakeholders, more inclusive consultations and CE mechanisms, functional grievance mechanisms both for communities and workers, etc.

91. **Stakeholder risk is Substantial** Given the fragility context, the weak capacity of the private sector, the challenging business environment, the weak banking intermediation, the weak structuring of famers' organizations, potential conflicts in the north and east, and the high climatic risks could affect stakeholder's capacities to sustain their activities. Although project activities are designed with a view toward improving

business enabling conditions, strengthening the capacities of stakeholders, maintaining social cohesion, and mitigating potential conflicts, many factors within and outside of the project could affect stakeholder's performance. To mitigate these risks, the project will provide a robust technical assistance at all levels. A communication strategy and transparent selection criteria of beneficiaries will be essential. Some project intervention areas are also prone to risks related to gender equity and GBV, which the project will mitigate through community-awareness and information campaigns.

92. **Security risks (other) are rated High.** Instability in the sub-region and inter-community conflicts over natural resource use including land, exacerbated by climate change, are likely to interfere WP implementation. A Security Management Plan has been developed that includes use of the Geo-Enabling Monitoring System (GEMS) to undertake M&E, particularly in insecure hard to reach areas, use of third-party monitoring provided by UN agencies, national NGOs or firms hired by the PCU, to collect just-in-time information via mobile apps/tablets, building on geo- tagging of activities. The project will recruit a security specialist (to be shared with FSRP) to closely monitor the security situation in the project area. Where necessary, specialized local NGOs or firms under an MOD mechanism will be recruited to ensure adequate local project implementation and supervision.

93. **Refugee Protection risk (Other) is Substantial.** Capacity issues and lack of resources continue to be a challenge., Chad has continued adopting an open-door policy for refugees, even during the recent historically high inflow of refugees following the Sudanese crisis. As part of the WHR access, the World Bank has worked with UNHCR to develop the Refugee Policy Review Framework (RPRF) providing a comprehensive analysis of the laws, policies, and practices relevant to refugees in different sectors to measure the progress of projects funded through the WHR, define future areas for investment and support policy discussions. The updated RPRF produced on June 30, 2023, and the preceding RPRF and Refugee Protection Assessments are of the view that the relevant protection framework remains adequate for the purpose of the WHR. However, they note that the most significant restrictions in terms of socio-economic development affecting refugees are i) access to biometric identity cards and unique identifier numbers, ii) access to civil registry civil status documents, and iii) access to land for sustainable agriculture. The project will continue working in close collaboration with UNHCR to follow RPRF guidance and ensure alignment with WHR recommendations and obligations. Furthermore, the project will closely coordinate with other WHR-funded operations in Chad and contribute to support the policy dialogue with the Chadian authorities, including with the CNARR, the national agency responsible for managing refugees, to support the implementation of the refugee legislation.

VII. RESULTS FRAMEWORK AND MONITORING

PDO Indicators by PDO Outcomes

Baseline	Period 1	Period 2	Period 3	Period 4	Period 5	Closing Period
to improve the resilience , competitiveness , and inclusiveness of selected agric. value chains.						
People with enhanced resilience to climate risks (CRI) (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	10,000.00	20,000.00	80,000.00	140,000.00	190,000.00	200,000.00
➢People with enhanced resilience to climate risks-Female (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	6,000.00	12,000.00	24,000.00	60,000.00	60,000.00	60,000.00
➢People with enhanced resilience to climate risks-Youth (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	4,000.00	8,000.00	16,000.00	32,000.00	40,000.00	40,000.00
Increase of yields produced by targeted beneficiaries among selected value chains (Percentage)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	4.00	7.00	10.00	15.00	15.00
➢Sesame (Percentage)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	4.00	7.00	10.00	15.00	15.00
➢Ground-nut (Percentage)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	4.00	7.00	10.00	15.00	15.00
➢Maize (Percentage)						
Apr/2024	Apr/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	4.00	7.00	10.00	15.00	15.00
Incremental sales in targeted value chains (Percentage) (Percentage)						
Jul/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	15.00	20.00	25.00	30.00	30.00
Share of selected commodities sold through new marketing channels (Percentage)						

Jul/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	5.00	10.00	15.00	20.00	20.00
Beneficiaries satisfied with the project interventions (Percentage)						
Apr/2024	Dec/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	0.00	60.00	60.00	60.00	70.00
➢Beneficiaries satisfied with the project interventions-Female (Percentage)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	0.00	60.00	60.00	60.00	70.00
➢Beneficiary satisfied with the project interventions-Youth (Percentage)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	0.00	60.00	60.00	60.00	70.00
➢Beneficiaries satisfied with the project interventions-Refugees (Percentage)						
Dec/2023	Dec/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	0.00	60.00	60.00	60.00	70.00
➢Beneficiaries satisfied with the project interventions - Host Communities (Percentage) (Percentage)						
Apr/2024	Dec/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	0.00	60.00	60.00	60.00	70.00
➢Beneficiaries satisfied with the project interventions- Internally displaced people (Percentage)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	0.00	60.00	60.00	60.00	70.00
Project Direct beneficiaries (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	80,000.00	160,000.00	240,000.00	480,000.00	700,000.00	800,000.00
➢Project Direct beneficiaries-Female (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	24,000.00	48,000.00	72,000.00	144,000.00	210,000.00	240,000.00
➢Project Direct beneficiaries-Youth (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	16,000.00	32,000.00	64,000.00	96,000.00	128,000.00	160,000.00
➢Project Direct beneficiaries- Refugees (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	33,000.00	88,000.00	143,000.00	143,000.00	143,000	105,600.00
➢Project Direct beneficiaries- Host communities (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030

0.00	27,000.00	72,000.00	117,000.00	117,000.00	117,000.00	86,400.00
➢Project Direct beneficiaries - Internally displaced people (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	1,000.00	3,000.00	5,000.00	5,000.00	5,000.00	5,000.000

Intermediate Indicators by Components

Baseline	Period 1	Period 2	Period 3	Period 4	Period 5	Closing Period
Component 1: Institutional Strengthening and Enabling Agribusiness Development						
Adopted reforms supporting agribusiness development (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	1.00	2.00	3.00	4.00	4.00
Number of public and private agents trained (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	400.00	700.00	1,000.00	1,500.00	2,000.00	3,000.00
Number of Agri-Enterprises Supported by CCIAMA (chamber of commerce) (Number)						
Jul/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	100.00	150.00	200.00	250.00	300.00
Component 2: Promoting Inclusive and market-led climate-smart Production						
Farmers adopting improved agricultural technology (Number) CRI						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Dec/2029
0	0	40000	60000	120000	180000	200000
➢Farmers adopting improved agricultural technology - Female (Number) CRI						
0	0	12000	18000	36000	54000	60000
➢Farmers adopting improved agricultural technology-Youth (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	8,000.00	12,000.00	24,000.00	36,000.00	40,000,00
Land secured for Refugees and Host Communities (Hectare(Ha))						
Apr/2024	Jul/2025	Apr/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	1,000.00	3,000.00	4,000.00	5,300.00	5,300.00	5,300.00
Female farmers accessing climate-resilient inputs through the e-voucher mechanism (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	3,000.00	6,000.00	12,000.00	24,000.00	30,000.00	30,000.00

Producers' organizations supported in their structuring (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	50.00	150.00	350.00	450.00	450.00	450.00
People with strengthened food and nutrition security (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	50,000.00	80,000.00	110,000.00	120,000.00	160,000.00
➢People with strengthened food and nutrition security-Female (Number)						
Apr/2024	Jul/2025	Jul/2025	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	10,000.00	20,000.00	32,000.00	44,000.00	52,000.00	64,000.00
➢People with strengthened food and nutrition security-Youth (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	5,000.00	10,000.00	16,000.00	22,000.00	26,000.00	32,000.00
➢People with strengthened food and nutrition security-Refugees (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0,00	0,00	20,000.00	30,000.00	52,800.00	52,800.00	52,800.00
➢People with strengthened food and nutrition security-Host communities (Number)						
Apr/2024	Jul/2025	Jul/2026	Apr/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	15,000.00	20,000.00	43,200,00	43,200.00	43,200.00
➢People with strengthened food and nutrition security-Internally displaced people (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	1,000.00	1,500,00	2,500.00	2,500.00	2,500.00
Terrestrial and aquatic areas under enhanced conservation and management (Hectare(Ha))						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	1,000.00	2,000.00	4,000.00	5,000.00	5,000.00
Component 3: Access to Market, Finance, and Value Addition						
Climate-smart market infrastructure (sale counters) built (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	4.00	9.00	9.00	9.00	9.00
Agribusiness market information system operational (Yes/No)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
No	No	Yes	Yes	Yes	Yes	Yes
Climate-Smart based Matching Grants (Amount(USD))						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	21,875,000.00	35,000,000.00	43,750,000.00	43,750,000.00	43,750,000.00

Women MSMEs receiving grants (Number)						
Apr/2024	Apr/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	600	900	900	900	900.00
Refugees and Host Community Microprojects' receiving grant (Number)						
Apr/2024	Jul/2025	Dec/2025	Jul/2027	Jul/2028	Jul/2029	Dec/2029
0.00	0.00	425.00	607.00	607.00	607.00	607.00
Number of Warrantage schemes created (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	19.00	119.00	119.00	119.00	119.00	119.00
Private capital enabled (Amount(USD))						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	5,022,932.00	10,045,864.00	16,743,107.00	16,743,107.00	19,747,900.00
Public-private partnerships to value chains development funded (Number)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	2.00	4.00	4.00	4.00	4.00
Increase in processed output of selected value chains by project beneficiaries (Percentage)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	0.00	10.00	15.00	20.00	20.00	20.00
Component 4: Contingent Emergency Response Component						
Time to reach, with services and / or funds, 50% of the targeted beneficiaries as foreseen in the crisis Management Plan (Weeks)						
Apr/2024						Jul/2030
0.00						30
Component 5. Project Coordination, Management, Monitoring and Evaluation						
Grievances addressed in line with timelines and protocols established (Percentage)						
Apr/2024	Jul/2025	Jul/2026	Jul/2027	Jul/2028	Jul/2029	Jul/2030
0.00	70.00	70.00	80.00	90.00	90.00	90.00

Monitoring & Evaluation Plan: PDO Indicators by PDO Outcomes

to improve the resilience , competitiveness , and inclusiveness of selected agricultural value chai	
People with enhanced resilience to climate risks (Number)	
Description	This indicator measures the total number of people benefitting directly and indirectly from improved climate risk management and increased climate resilience due to project's investments and activities.
Frequency	**Quaterly**
Data source	**PCU**
Methodology for Data Collection	
Responsibility for Data Collection	**PCU, WFP**
People with enhanced resilience to climate risks-Female (Number)	
Description	This indicator measures the total number of women benefitting directly and indirectly from improved climate risk management and increased climate resilience due to project's investments and activities.
Frequency	**Quaterly**
Data source	**PCU**
Methodology for Data Collection	
Responsibility for Data Collection	**PCU,**
People with enhanced resilience to climate risks-Youth (Number)	
Description	This indicator measures the total number of youth benefitting directly and indirectly from improved climate risk management and increased climate resilience due to project's investments and activities.
Frequency	**Quaterly**
Data source	**PCU**
Methodology for Data Collection	
Responsibility for Data Collection	**PCU**
Increase of yields produced by targeted beneficiaries among selected value chains (Percentage)	
Description	This indicator measures the percentage increase of yield for targeted crops (sesame, ground-nut, maize) in the targeted areas compared to the initial baseline.
Frequency	Annually
Data source	PCU
Methodology for Data Collection	Survey
Responsibility for Data Collection	PCU
Sesame (Percentage)	
Description	This indicator measures the percentage increase of yield for sesame in the targeted areas compared to the initial baseline (500 kg/ha).
Frequency	Annually
Data source	PCU
Methodology for Data Collection	Survey
Responsibility for Data Collection	PCU
Groundnut (Percentage)	
Description	This indicator measures the percentage increase of yield for ground-nut in the targeted areas

	compared to the initial baseline (500 kg/ha).
Frequency	Annually
Data source	PCU
Methodology for Data Collection	Survey
Responsibility for Data Collection	PCU
Maize (Percentage)	
Description	This indicator measures the percentage increase of yield for maize in the targeted areas compared to the initial baseline (1,200 kg/ha).
Frequency	Annually
Data source	PCU
Methodology for Data Collection	Survey
Responsibility for Data Collection	PCU
Incremental sales in targeted value chains (Percentage) (Percentage)	
Description	This indicator measures percentage increase of marketed commodities of beneficiary agribusinesses (aggregated) compared to the baseline.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Share of selected commodities sold through new marketing channels (Percentage)	
Description	This indicator measures the percentage of sales through new channels with the support of the project relative to the total sales of commodities targeted.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Beneficiaries satisfied with the project interventions (Percentage)	
Description	This indicator measures the satisfaction rate of project beneficiaries on activities implemented in targeted areas, compared to the initial baseline
Frequency	Mid-term and End of the project
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Beneficiaries satisfied with the project interventions-Female (Percentage)	
Description	This indicator measures the satisfaction rate of women beneficiaries on activities implemented in targeted areas, compared to the initial baseline
Frequency	Mid-term and End of the project
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Beneficiary satisfied with the project interventions-Youth (Percentage)	

Description	This indicator measures the satisfaction rate of youth beneficiaries on activities implemented in targeted areas, compared to the initial baseline
Frequency	Mid-term and End of the project
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Beneficiaries satisfied with the project interventions-Refugees (Percentage)	
Description	This indicator measures the satisfaction rate of refugee beneficiaries on activities implemented in targeted areas, compared to the initial baseline
Frequency	Mid-term and End of the project
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Beneficiaries satisfied with the project interventions - Host Communities (Percentage) (Percentage)	
Description	This indicator measures the satisfaction rate of host community members' beneficiaries on activities implemented in targeted areas, compared to the initial baseline
Frequency	Mid-term and End of the project
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Project Direct beneficiaries (Number)	
Description	This indicator measures the number of beneficiaries of agriculture asset and services as well as non-agricultural asset and services
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Project Direct beneficiaries-Female (Number)	
Description	This indicator measures the number female beneficiaries of agriculture asset and services as well as non-agricultural asset and services
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Project Direct beneficiaries-Youth (Number)	
Description	This indicator measures the number of youth beneficiaries of agriculture asset and services as well as non-agricultural asset and services
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU

Project Direct beneficiaries-Refugees (Number)- Refugees	
Description	The indicator measures the number of refugees reached WP asset and services including jobs, financial services, infrastructure, agribusiness, etc.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Project Direct beneficiaries-Host Communities (Number)	
Description	The indicator measures the number of refugees host community members reached WP asset and services including jobs, financial services, infrastructure, agribusiness, etc.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Project Direct beneficiaries- Internally displaced people (Number)-	
Description	The indicator measures the number of internally displaced people reached WP asset and services including jobs, financial services, infrastructure, agribusiness, etc.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU

Monitoring & Evaluation Plan: Intermediate Results Indicators by Components

Component 1: Institutional Strengthening and Enabling Agribusiness Development	
Adopted reforms supporting agribusiness development (Number)	
Description	This indicator measures reforms (policy, plan. regulation, law, strategy, standards, etc.) adopted with the support of the project
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Number of public and private agents trained (Number)	
Description	This indicator measures the number of public and private stakeholders whose capacity was built with the support of the project
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Number of Enterprises Supported CCIAMA (Chamber of Commerce) (Number)	
Description	This indicator measures the total number of agribusinesses which received support from the Agri-Enterprise Development and Promotion Center to improve their business including but not limited to the development of business plans, support for the creation of enterprises, access to finance,

	training, participation to national international fairs, etc.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Component 2: Promoting Inclusive and market-led climate-smart Production	
Farmers adopting improved agricultural technology (Number) CRI	
Description	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. NB: "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber and non-timber forest products. Adoption refers to a change of practice or change in use of a technology that was introduced or promoted by the project. Technology includes a change in practices compared to currently used practices or technologies (seed preparation, planting time, feeding schedule, feeding ingredients, postharvest storage/ 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. 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.
Frequency	Annually
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Farmers adopting improved agricultural technology - Female (Number) CRI	
Description	
Frequency	Annually
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Farmers adopting improved agricultural technology-Youth (Number)	
Description	
Frequency	Annually
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Land secured for Refugees and Host Communities (Hectare(Ha))	
Description	This indicator measures the area in hectare negotiated and secured for refugees and host community members for crops and vegetable production
Frequency	Annually
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU

Female farmers accessing climate-resilient inputs through the e-voucher mechanism (Number)	
Description	This indicator describes the number of female farmers enrolled in the e-voucher platform who will receive subsidized inputs (seed, fertilizer, pesticides, etc.). The number corresponds to the percentage mentioned in the analysis.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Producers' organizations supported in their structuring (Number)	
Description	This indicator describes the number of producers' organizations, professional farmers organizations, inter-professional organizations, cooperatives, value chains segments organizations, innovations platforms, etc.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Terrestrial and aquatic areas under enhanced conservation and management (Hectare(Ha)) CRI	
Description	The area that IBRD, IDA, IFC, and MIGA support helped bring under enhanced conservation, sustainable use, and management. This will include work related to protected areas, OECMs, forests, grasslands, mangroves, wetlands, waterbodies, including private sector led restoration and conservation initiatives, which contribute to sustainable use, enhanced biodiversity and other healthy ecosystem services, or other natural resource protection. This indicator does not include terrestrial or aquatic areas managed as offsets for projectrelated biodiversity impacts (public or private sector). The methodology for the indicator is currently under development.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Component 3: Access to Market, Finance, and Value Addition	
Climate-smart market infrastructure (sale counters) built (Number)	
Description	This indicator measures the number of climate-resilient marketing infrastructures constructed under the project.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Agribusiness market information system operational (Yes/No)	
Description	This indicator measures the effectiveness and operationality of the integrated MIS established under the project
Frequency	Annually
Data source	PCU
Methodology for Data Collection	
Responsibility for Data	PCU

Collection	
Climate Smart Agriculture based- Matching Grant scheme (Amount(US$))	
Description	This indicator measures the funding amount of sub-projects under the project
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Women MSMEs receiving grants (Number)	
Description	The indicator measures the number of women owned Micro, Small and Medium enterprises funded under the project. The number corresponds to the percentage mentioned in the analysis.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Refugees and Host Community Microprojects' receiving grant (Number)	
Description	This indicator measures the number of microprojects of refugees and their host communities' members funded under the project
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Number of Warrantage schemes created (Number)	
Description	This indicator measures the number of Warrantage schemes established and functional under the project
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Private capital enabled (Amount(US$))	
Description	This indicator measures the total amount in US$ (1 US$ = 600 XAF) leveraged from partner financial institutions including financing of Productive Alliances, Warehouse Receipt System and Public-Private Partnerships.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Public-private partnerships for value addition and support services to value chains development funded (Number)	
Description	This indicator measures the number of PPPs established and financed under the project to promote value addition and support services to value chains development.
Frequency	Quaterly
Data source	PCU

Methodology for Data Collection	
Responsibility for Data Collection	PCU
Increase in processed output of selected value chains by project beneficiaries (Percentage)	
Description	This indicator measures measures the percentage increase of processed out of selected value chains by project beneficiaries compared to the baseline..
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Component 4: Contingent Emergency Response Component	
Time to reach, with services and / or funds, 50percent of the targeted beneficiaries as foreseen in the crisis Management Plan (Weeks)	
Description	This indicator measures the efficiency (time to respond) and effectiveness (share of target beneficiaries reached) in response to a crisis or emergency. Response time is defined from the day request is received from the government to the time when 50percent of the target beneficiaries is reached, as defined in the intervention plan.
Frequency	N/A
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU
Component 5. Project Coordination, Management, Monitoring and Evaluation	
Grievances addressed in line with timelines and protocols established (Percentage)	
Description	This indicator measures the effectiveness of GRM put in place under the project. It measures the percentage of complaints treated successfully by the project.
Frequency	Quaterly
Data source	PCU
Methodology for Data Collection	
Responsibility for Data Collection	PCU

ANNEX 1: Implementation Arrangements and Support Plan

A. Project Institutional and Implementation Arrangements

1. The Recipient will be represented by the Ministry Economic Prospective and International Partnerships (MPEPI). The Ministry for Agricultural Production and Transformation (MPTA) will have the overall responsibility for project implementation, including management of environmental and social risks. The project is designed for six years, and this is justified by the time necessary to implement similar operations in Chad which confirmed the need to plan sufficient time for procurement to develop large infrastructures and sustain mechanism such as Productive Alliances (PA) and PPPs to become operational.

2. A National Project Steering Committee (NPSC) chaired by the General Secretary of MPTA with representation from the Ministry in charge of livestock, Environment and Fisheries, Planning, Finance, Trade and Industries, Gender, Youth, producer organizations and the representative of the agricultural private sector, will be responsible for providing the implementation team with technical guidance and approving annual work plans and budgets (AWP&B). The NPSC the detailed membership composition and mandate of which will be specified in a Ministerial Decree prior to project effectiveness will convene at least twice a year.

3. The PCU will be established within MPTA to lead day-to-day implementation of project activities. The PCU will be led by a competitively recruited National Coordinator. The National Coordinator's signature will be required to commit project financing. The PCU will also include competitively selected fiduciary, M&E, environmental and social safeguards, gender and GBV, and communication specialists. The PCU will also be backed by a Production Development Specialist, with oversight responsibility of Component 2, an Agribusiness specialist, with oversight responsibility of Subcomponent 3.1, an Enterprise Capacity building specialist, with joint oversight for Subcomponent 3.1, a Rural Finance specialist (MG and PPPs), with oversight responsibility for Subcomponent 3.2, a Warehouse Receipt System specialist, with a joint oversight for Subcomponent 3.2. An FPO structuring specialist and an infrastructure specialist will be also recruited to oversee respectively FPOs structuring along the segments of value chains and all project' s civil engineering works. A security specialist will be recruited and mutualized with FSRP. The PCU will be based in N'Djamena.

4. The main functions of the PCU will be: (i) to steer and coordinate ProAGRI activities in accordance with the provisions of the Financing Agreement regarding the management and use of IDA resources, as well as national procedures; and (ii) to provide support to MPTA, participating ministries and other partners involved in implementing the project activities.

5. At the provincial level, the PCU will be represented by Regional Coordination Units (RCU) located in Moundou, Abeché, Massakory, and Faya which will be staffed with relevant technical expertise to monitor closely project interventions in the field. At the regional level, field staff will assume responsibilities for monitoring the implementation of project activities, data collection, direct dialogue with local authorities and project beneficiaries, and reporting on project activities.

6. At each technical Ministry level in charge of Agriculture, Livestock and Fisheries, relevant technical directorates will be focal points to support implementation of the project's activities and for effective coordination with the PCU. Each Focal point will be supported with an accounting secretary, and an M&E assistant, all competitively recruited. These institutional arrangements are summarized inf Figure A1.1 below.

7. The project will sign Memoranda of Understanding (MoU) with these technical directorates of participating ministries to carry out activities within their mandates (Table A1.1). In addition, MoU will be signed with other participating ministries to implement agreed activities relevant to the project.

9. The PIM will be adopted before project effectiveness, as a compendium of procedures for the ProAGRI operational implementation, encompassing the administrative, fiduciary, M&E, procurement, and social and

environmental safeguards procedures. It will include detailed ToR for all ProAGRI staff. Specific manuals for the management of Matching grants (microprojects and PAs), PPPs, Warrantage and for the management of the CERC will be prepared and validated no later than six months after project effectiveness.

10. Under the fiduciary responsibilities of the World Bank and in accordance with the provisions of the project Financing Agreement, periodic missions will be fielded to support project implementation (at least twice a year), and video and/or audio-conferences will be held on a regular basis for the purpose of ProAGRI monitoring and assessment. Implementation support missions will prepare Aide-Memoires.

Figure A1.1. ProAGRI Institutional Arrangement

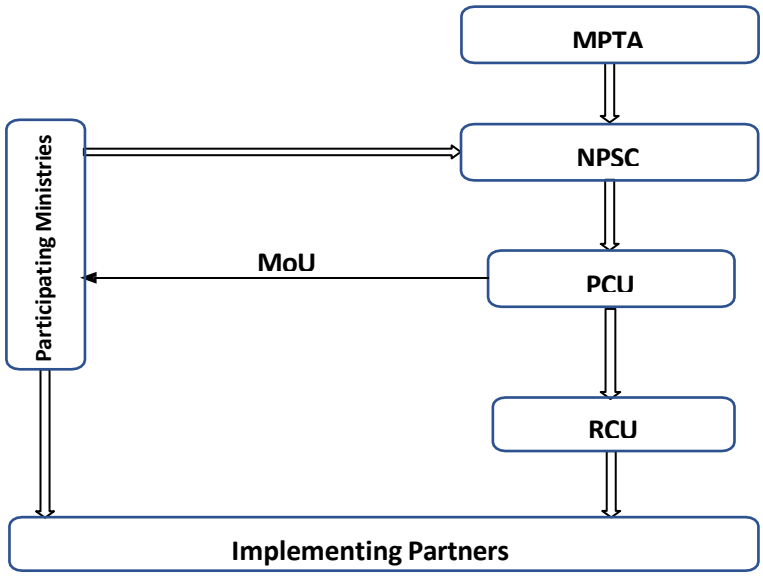


Table A1.1 Project Institutional Technical Partners Roles and Responsibilities by Subcomponent[53]

Components	Subcomponents	Institutions	Roles	Responsibiliti
Component 1: Institutional Strengthening and Enabling Environment	Subcomponent 1.1 Institutional Strengthening of Relevant Government Agencies for Effective Agribusinesses Support	PCU	Lead	Coordinate implementation.
		DGGRHA, DPVC, DEAFPR, ITRAD, IRED, DPAVA, CECOQDA, ATNOR, ANADER	Implementing partner	• Supervision of construction/rehabilitation of key service support infrastructures and Labs' accreditation • Capacity building and services delivery to agribusinesses
	Subcomponent	PCU	Lead	Coordinate implementation

[53]Detailed roles and responsibility by technical partner will be developed in PIM, which will be adopted before project effectiveness. For the public partners involved, the project should sign Memorandum of Understanding (MoU) detailing roles and responsibility and accountability mechanisms.

Components	Subcomponents	Institutions	Roles	Responsibiliti
for Agribusiness Development	1.2. Creating Enabling Environment for Agribusiness Promotion	DEPS, CCIAMA, DSPP, DPSP, DPSA, CNCPRT, ITRAD, IRED, DPAVA, FENOPS, DSP, DEJ, ANIE	Implementing partner	• One-stop-shop a to supporting agri-enterprises • Preparation of the Agribusiness Master Plan, update sub-sectoral strategies, laws governing the Agribusiness sector • Establishment of a National Seed Funds
Component 2: Promoting Inclusive and Market-Led Climate-Smart Production	*Subcomponent 2.1. Supporting FPO's-led Dissemination and Adoption of CSA Technologies*	PCU	Lead	Coordinate implementation.
		ANADER, CNCPRT, NGOs, DAT, Consulting Firms, WFP	Implementing partner	• Support in structuring of FPOs • Development and dissemination of GAP • Support in capacity building • Support for productive community investments • Scaling-up e-extension and e-voucher tools
	Subcomponent 2.2. Facilitating Farmers' Access to Climate-Resilient Inputs	PCU	Lead	Coordinate implementation.
		FENOPS, DSP, ITRAD, IRED, DPAVA, ANADER, DPSA, WFP, Consulting firms, WFP	Implementing partner	• Support in multiplication of climate resilient crop varieties of seeds, seedlings, and breeds • Support in production of one day chicks and fingerlings • Support in farmer's acquisition of inputs (mineral/organic fertilizers, seeds)
Component 3: Access to Finance, Market, Finance and **Value Addition**	*Subcomponent 3.1 Increasing Chad's Agribusiness Sector Marketing Capacity*	PCU	Lead	Coordinate implementation.
		IFC, CECOQDA, ATNOR, CNCPRT, CCIAMA, Consulting Firms	Implementing partner	• Support in compliance to SPS norms • Support to BDS (marketing, bargaining techniques, advertising, and certification process for agricultural commodities) • Development of an integrated MIS • Support in construction/ rehabilitation of marketing infrastructures;
	Subcomponent 3.2 Support to Access to Finance and Value Addition	PFIs, IFC, CCIAMA, WFP, Consulting firms		• Support in access to finance through matching grants, PPPs, and Warehouse receipt system • Support of agribusinesses in preparation of business plans • Support in monitoring the implementation of matching grants and PPPs.
Component 5: Project Coordination, Management, Monitoring and Evaluation	Coordination, Management, M&E	PCU	Lead	• Coordinate implementation. • Capacity building
		NPSC, RCUs, Focal Points, Participating ministries, Service providers		• Advisory and strategic orientation • M&E • Fiduciary management • Compliance to Environmental and Social safeguard standards • Communication and project visibility • Relationship WP partners

B. Financial Risk Assessment and Financial Management Action Plan

Financial Management and Disbursements arrangements

11 The PCU will be the World Bank's main counterpart and focal point for FM aspects of the project. This includes budgeting, financial reporting, supervision, management of the Designated Account (DA), and auditing.

12 **Budgeting arrangements.** In close collaboration with all involved implementing partners and technical units, the PCU will prepare an initial work plan and budget for implementing project activities considering the project's objectives. Approved activities on the budget will be captured in a Procurement Plan, which for IDA purposes will be the document driving implementation. Thereafter, the PCU will prepare on an annual basis (if needed), AWPB. The AWPB will be approved by the Steering Committee 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, the budget execution will be monitored through the automated accounting software to serve as a basis for a budget execution monthly follow-up, based on variance analysis report comparing planned with actual expenditures that will be part of the quarterly unaudited IFR.

Accounting and Reporting Arrangements

13 **Accounting policies and procedures.** The accounting systems, policies, and administrative and financial procedures will be documented in the PIM.

14 **Accounting staff.** The FM functions will be carried out by a team including: (i) a qualified and experienced FMS; (ii) a qualified and experienced senior accountant; and (iii) a minimum of five accounting assistants to be recruited through a competitive process in compliance with World Bank's rules. The team will have the overall FM responsibility over budgeting, accounting, reporting, disbursement, internal control.

15 **Accounting information systems software.** Accounting software with multi-project, multi-site, and multi-donor features, will be purchased and customized to generate financial reports. This software will be installed within three months after project effectiveness.

16. **Accounting standards.** The PCU will use Central Africa's Currency Union (*Communauté Economique et Monétaire d'Afrique Centrale,* CEMAC) accounting standards which are commonly used among the Central African countries. Accounting procedures will be documented in the PIM.

Internal Control and Internal Audit Arrangements

17. **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 World Bank prior to the effectiveness.

18. **Internal audit.** An Internal Audit Unit will be established within the PCU and will implement the project's internal audit annual work-program. This internal audit unit will be staffed with an experienced internal auditor to be recruited within 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.

19. **Transparency, accountability, and anti-corruption efforts will be encouraged** including via a complaint handling mechanism; a communication strategy to inform the public through the media on all aspects of the Project; and the publication on the implementing entity or government websites of budgets, financial reports and audited financial statements. The PCU will also have to deal with fraud and anti-corruption in accordance with the World Bank Anti-Corruption Guidelines referred to in the Financial Agreement.

Flow of Funds and Disbursements Arrangements

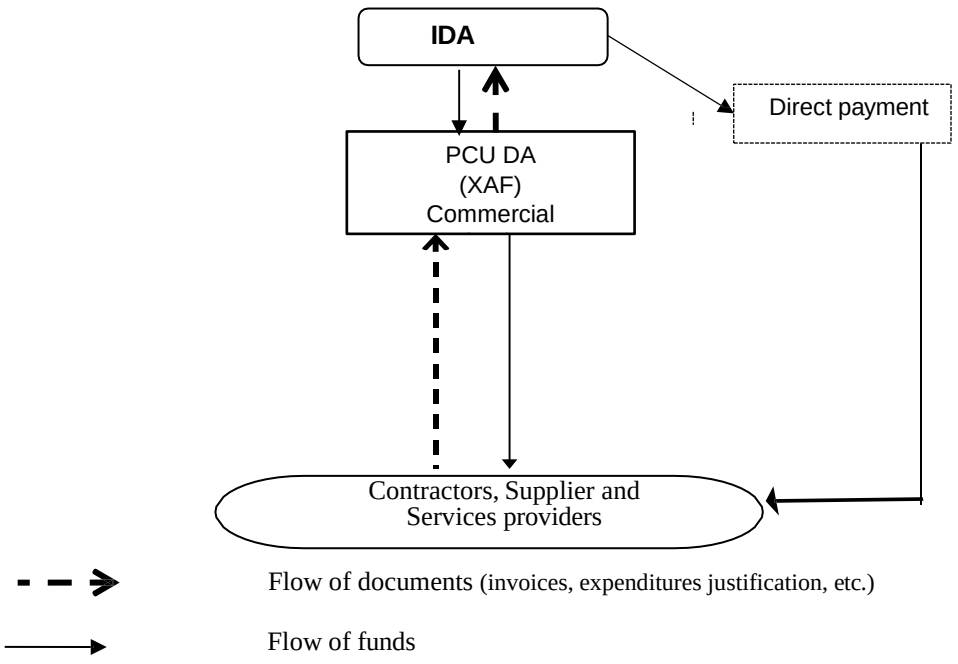
20. **Disbursement arrangements.** The disbursement methods to be used under this project will be based on the Disbursement Guidelines for IPF, issued on May 4, 2017. Upon effectiveness, this operation will follow the transaction-based disbursement method. Direct payment, reimbursement, and special commitment methods will be available to the project and might apply as appropriate. The minimum value of the direct payments, reimbursements and special commitments will be 20 percent of the DA ceiling. Further details about disbursements to the project will be included in the disbursement procedures described in the Disbursement and Financial Information Letter (DFIL) and the FM procedures manual.

21. **Banking arrangements for eligible expenditures**. The PCU will open a DA denominated in Central African CFA franc (XAF) in a commercial bank on terms and conditions acceptable to IDA for payment of eligible expenditures. The project's DA will function under the co-signature of the project Coordinator and the FMS of the PCU. If ineligible expenditures are found to have been made from either of the DAs, the Recipient will be obligated to refund the same. If the DA remain inactive for more than six months, the Recipient may be requested to refund to IDA amounts advanced to the DAs. IDA will have the right, as reflected in the Financing Agreement, to suspend disbursement of funds if reporting requirements are not complied with.

22. IDA will make an initial advance disbursement in XAF into the DA opened for this purpose, upon receiving a withdrawal application from the Recipient. Replenishment of funds from IDA to the DA will be made upon evidence of satisfactory utilization of the advance, reflected in statement of expenditures (SOEs) replenishment applications would be required to be submitted regularly monthly. Further details about disbursements to the project will be included in the disbursement procedures described in the DFIL.

23. **Fund flow mechanism between implementing entities.** Fund flow arrangements between various implementing entities and reporting requirements will be detailed in the PIM.

Figure A1.2. The project flow of funds diagram



Audit arrangements

24. Audited Financial Statements for the project will be submitted to IDA within six months after year-end. The auditor will conduct an annual audit of the annual financial statements. A single opinion on the Audited Project Financial Statements in compliance with International Standards on Auditing (ISA) will be required. The external auditors will prepare a Management Letter giving observations and comments, and providing recommendations for improvements in small grant management, accounting records, systems, controls, and compliance with financial covenants in the Financial Agreement.

Major weaknesses and FM Action Plan to reinforce the control environment.

25. The FM Action Plan described below has been developed to mitigate the overall FM risks

Table A1.2. FM Action Plan

	Significant weaknesses or risks	Action	Responsible body	Due date
1.	Lack of FM skills for adequate FM management of the Project	Recruit based on ToRs satisfactory to World Bank (i) one FMS, Recruit based on ToRs satisfactory to World Bank one Senior accountant, one junior accountant and regional accounting assistants	MTPA	Before effectiveness Within three months of effectiveness
2.	Weak internal control environment and lack of an internal audit function	Recruit based on ToRs satisfactory to World Bank one internal auditor	MTPA	Within three months of effectiveness
3.	Weak internal control environment and lack of an internal audit function	Elaborate and adopt a PIM, including Financial, Accounting and Administrative procedures	MTPA	Within three months of effectiveness
4.	The accounting and reporting requirements might not be fulfilled	Set up a “multi-site” computerized accounting system to fit project needs and generate useful information and financial statements.	MTPA	Three months after the effectiveness
5.	Lack of adequate capacity of the court of accounts of Chad	Recruit an independent auditor with ToR and qualifications acceptable to the Association.	MTPA	Within six (6) months after the effectiveness

Implementation Support Plan

26. Based on the outcome of the FM risk assessment, the following implementation support plan is proposed. The objective of the implementation support plan is to ensure the project maintains a satisfactory FM system throughout the project’s life.

Table A1.3. FM 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	Semi-annual (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 and when needed.

C. Procurement

27. **Applicable procurement rules and Procedures:** Procurement under the proposed Project will be carried out in accordance with the following World Bank procedures: (a) the World Bank Procurement Regulations (PR) for IPF Borrowers, dated September 2023; and (b) "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and revised in January, 2011 and as of July 1, 2016 and other provisions stipulated in the Financial Agreements, using the Standard Procurement Documents accompanying the Regulations. The PIM will elaborate on the procurement procedures, SPDs and model contracts associated with the market approaches and selection methods, for various procurement categories.

28. **The proposed project will use the STEP system.** The project will be implemented using STEP, a planning and tracking system, in accordance with clause 5.9 of the Procurement Regulations. Procurement Plans and their updates and requests for prior reviews will be sent to the World Bank for clearance through this tool. Procurement activities not requiring World Bank prior reviews will be recorded in STEP as well.

29. **The procuring entity as well as bidders and service providers, that is, suppliers, contractors, and consultants will need to 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.** When procurement is done in the national market, as agreed in the Procurement Plan, the country's own procurement procedures may be used with the requirements set forth or referred to in paragraphs 5.3 to 5.6 related to National Procurement Procedures. For all works contracts, procurements that apply standard procurement documents will adopt the provisions of the World Bank related to environmental, social (including SEA and GBV), and health and safety risks and impacts. This includes codes of conduct (CoCs) that include prohibitions against SH and sexual abuse.

30. **Procurement risk assessments and mitigation measures.** The Ministry of Agricultural Production and Transformation (MTPA) will be the implementing entity for the project. It will delegate day-to-day management of the project, including procurement, to a selected PCU that will function as the MTPA PCU at the National level (NCU). At the regional level, the project will be implemented through four Regional Coordination units (RCU). MPTA has implemented several World Bank projects and is familiar with World Bank procedures. MTPA coordinates among others: Ongoing PARIIS –TD (P154482), ProPAD (P16956) and FSRP II (P172769), projects. The procurement assessment showed that the main issues/risks concerning the procurement activities for the project's implementation are: (i) procurement staff with the experience required to effectively implement procurement actions on time and in line with World Bank procurement policies and procedures are insufficient; (ii) administrative routines may result in procurement delays with the potential to affect project implementation; (iii) procurement in

fragile areas with few bidders can restrict competition and possibly increase prices and collusion risks; (iv) insufficient capacity can lead to poor contract management and administration of big contracts; and (v) poor filing of documents may lead to loss of documents.

31. **The overall procurement risk is Substantial** considering successful implementation of the following mitigation measures: (i) hiring in a competitive selection an experienced Senior Procurement Specialist before effectiveness, and Junior Procurement specialist three months after effectiveness, at the level of the PCU; (ii) training all project staff involved in Procurement Regulations; (iii) organizing procurement red flags training in collaboration with the Integrity Vice Presidency (Preventive) for implementing agency at appropriate time including procurement and contracts management experts from the early stage of project; (iv) developing a section on procurement procedures as part of the PIM to clarify roles of each team member involved in the procurement process and define the maximum delay for each procurement stage (specifically with regard to review and approval systems and the signing of contracts); (v) developing contract management plans for prior-review contracts; (vi) transferring the major risks (identified in the Procurement Risk Assessment and Management System exercise) to a day-to-day monitoring matrix and monitoring it through project implementation monthly meetings with the Recipient during the first two years of project, to ensure things are on track; and (vii) improving the filing system to ensure compliance with the World Bank Procurement Filing Manual.

32. **The other identified risks at the country level are:** (i) the high insecurity of the areas in which project activities will be conducted; and (ii) the country's recent political situation. The assessment has rated the procurement risk as Substantial to the extent that the above constraints are mitigated. The PIM will define the project's required internal organization (including staffing arrangements) and implementation procedures for procurement activities. It will include, inter alia, all the relevant procedures for calling for bids, selecting consultants, and awarding contracts as well as the monitoring arrangements for procurement.

Table A1.4. Procurement Risks and Mitigation Measures

Identified Risks	Mitigation Measures	Responsibility	By When
Staff involved in the project may not have enough knowledge of the New Procurement Framework (NPF) and/or risk of confusion with the former guidelines.	• Hire, on a competitive basis, a Senior Procurement Specialist procurement procedures and policies or similar partners.	MPTA/PCU	Before effectiveness
	• Hire a Junior Procurement Specialist for PCU who are experienced and familiar with World Bank procedures and policies or similar partners		Three months after effectiveness
	• Organize workshop sessions on the NPF to train all staff involved in the procurement of the project.	MPTA/PCU	Three months after effectiveness
	• Continuous hands-on trainings on the NPF for Identified key staff and the Communities involved in procurement.	MPTA/PCU	During the life of the project
Inadequate communication and interaction between Implementation partners and the PCU which may lead to delays in procurement processes, weak definition of technical specifications, and poor estimation of the costs	Develop a procurement section in the POM (including a Implementation Partners para) to clarify the role of each team member involved in the procurement process of the project and the maximum delay for each procurement stage, specifically concerning the review, approval system, and signature of contracts.	MPTA/PCU	Three months after effectiveness

Identified Risks	Mitigation Measures	Responsibility	By When
Internal administrative procedures may increase delays in the procurement processes and affect project implementation. Delays in contract	Exercise quality control on all aspects of the procurement process, including developing ToRs, technical specifications, bidding documents, proposals, request of quotations, evaluation, and award.	MPTA/PCU	During the life of the project
	Monitor, on a regular basis, the Procurement Plan's implementation and set up a close follow-up in relation with beneficiaries to ensure that appropriate actions are taken on time.	MPTA/PCU	During the life of the project
	Transfer the major risks (identified in the PRAMS exercise) to a day-to-day monitoring matrix and monitor it through monthly meetings with the Recipient during the first two years of the project, to make sure things are on track.	MPTA/PCU	During the life of the project
Poor contract management and administration of contracts	Develop contract management plans and the contract execution mechanism.	MPTA/PCU	During the life of the project
Procurement in a specialized market in a fragile area with few bidders can restrict competition	Organize procurement red flags training in collaboration with INT (Preventive) for implementing agency at appropriate time.	MPTA/PCU	Three months after effectiveness
Poor filing which can lead to loss of documents	Improve the filing system at the UTCF level to ensure compliance with World Bank procurement filing manual.	MPTA/PCU	During the life of the project
Poor anticipation in procurement of agricultural inputs can comprise the success of agricultural campaigns	Improve procurement planning and anticipate inputs procurement in year N-1	MPTA/PCU	During the life of the project

34. **Frequency of procurement reviews and supervision.** The World Bank team will conduct six monthly supervision missions and annual post procurement reviews. The standard post procurement reviews by World Bank staff should cover at least 10 percent of contracts subject to post review. Post reviews consist of reviewing technical, financial, and procurement reports on project procurement actions by World Bank staff or consultants selected and hired by the World Bank. Project supervision missions shall include a World Bank procurement specialist or a specialized consultant. The World Bank staff may also conduct an independent procurement review at any time until two years after the closing date of the project.

35. **The PPSD and the Procurement Plan covering the first 18 months of the project implementation were approved before project negotiations.** The PPSD for the project, including a market analysis and an assessment of risks and opportunities of procurement activities, as input to the proposed institutional arrangements, approach to market, selection methods, and evaluation options for procurement. The Procurement Plan shall be submitted for the World Bank's approval and include for each contract (i) a brief description of the activities/contracts; (ii) the selection methods to be applied; (iii) the cost estimates; (iv) time schedules; (v) the World Bank's review requirements; and (vi) any other relevant procurement information. In accordance with paragraph 5.9 of the PR, the Recipient shall use the World Bank's online procurement planning and tracking tools (STEP) to prepare, clear, and update its Procurement Plans and conduct all procurement transactions.

36. The markets analysis carried out as part of the PPSD shows that there are no major difficulties in the implementation of the project activities as described below. Considering the economic conditions and general instability of the country, the possibility of attracting large reputable international companies to bid could be limited.

However, communicating and consulting with reputable bidders, suppliers, and consultants will be important in improving competition. Open international competition will be the preferred approach for the high value and complex contracts. Consultancy services relate mainly to classic assignments and studies to be selected using Quality Cost-Based Selection (QCBS). While the mobility of foreign consultants is limited by insecurity, partnerships with local consultants remain an alternative for internationals to compete and use national expertise. The PPSD found that the dynamics of the market according to the major types of markets are in: consultancy services, studies and consultancy services will mainly be consulted by firms, NGOs, state agencies and individual consultants; in procurement of goods (supply contracts), the needs of the project are expressed in terms of acquisition of commonly known supplies (office furniture, computer equipment, internet connection, vehicles, motorbikes, lab equipment, agricultural inputs, farm infrastructures and equipment, etc.); in works (works contracts), in particular the construction of premises for office use and living bases, laboratories, marketing infrastructures, warehouses, rehabilitation of training infrastructures, development of irrigated perimeters, etc. There are competent national companies likely to respond to the consultations launched.

37. A Procurement Plan (PP) sets out the procurement selection method as well as prior and post review thresholds to be followed for the first 18 months and include the key contracts. The PP as well as all procurement transactions will be recorded into the World Bank STEP system. During implementation, the PP will be updated as required, at least annually, to reflect actual program implementation needs and improvements in institutional capacity.

38. **Given that insecurity and fragility affect considerable areas in Chad and the country is also facing capacity constraints, the project will use flexibility and simplification in procurement.** The measures include the use of Recipient's national procurement provided the arrangements are consistent with the World Bank's Core Procurement Principles. At the request of the government Hands-on Expanded Implementation Support (HEIS) approach will be considered during implementation (subject to the approval from the World Bank) to support this, in particular with respect to contract management, as indicated in the PPSD analysis. Special arrangements like direct contracting, use of Statements of Expenditures, third party monitors, local NGOs, Force Account, or civil servants needs, results-based arrangements, need for prequalification, PPP contracts, if any, will be considered and addressed.

39. **Procurement documents.** For international competitive procurement of works, goods, non-consulting service, and consulting services, the Recipient shall use the World Bank Standard Procurement Documents (SPDs) with minimum changes, acceptable to the World Bank, as necessary to address any project-specific conditions.

40. **Procurement information and documentation—filing and database**. Procurement information will be recorded and reported as follows:

- Complete procurement documentation for each contract, including bidding documents, advertisements, bids received, bid evaluations, letters of acceptance, contract agreements, securities, and related correspondence will be maintained at the level of respective ministries in an orderly manner, readily available for audit.
- Contract award information will be promptly recorded and contract rosters, as agreed, will be maintained.
- Comprehensive quarterly reports will be prepared indicating: (i) revised cost estimates, where applicable, for each contract; (ii) status of ongoing procurement, including a comparison of originally planned and actual dates of the procurement actions, preparation of bidding documents, advertising, bidding, evaluation, contract award, and completion time for each contract; and (iii) updated Procurement Plans, including revised dates, where applicable, for all procurement actions.

41. **General Procurement Notice, Specific Procurement Notices, Requests for Expression of Interest, and results of the evaluation and contracts award** should be published in accordance with advertising provisions in the

Procurement Regulations. For request for bids and request for proposals that involve international bidders/consultants, the contract awards shall be published in the United Nations Development Business in line with the provisions of the Procurement Regulation.

42. **Training, workshops, study tours, and conferences.** Training (including training materials and support), workshops, and conference attendance (based on individual needs as well as group requirements), and on-the-job training will be carried out based on an approved annual training and workshop/conference plan that will identify the general framework of training activities for the year. A detailed plan and ToR providing the nature of training/workshop, number of trainees/participants, duration, staff months, timing, and estimated cost will be submitted to the World Bank for review and approval before initiating the process. The appropriate methods of selection will be derived from the detailed schedule. After the training, each beneficiary will be requested to submit a brief report indicating what skills have been acquired and how these skills will contribute to enhance his/her performance and contribute to the attainment of the PDO. Reports by the trainees, including completion certificate/diploma upon completion of training, shall be provided to the Project Coordinator, will be kept as parts of the records, and will be shared with the World Bank if required.

43. **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 context of fragility and the capacity constraints in project countries will be considered, and simplified procurement arrangements will be designed accordingly.

44. **Operating costs.** Operating costs financed by the project are incremental expenses, incurred by the PCU as approved by the World Bank, on account of project implementation, management, and M&E, including utilities; office space rental; office supplies; bank charges; vehicle operation, maintenance, and insurance; maintenance of equipment and buildings; communication costs; travel and supervision costs (that is, transport, accommodation, and per diem); and salaries of contracted and temporary staff. They will be procured using the procedures specified in the PIM, accepted, and approved by the World Bank.

45. **Procurement procedures**. When approaching the national market, the country's own procurement procedures may be used with the requirements set forth or referred to in paragraphs 5.3–5.6 related to National Procurement Procedures and subject to certain requirements for national open competitive procurement. Other national procurement arrangements (other than national open competitive procurement) that may be applied by the Recipients (such as Limited/Restricted Competitive Bidding, (RfQ), Shopping, Local Bidding, and Direct Contracting), shall be consistent with World Bank core procurement principles and ensure that World Bank Anticorruption Guidelines and Sanctions Framework and contractual remedies set out in the Financing Agreement apply.

46. **Frequency of procurement supervision.** In addition to the prior review supervision which will be carried out by the World Bank, semi-annual supervision missions are recommended. The sample size will be based on the procurement risk rating for the implementing agencies in each country. The prior review procurements will be reviewed and cleared in STEP by the respective country's World Bank procurement specialist.

47. **Contract management and administration.** For all prior review contracts, contract management plans (in line with the provisions of Annex XI of the Procurement Regulations) will be developed during contract creation and completed at the time contracts are signed.

D. Implementation Support Action Plan

48. **Institutional capacity for implementation and sustainability risk is rated Substantial and will require support to the Recipient and build capacity**. In terms of human resources, the World Bank and IFC team includes various specialists in Agriculture economics, Agribusiness experts, operations, financial experts, private sector specialists, climate change, FM, procurement, E&S safeguards, Gender, M&E specialist, and administration. For specific

technical support, international experts in private sector and agribusiness will be recruited, and others will be recruited as needed during the implementation of the project.

49. The World Bank will conduct implementation support missions at least twice a year to: (i) review the status of implementation and achievement of the PDO and intermediate indicators; (ii) provide support to resolve implementation issues that may arise; (iii) provide technical support for the achievement of results and capacity building of stakeholders; and (iv) discuss apparent or underlying risks and mitigation measures.

50. The World Bank procurement, FM, and E&S safeguards specialists will also provide effective proximity support to the new PCU (UTCF). In addition to the ex-post review of procurements that fall below the prior review thresholds, the Procurement Specialist will provide routine hands-on support to procurement specialists as needed. The FMS will review all FM reports and audits and take necessary follow-up actions in accordance with World Bank procedures. The project will also conduct a comprehensive fiduciary assessment of the implementing PCU (UTCF) to reduce fiduciary risks. Procurement, financial control, and safeguards specialists will also help identify fiduciary and safeguards capacity building needs. Semi-annual inputs from the E&S safeguards specialists will be provided throughout the project, both during formal ISM, field visits, and virtual technical reviews. This holistic approach will ensure that safeguard instruments are implemented in accordance with World Bank requirements.

51. The PCU is expected to acquire and use, within three (3) months of the project effectiveness, the TomPro accounting system under the multi-project, multi-donors, and multi-sites version, which is capable of recording transactions and reporting on project operations in a timely manner, including preparation of withdrawal applications (WA) and periodic financial reports (IFRs and annual financial statements). The PCU will use CEMAC accounting standards which are commonly used among the Central African countries. The chart of accounts should be prepared to reflect various project components to facilitate the preparation of relevant monthly, quarterly, semiannual, and annual financial statements. The annual financial statements will be prepared in accordance with CEMAC accounting. standards and relevant International Public Sector Accounting Standards using a computerized accounting system.

52. **The following implementation support plan reflects the preliminary estimates of the skill requirements, timing, and resource requirements over the life of the project.** Keeping in mind the need to maintain flexibility over Project activities from year to year, the plan will be reviewed annually to ensure that it continues to meet the implementation support needs of the project. The main areas of focus and skills requirements for implementation support to be provided by or through the World Bank are as summarized in Table A1.5.

Table A1.5. Implementation Support Plan

Period	Focus	Skills Needed	Partner Role
Year 1	• Project launch • Initialization of project components • FM systems functioning effectively • Procurement practices following World Bank norms • ESMF in place	Agricultural Economist/Team lead, FMS, Procurement Specialist, Environmental Specialist, Social Safeguards Specialist, Financial Sector Specialist, Agribusiness Expert, Gender Specialist, M&E Specialist, Private sector specialist, communication specialist	• PCU to prepare project launch • Operationalization of the POM • Prepare comprehensive Project progress and results monitoring reports in advance of each mission • Prepare E&S safeguards semestrial reports • Update implementation and procurement plans routinely • Organize field visits • Communicate on project objectives and expected results

Period	Focus	Skills Needed	Partner Role
Year 2	• Monitor implementation of project activities • FM, procurement, safeguards	Agricultural Economist/Team lead, FMS, Procurement Specialist, Environmental Specialist, Social Safeguards Specialist, Financial Sector Specialist, Agribusiness Expert, Gender Specialist, M&E Specialist, Private sector specialist	• In addition to the above, record project intermediary outputs and outcomes
Year 3	• Monitor implementation of project activities • FM, procurement, safeguards • Midterm review	Agricultural Economist/Team lead, FMS, Procurement Specialist, Environmental Specialist, Social Safeguards Specialist, Financial Sector Specialist, Agribusiness Expert, Gender Specialist, M&E Specialist, Private sector specialist	• In addition to the above, prepare mid-term assessment of project achievements, record project mid-term outputs and outcomes, recalibrate project's objectives, Results Framework, institutional arrangements, reallocation of proceeds where appropriate, communicate on project achievements

ANNEX 2: Economic and Financial Analysis

1. **This annex presents the Ex-Ante Economic and Financial Analysis (EFA) for the ProAGRI**, which aims to increase the competitiveness, inclusiveness, and resilience of selected value-chains in project areas. The evaluation is built on the cost-benefit analysis (CBA) approach applied to the core project interventions: (i) developing inclusive and market-led climate-smart production (Component 2) and (ii) facilitating access to market, finance and value-addition (Component 3). This annex consists of three main parts: Part I introduces the identification of benefit streams, followed by Part II, which describes the methodology and assumptions used for the EFA. Part III summarises the overall financial and economic results of the project, including a sensitivity analysis under different scenarios.

IDENTIFICATION OF BENEFITS

2. **In line with existing sectorial projects, ProAGRI main quantifiable benefits will derive from higher, stable incomes and assets of producers and agri-entrepreneurs due to enhanced, inclusive, climate resilient productivity levels, improved value-addition, and competitiveness in the selected value-chains[54].** The project activities are expected to generate three main streams of benefits. First producers and agri-entrepreneurs will benefit from increased productivity, value-added, and incomes induced by improving access to resilient and sustainable technologies. This long-term sustainability will be ensured by better public and private services provision and delivery as well as improved access to climate-smart market infrastructures such as modern warehouses, purchasing counters, cold-storage, and packaging warehouses. Second, producers and other value-chains actors[55] will benefit from improved competitiveness and performances by strengthening linkages between producers and agricultural businesses, BDS, provision of agricultural services and training, and access to credit. On the latest, access to seasonal credit for agricultural inputs and improved product aggregation will be promoted by setting-up warehouse receipt systems. Lastly, the project activities will generate environmental benefits and reduced GHG emissions through the adoption of sustainable practices and technologies.

3. **As intangible benefits, improved incomes and assets will generate additional social benefits in the form of increase food security and nutrition, enhanced social and economic inclusion of youth and women and higher resilience of refugee's populations.** The project is also expected to create other benefits such as policy and institutional strengthening, greater and better access to finance for value-chains actors, economic diversification from the oil sector, increase government tax revenues (multiplier effect) resulting from the development of small and medium-sized industries/enterprises and a reduction of trade deficit, which are non-quantified at this stage due to the difficulty of attributing them a monetary value.

METHODOLOGY AND ASSUMPTIONS

4. **This CBA analysis follows the standard methodology recommended by the World Bank, as described in Gittinger (1982), Belli et al. (2001) and is aligned to the recent guidelines for EFA.** This methodology is applied differently to the three mains benefit stream of the project reflecting the difference in the project intervention approaches.

5. **The objective is to identify, calculate and compare the flows in terms of costs and benefits of the project to assess its sustainability from the point of view of the beneficiaries (financial analysis) and from the point of view of society and the national economy as a whole (economic analysis).** It aims to assess the effects and impacts of the adoption of the new techniques, technologies and innovations proposed by the project on the financial situation of the beneficiaries by comparing the with-project (WP) situation with the without-project (WOP) situation. The analysis includes the calculation, in the each of the project scenarios, of a selected number of financial indicators used to assess the overall viability of the proposed interventions, including the Internal Rate of Returns (IRR) and NPV. The analysis is based on primary and secondary data collected during the formulation mission, desk research

[54] In complementarity with PARIIS, PROPAD and PRAPS 2
[55] Women, men, youth, groups including refugees, cooperatives, or individual entrepreneurs.

and on the experience of World Bank projects in the region (PADEL, PreCa, PAPSA). The validity and relevance of the assumptions used for the different activities targeted by ProAGRI have been crosschecked with sectorial experts.

6. **Given the focus on the first stream on benefits on productivity improvements, the present analysis quantifies the related benefits to the use of improved seeds and fertilizers**. As such, a total of **two (2) crop models** has been developed: (i) the production of rainfed maize on one hectare with access to improved seeds and fertilizers (referred as "intensification kit"); (ii) groundnut production on one hectare with access to improved seeds only.

7. **The second benefits stream is assessed through a financial analysis focused on the profitability of micro-projects (individual projects and cooperative), PA and PPP in the eligible value-chains.** As the intervention approach of this component is strongly demand-driven, given the diversity of potential activities and the different profiles of actors who could be supported, some sub-projects have been modelled as examples, including two (2) models for individual projects: (iii) dried mangoes processing; (iv) a modern fishmonger's shop; one (1) model for cooperative: (v) the production and commercialization of sesame; two (2) models for PA: (vi) an alliance between 14 private aquaculture promoters, 11 fishmongers and 3 processors, (vii) an alliance between five broiler producers with production/slaughter planning and cold storage and two (2) models for PPP: (viii) sesame oil production and (ix) animal feed production. In addition, the analysis also quantifies the economic benefits related to the use of two (2) types of market infrastructure (x) 2 warehouses of a capacity of 1,000 tons each for maize, sesame, and groundnut storage and (x) climate-smart cold storage for fish conservation.

8. **Finally, for the third stream of benefits has been estimated by considering the economic gains (better prices) for sesame producers resulting from having access to a warehouse structure.**

9. **Market prices.** In Chad, the prices of agricultural products are freely determined by the market, according to the law of supply and demand. The prices used for the main products are: XAF 300/kg for maize, XAF 450/kg for sesame, XAF 600/kg for groundnuts, XAF 1,125/kg for fish (wholesale price) and XAF 1,800/kg for fish (retail price), FCAF 3,500 for a head of broiler chicken and XAF 100/kg for mangoes.

10. **Labor.** Labor has been considered in the calculation of production costs for the different models developed. The labor employed is made up of family labor, temporary hired labor, and permanent hired labor. The cost of temporary paid labor used in the financial analysis corresponds to the average daily remuneration paid by the agri-enterprises, i.e., XAF 2,000 /day per person (equivalent to XAF 60,000/month or the monthly salary of an agricultural employee). Family labor is values at XAF 500/day per person as a real cost integrated into the calculation of the profitability of the activities, representing the daily subsistence costs of the promoter or his associated family members (food, transport, etc.).

11. **Discount rate**. For the financial analysis, a discount rate of 10 percent was used, corresponding to the average between the interest rate of deposits in Chad between 2015-2017 of around 2.45 percent, the credit rate in Chad of around 10 percent[56] and taking into account the inflation rate in Chad of around 3 percent[57].

12. **The economic analysis followed a similar approach, aggregating the targeted results of the project and from the society viewpoint.** It uses the incremental benefits and, given the indicative nature of the models used in the analysis, a different percent survival rate for the different sub-projects under Subcomponent 3.2 has been used, as summarized in Table A2.1 below. As some of the project costs are already integrated in the individual models, the total project economic costs have been adjusted by considering the direct subsidies granted and other costs already included in the financial models to avoid double counting to determine the overall economic viability of the project. The discount rate used for the economic analysis is 6 percent and is in line with the World Bank guidelines and the practice of recent projects. Given the nature of the investments, the analysis considers a project economic life of 20 years.

[56] https://www.beac.int/wp-content/uploads/2022/06/Rapport_TEG-revu_4eme_trim_2021.docx.pdf
[57] https://www.imf.org/external/datamapper/profile/TCD

Table A2.1. Summary of the adoption and survival rate used in the economic analysis

Individual micro-projects	Survival rate after 3 years: 60%
Individual micro-projects - refugees	Survival rate after 3 years: 60%
Cooperative micro- projects	Survival rate after 3 years: 70%
Productive Alliance - large	Survival rate after 3 years: 80%
Productive Alliance - small	Survival rate after 3 years: 80%
Public-Private Partnership	Survival rate after 3 years: 80%
Production of maize under 1 ha	Adoption rate: 85%
Production of groundnut under 1ha	Adoption rate: 85%

RESULTS OF THE FINANCIAL ANALYSIS

13. **According to the integrated development approach promoted by ProAGRI, productivity gains will will be channelled towards the expansion and the modernization of production, processing and marketing of agricultural products in selected value-chain. As such,** the project will promote greater participation of the private sector in the agricultural sector by facilitating access to credit for value-chains actors. In particular, ProAGRI plans to provide financial support to four types of projects: (i) 2,250 individual small projects - 40 percent of which will be targeting women and youth- as well as 481 small projects for refugees. For individual small projects, the project cost will be around US$6,990 with IDA's contribution variating between 90 percent for women and youth and 80 percent for men while the remaining amount will be mobilized through beneficiaries' contribution. The amount of the individual projects focusing on refugees will reach US$6,290, with IDA contributing to 90 percent and the remaining 10 percent will come from beneficiaries. The Project will also support the financing of (ii) 476 cooperatives, of which 126 focusing on refugees; project cost will vary between US$11,010 – 12,240; IDA's contribution will be of 90 percent while the rest will come from beneficiaries' contribution. Additional financing will be provided to (iii) 25 medium-size and 108 small PAs: project cost will reach UD$350,000 for the medium-sized projects, to which IDA will contribute up to 50 percent with the remaining 50 percent to be financed by credit (40 percent) and beneficiaries' contribution (10 percent). Smaller size PAs will have a cost of US$105,000 and will be financed at 70 percent by IDA, 20 percent by credit and 10 percent though personal contributions. Finally, the project will contribute to the financing of (iv) 7 PPPs with a unit cost of around US$5 million whose 40 percent will be financed by IDA, while the rest will be mobilized by the beneficiaries through credit (50 percent) and personal contribution (10 percent). Such contributions will be used to finance investment in improved technologies but also working capital requirements where needed, generally repaid according to the credit terms of the financial institution (interest rate, grace period depending on the nature of the activity).

14. **Individual small-projects**: To estimate the benefits from such activities, as an example, two models have been developed, based on the available information: (i) a processing unit for drying mangoes and (ii) a modern fishmonger's shop. In the context of the creation of individual micro-projects, the WOP situation has been considered as equal to the opportunity cost of work for an unemployed worker in the agricultural sector and was defined as being equal to the minimum wage in the agricultural sector (XAF 60,000 /month). On the other hand, the access to finance will materialize in a WP situation with a processing unit for drying mango of a capacity of 1 ton/year and in a fishmonger shop of a selling capacity of 17 tons/year.

15. **Cooperative:** To estimate the benefits of such activity, as an example, a model of sesame production and commercialization by a cooperative of 30 members cultivating 10 hectares has been developed**.** The WOP scenario is characterized by the production of sesame with limited access to inputs (yields estimated at 500 kilos/hectare)

and modern drying technologies. The access to finance will allow the cooperative to invest into better drying equipment, resulting into a reduction of post-harvesting losses (from 5 percent to 2 percent) and access to improved seeds and inputs (yields increase up to 850 kilos/ hectare), allowing producers to double their production.

16. **Productive Alliance:** Given the size of such projects, the analysis developed two models related to two groups of producers who have been active for several years and are not only willing to increase their production but also to start processing and selling their products. The first model assumes a group or an alliance for farm fishing and processing: this model assumes a WOP scenario characterized by 14 private promoters of aquaculture with 4 ponds each producing 53 tons of fish (1 cycle/ year). Most of the fish is sold as fresh to 11 fishmongers while the rest is sold to 3 processors. In the WP scenario, the promoters will multiply by 3 their production by increasing the number of ponds to 6 ponds each and doing 2 annual cycles of production. The alliance will collectively invest into efficient conservation equipment. Processors will also be trained on transformation best practices which will allow them to fetch a higher price for their products. The second model is based on a group or alliance of 5 small local poultry producers who will invest in more adequate poultry houses, better animal feed and veterinary services to increase their production from a poultry flock of 1000 units per 6 flocks/year (WOP situation) to a poultry flock of 1,000 units per 10 flocks/year (WP situation). Additionally, the project will enable them to invest collectively in a cold storage and a mobile slaughter unit allowing them to sell about 104,000 slaughtered chickens per year on average.

17. **Public-Private partnership (PPP):** in light of the significant amount that the project plans for such projects, these are assumed to focus mainly on the advanced processing for the production of sesame oil and animal feed. The investment will mostly be channeled towards the establishment of modern industrial processing units. In addition to the access to financing, PPP will beneficiate from technical support and access to BDS, which will result in an increase in the volumes sold and better prices. For the two models, the WOP scenario assumes a fixed percentage of the total labor cost to reflect an eventual previous occupation of the employees of the new activity.

18. **Warehouse receipt system**: the impact of investing in a warehouse receipt system has been estimated through the benefits a group of producers will receive by setting aside a fraction of their production in a warehouse. In the WOP scenario, a group of cooperatives will sell the totality of its production directly during the campaign, when prices are lower. In the WP scenario, the same group of cooperatives will be able to beneficiate from higher prices by placing a part of its production in the infrastructure and selling it later during the year.

19. **Access to climate-smart market infrastructure**: a total of two (2) models has been developed to have a comprehensive representation of the impact of investing in market infrastructure on beneficiaries' income. In the WP scenario, beneficiaries will be able to increase the volume of their sales due to a reduction of the post-harvest losses resulting from investments into climate-smart market infrastructure. In the model for maize/groundnut/sesame storage, the WOP considers that beneficiaries will be able to store their production in traditional storage infrastructures, while the investment in the WP will materialize into modern storage (two warehouses of a capacity of 1,000 tons each) and drying equipment, leading to a sensible reduction of post-harvest losses from 16 to 8 percent. In the case of fish-related infrastructure, a group of 560 fish vendors[58] will benefit from access to cold-storage, resulting in a reduction of losses from 25 to 15 percent.

20. **Access to inputs**: To estimate the benefits of access to inputs, two crop models have been developed reacted to the cultivation of maize and groundnut. It has been assumed that maize production will benefit from "intensification kit", defined as one-year support with improved seeds and fertilizer, while groundnut production only benefits from improved seeds. In these, the WOP situation is characterized by the cultivation of maize and groundnuts, each on 1 ha and 1 cycle per year, with low access to inputs and low yields (yields estimated at 1200 kg/hectare in the case of maize and 500 kg/hectare in the case of groundnut). Access to inputs in the WP situation and capacity building will result in yield improvements, reaching 2,500 kg/ hectare in the case of maize and 650 kg/hectare in the case of groundnuts.

[58] The number of vendors has been estimated based on data collected during the field mission, January 2023.

Table A2.2. Indicative financial returns for the financing of sub-projects.

Sub-project type	Financial models	Financial indicators				
		Initial investment (USD)*	Net annual margin (USD/year) **	NPV (USD, @10%, 10 years)	IRR	B/C ratio
Micro-project Financing	1. Dried mango processing	5,505	4,111	14,440	47%	1.4
	2. Modern fish shop	3,903	2,667	8,991	46%	1.1
	3. Cooperative of 30 members (10ha) for the production and marketing of sesame	9,830	3,890	9,537	29%	1.9
	Financial models	**Initial investment (USD)***	**Net annual margin (FCFA/year) ****	**NPV (USD, @10%, 20 years)**	**IRR**	**B/C ratio**
Productive Alliance Financing	4. Fish farming and processing	276,781	201,800	1,148,152	48%	1.3
	5. Broiler production	150,833	69,845	213,658	42%	1.1
PPP Financing	6. Animal feed production	4,020,129	1,863,036	4,608,673	34%	1.2
	7. Sesame oil processing	3,658,261	919,422	3,048,977	21%	1.1
	* Including IDA contribution, credit and the beneficiaries contribution ** Add. revenue is an average over the lifespan of the main inves					

Table A2.3. Indicative financial returns for the financing of the other activities, including market infrastructure and access to inputs.

Financial models					
		Net annual margin (USD/year) **	NPV (@10%, USD, 20 years)	IRR	B/C ratio
Warrantage	8. Warrantage	213,590	778,329	51%	3.3
Market Infrastructure	9. Infrastructure for maize, sesame, groundnuts (warehouses)	231,402	630,696	32%	1.1
	10. Infrastructure for the marketing of fish (solar refrigerated warehouse)	5,058,372	6,241,845	26%	1.3
Financial models		**Net annual margin (USD/year) ****	**NPV (@10%, USD, 10 years)**	**IRR**	**B/C ratio**
Access to inputs	11. Rainfed maize production on 1ha	767	1,998	N/A	2.6
	12. Groundnut production on 1 ha	547	543	N/A	2.4

21. **Based on these parameters, the financial models demonstrate the profitability of the investments.** The analysis shows that all indicative sub-projects that could be supported by the project generate positive additional benefits, ranging from US$8,991 for a modern fish shop to US$14,440 for the dried mango production. Looking at the 20-year NPV at a discount rate of 10 percent and at the financial IRR, the results are more than satisfactory ranging from a NPV of US$213,658 and an IRR of 42 percent for the PA on broiler production to about US$4,608,6723 and an IRR of 34 percent in the case of the PPP on animal feed production.

OVERALL ECONOMIC RESULTS

22. **The overall estimated benefits of ProAGRI have been aggregated using the economic results of the identified benefit streams against the project costs, including activities phasing as planned by the project.** The total economic costs have been estimated using the Costab software, by including the taxes, and all costs (for a grand total of about US$180.25 million, composed of: IDA allocation for an amount of US$110 million; WHR allocation for an amount of US$40 million; beneficiaries' financing for an amount of US$9.76 million; financial institutions' financing for an amount of US$19.75 million; and national budget financing for an amount of US$0.74 million). For the years after the closure of the Project, a recurrent cost representing about 20 percent of the coordination costs was taken into account after the end of the project to reflect the costs that the Chadian government's technical services will incur to continue the technical support and maintenance of some of the structuring infrastructures built during the implementation of the project. Conversion factors have been calculated for different products categories and have been used to convert financial prices into economic prices.

23. **Overall, the economic results of the proposed project are positive**, generating a NPV, at 6 percent discount rate as recommended by the World Bank guidance note, of US$256 million – equivalent to XAF146,576 billion - and an EIRR of 22.7 percent over a 20-year period, not accounting for environmental externalities. These economic results are satisfying (e.g., EIRR being more than three times higher than the social discount rate), given that several other project benefits could not be quantified due to the difficulty of assigning them a monetary value. In addition, these economic results are robust when testing several sensitivity scenarios, including delays in implementation, cost overruns and reductions in benefits. Discounting the various cash flows from the start of the Program to the 20th year shows that the profit/cost ratio is of the order of 3.3 and leads to the conclusion that the Project will generate a net profit, after capital recovery, equivalent to 3.3 percent of the investments made, which indicates acceptable profitability.

24. **These economic results have been tested against several risk scenarios, including reduced delays in implementation, cost overruns, etc., as presented in Table A2.4.** The sensitivity analysis indicates that results are robust for small to moderate delays, cost overruns, and reduction in benefits. Yet, larger changes in these parameters can affect the project's economic justification.

Table A2.4. Sensitivity analysis

Sensitivity analysis		EIRR	NPV (6%)	
			Million XAF	Million US$
Base costs		22.7%	146,576,203,818	256,252,104.58
Costs +	10%	21.3%	140,944,395,746	246,406,286.27
Costs +	20%	20.0%	135,312,587,674	236,560,467.96
Costs +	30%	18.9%	129,680,779,602	226,714,649.65
Income -	10%	21.1%	126,286,775,364	220,781,075.81
Income -	20%	19.4%	105,997,346,910	185,310,047.05
Income -	30%	17.5%	85,707,918,457	149,839,018.28
Income delayed by 1 year		19.9%	131,006,129,599	229,031,695.10
Income delayed by 2 years		17.6%	116,181,373,428	203,114,289.21
Income delayed by 3 years		15.7%	102,061,269,644	178,428,793.08

25. **The valuation of environmental externalities further enhances the economic justification of the ProAGRI**. As such, when evaluating these environmental benefits using the social price of carbon estimates[59], the overall economic results of the Project increase to an NPV of US$209.5 million and an EIRR of 22.9 percent (using low range

[59] Based on the World Bank *Guidance note on shadow price of carbon in economic analysis* (2022 version)

pricing at US$63/ton on average) and an NPV of US$214.7 million (using high range pricing at US$126/ton on average).

26. **The carbon balance results indicate that the project activities will lead to a carbon sink of about 179,730 tons of carbon equivalent over a period of 20 years[60] starting from project implementation.** Per year, the mitigation potential is roughly 6,364 tons of CO2e, or 2.5 tons of CO2e per hectare. Overall, the additional emissions generated by the increase in livestock, input use and new constructions are offset and surpassed by the reductions in emissions due to crop production, ensuring the project's carbon neutrality

[60] Aligned to the EFA analysis period and assuming 6 years of implementation and 14 years of capitalization.

ANNEX 3: Greenhouse Gas (GHG) Accounting

1. **This annex presents the preliminary greenhouse gas (GHG) accounting for the ProAGRI project in Tchad.** In line with the World Bank's corporate guidelines, the present analysis is using the Ex-Ante Carbon-balance Tool (EX- ACT) version 9.3.1 developed and updated by FAO since 2010,[61] to assess a project's net carbon-balance. The carbon- balance is defined as the net balance from all GHGs expressed in CO_2 equivalents (CO_2e) that are to be emitted or sequestered due to project implementation (WP) as compared to a business-as-usual scenario (WOP). EX-ACT is a land-based accounting system, estimating CO_2e stock changes (i.e., emissions or sinks of CO_2) expressed in equivalent tons of CO_2 per hectare and year. The tool is built mostly using mostly data from the Intergovernmental Panel on Climate Change (IPPCC) Guidelines for National Greenhouse Gas Inventories (NGGI-IPCC, 2006) that 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).

2. **For the present project, the calculations have been made based on agro-ecological characteristics of the project areas in Tchad (tropical dry climatic conditions with low-activity clay (LAC) soils) on the parameters of land use and crop management practices aligned with the EFA**. As summarized in Table A3.1 below, the changes brought about by the project have been included in the tool's different modules and include: (i) improved crop and livestock productivity and production with less GHG emissions on a total of about 71,733 hectares[62] under different crops (maize, sesame and groundnut) and with about annual 3,712,500 chickens and 5,138 tons of fish, (ii) increased use of synthetic fertilizers[63] and organic fertilizers and (iii) agricultural building construction.

Table A3.1. Assumptions used in the EX-ACT Tool

Module	System/ crop category	Changes
Crop and livestock production	*Annual systems* Maize[64]: 57,950 hectares Sesame: 5,770 hectares Groundnut[65]: 8,013 hectares Chicken broilers[66]: 3,712,500 heads	Improved agronomical and livestock practices, better nutriment management
	Aquaculture[67]: 5,138 tons	
Inputs	Increased use of synthetic and organic fertilizers, and animal feed	Urea: 2,706t N- fertilizer: 972t, Phosphorus: 1,945t Potassium : 972t; Pesticides : 45 kilos Compost : 2,898t; Feed : 415.4 t
	Construction of market infrastructure	108'000 m2 of concrete agricultural building[68]

[61] http://www.fao.org/tc/exact/ex-act-home/en/

[62] As for the EFA, the cropped area and livestock size have been estimated using the proposed quantities of inputs to be procured and distributed under Components 2 and 3.

[63] It has been assumed that crops use NPK 12-24-12 and Urea 46%.

[64] The following assumptions were taken to estimate the number of hectares of maize beneficiating from the Project's intervention: ProAGRI will acquire 11,590 tons of fertilizers and 1,800 tons of improved seeds. We assume that a selected number of beneficiaries will receive an intensification kit (combination of improved seeds and fertilizers). To estimate the number of hectares, the following parameters are assumed (i) The Project will acquire 11,590 tons of fertilizers, each hectare of maize uses 200 kilos of fertilizer/ha/year, which means that 57'950 ha can be reached; (ii) The project will buy 1,800 tons of improved seeds, each hectare of maize uses 20 kilos of seed/ha/year, which means that 90'000 ha can be reached; and (iii) In total 57,950 hectares could benefit from the intensification kits.

[65] The following assumptions were taken to estimate the number of hectares of groundnut production beneficiating from the Project's intervention; based on the previous calculation under point 4, The rest of the seeds (641 tons) will be distributed without fertilizers; each hectare of groundnut production requires 80 kg of seed, which implies that 8,013 hectares can benefit from improved groundnut seeds.

[66] Broilers are 2,250,000 in the WOP scenario.

[67] Aquaculture production is 1,706 tons in the WOP scenario.

[68] Hence, the analysis assumes a conservative hypothesis that all the structures will be new.

3. **The carbon balance results indicate that the project activities will lead to a carbon sink of about 179,730 tons of carbon equivalent over a period of 20 years[69] starting from project implementation.** Per year, the mitigation potential is roughly 6,364 tons of CO2e, or 2.5 tons of CO2e per hectare. As shown in Table 3.2 below, overall, the additional emissions generated by the increase in livestock, input use and new constructions are offset and surpassed by the reductions in emissions due to crop production, ensuring the project's carbon neutrality.

Table A3.2. Carbon balance results

EX-ACT version 9 | Start | Description of project | Land-use changes | Cropland management | Grassland and Livestock | Forest management | Inland wetlands | Coastal wetlands | Fisheries and aquaculture | Inputs and Investments | Detailed results

Country	Chad	Implementation	6	Mineral soil	71,733	CO_2	1
Climate	Tropical	Capitalization	14	Organic soil	0	CH_4	34
Moisture	Dry	Period analysis	20	Waterbodies	0	N_2O	298

Tier 2 Annual emissions

GROSS FLUXES

In tCO_2-e over the whole period analysis

PROJECT COMPONENTS		WITHOUT	WITH	BALANCE
Land use changes	Deforestation	0	0	0
	Afforestation	0	0	0
	Other land-use	0	0	0
Cropland	Annual	1,226,856	708,614	-518,242
	Perennial	0	0	0
	Flooded rice	0	0	0
Grasslands & Livestock	Grasslands	0	0	0
	Livestock	24,416	38,435	14,019
Forest mngt.		0	0	0
Inland wetlands		0	0	0
Coastal wetlands		0	0	0
Fisheries and aquaculture		58,035	5,583	-52,451
Inputs & Invest.		194,827	571,771	376,944
Total emissions, tCO_2-e		**1,504,133**	**1,324,403**	**-179,730**
Total emissions, tCO_2-e/ha		**21.0**	**18.5**	**-2.5**
Total emissions, tCO_2-e/ha/yr		**1.0**	**0.9**	**-0.1**

+ = Source / - = Sink

Results presented here include GHG fluxes on mineral and organic soils
See further down for detailed results on organic soils
* Includes fisheries, acquaculture and inputs & investments that are not included in the AFOLU definition.

SHARE PER GHG OF THE BALANCE

In tCO_2-e over the whole period analysis

CO_2 BIOMASS	CO_2 SOIL	N_2O	CH_4	ALL NON-AFOLU EMISSIONS*
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	-456,839	-61,403	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
		8,091	5,928	
0	0	0	0	
0	0	0	0	
0	0	0	0	0
0	0	3,619	0	-56,071
	0	171,768		205,176
0	**-456,839**	**122,076**	**5,928**	**149,105**
0.0	**-6.4**	**1.7**	**0.1**	**2.1**
0.0	**-0.3**	**0.1**	**0.0**	**0.1**

AVERAGE ANNUAL EMISSIONS

In tCO_2-e/yr

WITHOUT	WITH	BALANCE
0	0	0
0	0	0
0	0	0
61,343	35,431	-25,912
0	0	0
0	0	0
0	0	0
1,221	1,922	701
0	0	0
0	0	0
0	0	0
9,741	28,589	18,847
72,305	**65,941**	**-6,364**

Uncertainty level	tCO2-e/yr	Percent
Without	72,305	47%
With	65,941	43%
Balance	-6,364	38%

[69] Aligned to the EFA analysis period and assuming 6 years of implementation and 14 years of capitalization.

ANNEX 4: Summary of Adaptation and Mitigation Activities Under the Project

1. This project builds on strong foundations of climate adaptation and GHG mitigation. Below is a summary of each of the subcomponents and activities and the specific adaptation and mitigation benefits that they would achieve. The table also identifies the approximate IDA funding levels under each of the activities under the subcomponents. The approximate IDA funding is provided in brackets (abbreviated as "F").

Subcomponents and Activities	Climate adaptation Activities/Investments	Climate Mitigation Activities/Investments
COMPONENT 1: INSTITUTIONAL STRENGTHENING AND ENABLING ENVIRONMENT FOR AGRIBUSINESS DEVELOPMENT (IDA and WHR US$9.50 million)		
Subcomponent 1.1: Institutional Strengthening of Relevant Government Agencies for Effective Agribusiness Support (IDA and WHR US$5.17 million) The activities to be funded will include: (i) **Climate-resilient construction/rehabilitation and accreditation of key laboratories:** for seed quality and SPS control **(23,27 percent F)** (ii) **Rehabilitation/construction of the Directorate for Agricultural Education and Vocational Training (*Direction de l'Enseignement Agricole et de la formation Professionnelle,* DEAFPR)** and **General Directorate for Rural Engineering and Irrigation (*Direction Générale du Génie Rural et de l'Hydraulique Agricole,* DGGRHA**) facilities: so as to improve training on climate smart farming technologies **(11.63 percent F)** (iii) **Construction/rehabilitation of infrastructure:** for research on climate-smart aquaculture, tree crop farming, and technology generation and dissemination **(3.19 percent F)** (iv) **Logistics and equipment:** for participating government departments to perform their tasks e.g., on climate informed policy and regulatory enforcement **(23.77percent F)** (v) **Training students, technicians**	This subcomponent focuses on the rehabilitation or construction of climate-resilient and energy efficient facilities which will be dedicated for CSA training and research. The DPS, DPVC, DEAFPR, ITRAD, DPAVA, CECOQDA, ATNOR and DGGRHA will support training and research on CSA in areas related to: (i) The development and distribution of affordable climate-resilient crop varieties that are more resistant to climate change impacts, such as drought, heat stress, disease and pest; (ii) The promotion of sustainable agricultural practices that support agroforestry and integrated cropping that enhance ecosystem resilience and increase productivity (iii) Enhancement of soil health and fertility practices, such as zero tillage, conservation agriculture, cover cropping, and organic soil enhancements, which help to build resilience and adaptive capacity of communities to cope in the face of climate change, (iv) Improvements in water management practices, such as rainwater harvesting, soil and water conservation, efficient irrigation systems, and drought-tolerant crop varieties, which can help farmers adapt to increasingly variable rainfall patters and water scarcity The logistics and equipment will enable the government to develop a climate informed policy and regulatory environment that supports agricultural research in climate adaptation which will lead to: (i) Increased prioritization of research in climate adaptation related subjects, such as climate-resilient seeds (ii) Increased dissemination and adoption of CSA practices, and knowledge among farmers and other stakeholders, (iii) Increased	This subcomponent focuses on improving agricultural climate change through GHG mitigation strategies. The CSA training and research agenda will guide mitigation related activities that promote: (i) Low-emission farming practices in reduced tillage and agroforestry, (ii) Carbon sequestration in soils and vegetation, (iii) Reducing post-harvest and food waste which will reduce GHG emissions. The promotion of sustainable agricultural practices that support agroforestry and integrated cropping, enhancement of soil health and fertility practices, such as zero tillage, conservation agriculture, cover cropping, and organic soil enhancements will contribute to reducing GHGes emissions. At the policy and regulatory level, GHG emissions will be reduced through building the capacity of policymakers towards better standardization of measurements and benchmarking from soil improvement activities resulting in the adoption and scale-up of CSA TIMPS. This will further include promoting green technologies such as solar-based irrigation.

and a pool of specialized technical staff on CSA, reviews and formulation of climate-informed policies and regulations (seed sciences, climate-smart mechanization, fisheries, food sciences, SPS, plant and poultry breeding, and agrometeorological forecasting) **(38.14 percent F)**	access and use of climate information, climate smart Technology, Innovation and Management Practice TIMP), climate-resilient inputs (seeds, breeds and balanced fertilizers), and market information, (iv) Development of a policy and regulatory framework on CSA adoption and scale-up. This subcomponent will also equip public institutions to support climate adaptation by enabling students, technicians, and technical staff to be trained on topics such as climate-resilient crops and livestock, and CSA practices and technologies. Therefore, all the financed activities will strengthen climate adaptation and resilience for farmers and other stakeholders.	
Subcomponent 1.2: Creating an Enabling Environment for Agribusiness Promotion (IDA and WHR US$4.33 million) Activities to be financed under this subcomponent include: (i) **Strengthening the capacity of CCIAMA to supporting Agri-enterprises:** Technical assistance (feasibility studies, climate-informed business plans, etc.) and information services (including climate information services) to agribusinesses in Chad **(40.78 percent F)** (ii) **National Seed Fund:** for more sustainable management of Chad's seed sector **(40.78 percent F)** (iii) **Agribusiness Plan:** climate-informed plans based on agro-sylvo-pastoral policy **(18.44 percent F)**	This subcomponent focuses on further strengthening climate resilience and enhancing value addition. The technical assistance and climate information services to agribusinesses through CCIAMA will enhance climate resilience (through use of stress tolerant and resilient inputs, and appropriate climate smart production technologies, and access to reliable agronomic and real-time weather advisory services) that will support agricultural extension services that consider adaptation decisions and women's special needs for CSA initiatives through specific outreach and training. The feasibility studies and climate-informed business plans will lead to the development of appropriate policies and the coordinating mechanisms required for the dissemination and scale-up of CSA TIMPS. The National Seed Fund will finance the development of seeds that are climate resilient with a focus on use of appropriate crop varieties for value addition and management practices to ensure quality of produce as per the market requirement.	The feasibility studies and climate-informed business plans will support GHG mitigation through production practices along the value chain (especially for PPPs and poultry value chain) that mitigate GHG through energy efficient infrastructure. The climate-informed business plans will strengthen the capacity of farmers on increasing water-use efficiency, water conservation, use of renewable energy (solar irrigation systems), crop rotation, perennial cropping systems, cultivation of deep rooting species, and reduced tillage practices with the objective of mitigating GHG emissions.
COMPONENT 2: PROMOTING INCLUSIVE AND MARKET-LED CLIMATE-SMART PRODUCTION (IDA and WHR US$51.39 million)		
Subcomponent 2.1: Supporting FPO's-led Dissemination and Adoption of CSA Technologies (IDA and WHR US$13.65 Million)	This subcomponent focuses on providing support to FPOs with respect to climate adaptation, including: (i) Capacity building that results in better understanding and responses to the challenges posed by	The promotion and adoption of CSA practices such as agroforestry and soil conservation techniques through FPOs can contribute to climate mitigation by reducing GHG

This subcomponent will finance: (i) **Technical Assistance:** for building capacity of FPOs, and to facilitate technology adoption and dissemination **(49.61 percent F)** (ii) **Training producers**: on CSA production and practices **(43.61 percent F)** (iii) **Scaling up e-extension and e-voucher platforms:** to increase farmers' access to agricultural advisory services **(6.78 percent F)**	climate change; (ii) Providing training on CSA practices. The subcomponent encourages the adoption of sustainable practices that enhance the resilience of agricultural production systems to climate change. This will create efficient institutions with climate-smart value-chain-oriented services and reduce producers' vulnerability to climate-related risks. Training producers on climate-smart TIMPs (including use of climate-resilient seeds and scaling up soil and water management practices for building resilience against droughts) will result in increased productivity, enhanced climate resilience and reduced GHG emissions. Through support to the e-voucher program, the project will increase producers' access to climate-smart input packages (e.g., climate-resilient seeds, balanced use of fertilizers, minimum tillage) and thus strengthen adaptation.	emissions from the sector. The CSA practices also include GHG mitigation strategies like balanced use of fertilizers, reduced tillage, and practices around the use of renewable energy. On the livestock side, producers will be trained on animal health practices that improve yields, reduce enteric methane or other GHG emissions. The e-extension on climate-smart TIMPS will enable the government to reach more farmers, thereby enabling the adoption and scale-up of CSA. Increased digitisation from the e-extension can promote sustainable practices such as paperless operations, reduced CO_2 emissions from extension workers' trips thereby lowering carbon emissions.
Subcomponent 2.2: Facilitating Farmers' Access to Climate-Resilient Inputs (IDA and WHR US$37.73 million) Activities to be financed under this subcomponent include: (i) **Climate resilient seeds**: multiplication of seeds, acquisition of certified seeds and seedlings **(17.43 percent F)** (ii) Construction or rehabilitation of seed warehouses **(1.56 percent F)** (iii) **Livestock:** improved poultry climate-resilient breeds and CSA animal health practices **(1.12 percent F)** (iv) **Plant nutrition:** acquisition of mineral fertilizers **(15.35 percent F)** (v) **Sustainable soil management and soil health:** production and use of compost, application of soil and water conservation measures **(3.42 percent F)** (vi) **Securing livelihoods for refugees and their host communities'**	This subcomponent will finance the multiplication of climate-resilient seeds and seedlings that are more resistant to climate change impacts, such as drought, heat stress, disease and pests, and the rehabilitation of seed warehouses to reducing post-harvest losses. Increasing producers' access to climate-resilient seeds and seedlings increases their adaptation and resilience to climate change. On livestock, the project will increase producers' resilience to climate change risks through improved poultry breeds, enhanced animal health practices, training, capacity building, and information dissemination. Small-scale irrigation will contribute to reducing crop failure due to droughts and enhancing food availability and access to refugees and host community members. Sustainable soil management and proper use of drought resistant crop seeds will increase the adaptive capacity of communities and reduce the risk posed by projected increasing temperatures and reduction in rainfall in the project locations.	Improved poultry breeds and CSA animal health practices will improve yields and reduce GHG emissions. Investments in plant nutrition, soil health (including conservation agriculture) will improve carbon pools, increase soil organic carbon, and soil water retention. The activities under 2.2 iii) will contribute to GHG emission reduction through improved soil management and increased soil organic carbon, as indicated in the GHG accounting analysis. The warehouses to be constructed/rehabilitated will incorporate energy efficiency considerations, be powered by renewable energy (solar panels) and encompass climate-resilient design standards that promote mitigation outcomes. The project is expected to enhance carbon capture and sequestration

members: reducing drought impacts on crop failure through development of small-scale irrigation for crop and vegetable production **(61.12 percent F)**		resulting in annual net emissions reduction of 6,364tCO2e
COMPONENT 3: ACCESS TO MARKETS, FINANCE, AND VALUE ADDITION - (IDA and WHR US$67.19 million)		
Subcomponent 3.1: Increasing Chad's Agribusiness Sector Marketing Capacity (IDA and WHR US$14.44 million) Activities to be financed under this subcomponent include: (i) **Climate-smart market infrastructure:** solar-energy equipped and water-efficient warehouses, cold storage facilities, and wholesale markets **(65.06 percent F)** (ii) **Climate-informed BDS:** for agri-enterprises Capacity building for stakeholders on quality and SPS standards, Certification services, Market scans and studies **(26.74 percent F)** (iii) **Integrated MIS:** for producers to get better prices for their produce through IT technology, Agricultural produce e-stock exchange **(8.20 percent F)**	This subcomponent will finance climate-smart market infrastructure. The design and construction of market infrastructure would consider weather variability and ensure that the facilities are climate resilient. Climate proofing the infrastructure will enhance adaptation and resilience to extreme weather events. Climate-informed BDS will reduce the climate vulnerability of stakeholders and help to diversify their livelihoods. Increasing access to integrated digital market information will enable producers to get better prices for their produce, thereby increasing their income and reducing vulnerability to climate change impacts.	This intervention helps in significant reduction in post-harvest losses through market infrastructure development and thereby reduces emissions along the food supply chain. GHG emissions from food waste and loss is one of the major contributors to climate change from agricultural supply chains. The market infrastructure and warehouses will consider renewable solar energy thereby contributing to GHG emission reduction in post-harvest crop losses from weather variability. Capacity building on Climate-informed BDS will enable stakeholders to adopt plans with lower-carbon pathways, offer higher quality and SPS standards to produce market-aligned high-quality produce which will reduce food loss and waste, and thereby reduce GHG emissions. The project is expected to enhance carbon capture and sequestration resulting in annual net emissions reduction of 6,364tCO2e
Subcomponent 3.2: Support to Access to Finance and Value Addition (IDA and WHR US$52.75 million) Activities to be financed under this subcomponent include: (i) **Warehouse receipt systems**: construction of warehouses to reduce postharvest losses and access to rural finance for maize, sesame, and other grains **(17.07 percent F)** (ii) **Climate-smart Matching grants:** for climate-smart production and	This subcomponent focuses on promoting investments in agro-processing in targeted value chains to encourage local value addition and downstream agri-food job creation. This will reduce the dependence on a single source of income, such as farming, which is often vulnerable to climate change impacts. Diversification of income sources can enhance the resilience of communities and households to climate change impacts such as crop failures and floods. The warehouses, workshops and training, and other investments in agro-processing will increase agricultural productivity by	Under this subcomponent, the project will finance CSA-based grants and credit products that will be geared towards targeting climate mitigation activities relevant to supported value chains, investment in energy efficient infrastructure, processing equipment and technology, water conservation systems and to support farmers and institutions on CSA practices that increase carbon pools and contribute to GHG mitigation significantly. Investments in agro processing will increase the value of agricultural

improving value addition to value chains, Climate-smartness is one of the eligibility criteria for financing **(82.93 percent F)**	reducing transportation distances, post-harvest losses (due to extreme weather events) and increasing the shelf-life of crops. This can lead to more efficient use of resources such as water and energy, which can help mitigate the impacts of climate change. The warehouse receipt system is a core adaptation strategy that will help to smoothen consumption and income. The design and construction of warehouses will integrate climate consideration through climate proofing to enhance adaptation and resilience to climate change. **The project will allocate US$43.75 million** to **climate-smart based matching grants**. This will lead to the adoption and scale-up of CSA TIMPs. This will significantly contribute to climate adaptation for the farmers. Climate-smartness of the activities will be a pre-condition for the allocation of matching grants (e.g. solar lighting, water pump powered with solar energy, water harvesting, etc.) To support the TIMPs, the project will have backup systems in place for transporting, storing, and processing crops that will enhance the resilience of the commodity value chain and increases capacity to cope with climatic and geophysical hazards. Business advisory services will enable agri-entrepreneurs to have access to high-quality and climate resilient inputs (e.g., climate resilient seeds, breeds and balanced fertilizers), services (e.g., conservation agriculture equipment) and technologies (e.g. drip irrigation kits) thus enhancing climate adaptation.	produce, reduce waste, and help in enhancing resource use efficiency. The project is expected to enhance carbon capture and sequestration resulting in annual net emissions reduction of 6,364tCO2e

ANNEX 5: Gender Analysis, Proposed Interventions and Result Indicators

Gender Gap	Action	Result (Indicators)
Several government programs as well as those funded by development partners do not sufficiently target value-chains most favorable to women (they focus on male dominated value chains such as cotton) worsening Chad's gender inequality. [56]	The project deliberately includes value chains, such as fish, sesame, mango, dates, poultry, where women play a significant role at various segments of the value chains	Project direct beneficiaries-Female (Number) Farmers reached with agricultural assets or services – Female (Number)
Women-headed households have 40 percent lower productivity than male-headed households and earn less income because of less access to improved agricultural inputs and advisory services	Deliberate measures will be taken to ensure that women farmers receive e-vouchers to access improved inputs (seeds and seedlings, fingerlings, fertilizer) through the e-voucher database during the enrollment survey, with dedicated advisory services to ensure their effective use/application in order to close the productivity gap.	Farmers reached with agricultural assets or services Female (Number) Farmers adopting improved agricultural technology – Female (Number) Female farmers accessing climate-resilient inputs through the e-voucher mechanism (Number) People with strengthened food and nutrition security-Female (Number) Project Direct beneficiaries-Female (Number)
Women make 77percent less profit than enterprises owned by men because of less access to advisory services, credit, electricity, water, etc..	1) CCIAMA will have dedicated staff for supporting women businesses by facilitating registration, business-planning, FM, etc. 2) Women MSMEs will have privileged access to matching grants by contributing 10 percent, versus 20 percent for men-owned businesses, and at least 40 percent of the MSMEs supported by the project shall be women-owned based on a targeting mechanism during the selection of beneficiary applications. This will facilitate women businesses' access to such factors of production as electricity and water connections as relevant to their specific businesses, as well as addressing the business constraints in their business plans to close the profitability gap.	Project direct beneficiaries -Female (Number) Women MSMEs receiving grants (Number)

Gender Gap	Action	Result (Indicators)
The M&E systems are often not well adapted to capture the specificities of women beneficiaries	Key project performance indicators are disaggregated by gender to facilitate continuous gender monitoring throughout project implementation and undertake corrective measures as necessary.	Farmers reached with agricultural assets or services - Female (Number) Female farmers accessing climate-resilient inputs through the e-voucher mechanism (Number) Women MSMEs receiving grants (Number Beneficiaries satisfied with the project interventions- Female (Percentage) Project Direct beneficiaries- Female (Number) Farmers adopting improved agricultural technology – Female (Number)
Limited access to information which hampers their ability make informed decisions.	1) About 5,000 most vulnerable women farmers in rural areas will receive mobile phones and provisions to facilitate their access to agricultural advisory services through the e-extension and e- market information platforms. 2) A toll-free number as part of the e-extension mechanism will be also available.	Project Direct beneficiaries- Female (Number) Beneficiaries satisfied with the project interventions- Female (Percentage)

ANNEX 6: Refugees' Protection Framework in Chad

1. The refugee protection framework continues to be adequate in Chad for WHR financing. As of March 8, 2024, the total number of refugees and asylum-seekers in Chad stood at 1,152,611 refugees and asylum-seekers, including 559,423 new Sudanese refugees fleeing the fighting between the Sudanese Armed Forces (SAF) and the paramilitary Rapid Support Forces (RSF) that erupted mid-April 2023. Of the newly arrived registered refugees, 88 percent are women and children. Chad also hosts 215,928 Internally Displaced People, and 244,558 Chadian Returnees (from Sudan, Nigeria, and CAR).

2. On 25 April 2023, amidst substantial influxes from Sudan, the Transition President promulgated the implementing decree of the 2020 Asylum Law. Chad's Asylum legislation ensures the protection of refugees and asylum-seekers. It provides a legal basis for their civil and socio-economic rights, including freedom of movement, access to justice, the right to work, healthcare, education, and land. Additionally, the asylum Law grants refugees the same rights as Chadian citizens regarding education, healthcare, and social protection. It also provides for recognizing the refugee identity card as a residence permit. The National Commission for the Reception, Reintegration of Refugees and Repatriates (CNARR) is responsible for protecting the well-being of refugees and asylum-seekers in communication with relevant ministries.

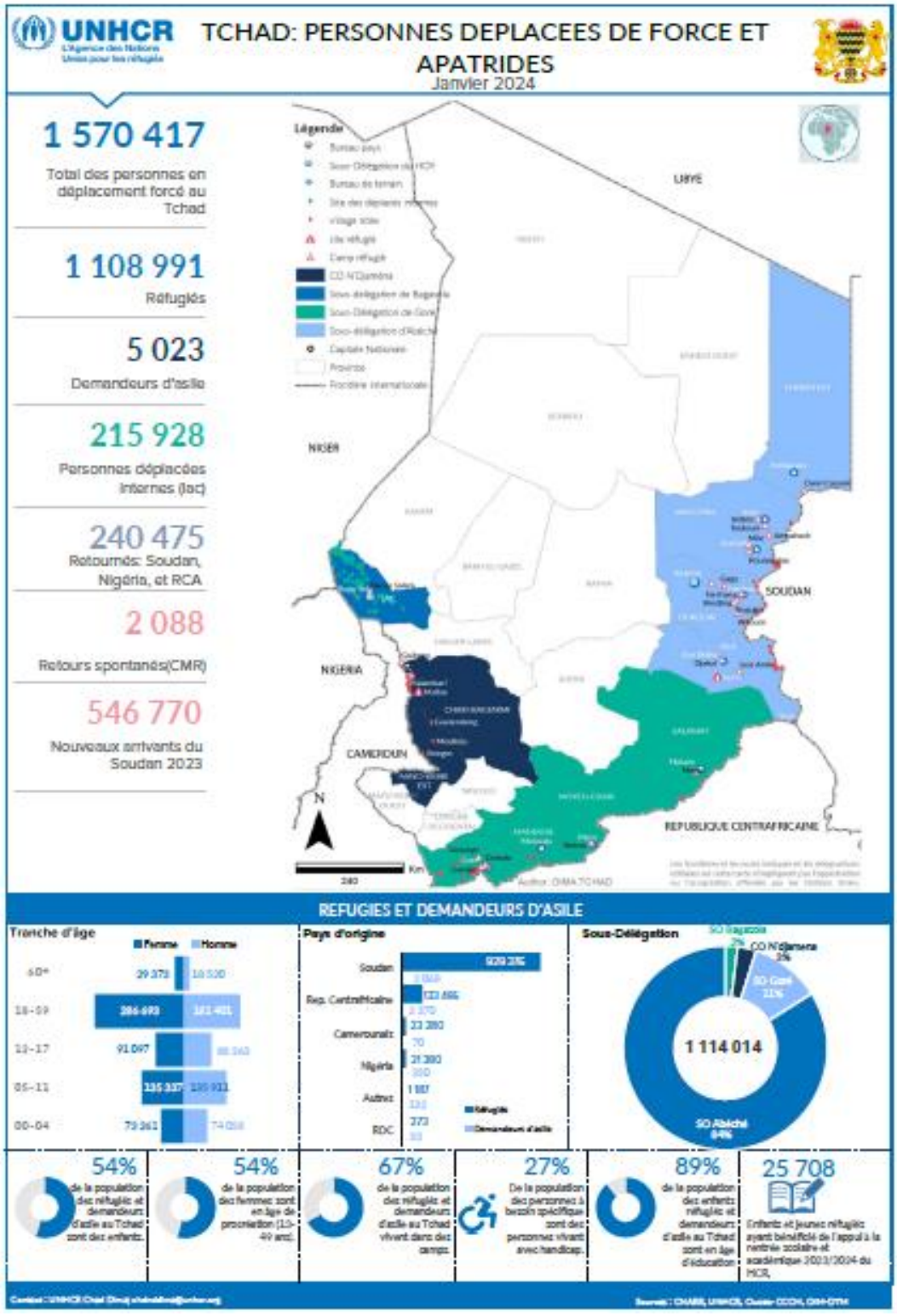
3. The Sudanese crisis has been characterized by the arrival in Chad of refugees from different professional backgrounds. During the registration process, UNHCR collected and shared the socio-economic data of specific 'high profile' categories with technical and financial partners for their potential inclusion in development projects. UNHCR initiated contacts with ONAPE (Office Nationale pour la Promotion de l'Emploi) in the prospect of signing an MOU to lift barriers and facilitate access to the job market for refugees. Under the 2023 Decree, refugees legally residing in Chad have the same rights and treatment as foreign nationals. Challenges remain in aligning asylum laws with labor-related legislation. Many refugees work in the informal sector, particularly in agriculture, but face obstacles in accessing land, infrastructure, and financial services. As customary and Islamic laws continue to manage access to and control of land and natural resources in urban and rural areas, land ownership can be challenging. Refugee access to agricultural land is facilitated through sharecropping agreements; however, many face obstacles in accessing large, fertile land parcels.

4. In addition, during the December 2023 Global Refugee Forum (GRF), the Chadian Government updated its GRF 2019 pledges related to access to identification and travel documents, education, and the use of renewable energy. In addition, the Government of Chad committed to (i) by 2027, 50percent of the health centers in refugee sites will be fully transferred to the Ministry of Health; (ii) adopt the implementing decrees of the 2019 Law governing legal aid and legal assistance; (iii) improve the procedure for access to asylum through the training of agents of the CNARR; (iv) facilitate the process of setting up businesses in refugees' sites and refugee-hosting areas through the establishment of one-stop shops; and (v) facilitate access to employment for the private sector and grant and secure 30,000 hectares in refugees hosting areas for agro-pastoral activities.

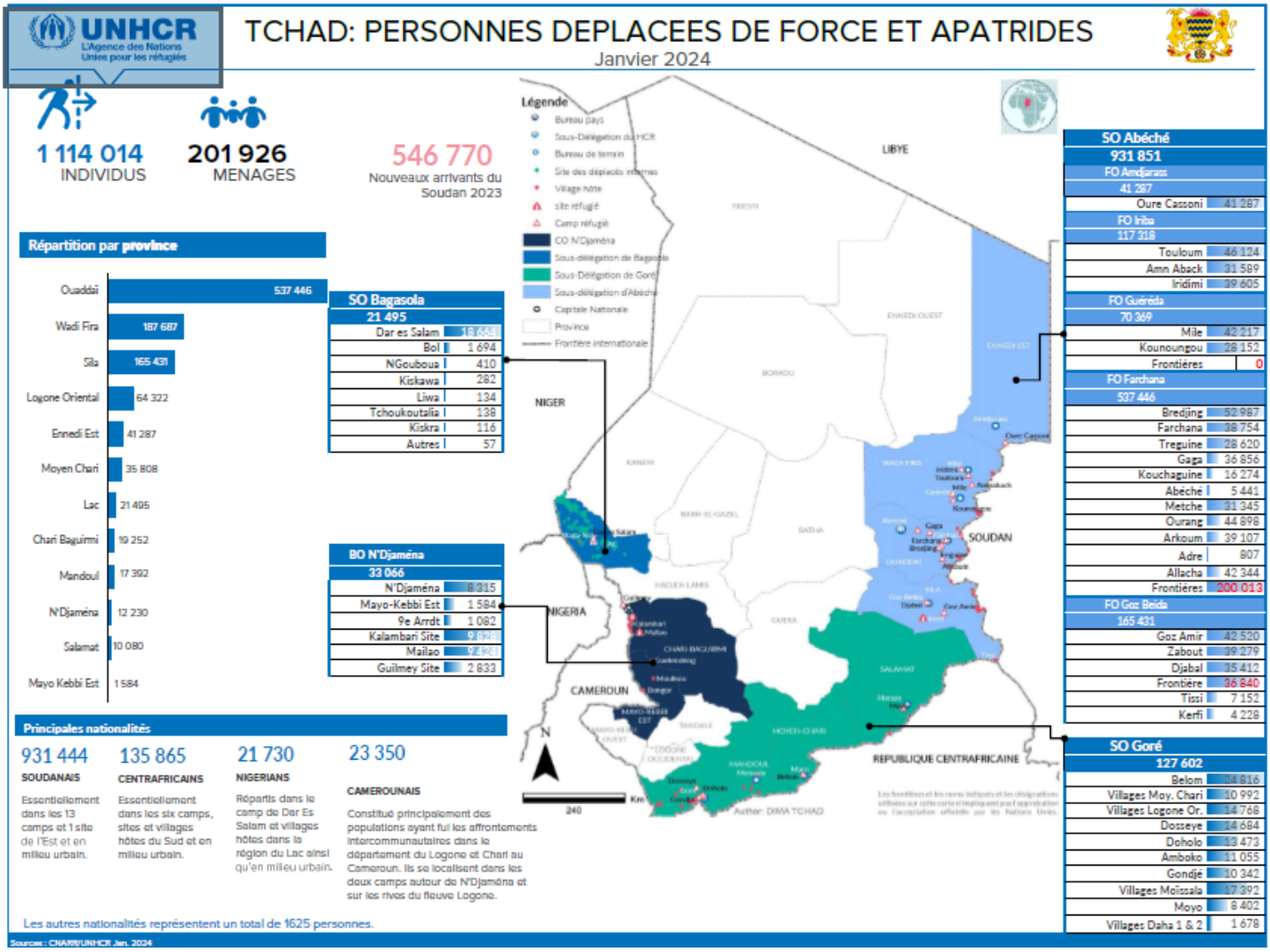
5. Furthermore, discussions between UNHCR and ANATS (Agence Nationale Des Titres Securisés), the governmental body in charge of issuing all secure documents in Chad, resulted in an agreement to enroll refugees in the national database and issue 430,000 biometric refugee ID cards as well as 170,000 machine readable travel documents in line with the 2019 pledge renewed by the Government of Chad at the 2023 GRF.

ANNEX 7. Maps

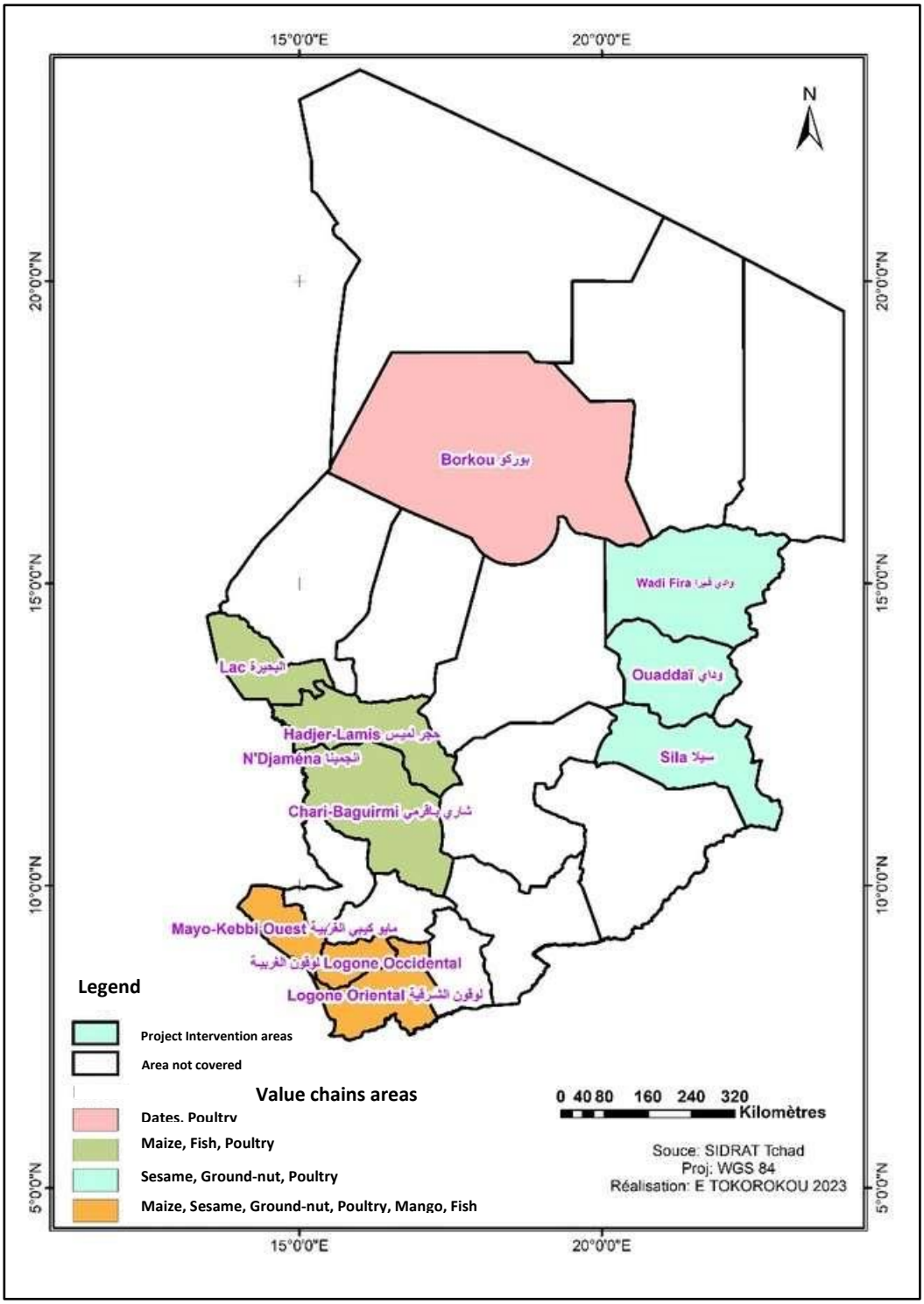
Map 1: Situation of forced displaced people in Chad



Map 2: Localization and characteristics of forced displaced people in Chad



Map 3: Project Intervention Zones



ANNEX 8: Financial Intermediary Assessment

I. Introduction and Objectives of the Assessment

1. **As in many other SSA countries, under-developed financial services and lagging financial inclusion are chronic problems in Chad and are a significant constraint to local private sector development and poverty alleviation.** As the economy continues to slowly recover from the 2014-2015 oil price collapse and COVID-19 pandemic and given the growing need for diversifying the economy from oil dependency and for creating jobs for the growing population, the demand for SME financing (including agribusinesses) also continues to grow. However, the financial sector still faces major challenges that limit its ability to effectively respond to this demand.

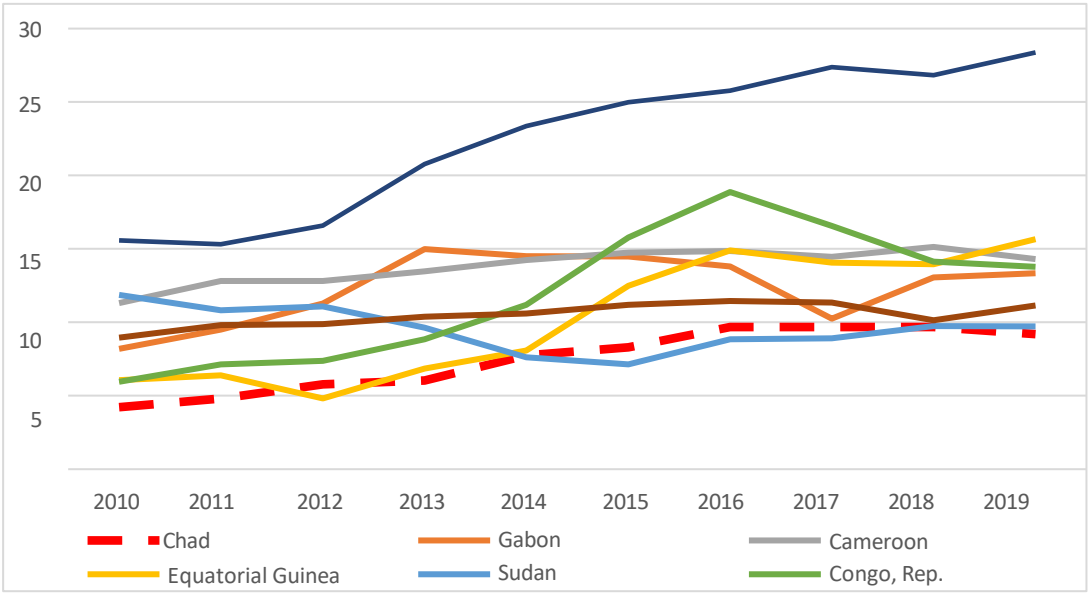
2. **The objectives of the present Financial Intermediary Financing (FIF) assessment are:** (I) presenting an overview of the financial sector in Chad and highlighting key constraints limiting access to finance by smallholder farmers and agribusinesses in the country; and (II) elaborating on how the Agribusiness and Rural Transformation Project will contribute to addressing some of the constraints identified especially through the contemplated Business Advisory Services, Matching Grants to SMEs to leverage financial sector lending, and Credit Guarantee Facility that will be put in place by IFC.

II. Financial Sector Overview, and Key Constraints to Agribusiness Financial Services

Banking Sector

3. Chad's banking sector is small and concentrated, with three banks holding close to two thirds of total assets. As of July 2020, total banking sector assets amounted to US$2.2 billion (up from US$1.4 billion in December 2016), equivalent to 7 percent of CEMAC banks' assets, while Chad accounts for almost 15 percent of CEMAC's total GDP. There are no capital markets or money markets in Chad. Chad's private sector credit to GDP ratio of 9.8 percent is well below regional and continental averages (Figure A8.1).

Figure A8.1. Domestic credit to private sector, 2011-2019 (percent of GDP)

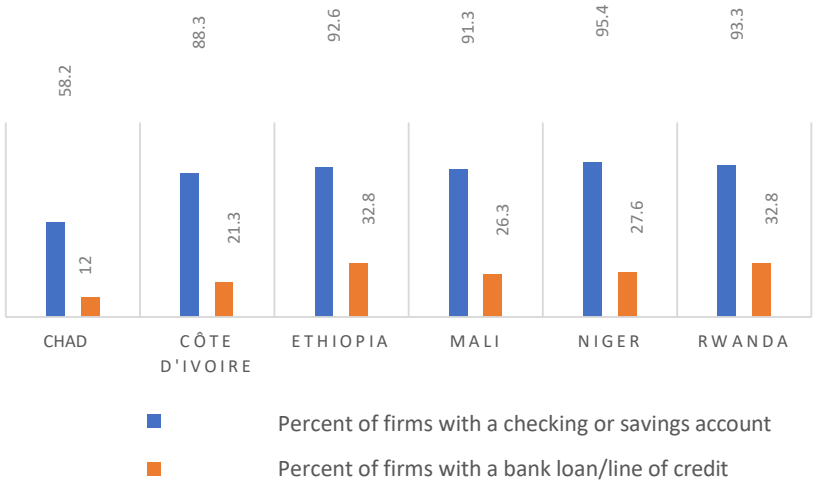


Source: World Development Indicators

4. **Chad's financial sector is one of the shallowest in the sub-region, with limited long-term resources to serve**

private enterprise. Banking intermediation is weak, interbank transactions are minimal, and there is no established secondary market for government debt. The share of Chadian firms that report having a loan or line of credit was 12 percent in 2018, much lower than among structural peers such as Mali (26 percent) and Niger (28 percent) (Figure A8.2). The agricultural sector, which represents about 25 percent of GDP, receives about 2 percent of total credit provided by commercial banks.[57] Credit remains heavily concentrated (see paragraph 6 below) and many MSMEs are experiencing difficulties in accessing credit. The MSME finance gap in Chad was estimated at US$1.13 billion in 2018, about 10 percent of GDP (SME Finance Forum). Available data suggests that high collateral requirements and inadequate loan size/maturity are viewed as top factors that deter SMEs from requesting a bank loan. Collateral requirements usually reach 100 percent[58] of the loan value, alongside a poor business environment which makes access to land titles for meeting collateral requirements difficult. The cost of registering a property was 8.1 percent of the property value in Chad (against 7.3 percent in SSA) in 2020.

Figure A8.2. Firms' access to financial services, 2018 (% firms)

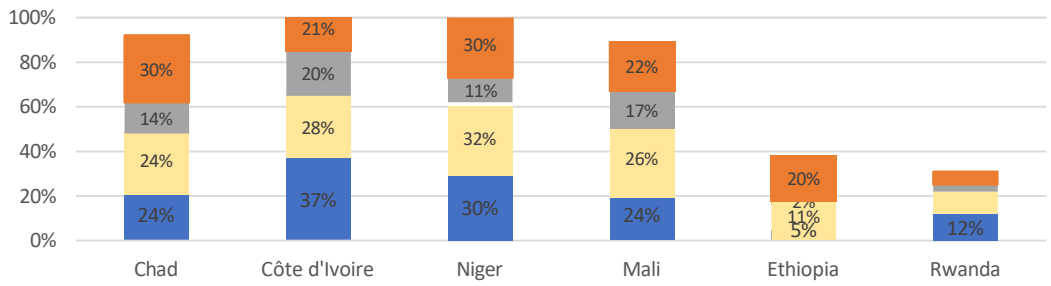


Source: World Bank Enterprise Surveys, 2018.

5. **Financial inclusion in Chad is below SSA average and the lowest in CEMAC sub-region.** In 2017, only 9 percent and 4 percent of Chad's adult population had access to a formal bank account or to credit (compared to 33 percent and 8.4 percent in SSA respectively). This is the lowest ratio within the CEMAC region. Banking penetration is lower than the average rate in the CEMAC sub-region (12 percent). Access to financial services is almost inexistent outside of urban areas – and Chadian women have considerably less access to basic financial services than men. Reasons for such low levels include geographic distance to a financial institution (for 30 percent of Chadian survey respondents) as well as the cost of financial services (24 percent) and lack of documentation (24 percent) (Figure A8.3).

6. **The banking sector is exposed to severe vulnerabilities, the greatest of which stem from its exposure to the public sector and to a few large private companies.** Bank loans generally fund government expenditure (31 percent of bank credit in 2020) and large companies in the cotton, sugar, and oil sectors (outside these sectors, there are very few creditworthy borrowers who can provide banks with satisfactory documentation to assess the risk for loan decisions). Thus, Chadian banks are vulnerable to budget uncertainties (leading to accumulation of arrears), and by the same token to fluctuations in the prices of key exports. This twin exposure has substantially contributed to weakening the banking sector's asset quality.

Figure A8.3. Barriers to account ownership, 2017 (percent respondents without a financial institution account)



Source: Global Findex Database, 2017.

7. **Similarly, the banking sector is exposed to vulnerabilities stemming from weaknesses in the credit reporting framework.** Chad is a member of the Central Africa's currency union (CEMAC), with monetary policy and financial sector regulatory and supervisory functions set at the regional level. The regional credit reporting system suffers from several weaknesses which impact the quality and availability of information about borrowers' behaviors. The regional Central Bank - Bank of Central African States (*Banque des Etats d'Afrique Centrale,* BEAC) has a credit risk registry (*Centrale des Risques*), but its effectiveness is hampered by the considerable delay in updating the information collected from the banks and the non-inclusion of data from microfinance institutions which account for a large number of loans. The efficiency of the supervisory framework also suffers from limited independence of the supervisory authority - Central Africa Banking Commission (*Commission Bancaire de l'Afrique Centrale,* COBAC), the need to better align prudential norms with best practices, and inadequate resources allocated to COBAC.

8. **The banking sector is also highly susceptible to external shocks, as it was with the dual shocks from COVID-19 and oil price decrease.** As a result, bank asset quality deteriorated further. The ratio of nonperforming loans (NPL) rose from 26.1 percent in 2019 to 27.7 percent in 2020, and where it still was in 2022. In addition, the ratio of core capital to total risk-weighted assets decreased from 15.2 percent in 2018 to 2.9 percent in 2020 before increasing to 9.1 percent in 2021. Capital adequacy fell below the statutory minimum (7.5 percent) to 6 percent in 2022.

Microfinance Sector

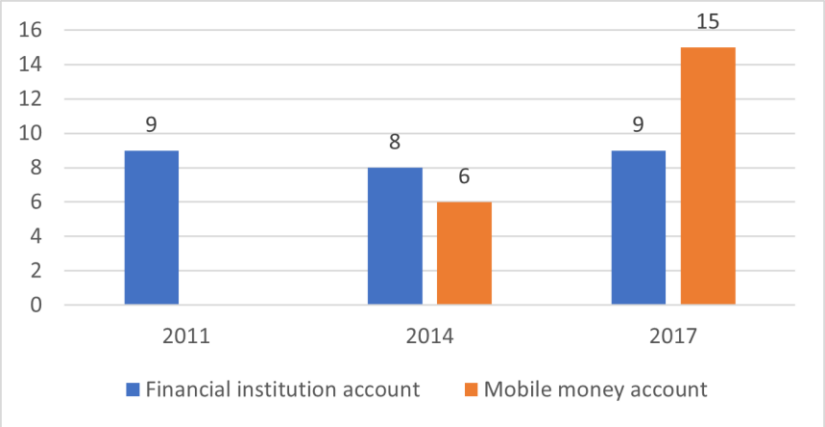
9. **The microfinance sector in Chad is vast but has been facing severe challenges in recent years.** There are over 100 licensed microfinance institutions (MFIs) in Chad, the second market in the CEMAC zone in terms of number of institutions after Cameroon (531 MFIs). As of end-2015, the microfinance industry was estimated to have more than 200,000 beneficiaries, with a stock of credit of about XAF18 billion and XAF 12 billion in savings (2.8 and 1.9 percent of GDP, respectively). Yet most MFIs have poor internal control mechanisms, high administrative costs and lack of risk management procedures, and supervisory authorities lack means and capacity to effectively supervise the microfinance sector. Bad roads and security threats make transport of funds and staff outside of N'Djamena difficult and expensive – resulting in limited presence of MFIs outside of N'Djamena, and virtually none in the North. Lack of access to affordable refinancing (commercial banks provide loans to MFIs with an interest rate of 12.5 per annum) is an additional challenge.[59]

Mobile Banking and Digital Financial Services

10. **Mobile banking and digital financial services (DFS) hold much potential for reaching underserved segments and providing an entry-point for access to credit and savings products, but challenges remain.** According to 2017 Global Findex report, Chad is one of only 10 countries where more adults have a mobile money account than an account at a financial institution (bank or MFI) (Figure8.4): with over 2.5 million mobile money subscribers

and 271,000 active users of mobile money. The country has made significant progress in the last decade, but still lags peers in the CEMAC and WAEMU regions. Challenges include poor network connections, especially in remote areas, and the population's low literacy rate. Only 19 percent of the population had made or received digital payments in 2019, compared to 35 percent in SSA.

Figure A8.4 Chad. Account Ownership: Time Series (2011, 2014, 2017)



Source: World Bank Global Findex Database (2014-2017)

III. The Agribusiness and Rural Transformation Project (ProAgri)'s Contribution to Tackling Identified Constraints

11. **ProAGRI will contribute to addressing some of the demand-side and supply-side constraints to increasing financial services to agribusiness SMEs.** As discussed in preceding paragraphs, demand-side constraints include: (i) SMEs' inadequate documentation to permit banks to adequately gauge the risks associated with proposed sub- projects; (ii) SMEs' low management and financial reporting capacities; and (iii) inadequate suitable collateral, among others. Supply-side constraints include financial products and services that are limited and not adapted to the needs of agribusiness SMEs. They are also reticent about the risk associated with agribusiness, which is likely to be exacerbated by Climate Change. The project will address some of these constraints through Business Advisory Services and a Credit Guarantee Facility.

Business Advisory Services

12. The project will finance activities with the aims at accelerating the creation, promotion and growth of Agri-enterprises in partnership with the Chadian Chamber of Commerce, Industry, Agriculture, Mines, and Craft (CCIAMA). CCIAMA will put in place a one-stop-shop for fostering and accelerating the creation and growth of Agri-enterprises in close collaboration with the National Agency for Investments and Exports (*Agence Nationale des Investissements et des Exportations,* ANIE). CCIAMA will provide technical assistance (feasibility studies, business plans, etc.) and information services to agribusinesses in Chad. It will target cooperatives, micro, small and medium-scale (SMEs) and large enterprises engaged in or with a linkage to agricultural value chains. It will ensure inclusivity through robust awareness campaigns and targeted outreach. In particular, priority will be given to youth and women-owned enterprises to close the gender gap, use of local resources, promotion of Chadian employment, and value addition. It will train a pool of individual consultants, especially the youth, and firms to provide technical assistance to agri- entrepreneurs. Furthermore, the CCIAMA will support the marketing of Agri-Entrepreneurs' products through organization of fairs at the national level and facilitating their participation at the international level. The project will provide technical assistance, contribute to the construction/rehabilitation of the facilities to host the center and to its operating costs. The project will also support the one-stop-shop operating instruments, manuals, and governing bodies.

Credit Guarantee Facility

13. IFC will support the creation of a risk sharing facility which will provide partial guarantee to financial institutions for increased lending to SMEs. The Credit Guarantee Facility will be developed building on IFC successful experience with a similar credit guarantee mechanism in Chad. In this regard, collaboration with IFC will be based on complementary project activities:

a) IFC will identify financially sound Partner Financial Intermediaries in selected value chains that have the network and capacity to catalyze growth in selected value chains through appropriate SME and MSME loans. The overall effect will, among other things, result in stimulating partner financial institutions to increase their expose to agriculture value chains. For financial institutions to better respond to such demand, IFC will also provide tools and training to financial institutions on how to implement agri-supply chain financing schemes.

b) ProAgri will support related training (to be provided in consultation with IFC, and in a manner that is complementary to the advisory services that IFC will be providing).

14. **Key features of the Credit Guarantee Facility are as follow :** (i) IFC will put in place a Loan Portfolio Guarantee instrument covering up to 50 percent of a PFI's portfolio of loans in a given sector against a fee paid by the PFI; (ii) OHADA law and BEAC / COBAC regulatory requirements will be the applicable legislation, (iii) eligibility criteria, reporting, fiduciary and implementation arrangements will be agreed upon with individual PFI or pool of PFIs in charge of administrating the guarantee facility.

15. **PFI Preliminary eligibility criteria:** For participation in the Project, a potential PFI notably commercial banks will be required to meet the following criteria, namely, that such institution:

a. General Standards:

(i) Be in compliance with all relevant laws (for banks and microfinance institutions) and prudential regulations of the BEAC.

(ii) Be interested and committed to servicing the range of clients who are the intended beneficiaries of the Project.

(iii) Undergo an annual audit, with an unqualified audit opinion, that is conducted in accordance with the International Standards on Auditing (ISA) by an audit firm acceptable to the World Bank.

(iv) Have the necessary staff, knowledge, physical and other resources to implement the Credit Guarantee Facility.

(v) Satisfy to IFC integrity due diligence standards.

b. Financial Standards:

(i) At all times, meet all the prudential regulations issued by the BEAC, with a particular focus on the following:

a. Maintain at all times the required risk-based capital adequacy ratio established by the BEAC from time to time;

b. Meet the minimum capital requirements established by the BEAC from time to time;

c. Maintain a level of loan loss provisions at all times at least equal to the minimum required according to the regulations of the BEAC;

d. Be in full compliance with the legal reserve requirements of the BEAC;

e. Limit its exposure to a single, related, connected borrower and insider parties to a percentage of

the PFIs' total capital, as defined and prescribed by the BEAC.

(ii) Have a positive net income for the current and immediately preceding financial year, as reflected in the financial statements audited in accordance with OHADA and/or IAS.

(iii) Project funding should not exceed 50percent of the bank's total capital.

c. Corporate Governance and Managerial Standards:

(i) Have a highly qualified Board of Directors, responsible for, and capable of, setting the overall bank policy and perform appropriate oversight of the bank's operations;

(ii) Have a qualified and capable management team;

(iii) Have a sound business plan and appropriate budgeting and budget control procedures;

(iv) Have sound lending policies and procedures, including in respect of the entire credit cycle, problem loan management, write-offs of assets, credit approval authority, etc.

(v) Have satisfactory internal control and audit procedures, including accounting principles and procedures, and financial documents, internal controls and reporting, and operational controls, confirmed by external auditors;

(vi) Is not exposed to undue interest rate risk, confirmed by annual audited financial statements;

(vi) Have an internal reporting and management information system capable of providing sufficient information necessary for managing the bank's operations, performance and risks.

Matching Grants to SMEs to Leverage Financial Sector Lending

16. The project will provide matching grants to SMEs which will leverage financial sector financing. Detailed eligibility criteria will be elaborated in the PIM. The following are some of main elements of the eligibility criteria for the beneficiary SME:

- should be legally constituted.
- should have at least two years of experience in the targeted value chain in Chad or abroad;
- should have a business plan with a clear vision and objectives of the business and the investment needs;
- should have the requisite counterpart funds mobilized;
- should have a written commitment for the requisite co-financing from the Partner Financial Institution;
- should have satisfactory administrative, financial, management and procurement procedures; and
- should have satisfactory arrangements to implement environmental and social safeguards.

Annex 9. Developing a Warehouse Receipt System

Village level Warehouse Receipt System scheme *(Warrantage)*

1. The *Warrantage* scheme is a village -level warehouse receipt system by which producers store their grains in a group warehouse at harvest against a cash payment provided by a financial institution. The system allows producers to avoid selling their grains at the low harvest time prices and have timely access to credit for agricultural input purchase and other uses.

2. This can be done by ensuring that the following are in place: (i) carry out feasibility studies of individual *Warrantage* operations; (ii) drawing up an MoU with a financial institution(s) seeking to develop substantial product portfolio; (iii) design, prepare and disseminate procedures (including those for risk management), manuals, training and publicity materials; (iv) rehabilitate / construct selected storage facilities and the management will be under the co-responsibility of the financial institution to farmers' cooperative; (v) carry out training activities for staff and prospective customers, mentor staff in customer outreach and management of accounts; (v) set up and implement monitoring system.

Large scale Warehouse Receipt System scheme (With IFC)

3. This aspect should be implemented once the country has developed the necessary supportive policy framework. The operator will be a private trading entity which will provide its services to all-comers on a non-discriminatory basis. It will clean and grade incoming commodities, and issue farmers or others depositing goods with 'warehouse receipts' which can be transferred to buyers as title to the goods or pledged to banks as collateral for credit.

4. The project will provide technical assistance through consultants to carry out a feasibility study, including legal aspects, and produce a brief with approximate investment costs, a code of conduct, a list of prospective operators (including international companies with experience in providing warehousing services to farmers) and terms of engagement. A shortlisted companies can then be asked to tender for operation of the facility during a period of 5-10 years, under the code of conduct which forms the basis of a national regulatory code for the operation of licensed warehouses *(Magasins de Warrantage).* The project will encourage beneficiaries of public-private partnerships' subprojects to incorporate the warehouse receipt system. Other prospective operators will be encouraged to emulate the model and become licensed.