



OUÉMÉ BASIN CLIMATE-RESILIENCE INITIATIVE (OCRI) BENIN

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK - ESMF



1. This **Environmental and Social Management Framework (ESMF)** for the Government of Benin will be applied to all activities financed by the Green Climate Fund (GCF) and co-financiers through the joint leadership of FAO and the Government of Benin for technical and/or financial support to the “**Ouémé-Basin Climate Resilient Initiative (OCRI) Benin**” project.
2. The OCRI Project Coordination Unit (PCU), supported by FAO will, at the request of the Nationally Designated Authority (NDA), be hosted at the national level in Cotonou, and responsible for the overall coordination of project activities, with field-based environmental and social safeguards compliance works directly led by the respective locally recruited **Environmental and Social Safeguards Officers - ESSO** (*based in the two Local Project Implementation Units (LPIUs)*¹), both falling under the overall leadership of the **Senior Environmental and Social Safeguards Officer - SESSO** at the PCU level in Cotonou. S/He will work diligently with the two LPIUs’ ESSOs to ensure good compliance on safeguards, as well as on Gender mainstreaming with the two LPIUs-based **Gender Mainstreaming Officers -GMO**.
3. The **FAO Lead Technical and Safeguards Compliance and Sustainability Advisor-LTSCSA (International Consultant)** will work in tandem with all three OCRI safeguards specialists² and GMOs, providing them with the needed technical, analytical and safeguards and broader Gender and Social Development advisory support to foster and sustain an overall satisfactory project safeguards performance throughout its lifespan. S/He will frequently liaise with her/his national counterpart at the Benin Environmental Agency (ABE) on all safeguards-related issues, consistently with both applicable national legislations, and GCF and FAO safeguards policies and standards.
4. The PCU-based SESSO (in Cotonou) will work closely with both field-based ESSOs and GMOs of the abovementioned LPIUs responsible for the day-to-day management (*review, screening, preparation, implementation, monitoring, evaluation, and reporting*) of all specific sub/components activities, as well as for ensuring compliance with the ESMF, Gender Action Plan, and related safeguards, GRM, Social Inclusion and Citizen Engagement documents, including keeping/recording proper documentation in the project file for review by the GCF and FAO Safeguards teams, whenever deemed necessary.
5. Until the physical footprints of the proposed project activities are clearly defined by project appraisal³, this document will remain a living document and thus subject to subsequent modifications and changes in line with the evolving situation or scope of the project activities. As an iterative process, therefore, much closer participatory consultation with the GCF, FAO, GoB and formal clearance and public disclosure of this ESMF will be necessary, in draft and/or final versions.

¹ - The Two Safeguards specialists will be: one for the Upper Ouémé-River-Basin, and one for the Middle Ouémé-River-Basin areas, respectively.

² - The SESSO in Cotonou (PCU level), and the 2 locally field-based ESSOs & GMOs in the Ouémé-Basin areas (LPIUs level).

³ - This is also function of the variation of the current **Project Development Objective (PDO)**, which is susceptible to variation before/by the Appraisal stage. Until then, the ESMF remains flexible and adaptable based on any changes that occur.

TABLE OF CONTENT

PREFACE	2
ABBREVIATIONS	5
List of Tables.....	7
List of Maps	7
List of Figures, Pictures & Boxes.....	7
EXECUTIVE SUMMARY.....	7
I. INTRODUCTION.....	10
1.1 Project Context and Rationale.....	11
1.2 Project Environmental and Social Safeguards Risk Rating and Category.....	14
1.3 Definition, Justification and Objective of the ESMF.....	14
1.4 Methodological Approach.....	16
1.5 ESMF Report Outline	17
II. PROJECT DESCRIPTION.....	20
2.1 Project Development Objective.....	18
2.2 Project Components.....	Error! Bookmark not defined.
2.3 Project Investments Intervention Areas.....	29
III. ENVIRONMENTAL & SOCIO-ECONOMIC PROFILES OF OCRI AREAS.....	331
3.1 Geographical Locations & Topography.....	32
3.2 Environmental and Social Features and Vulnerability of Project Areas.....	37
IV. POLITICAL, STRATEGIC, LEGAL & INSTITUTIONAL FRAMEWORK GOVERNING THE ENVIRONMENTAL & SOCIAL RISKS, IMPACTS AND OPPORTUNITIES MGMT..	50
4.1 Political & Strategic Framework.....	53
4.2 Legal & Institutional Framework... ..	58
V. IDENTIFICATION & ASSESSMENT OF POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS, IMPACTS AND OPPORTUNITIES OF OCRI	64
5.1 Overview of OCRI Environmental and Social Risks, Impacts and Opportunities.....	64
5.2 Breakdown of Risks, Impacts & Opportunities per Component.....	65
5.3 Assessment of Cumulative Impacts.....	67
5.4 The Without Project Scenario.....	68
VI. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN - ESMP	69
6.1 Mitigation Measures Checklist	69

6.2 Approach to Enhance Project Implementation.....	72
6.3 Safeguards Implementation Arrangements	74
6.4 Integrated Pests and Pesticides Management Plan	77
6.5 ESMF Monitoring and Evaluation	78
6.6 ESMF Implementation Timeline and Budget	78
6.7 Public Dissemination/Disclosure	Error! Bookmark not defined.
VII. GRIEVANCE REDRESS MECHANISM - GRM.....	90
7.1 Complaints Management Procedures.....	90
7.2 Closing the Loop and Fostering Sustainability.....	92
VIII.	
CONCLUSION.....	93
IX.	
BIBLIOGRAPHY.....	95
X. ANNEXES.....	97

ABBREVIATIONS

ACRONYMS	MEANING
ABE	Agence Béninoise de l'Environnement (<i>Beninese Environmental Agency</i>)
ANCB	Association Nationale des Communes du Bénin (<i>National Municipal Association of Benin</i>)
CCRF	Code of Conduct for Responsible Fisheries
CDN/NDC	Contribution Nationale Déterminée (<i>Nationally Determined Contribution</i>)
CMEICB	Commission de Modélisation Economique des Impacts du Climat et de l'Intégration des Changements Climatiques dans le Budget Général de l'Etat (<i>Commission for the Economic Modelling of Climate Impacts and the Integration of Climate Change into the National Budget</i>)
CNCC	Comité National sur les Changements Climatiques (<i>National Climate Change Committee</i>)
CSA	Climate-Smart Agriculture
COP	Conference of the Parties to the United-Nations Framework Convention on Climate Change
DDEPN	Directions Départementales de l'Environnement et de la Protection de la Nature (<i>Departmental Directorates for the Environment and the Protection of the Nature</i>)
DGE	Direction Générale de l'Eau (<i>General Directorate for Water</i>)
DGEC	Direction Générale de l'Environnement et du Climat (<i>Directorate-General for Climate and the Environment</i>)
DNA	Designated National Authority
EA	Environmental Assessment
EAP/PAE	Environmental Action Plan
EIA	Environmental Impact Assessment
ESA	Environmental and Social Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization of the United-Nations
FFS	Farmer Field Schools
FNEC	Fonds National pour l'Environnement et le Climat (<i>National Fund for Climate and Environment</i>)
FPIC	Free, Prior and Informed Consent
GBV	Gender Based Violence
GCF	Green Climate Fund
GHG	Green-House Gas
GIC	Groupeement Intercommunal des Collines (<i>Inter-municipal Hills Group</i>)
GIE	Groupements d'Intérêt Economique (<i>Economic Interest Group</i>)
IFC	International Finance Corporation
IGA	Income-Generating Activity
INE	Institut National de l'Eau (<i>National Water Institute</i>)
INSAE	Institut National de la Statistique et d'Analyse Economique (<i>National Institute of Statistical and Economic Analysis</i>)
IWRM	Integrated Water Resource Management
MAEP	Ministère de l'Agriculture de l'Elevage et de la Pêche (<i>Ministry of Agriculture, Livestock and Fisheries</i>)
MCVDD	Ministère du Cadre de Vie et du Développement Durable (<i>Ministry of Living Conditions and Sustainable Development</i>)
MDGL	Ministère de la Décentralisation et de la Gouvernance Locale (<i>Ministry for Decentralization and Local Governance</i>)
MECGCCRPRNF	Ministère de l'Environnement Chargé de la Gestion des Changements Climatiques, du Reboisement et de la Protection des Ressources Naturelles et Forestières (<i>Ministry of the Environment in charge of Climate Change, Reforestation and Protection of Natural and Forestry Resources</i>)
MEEM	Ministère de l'Energie, de l'Eau et des Mines (<i>Ministry for Energy, Water and Mining</i>)
MESRS	Ministère de l'Enseignement Supérieur et de la Recherche Scientifique (<i>Ministry of Further Education and Scientific Research</i>)
NGO	Non-Governmental Organization

OCRI	Ouémé-River Basin Climate-Resilience Initiative
OIG	Office of the Inspector General
OSP	Organisation Socio-Professionnelle (<i>Socio-Professional Organization</i>)
ORB	Programme d'Action du Gouvernement (<i>Government Action Plan</i>)
PAG	Plan d'Action National de Gestion Intégrée des Ressources en Eau (<i>National Integrated Water Resource Management Action Plan - NIWRMAP</i>)
PANGIRE	Plan de Développement Communal (<i>Municipal Development Plan</i>)
PDC	Plan de Développement Communal (<i>Municipal Development Plan</i>)
PMU	Project Management Unit
PNE	Politique Nationale de l'Environnement (<i>National Environmental Policy</i>)
PNDC	Planned Nationally Determined Contribution
PNGCC	Programme National de Gestion des Changements Climatiques (<i>National Programme for Climate Change Management</i>)
PNGE	Programme National de Gestion de l'Environnement (<i>National Program for Environmental Management</i>)
RAMSAR	Ramsar Convention on Wetlands of International Importance
RGPH4	Recensement Général de l'Habitat et de la Population N° 4 (<i>Fourth General Population and Housing Census</i>)
SEAH	Sexual Exploitation, Abuse and Harassment
SC	Steering Committee
SNGZH	Stratégie Nationale de Gestion des Zones Humides (<i>National Strategy for the Management of Wetlands</i>)
SNMO-CCNUCC	Stratégie Nationale de Mise en Oeuvre de la Convention-Cadre des Nations-Unies sur les Changements Climatiques (<i>National Implementation Strategy for the United-Nations Framework Convention on Climate Change</i>)
SPAB	Stratégie et Plan d'Action pour la Biodiversité (<i>Strategy and Action Plan for Biodiversity</i>)
UCP	Union des Coopératives de Production (<i>Union of Farming Cooperatives</i>)

LIST OF TABLES, MAPS, FIGURES, PICTURES AND BOXES

TABLES

Table 1 : Snapshot of Project Targeted Municipalities per District and Population.....	28
Table 2 : Total Population per Sector/ Arrondissement in 2013	35
Table 3: Zou County/Zogbodomey Socioeconomic Profile.....	36
Table 4 : Preliminary Distribution by participating commune and Agriculture Development Plan	40
Table 5 : Distribution of Hydroagricultural Infrastructures per ADP in the ORB	40
Table 6 : Distribution of existing water infrastructure within ORB area	41
Table 7 : Summary of defined potential site for construction of small water infrastructure	41
Table 8: Summary of small dams/micro dams to be rehabilitated in the OCRI areas	41
Table 9 : Access to Water and Sanitation Services in Benin	46
Table 10 : Water Treatment and Availability by Zone	46
Table 11 : Some legally binding international texts on E&S dimensions.....	54
Table 12: FAO/GCF Safeguards Standards to be applied.....	58
Table 13 : Correspondences between IFC/GCF Performance Standards and FAO E&S Standards	59
Table 14 : Requirement of OCRI Triggered E&S Safeguards Standards & pertinent national regulations	61
Table 15 : Breakdown of Risks, Impacts and Mitigation Measures per Component.....	66
Table 16 : Potential Risks, Impacts and Mitigation Measures.....	69
Table 17 : Partners Roles & Responsibilities.....	76
Table 18: ESMF Timeline and Budget for OCRI Implementation	79
Table 19 : Key PCU et LPIU Safeguards Staff estimated Budget.....	79
Table 20 : Key PCU et LPIU Safeguards and Gender Mainstreaming Staff estimated Budget	79
Table 21: Main Project Partners Roles and Responsibility	82
Table 22 : List of Stakeholders Consultation and Participation in the ORB area.....	85
Table 23 : District Level Consultations Summary in the Participating 5 Municipalities.....	84
Table 24: Actions and References for the Selection of Complaints/Grievances	92

MAPS

Map 0 : Benin Hydrographic Network	0
Map 1 : Principal Waterstreams of Benin's Hydrographic Network	10
Map 2 : Geography of Benin.....	12
Map 3: Oueme River Basin and the 5 Gauging Stations.....	13
Map 4 : Locations of the targeted 5 communes of the CRI Project.....	29
Map 5 : Span of the ORB area and localization of participating 5 communes	30
Map 6 : Topography of Benin.....	32
Map 7 : Geographical Position of Copargo District	33
Map 8: Geographical Position of Djougou District	34
Map 9 : Geographical Position of Glazoué District	35
Map 10 : Overview of Zou county municipalities (<i>Zogbodomey & Zagnanando</i>)	36
Map 11 : Map of Climatic Constraints in Benin.....	42
Map 12: Map of Climatic Zones of Benin	43

FIGURES/PICTURES & BOXES

Figure 1 : OCRI Project Management/Implementation Structure	26
Figure 2 : Impact Pathways FAO-CGF-OCRI	27
Figure 3: OCRI Implementation Arrangement – Safeguards Focus	74
BOX 1 : Climate Change Impacts Testimony of a Farmer.....	37
BOX 2 : Statement of a Woman Farmer in Agouagon Village (Glazoué District)	81
Picture 1 : Overview of a section of the ORB valley.....	10
Picture 2 : Picture of series of Stakeholder consultation and participation in the 5 Municipalities	121

EXECUTIVE SUMMARY

6. Overall, modelling of climate change scenarios for Benin shows that if agriculture, soil and water management in the Ouémé-River-Basin (ORB) continue in a “business as usual” way of operating, increasing temperatures and changes in precipitation trends will likely pose serious medium to long-term threats to future livelihoods of farmers, especially the most vulnerable ones, and to the country’s overall agricultural sector from 2070 onwards (*Essou and Brissette, 2013*). This project was designed to change that by moving away from a “business as usual” model of doing Business in the Ouémé-River-Basin, shifting agriculture and water management to a new paradigm in which producers are successfully adapting to climate change and are able to sustain their livelihoods. The OCRI project objective is to transform agriculture in the Ouémé- River-Basin by increasing resilience among the most vulnerable farmers and strengthening Government’s agencies capacity to support their communities in climate adaptation.
7. To do this the project will develop the country’s capacity in these participating five municipalities to get and use the information it needs to better cope with the impacts of climate change on agriculture and water resources management by implementing waterworks and climate-resilient agriculture (CRA) (and build farmers' resilience to climate change through skills, knowledge and use of locally adaptable technology. (*Component 1*). It will strengthen livelihoods and income streams under a changing climate, through support to climate-resilient value chains (Component 2). And, it will create a wider enabling environment for continuous adaptation and expanded uptake of climate-resilient approaches that would enable the project to better achieve its objectives (Component 3). The project will be implemented in 5 carefully selected participating unes in the Ouémé River Basin region over a 6-year period at a total cost of 35, 314,576 **million USD**. The *Ministry of Living Conditions and Sustainable Development – MCVDD* currently representing Benin’s National Designated Authority, the *Ministry of Agriculture, Livestock and Fishery – MAEP* and the *Direct Access Entity Fonds National de Developpement - FNEC* will be closely engaged as co-financiers/co-executors in implementation of project activities. They will collaborate with partners from civil society and the private sector, particularly at the field-level in training and other services to agricultural producers. At the request of the Government of Benin, FAO will function as both the Accredited Entity and the Executing Entity for the project.
8. As the specific location of proposed activities under the project have not yet been determined, a framework approach has been adopted. Under this approach, the present Environmental and Social Management Framework (ESMF) has been prepared by FAO to (i) identify all potential but generally positive and negative environmental and social impacts; (ii) propose mitigation measures for the negative ones; (iii) provide basic screening criteria for selecting sub-activities; (iv) list the type of instruments to be developed for individual sub-activities during implementation; and (v) provide institutional arrangements, grievance redress mechanisms (GRM) and monitoring, reporting and documentation measures for environmental and social safeguards compliance, as well as gender mainstreaming. The ESMF covers all physical works and activities as well as feasibility and other studies to be carried out under the project.
9. Overall, the environmental and social impacts of the project will be positive. The project is expected to improve the natural resources and agricultural land upon which farmers work, based on improved, climate-resilient agricultural practices and natural resources management, specifically water management across the basin. Better functioning ecosystems will positively affect human health and well-being in the long run. Socially, the project will engage women and youth through a Gender Action Plan that ensures proactive mainstreaming

of women into all activities, empowering women with agricultural skills and knowledge. Livelihoods are expected to improve, based on increased adaptive capacities within the target 5-municipalities. Investments in agriculture infrastructure and equipment, technology, and high-quality agricultural inputs used on-farm and off-farm are expected to reduce some of the adverse impacts of climate change on agricultural productivity and production in Benin. Furthermore, the project will incorporate special participatory training sessions and activities in farmer field schools and similar formats under Component 1 to ensure that farmers are able to proactively enhance their livelihoods in ways that would not have occurred in a “without project” scenario.

10. The Project has been classified as moderate risk (**Category "B"**) and it is expected that the project activities will trigger the following Environmental and Social Safeguard Standards, namely ESS2 (*Biodiversity Ecosystem and Critical Habitats*), ESS3 (*Plant Genetic Resources for Food and Agriculture*), ESS7 (*Decent Work*), ESS8 (*Gender Equity*) and ESS9 (*Indigenous Peoples and Cultural Heritage*)⁴. The main reason for this is the inequality in the labour market and presence of landless farmers in the project area who will be included in project activities to ensure no-one is left behind, and full inclusiveness of the project.
11. Overall, the cumulative project environmental and social impacts are expected to be positive, and generate series of opportunities for beneficiary communities, as the overall objective is to increase climate resiliency of the most vulnerable farmers in Benin, including vulnerable groups such as Fulani and Peulh, mostly active as herders. The project is expected to improve agricultural land and the natural resources upon which Beninese farmers' work is based, by improving the farmers' climate-resilient agricultural practices and the natural resources management in the targeted areas, specifically water management techniques. The project will take into account inequality in the labour market and the presence of landless farmers in the project area; they will be included in project activities. More specifically, better functioning ecosystems, controlled transhumance practices, and greater and more collaborative stakeholder engagement and participation, will positively affect human health and well-being in the long run.
12. To comply with the core requirements of these standards and applicable national regulations in Benin, given that not all sub-activities can be identified during/by project appraisal, an environmental and social management framework (ESMF) has been prepared along with an environmental and social management plan (ESMP) to set forth the basic principles and priorities that the OCRI project will follow during project implementation once the physical footprints of the project activities have been formulated.
13. During project implementation stage, once the physical footprints of subproject activities are known, to ensure that the identified social and environmental risks and impacts are properly addressed in accordance and compliance with the FAO Standards and GCF Policies, all project activities will systematically undergo (i) a thorough screening, assessment, review, and clearance process, and (ii) elaborate a site-specific **Environmental and Social Management Plan (ESMP)** prior to the physical execution of project activities in each of the selected 5 communes. Hence, the elaboration of the ESMF has allowed a series of environmental and

⁴ - The triggering of ESS9 in the context of Benin requires some clarification: The screening of the foreseen activities of OCRI revealed that (i) from the FAO and GCF E&S Safeguards standpoint, the policy is triggered as per the criterion defined respectively in their Indigenous Peoples policy (*ESS9 & GCF policy : Chapter IV- Scope of Application : Parag. 13-20*), however, (ii) from the Government of Benin's Constitution and applicable E&S policy perspective, the policy does NOT apply as the term "**Indigenous Peoples**" is not recognized in the whole country, and all Beninese are equal before the law and they prohibit any discrimination among and towards Beninese. To bridge the two parties, and ensure the Government's Constitution and national Unity vision is safeguarded throughout the project lifespan, it has been agreed to use the "**Vulnerable Groups**" terminology recognized by all parties, in lieu and place of "**Indigenous Peoples**".

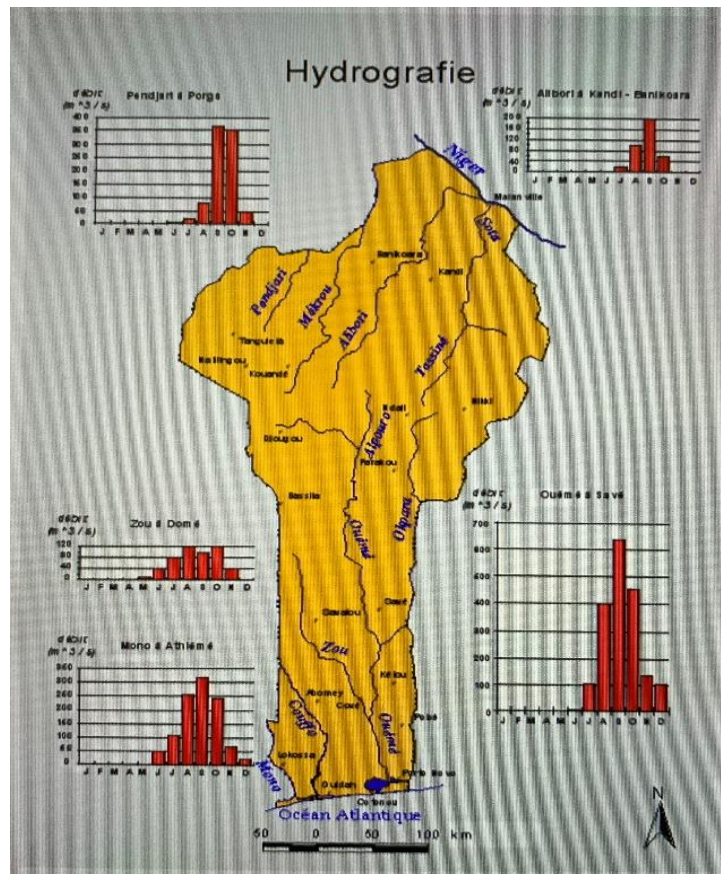
social risks and impacts to be identified, and an ESMP to be elaborated that includes a comprehensive implementation arrangement scheme to help implement the identified series of safeguards mitigation measures, as well as an embedded outline of the Social Assessment (SA) to assess the inclusiveness of Vulnerable Groups and suggest best ways forward to mitigate any foreseen risk and impacts likely affecting them during project implementation.

14. The implementation arrangements as they pertain specifically to environmental and social safeguards will be led by the Project Coordination Unit (PCU), which includes a solid environmental and social safeguards compliance unit, led at the central level by a Senior Environmental and Social Safeguards Officer (SESSO) and at local level, a 'duo' of an Environmental and Social Safeguards Officer (ESSO) and a Gender Mainstreaming Officer (GMO) in each of the Local PIU (LPIU). In addition to Safeguards and Gender mainstreaming, the PCU-team will be the recipient of all project-related Grievance Redress Mechanism (GRM) processes at both the central and local levels, as detailed in this ESMF.
15. The estimated total budget for safeguards compliance and gender mainstreaming over the foreseen five **(6)** years duration of the OCRI Project is: **seven hundred thirty-five thousand (\$735,000 USD)**⁵. This cost is included in the project overall cost.



Picture 1: View of a section of the Ouémé River Basin – a huge and fertile green area. *Source: Matinonboni, June 3, 2019*

⁵ These costs also include some costs related to gender but there is no duplication in the project budget.



Map 0: Principal u du réseau hydrographique du Bénin (*Source : R. LAMBRECHT, 2007*)

I. INTRODUCTION

16. To support its sustainable development strategy and program, particularly towards alleviating rural poverty of the most fragile and vulnerable populations by the end of 2035, the Government of Benin has requested and obtained the support of the United-Nations Food and Agriculture Organization (FAO) as an **Accredited Entity (AE)** to the Green Climate Fund (GCF) to help with the development of the "**Ouémé-River Basin Climate-Resilience Initiative (OCRI)**" project⁶.

1.1- Project Context and Rationale

17. Benin, is a narrow, key-shaped, north-south strip of land, situated in West Africa, between the Equator and the Tropic of Cancer; between latitude from 6°30'N to 12°30'N and longitude from 1°E to 3°40'E, more precisely between 9°30'N and 2°15'E, covering a land area of 112,622 Km² (*i.e. land: 110,622 Km² water: 2,000 Km²*) and constitutes a long stretch of land perpendicular to the Coast of the Gulf of Guinea. With total land boundaries of 2,123 Km, Benin is bounded by the rich Bight of Benin endowed with an exposed/vulnerable Atlantic Ocean coastline (124Km) to the South, its sister country Togo (651Km) to the West, Burkina Faso (386Km) and Niger (277Km) to the North, and Nigeria (809Km) to the East. It stretches North to South some 672 Km while its breadth extends 324 Km at the widest point.
18. The country is divided into four geographical areas. From the low lying coastal plain the terrain passes northward into a low plateau incised by north to south flowing rivers and then plains with scattered hills that seldom reach 400m and finally a range of mountains in the northwest border with Togo with the highest point of 658m/Mont Sokbaro (*El Source Book, 2020*). The region is deemed to be one of the most vulnerable to the risks and impacts of climate change globally (IPCC, 2014)⁷. As a least developed country (LDC) Benin ranks (i) 167th out of 188 amongst the world's poorest countries (UNDP, 2016)⁸; (ii) 155th out of 181 countries in terms of Climate Vulnerability Index (ND-GAIN 2017)⁹ and (iii) 151st out of 182 countries according to the Global Climate Risk Index (*Global Climate Risk Index, 2017*).
19. The **Ouémé River**, also known as the **Weme River**, is a river in Benin. It rises in the Atakora Mountains, and is about 510 kilometres (320 miles) long. It flows past the towns of Carnotville and Ouémé to a large delta on the Gulf of Guinea near the seaport city of Cotonou. The largest tributaries are the Okpara River and the Alpouro River. Ouémé River is the largest River of Benin Republic. It is located between 6° 30' and 10° north latitude and 0° 52 'and 3° 05' east longitude (*Oba S. Alain 2018*). It crosses several agro-ecological zones and feeds downstream the lagoon system "Lake Nokoué-lagoon of Porto-Novo" through a Delta zone. The lower Delta of Ouémé, is located between latitudes 6° 33'N and 8° 15 ' and the meridians 1° 50' and 2° 00 ' (*Zinsou et al., 2016*). The lower Delta of Ouémé begins in the north after the municipality of Adjohoun in the department of Ouémé and ends in the south where the river flows into the lagoon complex "Nokoué-Porto-Novo" (*Lalèyè et al., 2004*). The climate in this region is subequatorial, characterized by two rainy seasons and two dry seasons. On the other hand, its hydrological regime depends on the Sudanian climate (of northern Benin) with a low water period (usually lasting seven months from November to June) and a flood period (July to October) (*Lalèyè, 1995*). The area is characterized by swamps inhabited by floating plants dominated by water hyacinth (*Eichornia crassipes*), water lily (*Nymphaea lotus*), water lettuce (*Pistia stratiotes*) and lemna (*Lemna paucicostata*). There are also undeveloped marshy

⁶ - Moving forward and for simplification purpose, we will be most often using the term "**The Project**" in lieu and place of the full denomination of the "**Ouémé-River Basin Climate-Resilience Initiative (OCRI)**" project.

⁷- https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/WGIIIAR5_SPM_TS_Volume.pdf

⁸- https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/WGIIIAR5_SPM_TS_Volume.pdf

⁹- <https://gain.nd.edu/our-work/country-index/>

forests, dominated by the Raphia palm (*Raphia hookeri*) and the oil palm (*Elaeis guineensis*). The part of the valley covered by water is very productive in fish (Zinsou et al., 2016).

20. Climate change risks and impacts are tangible now and felt by all farmers and rural households in Benin. These perceptions were acknowledged and strongly further expressed by all stakeholders met and consulted with throughout the series of stakeholders' consultations and participation workshops held across all five participating communes (i.e. *Copargo, Djougou, Glazoué, Zogbodomey and Zagnanado*) during the course of elaborating this Environmental and Social Management Framework (ESMF). This is further confirmed as being of national concern by all institutional personnel of key government agencies met with in Cotonou and in the field, as well as indicated by the Benin Government's strong leadership and verifiable actions on the issue.

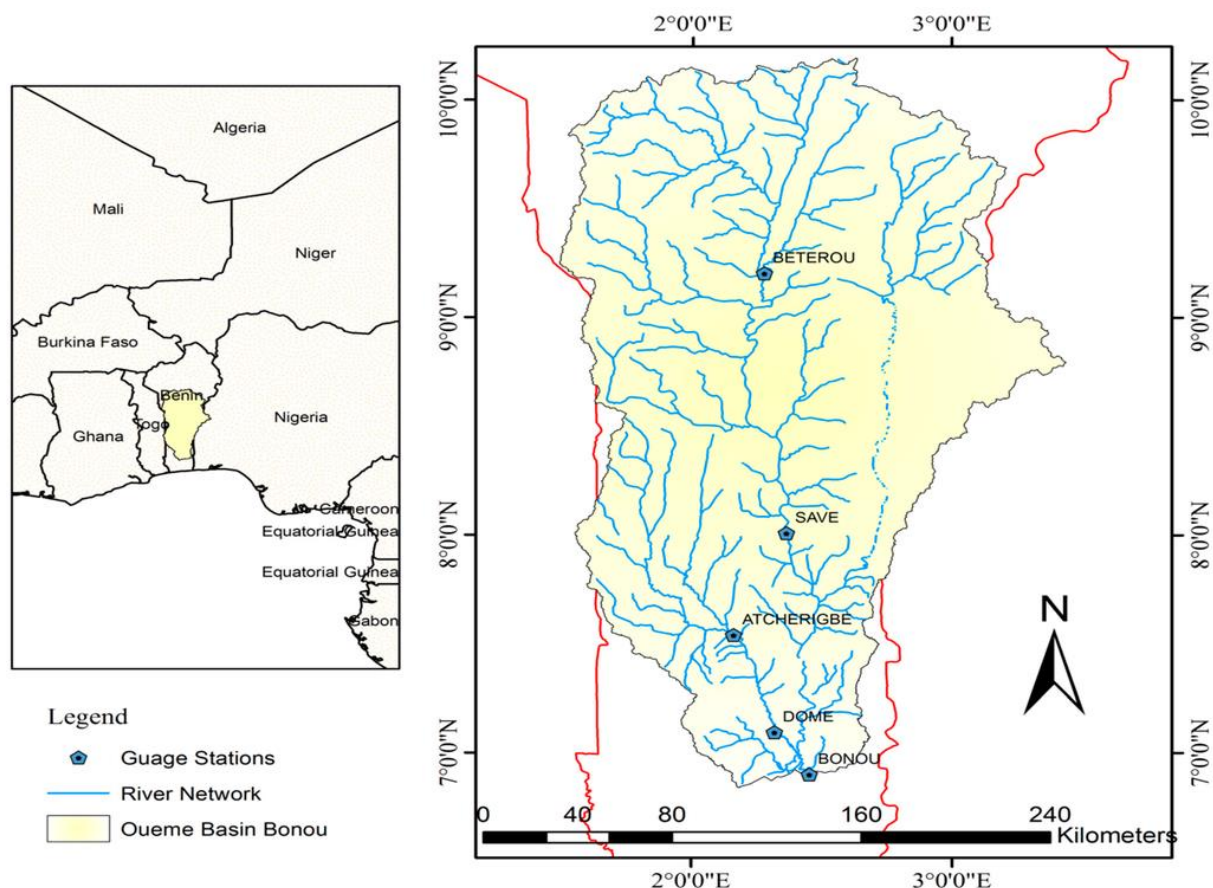


Map2: Geography of Benin, Source: en.m.wikipedia.org, Dec. 2019

21. Agriculture is Benin's main economic sector, employing over 70% of the EAP, and contributing 33% of GDP and 75-80% of export earnings (INSAE, 2015, APRM, 2017). The sector is particularly vulnerable to climate change risks and impacts. Climate projections indicate that temperatures will rise in all regions of Benin during the rest of this century by as much as 3.27°C. More specifically, increasing intensity and frequency of extreme weather events (i.e. *droughts, pockets of drought, late rain, floods, high winds, excessive heat, etc.* - (PANA, 2008)¹⁰), especially in rural areas, are gradually impacting the livelihoods and living conditions of small-scale farmers: agro-ecosystems are becoming more vulnerable, and farmers' adaptive and coping capacity is decreasing at a concerning level (i.e. *discouragement, tiredness of fighting in vain, desire to leave the sector, etc.*). This situation is further being exacerbated by the varying type and nature of climate change hazards that are intensifying the degradation of an already fragile biophysical environment, the destruction of both natural and cultivated ecosystems, causing more water scarcity and reduced soil fertility that altogether are leading to an increased food insecurity and malnutrition for both human and animals; hence ultimately triggering dangerously growing conflict trends between farmers and transhumant herders, as a result of frequent animal grazing on cultivated farmlands.

¹⁰ <https://unfccc.int/resource/docs/napa/ben01f.pdf>

22. Despite the uncertainties associated with climate projections, the results of all climate modelling studies in the Ouémé basin agree on: (i) *a significant increase in daily temperature ranging from 1.5 to 5°C by the end of century*; (ii) changes in the flow of the river, jointly with a *decrease of average monthly flows*; (iii) *increased variability in rainfall* as well as extreme climatic events associated with other hazards such as *floods and droughts* (Pana 2008; Essou and Brissette 2013). Although predictions concerning rainfall vary and overall total annual rainfall is not predicted to change that much, there will be more droughts and more frequent dry spells during the growing season. Regardless of what happens, adaptation will be required in terms of crop varieties and efficient management of soil and water in drought conditions and control of recurring floods.
23. Because of its geographical position, the country is exposed to multiple climate hazards complemented by existing vulnerable socio-economic and environmental conditions: (i) a high population growth rate of around 3.5% per year with an estimated population of 10,008,749 (INSAE, 2015), whose livelihoods are highly dependent on natural resources; (ii) high poverty rates (40.1%, 2015); (iii) a rural economy heavily dependent on rainfed-agriculture, and thus very sensitive to climate variations; (iv) more than 50% of the country is affected by land degradation. Benin has an estimated deforestation rate of 55,900ha/ year (*i.e. one of the highest in West Africa and in the world* -- PANA, 2008), thus reducing the ability of its ecosystems to quickly store carbon, offset and cope with some of the already palpable climate change challenges.
24. In light of all of the above, consistent feedback trends gathered throughout the series of primary consultations and participation workshops with foreseen beneficiary communities during the process of elaboration of the ESMF and many more untapped and hidden/unknown rationales on the climate extreme vulnerability in Benin as a whole, and particularly in the Ouémé-River-Basin areas, the Government of Benin requested the support of the United-Nations Food and Agriculture Organization (FAO) as an **Accredited Entity (AE)** to the Green Climate Fund (GCF) to help with the development of the above "*Ouémé-River Basin Climate-Resilience Initiative (OCRI)*" project.



Map 3. Ouémé River Basin and the five gauging stations.

Source: *Hydrology* 2015, 2(4), 210-229; <https://doi.org/10.3390/hydrology2040210>

Article: Non-Stationary Flood Frequency Analysis in the Ouémé River Basin, Benin Republic
(by Jean Hounkpè, Bernd Dieckrüger, Djigbo F. Badou, Abel A. Afouda)

25. Various emission scenarios predict that climate change will have an increasingly serious effect on the hydrology of the Ouémé-River-Basin, largely as a result of rising temperatures, changing patterns of precipitation, and lack of sustainable adaptation mechanisms (*i.e. soil fertility and water scarcity management*). Available records clearly show that temperatures in the ORB have already increased 0.5°C over the past 30-years, and are projected to increase a further 1.4 – 3.7°C by 2060, above the global average, with a higher rate of increase occurring in the winter months and in the mountainous Northern areas that are the source of most meltwater discharge. Rainfall patterns will also become more unpredictable.
26. The elaboration of the project, along with its related documents such as this ESMF, followed a thorough and close collaboration path with the Government of Benin, namely the two involved Ministries of (i) Living Conditions and Sustainable Development (*Ministère du Cadre de Vie et du Développement Durable* - MCVDD) and (ii) of Agriculture, Livestock and Fisheries (*Ministère de l'Agriculture, de l'Élevage et de la Pêche* - MAEP) and also a handful of expert development organizations and institutions currently involved in the Ouémé-River-Basin. Furthermore, the formulation of the project was conducted with the involvement, at both regional and local levels, of administrative and technical authorities as well as beneficiary community socio-professional organizations, community associations and civil society organizations.

1.2- PROJECT ENVIRONMENTAL AND SOCIAL SAFEGUARDS RISK RATING AND CATEGORIZATION¹¹:

27. The screening of proposed component 1 and component 2 activities in each of the participating 5 communes (*Copargo, Djougou, Glazoué, Zogbodomey and Zagnanado*), using FAO's Environmental and Social Screening Form (*see Annexes 4- 5 & 6*) revealed a rather moderate risk rating, because of the low, site specific nature, type and magnitude of the risks and impacts, which are mostly reversible and easily manageable. The Project has been rated as a moderate risk and classified as a category B operation consistently with applicable environmental and social safeguards policies, standards and/or regulations of the recipient country (*Benin*), the Food and Agriculture Organization of the United-Nations (FAO) and the Green Climate Fund (GCF). The use of a framework approach, specifically the **environmental and social management framework (ESMF) and a Stakeholder Engagement Plan (SEP) that each includes a detailed Social Assessment (SA)¹² outline (See Annex 3)**, as the appropriate safeguards instrument is advisable for due diligence in addressing identified impacts, risks and opportunities. The ESMF will also serve to further guide project implementing agencies and stakeholders on environmental and social assessment, mitigation of impacts, and monitoring and reporting procedures during project implementation, including grievance redress mechanisms (GRM) and other corporate institutional requirements, such as gender-based violence, sexual exploitation and abuse, child labor, worker influx, citizen engagement, etc.
28. The ESMF will be adopted and approved by the NDA and AE through the Benin National Environmental Assessment Bureau (BEE), the Executing Entity (FAO), and publicly disclosed both in-country and on the websites of FAO, GCF, BEE, prior to the project consideration by GCF Board. Furthermore, during implementation stage, the PCU, LPIUs, co EEs and any approved sub-contractors (*e.g. those working through Letters of Agreement (LOA)*) will comply with the prescribed safeguards compliance requirements, protocols and actions listed herein. Partners involved under LOAs will be provided with required Environmental and Social Safeguards (ESS) training and subproject screening forms, as well as asked – whenever deemed necessary - to prepare site-specific *Contractor-Environmental and Social Management Plans (C-ESMP)* prior to undertaking project-related activities; and throughout the project implementation phase.

1.3- Definition, Justification and Objective of the Environmental and Social Management Framework (ESMF)

29. In accordance with GCF and FAO social and environmental safeguards policy prescriptions and standards, and the relevant Benin government social and environmental management regulations (*i.e. article 4 of decree n°2017-332 of July 6, 2017 on environmental and social impacts assessment procedures*), the Environmental and Social Management Framework (ESMF) is defined as a tool that allows proactive management/safeguarding of environmental and social aspects of a given project whose physical footprints (*i.e. targeted sites, components or subcomponents, etc.*) are as yet unknown prior to project appraisal.
30. The present Environmental and Social Management Framework (ESMF) inclusive of a detailed SA outline has been prepared to better guide foreseen project activities in a way that environmental and social dimensions are dealt with well from the onset and managed efficiently throughout its implementation lifespan/phase. It is a tool/instrument that allows (i) *identification of the environmental and social risks, impacts and opportunities associated with the proposed project's different investments within the Ouémé-River-Basin (ORB) areas, and*

¹¹ - Available online at: <http://www.fao.org/environmental-social-standards/en/>

¹²- The Full SA will be developed before board submission. A national workshop is scheduled week latest by 8 November 2021 to present the detailed outline and seek all parties engagement/concurrence. The report of this engagement workshop will be shared with GCF immediately after its closure.

(ii) *definition of the procedures and mitigation and/or capitalization and management measures that will be applied/complied with during project implementation stage.* As a **Category B** – moderate to low-risk project, whereby foreseen risks and impacts will be moderate and low in scale, the ESMF serves also as a guide for the elaboration, whenever applicable, of future site-specific environmental and social management plans (ESMPs) once details of the physical characteristics of proposed subprojects activities are defined and well-known.

31. **The overall objective of the ESMF is to ensure compliance with applicable environmental and social safeguards policies, standards, and regulations.** The ESMF will guide implementing agencies of the Government, including FAO, EEs and any potential subcontracted entities to adequately screen, verify and address key environmental and social impacts, risks and opportunities of project activities and subsequent sub-activities, thereby determining the appropriate environmental and social risk rating and category, as well as impacts level that project would need to avoid, deal with, and mitigate accordingly.
32. The ESMF sets out the basic principles, prerogatives and core obligations of both the recipient country's government, the AE, and the EES in identifying and addressing environmental and social risks, impacts and opportunities that may require particular attention, especially during project implementation phase. The Environmental and Social Safeguard (ESS) policies, standards and regulations establish objectives and requirements to avoid, reduce, minimize and/or mitigate risks and impacts while maximizing the likely positive impacts and opportunities. More specifically, the objectives of this ESMF are to:
 - ✓ Assess the potential environmental and social impacts of the proposed project, whether positive, negative, direct, indirect or cumulative, and propose implementable mitigation measures which will effectively address these impacts, risks and opportunities;
 - ✓ Establish clear procedures for the environmental and social planning, review, approval, and implementation of sub-activities (i.e. *whether standalone activity or activities grouped together based on similarity and/or geographical proximity*) to be financed under the project;
 - ✓ Specify appropriate institutional roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to funded sub-activities;
 - ✓ Consider different alternatives, options, and relevant mitigation measures during project preparation and implementation;
 - ✓ Determine the training, institutional capacity building and technical assistance needed to successfully implement the provisions of the ESMF and related instruments;
 - ✓ Address mechanisms for inclusive public consultation, participation and engagement and disclosure of project documents as well as redress of possible grievances from project affected and/or impacted persons; and
 - ✓ Estimate the project funding required to implement the ESMF requirements and to provide practical resources for implementing the ESMF and related instruments during project implementation consistently with policies, standards, and regulations' prescriptions.
33. This study presents an Environmental and Social Management Framework (ESMF) that provides the basic principles and prerogatives to better screen, assess, avoid, mitigate and manage possible environmental and social impacts and risks of the proposed "*Ouémé-River-Basin Climate-Resilience Initiative (OCRI)*" project's activities and sub-activities, while maximizing on the positive ones. As a requirement for GCF proposals, this study will be included as an appendix to the Project Funding Proposal (*under completion*).
34. Moreover, the ESMF describes the course of action for the implementation of each project activity. Sub-projects activities are yet to be confirmed at the beginning of the project as physical footprints will only be clearly defined during project implementation in response to




concerns raised during consultations and participation stages with project affected communities. It is intended to serve as a practical tool to support the identification and mitigation of potential adverse environmental and social impacts of proposed project and serve as an interactive platform for dialogue with stakeholders and potential project beneficiaries and implementers. Therefore, the ESMF is the appropriate tool within the environmental and social safeguard policy of the FAO.

35. The ESMF has been elaborated, in a very consultative and participatory manner, in compliance with applicable FAO guidelines on environmental and social management; and respectful of both the environmental and social safeguards of the GCF and applicable Beninese regulations.

1.4- Methodological Approach

36. As done during the elaboration of the project funding proposal and other project related documents (*i.e. feasibility study, gender assessment and strategy, etc.*), and as prescribed in the FAO and GCF environmental and social safeguards standards and policies, as well as in the applicable national legislations of Benin, more precisely (*i.e. article 4 of decree n°2017-332 of July 6, 2017 on environmental assessment procedures in Benin*), the elaboration of the Environmental and Social Management Framework (ESMF) was undertaken through an inclusive and participatory stakeholders consultation and engagement process. All key parties, from the government, development partners, civil society organization, academia, private sector, local authorities, and beneficiary communities have been duly consulted upon throughout and their concerns fully taken into consideration in the ESMF (*see annex on details of stakeholder consultation and pictures*). As an iterative process, the inclusive stakeholder consultation and participation process will be maintained throughout the lifespan of the project, to ensure consistency, ownership, and social accountability building, which altogether are key to sustaining projects actions and achievements.

37. Overall, a three-tiers approach has been explored to ensure that public/stakeholders' consultation, participation and engagement phase was consistent with the basic 3 steps:

-  of basic documentation
-  Field visit to the sites and/or potential project areas
-  Meetings with all project key actors and beneficiaries at both central and local/district levels.

38. Beside the regular desk review that consisted of gathering and reviewing some existing/available project documents, supplemented with additional research to complement/fill information gaps to support our assessment. This step was further followed with a field mission in Benin, both in Cotonou to undertake institutional stakeholder consultations, but also in the field, namely Glazoué district as the latest district to join the core-5 municipalities of OCRI. This allowed to meet, selected key stakeholders' and deepen the quest for more tangible/relevant information to feed into the ESMF narrative and enhance the draft report.

39. The process involved all potential project partners, institutional and local communities: officials and those in charge of key-line ministries field missions; professionals from specialist technical institutions and academia; county, district and local leaders; representatives from socio-professional organizations and women's, men's, youth and disable peoples' groups, as well as community-based associations. Consultations were conducted through open or closed meetings, public sessions or smaller (focus) groups, etc. Its purpose is to devise a strategy that

clearly supports stakeholder participation and monitoring of project risks, impacts and opportunities, including the sharing and dissemination of results (*good practices, missed opportunities and lessons learned, etc.*). By helping to shed lights on the rationale and development objective of the project, these stakeholders' consultations and participation workshops sessions will set the ground for the project's successful compliance and performance, as well as, the successful implementation of mitigation measures recommended by the present Environment and Social Management Framework (ESMF).

40. The targeted objectives were: (i) *inform beneficiaries, those affected and/or impacted, either directly or indirectly, by the project and its planned activities, particularly vulnerable groups;* (ii) *allow people and all stakeholders on the ground to freely and fearlessly express themselves and give their opinions on the project;* and (iii) *identify and gather beneficiary communities as well as other project actors' concerns, fears, happiness, suggestions and recommendations.*
41. In a nutshell, throughout the preparation process, stakeholders were consistently invited, during institutional and/or public consultations and participation, respectful of the Free, Prior and Informed Consent (FPIC) principles to identify the project's potential environmental and social risks, impacts and/or opportunities whether for the communities, especially the most vulnerable groups, or the environment itself.
42. Once the key information has been gathered, they were explored, analysed and properly captured into the draft ESMF report, inclusive of a detailed SA outline, to sustain the project rationale and safeguards compliance purpose.
43. Overall, the methodology used was found to be adequate, inclusive, respectful of the FPIC principles, and timely in terms of enabling institutions and beneficiary communities, especially the most vulnerable groups, to properly, freely and fearlessly express their view and concerns, as well as receive answers to their questions. The proposed institutional arrangement is mindful of these concerns and a dedicated and well-versed team of professional will work towards meeting beneficiaries' concerns, specifically the most vulnerable groups, through an iterative and FPIC-oriented consultation with and participation of project beneficiaries to ascertain project is fulfilling its very purpose of alleviation beneficiaries' rural poverty and help improve their living conditions and livelihood resources.

1.5- Outline of the ESMF Report

44. The ESMF report is structured as follows:

- **Introduction**
- **Project Description**
- **Environmental and Socioeconomic Profile of the OCRI Project Targeted Areas**
- **Political, Strategic, Legal, and Institutional Framework Governing Environmental and Social Risk, Impacts and Opportunity Management**
- **Identification and Assessment of Potential Environmental and Social Risks, Impacts and Opportunities of OCRI**
- **Environmental and Social Management Plan (ESMP)**
- **Grievance Redress Mechanism**
- **Conclusion**
- **Bibliography**
- **Annexes**

PROJECT DESCRIPTION

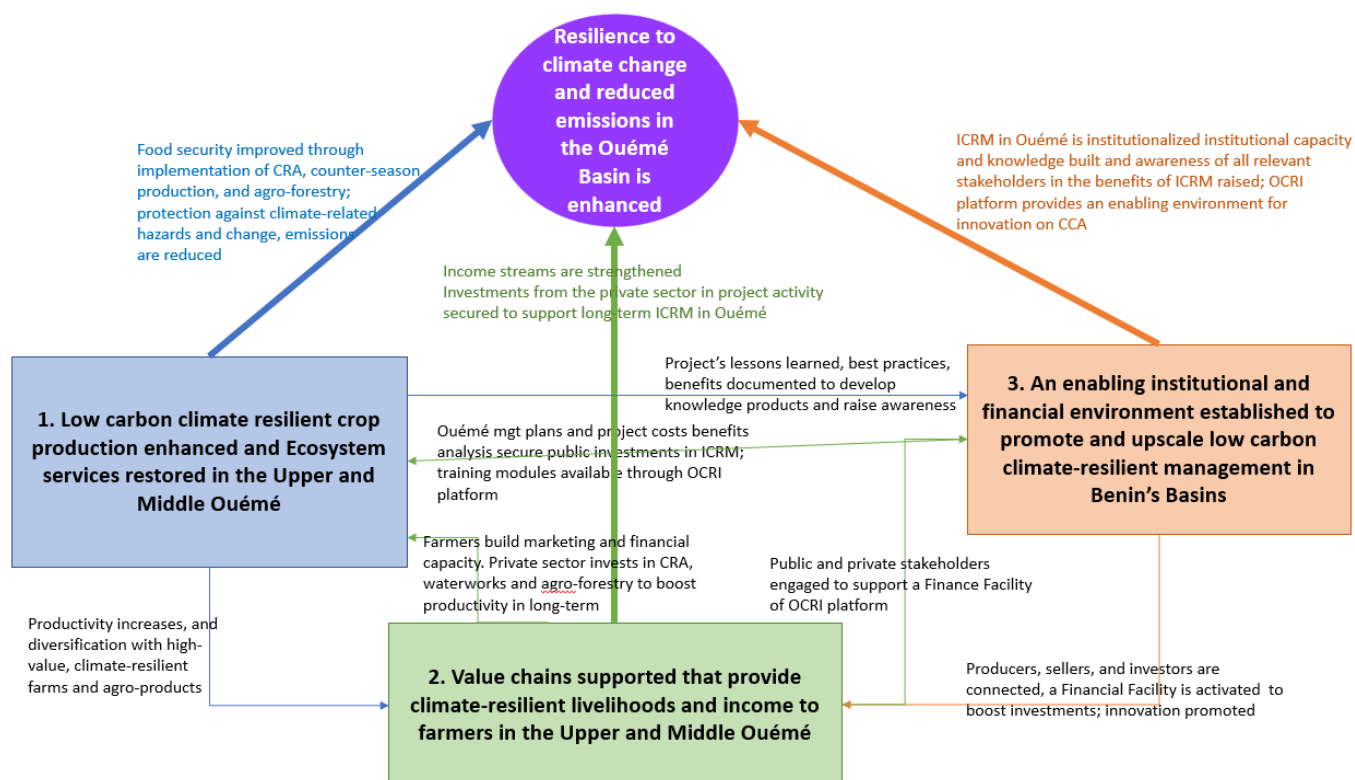
***Note:** This project description is rather a summarised version of the full and detailed description that is being stated in the draft final Funding Proposal as of December 2021. For more details, please, kindly referred to it, for which this ESMF is part of, as its Annex 6.*

2.1- Project Development Objective:

45. The project objective is to enhance the climate resilience of the communities living in the Ouémé Basin of Benin. The proposed project has been designed to reduce climate change vulnerability in the whole Ouémé Basin, through in climate-resilient agriproducts, and the establishment of an enabling institutional and financial environment, including regulatory frameworks, to support the long-term implementation and upscale of project interventions. As a result of the proposed interventions, the ecosystems, which underpin livelihoods, implementing an integrated climate-resilient management (ICRM) approach in the Upper and Middle Ouémé areas. This approach combines investments in hard and soft adaptation technologies, capacity building and training on climate-resilient management, strengthening of key value chains and private sector investments will be sustainably managed, and their goods and services enhanced, leading to increased climate change resilience in the whole Ouémé Basin.
46. Overall, the proposed Ouémé Basin Climate-Resilience Initiative (OCRI) project aims to scale up climate resilient agriculture and agroforestry practices, and to improve land and water management with positive impacts on 95,000 ha and to reduce 330,000 small scale farmers' vulnerability to increasing climate disturbances and extreme weather events, in the Ouémé Basin through implementing a mix of hard and soft climate-resilient measures.

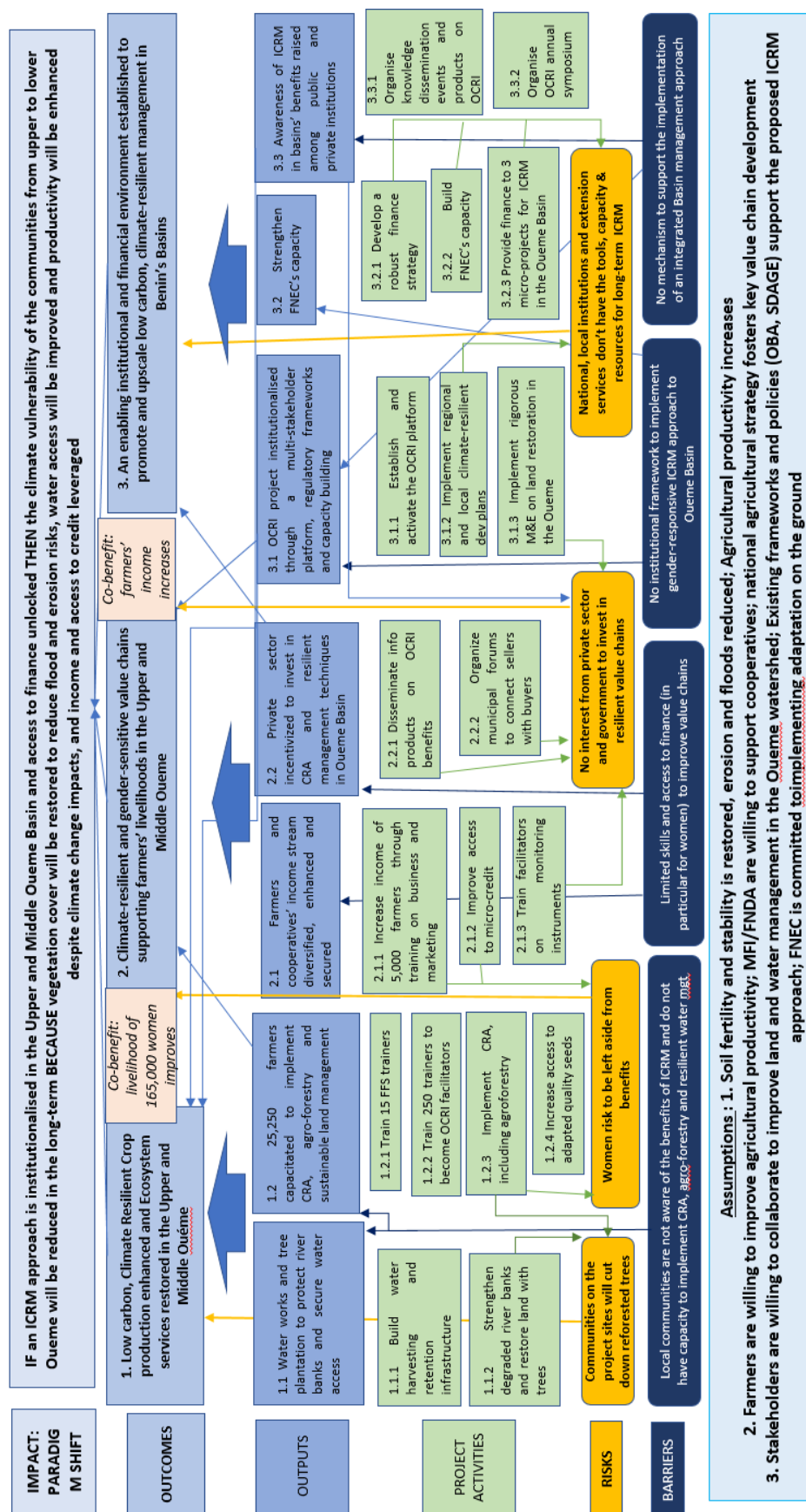
47. The following diagram illustrates the relationship and complementarity between OCRI's three Components.

Figure 1: OCRI's 3 Components



Source: Funding Proposal.

Figure 2: Project's theory of change



Source: Funding Proposal

48. To achieve this, the project comprises 3 complementary components, which will be implemented in 5= municipalities: Copargo, Djougou in the Upper Ouémé ; Glazoué in the Upper-Middle Ouémé ; and Zogbodomey and Zagnanado in the Middle Ouémé. The project will be implemented over a six-year period at a total cost of \$35,314,576 USD.
49. **Component 1. Low carbon climate resilient crop production enhanced and Ecosystem services restored in the Upper and Middle Ouémé** This component will support the enhancement of the Ouémé basin agro-ecosystems resilience to climate change impacts (for maize, cassava, cowpea, chillies, okra, green vegetable, tomatoes, yam, shea, mango and cashew), involving activities such as rain water harvesting and restauration of degraded land and river banks with trees planting. The component will also support capacity development of key stakeholders including famers, facilitators and master trainers using the Farmer Field School (FFS) approach. The activities will include on-farm traditional and innovative practices and techniques for climate-resilient agriculture (CRA), including the use of diversified drought-tolerant crop varieties, conservation farming, rainwater conservation, micro-dams, agroforestry, improved water management, as well as ecosystem restoration, water-source and riverbank protection. Training on these techniques will be supported by the Training of the Facilitators (ToF) in Farmer Field Schools (FFS) to ensure the continuation of trainings beyond the project's lifespan.
50. To enhance climate-resilience on the Ouémé Basin, an ICRM approach – including waterworks, agroforestry and CRA – will be implemented in selected municipalities of the Ouémé Basin to provide benefits not only on project sites but in downstream area as well. Floods will be reduced, soil erosion limited, access to water improved, agricultural productivity enhanced, and as such climate change vulnerability and impacts reduced. There are 95,000 ha of degraded lowland¹³ and riverbanks area in the Upper and Middle Ouémé which can be restored through improved land and water management practices, and made climate-resilient through waterworks and agroforestry on the riverbanks (Output 1.1) and CRA (Output 1.2); The target area for OCRI (95,000 ha) was selected because it can be subjected to surface water mobilization through micro-dams, water retention of variable size, and water management (soft and hard) infrastructures to enable climate-resilient agriculture, agroforestry, and counter-season horticulture, in the context of climate change, while at the same time improving water filtration in soils and vegetation cover to buffer communities against floods, heat and water scarcity. This estimation (95,000 ha) takes into account soil erosion problems and risks in the area. As currently, rain-fed agriculture is implemented over 232,000 ha, the project will target 80% of the cultivated land in Copargo and Djougou; 40% in Glazoue; and 60% in Zongnanado and Zogbodomey.
51. A vulnerability assessment was conducted on each project site during the FP development phase (see Annex 2). Its results will be refined with a site-specific assessment of resilience in the project sites to be undertaken at the start of the project using the SHARP tool. This will aim to increase the understanding of the prevailing livelihood conditions of smallholders, as well as their resilience and adaptive capacity levels. The tool will serve to identify the main areas of vulnerability in the selected municipalities. The results will support the targeting and decision-making on which of and where the proposed waterworks and CRA are most needed and identify who need them the most. The results will also support the refinement of the M&E

¹³ Lowlands are defined as "inland valleys, flat or concave with temporary or perennial flow axes, which are flooded for periods of at least several days of the year, and in which soils with hydromorphic characteristics and a relatively small catchment area are found" (APRM / Direction Génie Rural, 2010).

strategy and set a project baseline for key M&E indicators with primary up-to-date data. This result will be achieved through series of outputs equally beneficial, namely:

➡ OUTPUT 1.1 : Waterworks and tree plantation to protect river banks and secure water access

- 1.1.1 Build water harvesting and retention infrastructures: (target of 2000 ha irrigated land including 1,320 ha with MAEP (IFAD) cofinancing.

-1.1.2. Strengthen degraded river banks and restore land with trees (target of 9,000 ha including 4,000 ha with MAEP (IFAD) cofinancing.

➡ OUTPUT 1.2 : 25,250 farmers capacitated to implement CRA, agro-forestry and sustainable land management

- 1.2.1 Train 15 FFS Master Trainers.

- 1.2.2 Train 250 facilitators – that is 50 per selected municipality – to become OCRI facilitators.

- 1.2.3 Implement CRA, including agroforestry, to enhance agricultural productivity under climate change

- 1.2.4 Increase access of adapted quality seeds and plant propagation material

52. **Component 2. Climate-resilient and gender-sensitive value chains, supporting farmers' livelihoods in the Upper and Middle Ouémé.** Targeted interventions will be developed in partnership with IFAD to strengthen the following agriculture products value chains: maize, cashew, shea and mango. These value chains were identified as already part of the agro-systems in the target areas; moreover, they can be strengthened for a better resilience and productivity under climate change conditions and have strong market potential within and outside of Benin. The scope of project will be extended to other crops highly valued locally, for example cassava, cowpea, chillies, okra, green vegetable, tomatoes, yam. These products were selected as: i) they are currently grown on the project sites and are part of the local diet; ii) locally-relevant and resilient varieties or techniques to address the climate stressors identified are available; iii) they can be produced by smallholders (providing some training and technical support); iv) there is a market demand - especially for those crops which value chains will be strengthened; and v) they do not pose threats to the local environment (in alignment with risk category B). The strengthening of the selected value chains will include training in marketing and finance for farmers and cooperatives and developing networks between farmers and sellers. The project will support building the business case for climate resilient agriculture and food production using a market value chain approach. By demonstrating the economic benefits and market opportunities to private sector stakeholders, and by securing the support from micro-finance institutions (MFI) through the collaboration with the National Agricultural Development Fund (FNDA), farmers will be supported to sell climate-resilient agriproducts, as well as access to financial tools and incentives like micro-credits to support their economic activities. The introduction of appropriate tools on climate resilience assessment and monitoring will be key in providing the evidence for climate-resilient and sustainable increased productivity of the technologies promoted by the project in the beneficiary communities. FAO has secured the support of the Ministry of Agriculture, livestock and fisheries (MAEP) as co-financier through IFAD resources to this component given the strong complementarities between OCRI and IFAD interventions, and IFAD's experience in enhancing farmers' access to MFIs. MAEP has agreed to provide co-financing for USD12,634,280. This result will be achieved through series of outputs equally beneficial, namely:

➡ OUTPUT 2.1 Farmers and cooperatives' income stream diversified, enhanced, and secured in the face of climate change

- 2.1.1 Increase income of 5,000 farmers through training on business and marketing techniques and equipment using FAO farm business schools (FBS) methodology (*MAEP/IFAD cofinance: 200 FBS including 100 from MAEP (IFAD).*)
- 2.1.2 Improve access to micro-credit and investments. (*MAEP/IFAD cofinance*)
- 2.1.3 Train facilitators (selected educated young) and national/local climate change experts (from relevant institutions eg MCVDD, MAEP) on the use of assessment and/or monitoring Instruments for Resilience (TreeFarm App are the identified tools).

➡ **OUTPUT 2.2 Private sector incentivized to invest in climate resilient agriculture and resilient management techniques in Ouémé Basin**

- 2.2.1 Disseminate information products packaged for private sector, and organise field visits to demonstrate the socio-economic benefits of combined waterworks, CRA and agroforestry
- 2.2.2 Organise municipal forums to connect farmers and small businesses to local and regional buyers (MAEP (IFAD) cofinance).

53. Component 3. An enabling institutional and financial environment established to promote and upscale low carbon climate-resilient land and water management in Benin's Basins. This component will support the development of an enabling environment for strengthened governance, finance and knowledge to support climate-resilient management in the Oueme Basin. Through this component, a multi-stakeholder platform (the OCRI platform) will be set up to coordinate, under the leadership of MCVDD, on-the-ground ICRM in the Ouémé Basin in coordination with the PMU. These interventions will be supported in the long-term through the strengthening and climate-proofing of the existing Ouémé Master Plan (Schema Directeur d'Amenagement et de Gestion des Eaux du Bassin de l'Oueme – SDAGE). This plan will serve as an umbrella under which the local development plans (plans de developpement locaux – PDL) will be revised to mainstream climate change adaptation at the municipal level. The OCRI platform (governance mechanism) will blend the conditions to leverage responsible and sustainable investments from public and private stakeholders across the Ouémé Basin. For this purpose, it will be linked to the Direct Access Entity Fonds National pour L'Environnement (FNEC). FNEC uses its resources to finance climate-resilient and environmental projects in Benin. Its financial strategy will be strengthened to leverage more funding specifically financing climate change-related projects. Under Component 3, FNEC has also committed resources to provide grants to farmers' cooperatives and local organisations that will benefit from OCRI's intervention that wish to further implement climate-resilient agriculture and ecosystem restoration activities in the Oueme Basin: it is envisaged that one micro-project per target commune will be supported during the project. A roadmap to maintain and replenish FNEC's fund after the project closure will be developed to ensure the long-term availability of finance towards ICRM in the Oueme Basin. Moreover, during the project time, FNEC's capacity to design, identify, implement and monitor climate change related projects will be enhanced, thereby strengthening its capacity as an accredited entity. This result will be achieved through series of outputs equally beneficial, namely:

➡ **OUTPUT 3.1 OCRI project institutionalised through a multi-stakeholder platform, regulatory frameworks and capacity building**

- 3.1.1 Establish and activate the OCRI platform.
- 3.1.2 Implement regional and local climate-resilient development plans in the Oueme Basin to ensure long-term investment in ICRM.
- 3.1.3 Implement rigorous M&E on land restoration in the Ouémé Basin.

➡ OUTPUT 3.2 Strengthen FNEC's capacity to ensure continuous support to climate-resilient farming in the Oueme Basin

- 3.2.1 Develop a robust financial strategy to implement climate change projects, aligned with OCRI's approach.
- 3.2.2 Strengthen FNEC's capacity to design, select, implement and monitor climate change-related projects
- 3.2.3 Provide finance to 3 micro-projects that contribute to climate change adaptation and ecosystem restoration in the Oueme Basin

➡ OUTPUT 3.3 Awareness of ICRM in basins' benefits raised among farmers and public and private institutions

- 3.3.1 Organise knowledge dissemination events and products on OCRI including gender mainstreaming
- 3.3.2 Organise OCRI Annual Symposium

Project Implementation Arrangements

Accredited Entity (AE): FAO

FAO will serve as the Accredited Entity (AE) for the Project. FAO as the AE will be responsible for project implementation and administrative oversight and technical supervision, corporate management for GCF intervention, project reporting, and project completion and evaluation in accordance with the detailed provisions outlined in the GCF policies as well as Accreditation Master Agreement (AMA) and Funded Activity Agreement (FAA) to be entered into between FAO and the GCF should this funding proposal be approved by the GCF Board. As such, FAO will be responsible for overall management of the Project, including: i) All project evaluation aspects; ii) Administrative, financial and technical supervision throughout implementation of the Project; iii) Supervision of effective management of funds to achieve the results and objectives; iv) Quality control of Project monitoring and reporting to the GCF; v) Project closure and evaluation. The FAO will assume these responsibilities in line with the detailed provisions listed in the Accreditation Master Agreement (AMA) between FAO and the GCF.

As Accredited Entity of the Project, the FAO's supervising role will be attributed to the FAO Regional Office for Africa (RAF), located in Accra with support by the Office of Climate Change, Biodiversity and Environment (OCB) and other technical divisions located FAO headquarters in Rome (HQ), as required. To perform the AE functions, FAO will set up a dedicated FAO-GCF Project Task Force (PTF) comprising relevant staff from the FAO Country Office in Benin, the FAO Regional Office for Africa, and FAO Headquarters. Members of the PTF will perform the necessary supervision and oversight functions, including supervision and backstopping missions during the entire implementation period, as required. The project supervision function will remain independent of the Executing Entity functions performed by FAO Benin. The above-mentioned segregation of responsibilities within FAO will ensure that the Organization can independently and effectively perform the types of Accredited Entity functions. FAO will contract with MCVDD to act as co EE.

Executing Entities (EE):

FAO: FAO is one of the executing entities of GCF proceeds. FAO and MCVDD will set up the Project Management Unit (PMU) and local Project Implementation Unit (LPIU) in the Upper and Middle Ouémé. FAO will establish a Farmer Field School (FFS) Technical Unit technically and methodologically backstopped by FAO, based in MAEP, that will provide technical advice on the implementation of agriculture activities. This Technical Unit will be chaired by MAEP. FAO will ensure strong coordination

of implementation of project activities with MAEP and MCVDD. National partners will be contracted as procured parties by FAO in accordance with FAO's procurement rules (Manual Section 507). FAO has been established its Office in Benin in 1977. Since then it has implemented projects in the country in all areas of relevance to FAO and funded by partners such as GEF.

MCVDD: MCVDD is one of the executing entities of GCF proceeds. MCVDD will be an executing entity to whom FAO will transfer funds through the applicable modality, which foresees all necessary provisions for monitoring and supervision, including regular supervision missions, third-party regular spot checks and audits to ensure financial management, procurement and other. MCVDD will work with project-financed staffs, project-recruited subject-matter specialists, to deliver support to targeted beneficiaries in the field. On behalf of the client-country, MCVDD will receive project-financing and technical support, including capacity building and access to knowledge and information to implement the project. As agreed during the stakeholder consultation stage, MCVDD retains the leadership role in hosting the PMU at central level and has the core mandate to implement land restoration (including protection of Ouémé water sources through tree planting on the banks, and waterworks) as well as the rigorous project M&E using the FarmTree App. A capacity assessment of MCVDD has been carried out in 2018.

MCVDD houses the NDA; it is in charge of developing and implementing national policies on environmental issues, climate change, reforestation, ecosystem restoration, urban development and coastal protection. It is the nodal ministry for all matters relating to climate change and coordinates implementation of the National Action Plan on Climate Change (2008). This Ministry has extensive experience in executing donor-funded projects on natural resources management, reforestation and forest and water management including 'Projet de Gestion des Ressources Naturelles' (PGRN) and 'Projet Bois de Feu' phase 1 & 2. More recently, MCVDD has been involved in the execution of the GCF UNEP SAP project. MCVDD will chair the PMU and the SC.

FNEC: the FNEC will co-finance the OCRI project and be executing entity for the activities it cofinances. FNEC has been, since 2003, a financial instrument placed under the supervision of the MCVDD. FNEC is semi-autonomous legal entity from MCVDD. Its creation responds to a need to support and finance initiatives related to environmental protection and climate change. Using different sources of funds, in particular green taxes, FNEC opens call for project proposal to a large array of proponents including NGOs, local associations, cooperatives and private sector organisation. The projects must be aligned with FNEC's strategy and list of project theme; these are only funding through grants. FNEC has been accredited with the Adaptation Fund since 2011; and with the GCF as Direct Access Entity since 2019. FNEC will also receive technical support to strengthen its mandate.

MAEP: MAEP will be the executing entity for the activities it cofinance through IFAD resources. MAEP capacity assessments has been performed in 2018. MAEP intervenes through the Directorate of Rural Engineering (DGR) which is legally controlled by MAEP and the Lowlands Unit under its supervision, the Directorate of Livestock, the Directorate of Fisheries and the Directorate of Forestry and Natural Resources (DFRN) legally controlled by MCVDD. The MAEP, with these local delegations - at the village level - is the institution responsible for agricultural and pastoral hydraulics, water and soil conservation, aquaculture, forest management and reforestation

Project Management Unit (PMU)

A PMU will be set up by FAO and MCVDD. It will be established with office space procured by the MCVDD. A National Project Coordinator (NPC), responsible for project implementation and coordination with all project stakeholders, and operational leadership of the PMU, will be recruited based on a competitive process; his recruitment will be validated by FAO and MCVDD. The PMU will be responsible for providing support to the implementation of day-to-day activities at the national/central level in close coordination with the EE. Under the leadership of the NPC, the PMU will

also coordinate with the LPIUs and Focal Points the implementation of activities at sub-regional level and ensure these are aligned with the implementation of activities in the five municipalities. The PMU full-time staff will include: (i) National project coordinator; ii) local office manager; iii) project assistant; and iv) Procurement and Finance Officer. In addition, the following expertise will be mobilised to support project implementation: i) International Chief Technical Advisor; ii) Environmental and Social Safeguarding Expert; iii) IT Communication Specialist; (iv) Gender Specialist; and (v) Monitoring Specialist. The PMU will be advised by the FFS Technical Unit based in MAEP with regards to the agriculture activities. PMU will report to FAO as AE and the Steering committee chaired by MCVDD.

Local Project Implementation Unit

MCVDD and FAO-Benin will initially jointly form the Project Implementation Units at two levels: (i) the national-level Project Management Unit (PMU); and (ii) two Local Project Implementation Units (LPIUs) for the Upper Ouémé and for the Middle Ouémé, part of the OCRI platform. The LPIUs will comprise government staff members, whose capacity will be strengthened under Component 3, and project-recruited staff. FAO will also provide technical and administrative support to the government and the LPIUs. This arrangement will ensure that a) high and quality technical standards are adhered to; b) project delivery can proceed securely and efficiently despite the complex governance framework; and c) government partners play a leading role in project delivery and capacity development.

Two LPIUs will serve as operational arms of the PMU, located in the Upper and Middle Ouémé, each headed by a Project Technical Director (PTD), recruited based on a competitive process by MCVDD. The two LPIUs will be under the supervision of MCVDD. Each LPIUs is headed by a Project Technical Director (PTD). They are recruited based on a competitive process by MCVDD. The PTD will supervise the day-to-day project operations in each LPIU, liaising with the Focal Point in each municipality. The location of the LPIU offices will be jointly identified in coordination with the Agriculture and Environment departments and the communes to ensure synergies and liaison among all stakeholders. LPIU staff will include GoB staff – which will be capacitated under Component 3 – and project subject-matter specialists (local), including: (i) Water Management Specialist; (ii) Environmental Specialist; (iii) Agronomist; (iv) FFS Specialist. The LPIUs will be ‘attached’ to the OCRI platform (set up under Component 3). LPIUs will be in charge of stakeholder coordination in their area, knowledge dissemination, field implementation with the municipal Focal Points, and M&E of results. The LPIUs may procure services of NGOs/CBOs or specialized structures with the necessary expertise to implement specific activities (e.g. construction of micro-dams), in line with FAO procurement procedures. The Ouémé Basin Authority (OBA) will also be involved once operational, but through the OCRI platform and the project steering committee (PSC), and will be included in the project's capacity-building efforts.

Project Steering Committee

The steering committee will provide guidance and recommendation to the PMU. The primary functions of the PSC will be: (i) aligning project activities with GoB policies and priorities; (ii) ensuring coordination of the project among departmental government partners and with partners in the communes; (iii) providing project implementation oversight; (iv) approving annual work plans and budget, and reviewing project progress; and (vi) guiding the resolution of implementation challenges. The PSC will meet twice a year or can be convened by the Chairperson, at the request of the EEs and on an ad-hoc basis, to discuss key oversight and/or implementation issues. The Chair will have the authority to invite other experts as the need arises. Minutes of PSC meetings will be made publicly available and circulated to all Committee members and project stakeholders. They will also be posted on the OCRI Platform site and the FAO website. The PSC (chaired by the Director General of the MCVDD and co-chaired by FAO) will comprise representatives from: MCVDD (NDA); MAEP; Ouémé Basin

Agency (OBA); Ministry of Planning and Development (MoPD); Ministry of Finance; CCIB; IFAD; the relevant ATDA and DDAEP, FNDA, FNEC, FADeC and FNEED, PNOPPA-Benin, mayors of the 5 municipalities. The project coordinator of the GCF SAP project will be invited as guest during the PSC to ensure synergies between the 2 projects.

Local Level Governance Structure

Each municipality will assign a Project Focal Point, based within the municipality offices, to oversee and monitor the implementation of the project activities in its municipality. The Focal points will liaise with the Mayor and local staff members from the local Agriculture, Water and Environment Technical Departments, as well as farmers organisations and project beneficiaries. The primary functions of the Focal Points will be: (i) ensuring project coordination with national government partners and among commune partners; (ii) monitoring project implementation at municipal level, identify problems or conflict and provide early resolution; (iii) participating in all supervision missions as well as ad-hoc missions, and (iv) reviewing AWPB and project progress at municipal level. The Focal Points will liaise closely with the PMU and the LPIUs to ensure effective and timely implementation and support them to overcome any challenges on the ground.

International/ National Technical Assistant Specialists

The project will recruit long-term and short-term international Chief Technical Advisor (CTA) and short-term experts, who will be based at the PMU and support the LPIUs to carry out specific sub-regional and local field activities. They will be responsible for liaising with FAO-led technical departments and for capacity development of EE and Service Provider staff. They will include: (i) Climate Change Specialist; (ii) Landscape Restoration Specialist; (iii) Water Engineer; (iv) FFS Specialist; (v) Capacity Development Specialist; (vi) Agroforestry Value Chains and Agribusiness Development Specialist; and (v) GIS Monitoring Specialist. International Technical specialists, such as a Lead Safeguards Advisor (LSA) from FAO will be contracted from Rome and/or around the world, on either a long-term or an ad hoc basis to support the implementation activities, safeguards compliance, the elaboration of ComDev/ICT, technical materials and training on FFS and/or CRA. FAO's Divisions which will provide technical assistance are Forest Policy and Resources Division (FOA); Climate Change, Biodiversity and Environment - Climate risks team (OCB); Land and Water Division (NSL); Food and Nutrition Division (ESN); Plant Production and Protection Division – FFS group (NSPCD).

Project Costs and Financing:

54. The proposed Project (OCRI) is foreseen to **be implemented over a six-year period at a total cost of USD \$35,314,576** through a financing from the GCF, FAO and the Government of Benin. The breakout of the cost per component will be disclosed at a later stage once project proposal is completed and approved.

Total Project Cost:

GCF	MAEP (IFAD)	MCVDD	FAO	FNEC	Grand Total
US\$ 18, 453, 795	12,634,280	3,000,000	1,039, 001	187,500	USD 35, 314,576.

Note: The proposed project will receive parallel financing from other projects, as follow:

- GCF Project SAP05 Benin: **USD \$2,020,000**
- CBIT: **USD \$50,000**

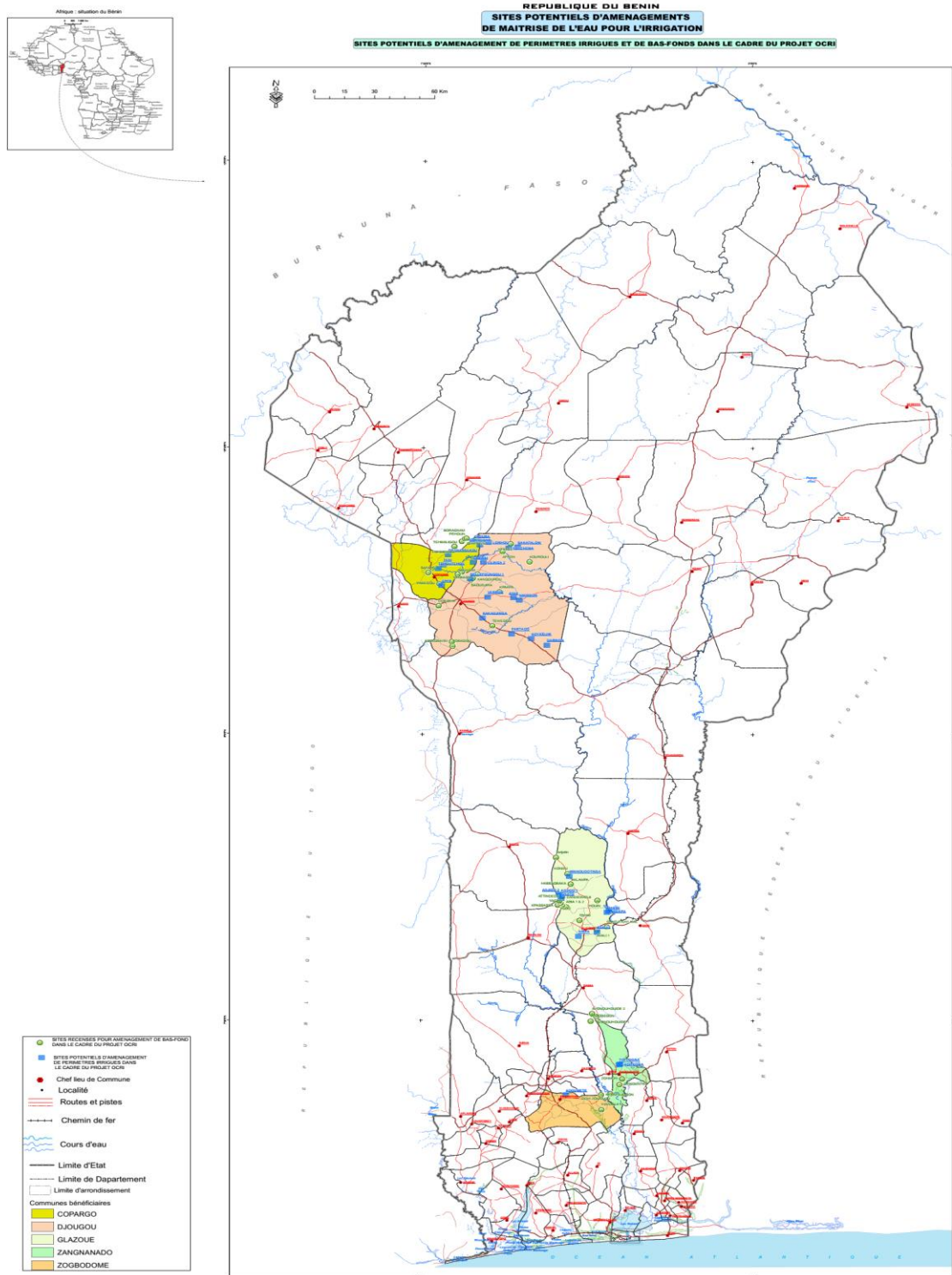
Source: Funding Proposal, May 2022

2.2- Project Investments Intervention Area

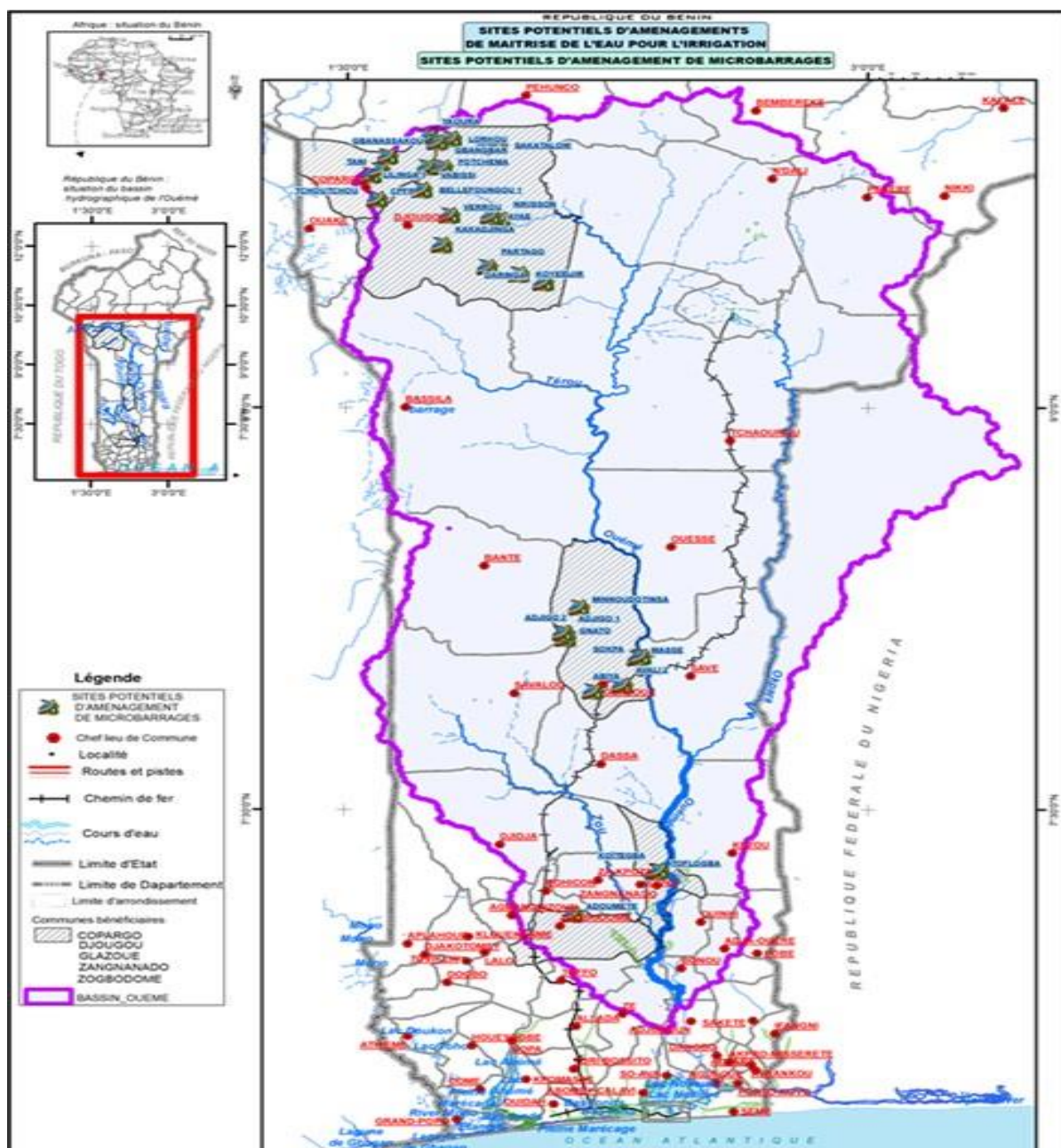
55. The Oueme River, also known locally as the “*Weme River*”, is a river in Benin that rises in the Atacora Mountains in the Central Plateau, edging the north-western region, and flows

downstream to the south into the Atlantic Ocean, nearby the seaport city of Cotonou with a total length of 510 km. It's the largest river in Benin and springs from the classified forest of Tanéka (*Atacora*) with its two largest tributaries, among others, being *Okpara River* and *Alpouro River*.

56. The Ouémé-River Basin (ORB), the project targeted area of intervention, spreads out over more than 47 218 km², about 41.14% of the country's surface, and subdivided into four (04) sub-basins, namely: Zou, Okpara, Upper Ouémé Vallee (*Vallée de l'Ouémé Supérieur*), and Lower and Middle Ouémé Valley (*Basse et Moyenne Vallée de Ouémé*). It straddles eight (8) departments and covers all or part of the 48 municipalities (*Maps 4 & 5, below*). The basin is mainly served by the Ouémé River ; thanks to the richness of its soil, ecological, social, cultural and touristic assets, the basin's ecosystem has significant socioeconomic and environmental development potentials.
57. However, and as stated in the project financial proposal (*i.e. OCRI Project Baseline Study, June 2018 & March 2020*), all documents and key stakeholders consulted thus far, the area, despite of being undeniably endowed with great sustainable development potentials, is indeed highly vulnerable to climate change, which takes the form of changed agriculture cycle with recurrent delayed starts of the rainy season, heavy rains with intermittent rain-shortage, unpredictable flash floods, harmful wildfires, increased deforestations and loss of biodiversity/ecosystems, slightly longer droughts with water and pasture shortages (*i.e. dry water ponds, wells, lakes, swamps, river banks, etc. soil infertility, resulting in poor productivity, food/pasture shortage, and recurrent trends of both animal losses and/or divagation*), rising land and water temperatures, strong winds, unusually recorded high temperatures and rising sea levels at the mouth of the river at its junction with the Atlantic Ocean at the shore by the seaport city of Cotonou, hence increasing the risk of flash floods (*i.e. 2009, 2012 and 2017 disasters episodes in Cotonou and in the entire basin area*); all of which do contribute gradually to increasing the vulnerability level of the area and of its inhabitants (*i.e. livelihoods, conflict/security, sustainability, etc.*).
58. Moreover, for the purpose of this new project (*i.e. the Oueme-Basin Climate Resilience Initiative – OCRI*), the Government's priorities in light of the abovementioned risks of climate vulnerability throughout the Basin, and taking into account the Green Climate Fund (GCF) core requirements and national priorities, and consistently with criteria jointly defined with FAO and the GoB counterparts; five (05) municipalities of the Ouémé-River-Basin (ORB) were carefully selected to be the foremost recipients of this project, thus constituting the defined project intervention areas. The selected municipalities are as follows: ***Copargo, Djougou, Glazoué, Zagnanado and Zagbodoméy.***



Map 4: Location of the targeted 5 Municipalities of the OCRI Project

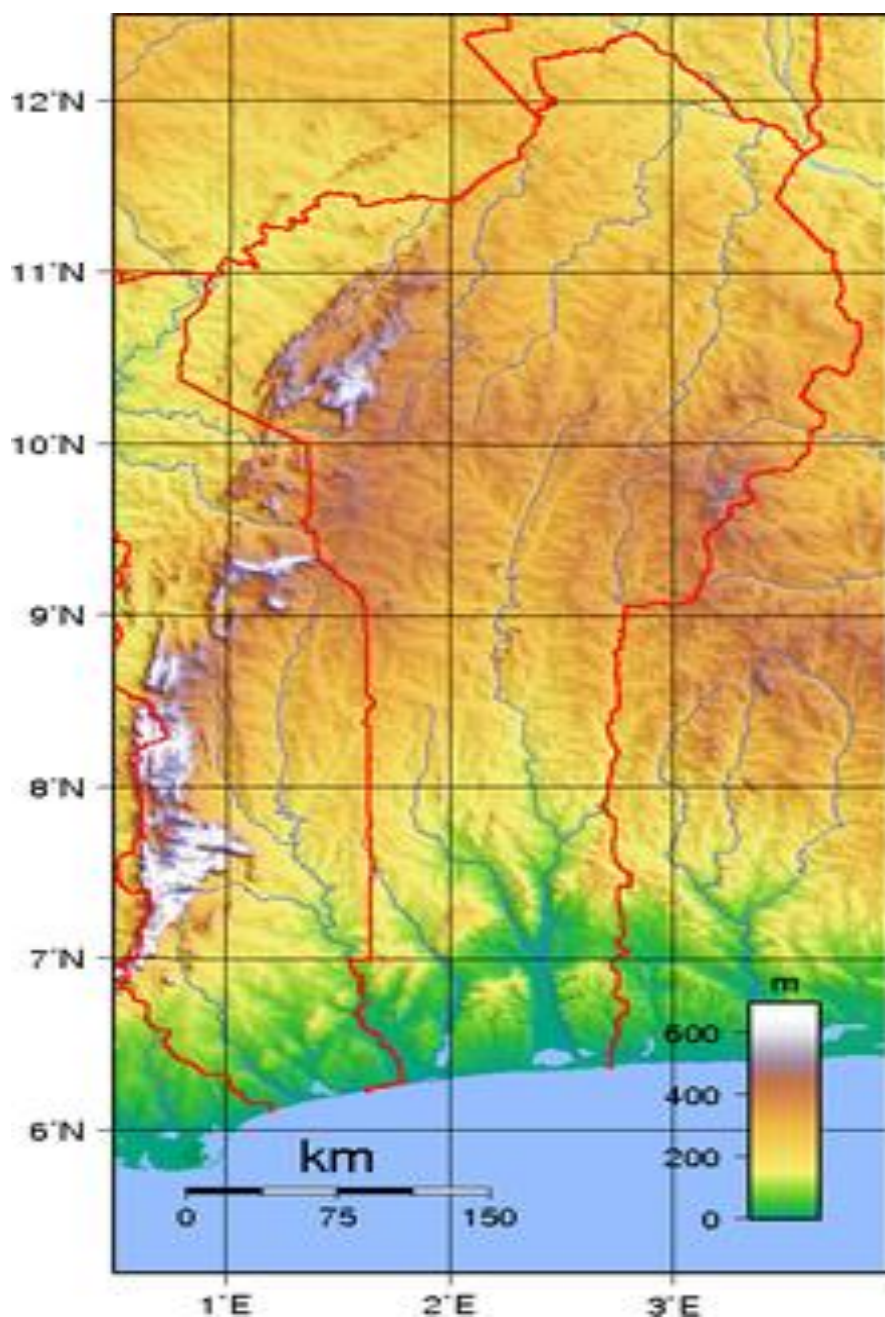


Map 5 : Span of the Ouémé-River-Basin (ORB) area and localization of participating Municipalities/municipalities in the ORB.

- **Upper Valley:** Copargo and Djougou municipalities (AEZ 4)
- **Middle & Lower Valley:** Glazoué (AEZ 5), Zogbodomey (AEZ 6), and Zagnanando municipalities (AEZ 7)

III- ENVIRONMENTAL & SOCIO-ECONOMIC PROFILE OF OCRI TARGETED AREAS

3.1 Geographical Location and Topography



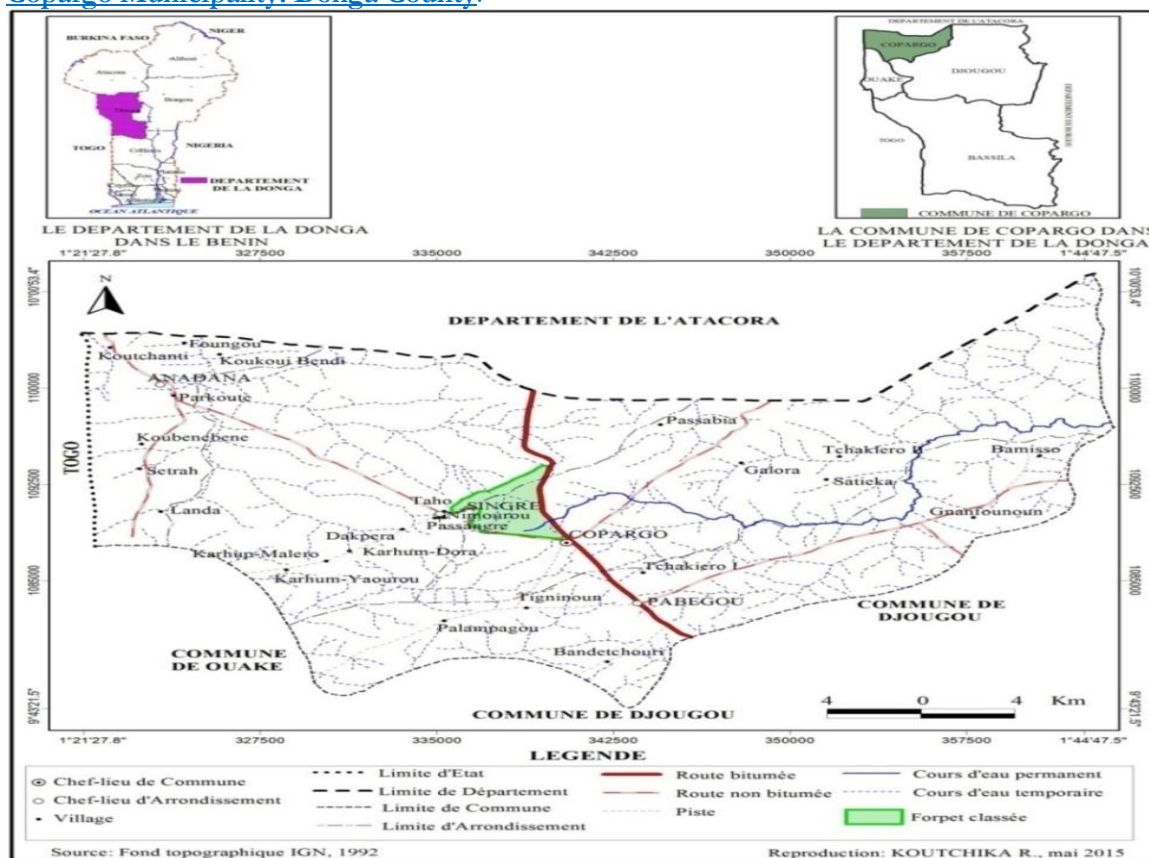
Map 6 : Topography of Benin

59. The country, as stated earlier, (*i.e. geographic coordinates : 9°30'N & 2°15'E*) can be divided into four (04) main areas from the South to the North. Generally, Benin's terrain is mostly flat to undulating plains with some hills and low mountains. The low-lying, sandy, coastal plain area which has the highest elevation of 10 m is, at most, 10 km wide, with a total territorial sea claim of about 200 nautical miles (370.4 km). It is marshy and dotted with lakes and lagoons connected to the Atlantic Ocean, its lowest point (0 m). The *plateaus of southern Benin*, called "*La terre de barre*" made of iron clay cut with marshy dips, with an altitude ranging between 20 and 200 m, are split by valleys running north to south along the Couffo, Zou, and Ouémé Rivers, an area that

has been categorized by the World Wildlife Fund (WWF) as part of the Guinean Forest-Savanna Mosaic Ecoregion. Then an area of flat lands (i.e a *silica clayey plateau*) with wooded savannah, dotted with rocky hills whose altitude seldom reaches 400 m extends around Nikki and Savé, North of Abomey to the foothills of the Atacora hills. Finally, a hilly region the **Atacora mountain range**, with elevation ranging from 500 to 800 metres, extends along the northwest border and into Togo with the highest point, **Mont Sokbaro**, at **658 m** and constituting the water reservoir for Benin and Niger Republics.

60. Benin has fields lying fallow, mangroves, and remnants of large sacred forests. In the rest of the country, the Savanna is covered with thorny scrubs and dotted with huge Baobab trees (*Adansonia Digitata*). Some forests line the banks of rivers. In the north and the northwest of Benin the W-Reserve and that of Pendjari National Park attract tourists eager to see elephants, lions, antelopes, hippos, crocodiles, birds, monkeys, etc. Previously, Benin offered habitat for the endangered painted hunting dogs (*Lycaon pictus*), although this canid is considered to have been extirpated from Benin, due to human population expansion. Woodlands comprise approximately 31% of the land area of Benin.
61. The environmental and socio-economic conditions of the project's area of operations are divided into two parts, in line with the two sub-areas: **the upper valley** (includes the municipalities of Copargo and Djougou in the department of Donga) and **the middle and lower valley** (includes the municipalities of Glazoué in the department of the Hills/Collines, and that of Zagnanado, Zogbodomey in the department of Zou).

Copargo Municipality, Donga County:



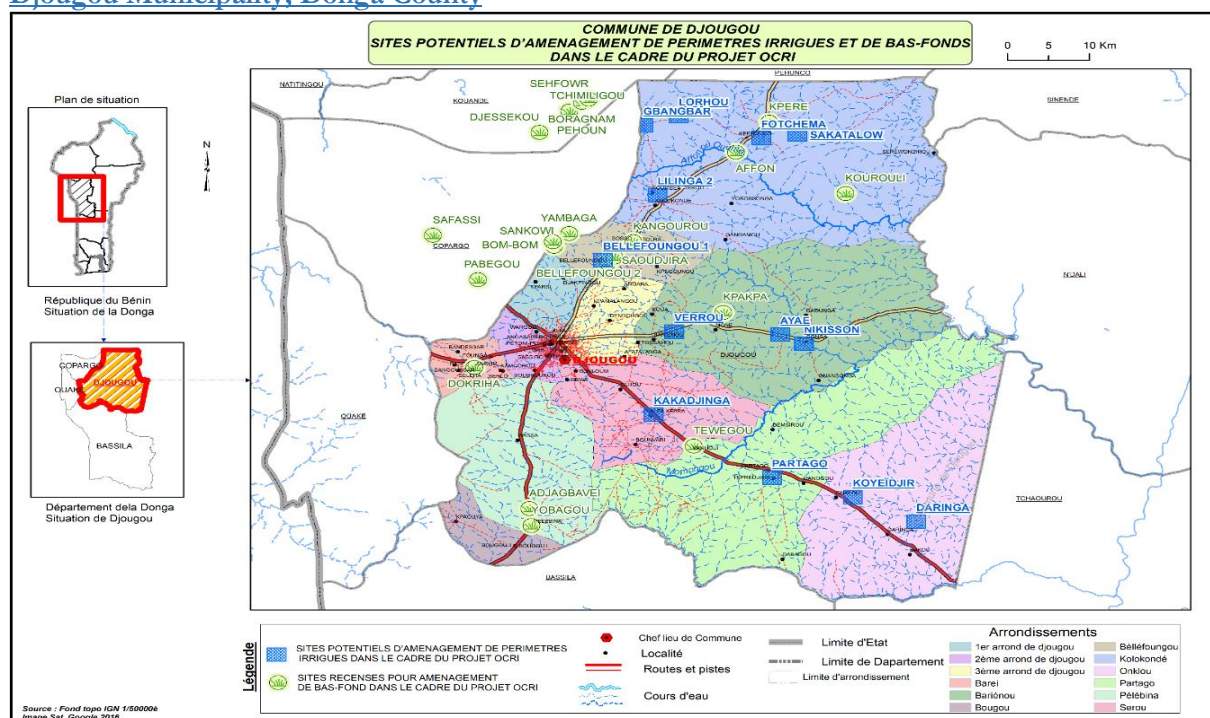
Map. 7 : Geographic position of the Copargo district/commune sites in the Donga County/department (Source: 2018–2022 PDC)

62. The Copargo municipality/district is bordered to the North by the municipalities of Natitingou and Kouandé, to the South by the municipality of Ouaké, to the East by the municipality of Djougou

and to the West by the Republic of Togo (Map 7).. It covers an area of 876 km². Copargo is one of the four (04) municipalities of the south of the former department/county of Atacora. Jointly with the municipalities of Djougou, Bassila and Ouaké, it now constitutes the department/county of Donga.

63. In the Donga county, the relief and topography are those of the agro-ecological zone of the West-Atacora (Zone 4), characterized by a mountainous area dominated by the Atacora range along with, in the case of Copargo, an area consisting of vast wooded plains alternating with valleys. In the mountainous area, the relief is uneven. It is in this municipality, and specifically in the locality of Tanéka-Béri, that the Ouémé takes its source and flows downstream towards the Atlantic Ocean at the capital city of Cotonou. During the rainy season, waterways submerge certain areas which creates favourable conditions for rice cultivation in the lowlands.

Djougou Municipality, Donga County

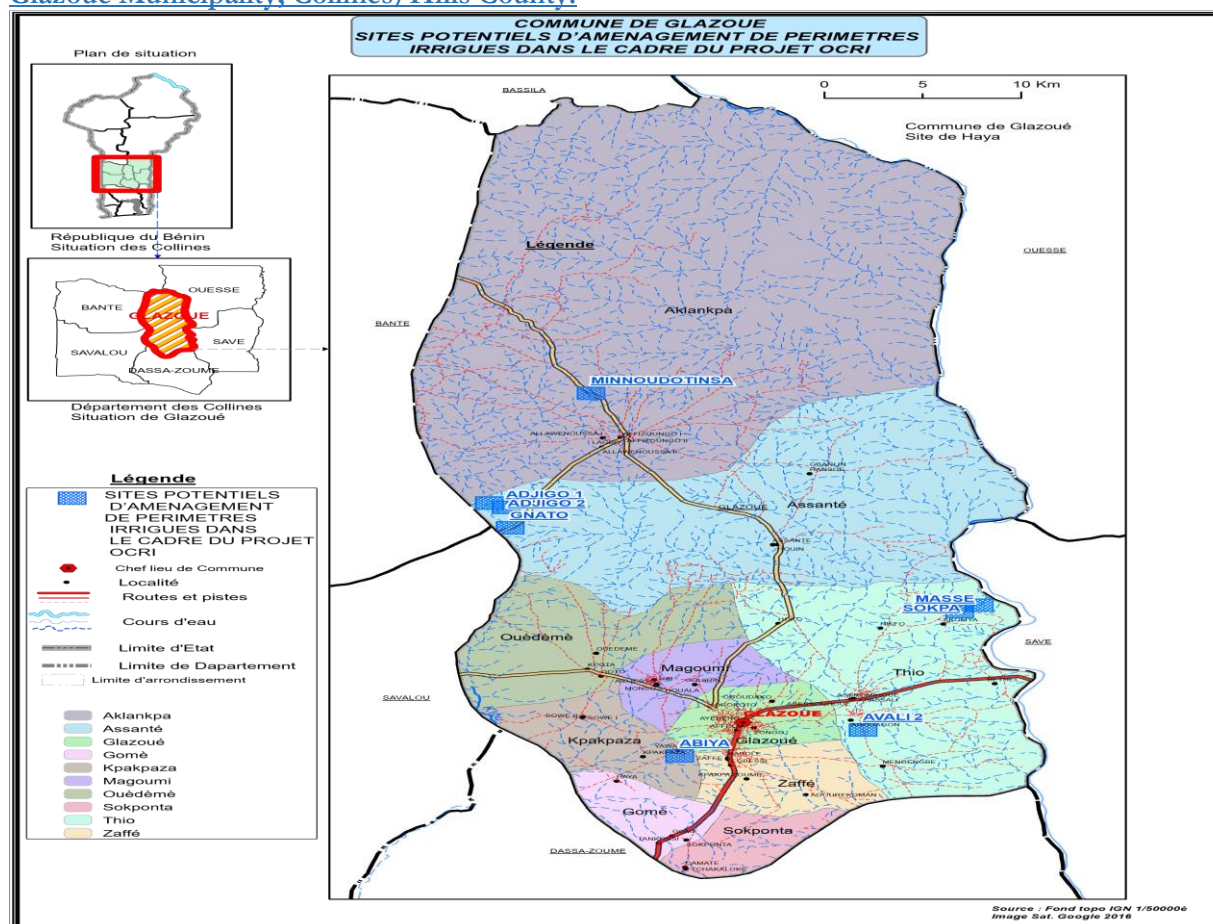


Map 8 : Geographic position of the Djougou district/commune sites in the Donga County/department (Source: 2018–2022 PDC)

64. The Djougou District is located in the northern part of northwestern Benin, in the department of Donga. It covers an area of 3,966 km² and is at about 461 km from Cotonou, the economic and political capital of Benin. It borders the municipalities of Kouandé and Péhunco to the North ; of Bassila to the South, of Sinendé, N'Dali and Tchaourou to the East and with the municipalities of Copargo and Ouaké to the West. The district is subdivided into twelve (12) localities: *Djougou 1*, *Djougou 2*, *Djougou 3*, *Baré*, *Barié*, *Belléfoungou*, *Bougou*, *Kolokonde*, *Onklou*, *Partago*, *Pélébina* and *Sérrou*, and then into one hundred and twenty two (122) administrative villages and localities (Source: *Djougou 2018 – 2022 PDC*).
65. Djougou municipality is a plateau dotted with low hills, typical of the agro-ecological zone of the West-Atacora Zone (4), characterized by a mountainous area dominated by the Atacora range and an area consisting of vast wooded plains. It slopes from the west to the east and altitudes vary from 295 m in the East to 545 m in the West. The municipality is endowed rivers that provide water to the municipality, as well as 557.57 ha of lowland areas spread over 76 sites throughout

the territory, of which 113.59 developed hectares are located within 13 sites and 443.99 undeveloped hectares within 63 sites¹⁴.

Glazoué Municipality, Collines/Hills County:



Map 9 : Geographic position of the Glazoué district/commune sites in the Hills/ Collines County/department (Source: 2018–2022 PDC)

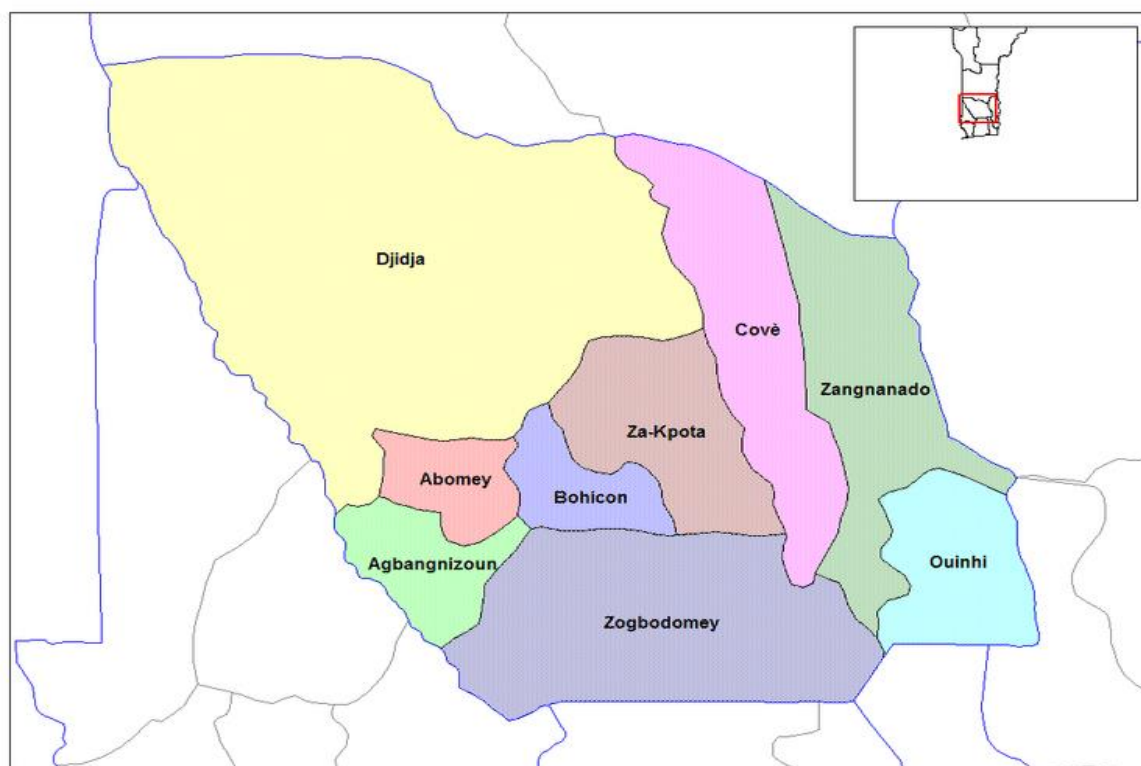
66. The district (*municipality*) of Glazoué is one of the six municipalities of the “Collines”/Hills county (*département*). It is located at the “heart” of the hills County, about 233Km from Cotonou, the economic and political capital of Benin. The District covers an area of 1,750 km² (1.5% of the national territory). It is bordered by the district of Dassa-Zoumè to the South, the municipalities of Bassila and Ouessè to the North, Savè and Ouessè to the East, and Savalou and Banté to the West. Glazoué district is subdivided into 10 sectors (*arrondissements*), namely: *Aklampa*, *Assanté*, *Glazoué*, *Gomé*, *Kpakpaza*, *Magoumi*, *Sokponta*, *Ouédèmè*, *Thio* et *Zaffé*, and into 48 administrative villages, linked to 231 localities. Its density increased from 34 inhbt/km² in 1992 to 51 inhbt/km² in 2002. The municipality has a very rugged terrain characterized by a series of bare hills whose slopes average a difference in altitude of around 200 m. In the area, the hills are the main and most visible element, and their shape varies from one place to another. The peak is in the Tangbé village, on the granite range (at 465 m high). The slopes of the inselbergs are steep (40 to 80%) and their lower reaches are strewn with large crumbling blocks.

¹⁴ Djougou 2018–2022 PDC

Table 2 : Total population per sector (arrondissement) in 2013

Sectors	Villages / City Localities	Total village	Population
Aklampa	Lagbo, Allawenonsa1, Allawenonsa2, Affizoungo1, Affizoungo2, Sowindji	6	26504
Assanté	Assanté, Houin, Gbanlin-Hansoé	3	11873
Glazoué	Ayédèro, Orokoto, Affécia, Zongo, Ogoudako-Ayéwa	5	19870
Kpakpaza	Kpakpaza, Sowé1, Sowé2, Yawa	4	7100
Gomé	Gomé, Tankossi, Tchachégou, Haya	4	7124
Magoumi	Ihaï, Aidjesso, Monso, Ogrin-Boubou, Houala	5	10024
Ouédémé	Ouédémé, Kpota, Yagbo, Goto	4	10517
Sokponta	Camaté, Sokponta, Tchakaloké	3	6387
Thio	Abessouhoué, Kpassali, Agouagon, Béthel, Akomya, Riffo, Assromihoué, Hoco	8	12410
Zaffé	Zaffé, Kabolé, Egbessi, Kpakpazoumè, Adourékoman, Madengbé	6	12733
TOTAL		48	123 542

Source : PDC2 Glazoué, (2018-2022)



Map 10: Overview of Zou County Municipalities (i.e. focus on Zagnanado [dark green] & Zogbodomey[gray]):

Municipality of Zagnanado, Zou County:

(See map above – Dark Green section)

67. **Zagnanado**¹⁵ or **Zagnanado** or **Zagnando** is a town, arrondissement (sector), and commune (district) in the Zou Department (County) of southern-central Benin. The district of Zagnanado is located on the Zagnanado plateau, the smallest plateau North of the LAMA depression, between 7° and 7°30N Latitude and 2°15 and 2°30E Longitude. It covers an area of 750 km² and is bordered by the district of Dassa-Zoumè to the North, Ouinhi and Zogbodomey to the South, Kétou and

¹⁵ - **NOTE:** For consistency purpose, we will be using Zagnanado throughout the ESMF.

Adja-Ouèrè to the East, Covè, Za-Kpota and Djidja to the West. It's at about 47 km from the town of Abomey, capital of the Zou county, and 165 km North of Cotonou.

68. Zagnanado is one of the nine (09) municipalities (municipalities) in the Zou county. It is under the supervision of the Zou prefecture in Abomey. It has 43 villages and city boroughs, classified within 06 localities (arrondissements), namely: *Zagnanado, Agonlin-Houégbo, Banamè, Kpédékpo, Dovi* and *Don-Tan*. Each village and district is headed by a leader elected within the Municipal Council, made up of 11 counsellors, and headed by a Mayor, two elected deputies and three standing committees. The district is characterized by peneplains and plateaus (western part). The Lama Depression, hills and escarpments cover about 5% of the county.

Municipality of Zogbodomèy, Zou County:

(See map above – Gray section)

Table 3: ZOU COUNTY/ ZOGBODOMEY DISTRICT SOCIECONOMIC PROFILE

Divison administrative	Nombre menages	Total	Masculin	Feminin	Taille ménage	Population agricole	Ménage agricole	0-5 ans	6-11 ans	0-14 ans	15-59 ans	+60ans	+18 ans
BENIN	1 803 123	10 008 749	4 887 820	5 120 929	5,6	4 689 764	651 067	2 077 442	1 841 216	4 669 092	4 897 099	442 112	4 707 271
DEPT du ZOU	178 698	851 580	407 030	444 550	4,8	378 928	68 043	169 871	155 641	395 289	409 146	47 133	400 689
ZOGBODOMEY	19 987	92 935	45 273	47 662	4,6	58 674	11 322	19 416	17 463	44 194	43 810	4 931	43 154

69. **Zogbodomèy¹⁶** or **Zogbodomè** is a town, locality (*arrondissement*), and district (*commune*) in the Zou County (*Département*) of south-western Benin. Zogbodomèy district is in the southern part of the Abomey plateau, at about 150 km from Cotonou and covers an area of 600 km². As a “gate-keeper” of the Zou county, towards Bohicon, the district is bordered by the municipalities of Bohicon and Za-Kpota to the North, the municipalities of the Atlantic (Zè & Toffo) and Couffo (Lalo) to the South, the municipalities of Covè , Zagnanado and Ouinhi to the East and the Agbangnizoun district to the West. It's one of the nine (09) municipalities in the Zou county; it is divided into eighty (80) villages split into 11 localities/boroughs: *Akiza, Avlamè, Cana I, Cana II, Domé, Koussoukpa, Kpokissa, Massi, Tanwé-Hessou, Zoukou and Zogbodomèy*. It has pastoral resources (*i.e. water sources and pasture*) hence making it an area of transhumance¹⁷.

70. The district's topography is characterized by a plain and a plateau with slopes of less than a 5% incline (*Zogbodomèy SDAC, 2011*) with several sides. There are also the vast valleys of the Zou and Ouémé rivers, areas of low plateaus and a depressed area around the Lama.

3.1 Environmental and Social Features and Vulnerability of Proposed Project Area

Environmental Features

Climate and Meteorological Variability

71. Benin is characterized by unusually dry conditions. This is primarily due to two particularly important factors, namely (i) *the situation of the coast that is rather well protected from the western winds*; and, (ii) *the Atacora Barrier in the West and North West which decreases the amount of rainfall*. The great part of the country is under the influence of transitional tropical conditions. Rainfall is not as abundant as found in areas with the same latitude thereby giving rise to tropical conditions known as the *BENIN variant*. Benin's climate is tropical; hot, humid in south ; semiarid in north. Annual rainfall in the coastal area averages 1,360 mm, not particularly high for coastal West Africa. Benin has two rainy and two dry seasons. Although there have been some

¹⁶ - **NOTE:** For consistency purpose, we will be using Zogbodomèy throughout the ESMF

¹⁷- The economy of Zogbodomèy is based on agriculture, livestock, trade and agro-food processing. The sector employs over 80% of the population, with the main crops grown being maize and groundnuts, but in recent years, producers are turning to other commodities such as vegetables, cotton, cassava, soybeans, cowpeas, and rice. Livestock production is limited to goats, sheep, pigs, poultry and rabbits.

variations lately, mainly attributed to climate change impacts, the principal rainy season runs from April to late July, with a shorter less intense rainy period from late September to November. The main dry season goes from December to April, with a short cooler dry season from late July to early September.

BOX 1: Climate Change Impacts -Temoignage de paysan/a farmer testimony on CC Impacts

Avant, dans la commune, on sèmail pendant le mois d'avril le maïs et l'arachide, mais actuellement c'est pendant les mois de juin et juillet. Aujourd'hui tout a changé, à la moindre pluie on sème les semences avec la pratique parfois des semis à sec. A cause de la rareté des pluies, les rendements sont devenus faibles. Les cultures n'arrivent plus à boucler leur cycle végétatif et la productivité en ressent. Les changements dans les paramètres du climat ont influencé l'évapotranspiration, la quantité et la répartition spatiale temporelle du ruissellement de surface. La diminution des ressources hydrologiques sera accompagnée d'une augmentation de l'évapotranspiration engendrée par les fortes chaleurs. La dégradation du couvert végétal va induire un ruissellement plus important et diminuer le potentiel d'infiltration des eaux de pluies, l'appauvrissement des sols dénudés de leur nutriments ce qui affectera qualitativement et quantitativement les réservoirs souterrains.

Source : Cheikh Sagna, International Safeguards Compliance & Sustainability Advisor, Glazoué, December, 2019

72. More specifically, while the Southern portion of the country (*i.e. the Coastal zone*), is under the influence of a Northern transitional equatorial climate characterized by a long dry season from November to the end of March, a first rainy season from April to July, a small dry period in August and a second rainy season in September and October; the Northern portion of the country is subject to a true tropical climate. A long dry season in winter (*i.e. November to early April*) with a long rainy season in the summer (*i.e. late April to October*). Temperatures and humidity are high along the tropical coast. While in Cotonou, along the Atlantic Ocean, the average maximum temperature is 31°C, the minimum is 24°C ; throughout the country, the mean temperature varies between 25°C to 28°C. Variations in temperature increase when moving north through a savanna and plateau toward the Sahel. A dry and fresh wind from the Sahara called the *Harmattan* blows from December to March. Grass dries up, the vegetation turns reddish-brown, and a veil of fine dust hangs over the country, causing the skies to be overcast/polluted. It is also the season when farmers burn brush in the fields (slash and burn) in preparation for the upcoming agricultural season.
73. → The upper valley region (*Copargo & Djougou*) is generally characterized by a Sudano-Guinean climate type, albeit nuanced by the Atacorian terrain. Both municipalities possess a continental climate marked by the presence of a single dry season from mid-October to mid-April and a rainy season from mid-April to mid-October. From December to March, the district is heavily exposed to the Harmattan, a dry and fresh wind blowing from the Sahara westwards over Western Africa; the rainy season provides rainfall that ranges from 800 mm to 1,300/1,492 mm (*Copargo*) and 1,000 to 1,500 mm (*Djougou*) for 75 to 140 effective days of rain; making both Djougou and Copargo well-watered municipalities with the highest rainfall usually recorded between the months of August and September with volatile climatic hazards (*flash floods, droughts, strong winds, wildfires*), and sporadic tornadoes, that affect crop productivity and soil fertility.¹⁸ According to the projection of annual average temperature variations from 2000 to 2100, temperatures in the West-Central region (*Copargo, Djougou*) are expected to rise by an additional 3.16°C, from 27.3 °C in 2000 to 30.46°C in 2100 (*Source: CDN, 2017*). Overall, a rising rainfall trend has been observed during the first half of the 21st century and a significant decline in the second half. Moreover, it is estimated that the variation in annual precipitation will increase from 0.5% in 2005 to 5.73% in 2100 (*CDN, 2017 & Djougou 2018 – 2022 PDC*).

¹⁸ <https://docplayer.fr/58113886-Carte-administrative-de-la-commune-de-djougou.html>

74. → The climate of the middle and lower valley region (*Glazoué, Zagnanado & Zogbodmey*) is of an intermediate type, known as bimodal, mostly between the subequatorial maritime climate and the Sudano-Guinean climate, characterized by four seasons, namely: (1) the big rainy season from March to July, and the small rainy season from September to October; and (2) the big dry season from November to March, and the short dry season from July to August. The passing of the seasons is led by the shifting of the Intertropical Front (ITF) throughout the year. The distribution of rainfall is fairly regular, with a peak generally recorded in July. The average annual rainfall is around 1,100 mm (*PDC Glazoué 2018 - 2022*)¹⁹. However, it is worth noting that in recent years rainfall has been affected by climate change, resulting in rainfall deficits coupled with an uneven distribution of rainfall and longer periods of drought²⁰ across all municipalities areas (*PDC, 2017*). The climate is characterized by a relative high humidity level (76%)²¹ and temperature variations throughout the year are relatively high ranging from 22°C to 36°C with a peak of 38°C (*in Glazoué*), whereby the mean temperature varies between 11°C and 13°C²².

Soil Quality and Land Use

75. As in the whole of the Donga department (*i.e. Copargo & Djougou*), soils in the municipalities are non-concretionary and indurated grey ferruginous soil with a poor capacity for water retention; mostly ferrallitic/ferruginous and have a rare tendency towards hydromorphy. These soils, although lend themselves to agriculture, often need a significant amount of organic matters.
76. The Rural Land Plans currently being developed cover only a tiny portion of Donga department's municipalities areas. Aside from some sparse individual initiatives, neither industrial nor grazing areas or rainwater harvesting reservoirs have been established or constructed. This state-of-affairs creates enormous conflicts related to access to land and water resources in rural areas. Consequently, there is a strong prevalence of land disputes between farmers and pastoralists, as a-result-of transhumance corridors not being respected, and grazing areas not sufficiently equipped.
77. The Hill and Zou departments (*i.e. Glazoué & Zagnanado and Zogbodomey, respectively*) have scattered leached, tropical ferrallitic/ferruginous soils and few hydromorphic soils in streams²³. The three main soil categories of the Ouémé basin are found here. In fact, the three participating municipalities are characterized by ferrallitic soils covering most of their territories, hydromorphic soils, and vertisol and ferruginous soils²⁴ of the municipalities in selected locations. Despite significant chemical fertility, hydromorphic soils have moderate to poor physical and hydraulic properties as well as a heavy texture with low permeability²⁵, although the water reserves remain relatively low and particularly vulnerable. The high degree of compaction of these soils also promotes redox, which is likely to cause significant stress for plantations.
78. Land use and development is essentially for agricultural purposes. Land tenure is governed by two official regimes: (i) **Customary** (which oftentimes leads to series of domanical conflicts) and (ii) **legal land title** (*i.e. law No. 65-25 of August 14, 1965; whereby until lately, less than 1% of Land Title were officially acquired*). While this is general throughout the country, in the participating five (05) municipalities of OCRI, particularly in the Donga department, agricultural lands are acquired either by inheritance (mostly patriarchal lineage), direct donation by the village

¹⁹ <https://www.ajol.info/index.php/ijbcs/article/view/116721/106298>

²⁰ <http://unfccc.int/resource/docs/natc/benn2f.pdf>

²¹ Figures calculated from the following data : https://planificateur.a-contresens.net/afrique/benin/zou_department/zogbodomey/2390727.html ; https://planificateur.a-contresens.net/afrique/benin/zou_department/zagnanado/2390751.html

²² <https://unfccc.int/resource/docs/napa/ben01f.pdf>

²³ <http://www.mdsbenin.org/IMG/pdf/PDC2-copargo-1.pdf> ; <http://www.mdsbenin.org/IMG/pdf/monographie-djougou.pdf>

²⁴ Zogbodomey 2017 – 2021 PDC

²⁵ http://caubenin.bj/Site_WEB_DGR/Rapport_FAO_SIG_et_Sites.pdf

chief or by tacit rental contracting, whereby the renting/tenant farmer enters into locally agreeable contracting terms with the given landlord during a given period. Buying/purchasing options also exist and has been spreading lately with the impact of climate change on households, somewhat “forced/obliged” to re-sell their main agricultural/livelihood support resources²⁶. Nonetheless, women had free access to land properties, either through inheritance from their late husbands, parents or by purchase.

79. Land is mainly allocated to farms and forests, watercourses, lowland areas and wetlands. These municipalities have hundreds of hectares of lowlands that are very poorly valued. A vast flood plain extends from the confluence of the Zou and Ouémé rivers to the north of Azili Lake. Thus far, it is estimated that more than half of the arable land is been used in the district. Nonetheless, besides Glazoué rural district, the municipalities of Banamè and Don-Tan are spotted as some of the only ones with reserves of unworked arable lands. Being mostly rural, about 80-96% of the labour force works in the agricultural sector (*i.e. agriculture, fishing, breeding, etc.*).
80. Livestock breeding activities are limited. Because the area is located along the transhumance corridor, conflicts between local farmers and nomadic herders²⁷/breeders are recurrent and sometimes extreme, with serious losses, wounds and deaths.

Water Quality and Irrigation Systems Resources

81. The Donga country is endowed with a rich, dense and varied hydrographic network that flows over the Copargo plains and Djougou high plateau. More specifically, the Copargo district is covered and watered by approximately 55 km of waterways, including a river and three springs²⁸, whereby the Djougou district gets its water supply from four main rivers stretching over a total of 21km, and has five functioning reservoirs. Except for the Ouémé, the main and longest river in the country, all of these have seasonal flows. The main problems faced by the waterways are filling, silting/siltation, drying up and pollution, mostly resulting from increased deforestation on both the upper and lower lands and extensive cumulative usage of pesticides, household wastes and Néré (*Parkia biglobosa*) seeds processing for agriculture and horticulture activities.
82. Moreover, the cross-referencing of results from workshops across the counties and those from the study carried out by LoCAL²⁹ enabled the identification of some of the main climatic risks to which the populations of both municipalities are exposed to. These include the poor distribution of rainfall over time and space; frequent, extended pockets of droughts; strong winds at the beginning and at the end of rainy seasons, exacerbated with those caused by the persistent Harmattan; excessive heat and to some extent flash floodings. It is in fact in this very county³⁰ that the Ouémé-River originates and flows downstream towards the Atlantic Ocean at the port city of Cotonou. During the rainy season, rivers cause frequent submersions which are favourable for the practice of rice cultivation in the lowlands. Five (05) reservoirs and dams geared towards breeding (*Pabégou*), fish farming (*Tanéka-Koko, Kahrum Yaourou*) or counter-seasonal

²⁶ - Mostly due to the poor agricultural productivity, insufficient harvests and food shortage, heads of households needing to celebrate some important socioeconomic/customary/traditional activities/ceremonies (*i.e. marriage of their children, medical bills, funerals, religious ceremonies, sending their children to school or abroad, or repaying unbearable and long-lagging debts, etc.*) found themselves “forced” to re-sell some of their properties, core source of their livelihoods, hence placing themselves into more vulnerability conditions, by relinquishing these vital means they for long had hold onto. The long-term impact of climate change is likely to further increase this modus operandi, hence jeopardizing agriculture future in the rural area. This could be further exacerbated given the fact that neighboring countries are less and less welcoming Beninese immigrants, on whom most families rely upon on their remittances.

²⁷ - These herders are coming both from within Benin and from neighboring countries, such as Nigeria, Ghana, Burkina Faso, Niger and/or Cameroon. The language and cultural barriers are often source of exacerbation of recurrent conflicts between herders and farmers, as well as between herders themselves. Despite both Beninese Government and the regional organization (CILSS) efforts, recurrence and related negative risks and impacts are often hampering development efforts on the ground.

²⁸ - The main ones are the Ouémé, Kéran, Yari, Gbangbaré, Saguigui, Pabébou, Baana, Sountchoulou, Danégoué, Sounégou, N'kouéma and Makoulouhou rivers.

²⁹ - LoCAL : *Local Climate Adaptive Living facility*, 2015

³⁰ - The Ouémé River has its source in the district of Copargo, and more precisely, in the locality of Tanéka-Béri.

production (*Tchandoga; Tchandégou*) have been constructed and are all functional in the Copargo area.

83. The hydrographic network of the Hill and Zou counties, more precisely the Glazoué, Zagnanado and Zogbodomey municipalities, is relatively dense and made up of several rivers and small streams of water. The regime is regular with quite pronounced periods with low water levels, and floods from August to October. In addition to the Ouémé, the largest river in the country, these municipalities are drained by over 70 seasonal waterways³¹.

Irrigation System

84. As stated above, the hydrographic system of Benin is comprised of 4 big hydrographical ensembles, namely the Niger River, the Oueme-Yewa, the Volta and the Mono-Couffo (*MMEE, 2006*). Specific to Benin hydrological network, the Oueme-Yewa comprises of the Oueme River itself (608 Km²) and its main affluents : *Okpara* (320Km²), *Zou* (250Km²), *Porto Novo lagoon* (35Km²), *Cotonou chennal* (40Km²), *Nokoué lake* (150Km²) and the *Sô*. Some of Benin's rivers network are shared with its neighboring countries (*i.e. Niger, Nigeria, Ghana, Burkina Faso and Togo*); which are commonly shared via a network of institutions established within the multilateral cooperation framework such as: the Niger Basin Authority (NBA) on the Niger River, the Volta Basin Authority (VBA) on the Volta River, the Mono Basin Authority (MBA) on the Mono River. Their main role is to foster a concerted, equitable and sustainable water resources management, hence allowing the sustainable development of these partnering countries. It's worth noting that up until recently, besides some ad-hoc initiatives, the Oueme River Basin that Benin shares with Nigeria does not have a transboundary water management plan; which will tangibly govern the co-sharing framework and the efficient usage of the ORB water resources between the two countries, especially when it comes to irrigation system network.

85. Nonetheless, the Annex 17 gives a more indepth information on the existing irrigation infrastructures in the participating counties/municipalities. This report will just highlight few of them³².

Table 4: Preliminary distribution by participating commune & Agricultural Development Plan (ADP/PDA).

Type d'aménagement	Construction de micro-barrages seuils (nombre de sites)	Construction de micro-barrages seuils (nbre sites)	Aménagement de petits périmètres irrigués (ha)	Aménagement de bas-fonds avec maîtrise partielle de l'eau (ha)	Aménagement de sites selon les pratiques DRS/CES (ha)	Aménagement pour la protection des sources et cours d'eau (Nombre de site)
Municipalities						
<i>Copargo</i>	8	5	408	394	20 115	2
<i>Djougon</i>	11	7	354	241	38 762	0
<i>Glazoué</i>	8	10	347	755	6 993	0
<i>Zagnanado</i>	2	1	50	960	11 509	14
<i>Zogbodomé</i>	1	-	269	260	17 995	42
Total	30	23	1 428	2 610	95 373	58

Table 5 : Distribution of hydroagricultural Infrastructures per ADP located in the ORB

Pole	Types d'aménagement (ha)			
	Périmètres à maîtrise d'eau		Bas-fonds ²	Périmètres Privés
	Equipé	Exploité		
<i>PDA4</i>	4 608	4 475	608	1 482
<i>PDA5</i>	1 439	792	177	256
<i>PD A6</i>	0	0	18	255
<i>PD A7 (sans le Mono)</i>	2 430	0	53	1 321
TOTAL	8 477	5 267	856	3 314

SOURCE: Direction du Génie Rural et B2A, 2016

³¹ - Besides the Ouémé and its affluents, the Zou, Couffo, Hounto, Koto, Samion, Hlan, Da and Dô/Dohou waterways, both counties are made up of over 70 water bodies and waterways including: *Riffo, Aghanlin-Djetto, Trantran, Klan, Kotobo, Abokan, Donga, Agba-ghavi, Ajolo and Fermamanou*.

³² - For more information, please refer to the feasibility study on the hydro-agriculture irrigation infrastructure, GCF-FAO-GoB.

86. The ORB has an estimated 131 water retention areas (i.e. dams, ponds, swamps, etc.) with a retention capacity of 32,213 million cubic meters (m³), about less than 0.02% of the total capacity of annual drained waters in the country (13 billion m³). It's worth noting that most of these are/were constructed purely for cattle farming (pastoralism) purpose. Nonetheless, their current status further urges the need to rehabilitate/refurbish them, with a much wide and great rôle and purpose ; that of equally serving both agricultural and household consumption purposes. Altogether, the 5 municipalities have 6,047 ha of prepared/equipped agricultural land with well-managed water system, of which 4,267 ha are still functional. Same applies to the valleys/low-land and irrigated agricultural lands perimeters, 756 ha and 2,314 ha, respectively.

Table 6: Distribution of existing Water Infrastructures within the Onémé River Basin

Département	Commune	Nombre	Capacité (m ³)
BORGOU	N'DALI	24	1 699 000
	PARAKOU	11	353 000
	PERERE	6	1 238 000
	TCHAUROU	16	2 470 000
TOTAL BORGOU		57	5 760 000
COLLINES	BANTE	5	148 000
	DASSA-ZOUME	8	221 000
	GLAZOUÉ	10	236 100
	OUESSE	12	372 000
	SAVALOU	7	180 600
	SAVE	10	24 145 000
TOTAL COLLINES		52	25 302 700
DONGA	BASSILA	5	502 000
	COPARGO	5	170 000
	DJOUGOU	7	273 100
TOTAL DONGA		17	945 100
ZOU	ZANGNANADO	1	80 000
	ZOGBODOMEY	1	40 000
TOTAL ZOU		1	80 000
PLATEAU	KETOU	2	45 000
	POBE	2	80 000
TOTAL PLATEAU		4	125 000
TOTAL 5 MUNICIPALITÉS		24	799 200
TOTAL GENERAL		131	32 252 800

Source: Direction du Génie Rural et B2A, 2016

Table 7: Summary of identified potential sites for the construction of small water infrastructures (dams / micro-dams)

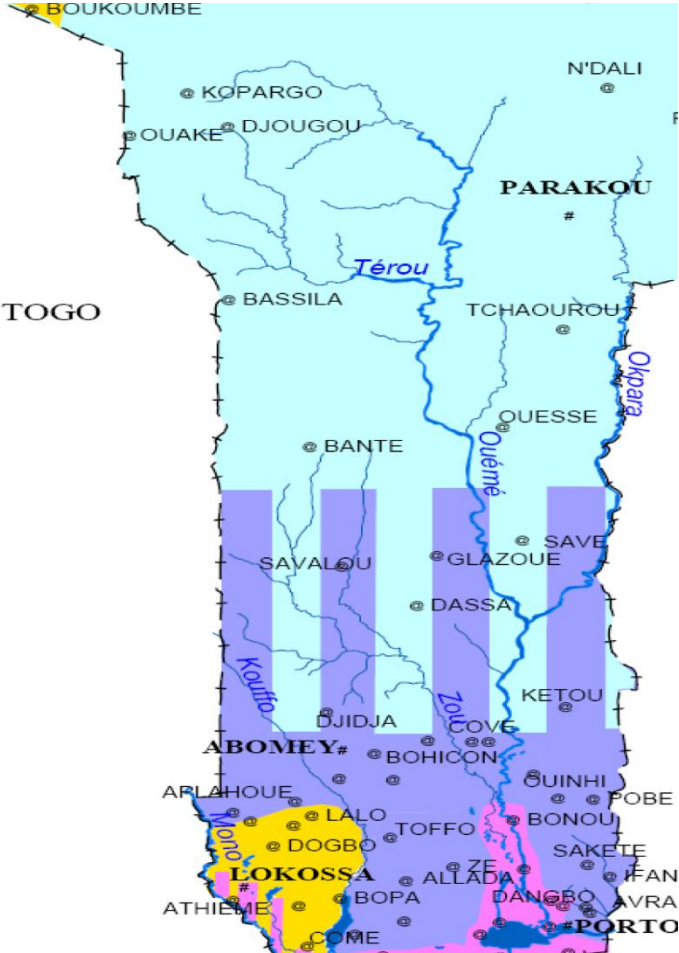
N°	Pôle de Développement Agricole (PDA)	Municipalités	Nbre Arrondissements	Nbre Villages	Nbre sites	Spéculations développées	Capacité probable des ouvrages (m3)	Superficie probable en fonction de la capacité de stockage (ha)	Cours d'eau ou affluent qui draine le site	Statut
1	PDA4	Copargo	2	8	8	Riz et Maraîchage	320 000	21	Ouémé	Non aménagé
		Djougou	6	11	11	Riz et Maraîchage	440 000	26	Donga	Barrage existant
		Glazoué	4	8	8	Riz et Maraîchage	320 000	21	Zou/Gnatodji	Non aménagé
2	PDA5	Zangnanado	1	1	2	Maraîchage	80 000	5	Ouémé	Non aménagé
		Zogbodomcy	1	1	1	Riz, Maraîchage, Canne à sucre	40 000	2	Koto	Non aménagé
Total Général			15	27	30		1 200 000	75		

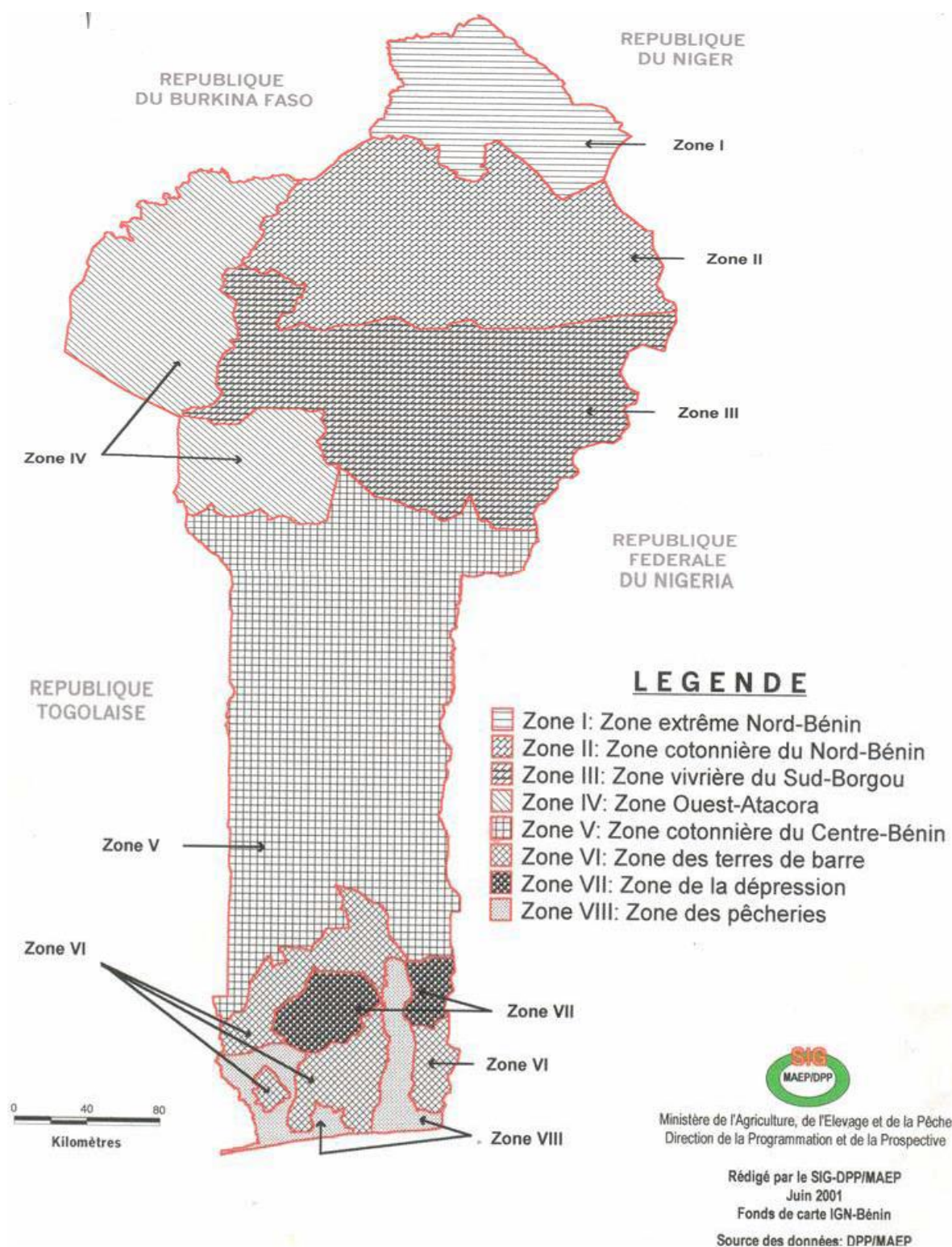
Table 8: Summary of small dams / micro-dams to be rehabilitated

N°	Pôle de Développement Agricole (PDA)	Municipalités	Nbre Arrondissements	Nbre Villages	Nbre sites	Spéculations développées	Capacité (m3)	Superficie probable en fonction de la capacité de stockage (ha)	Cours d'eau ou affluent qui draine le site	Statut
1	PDA4	Copargo	4	5	5	Maraîchage et abreuvement du bétail	170 000	08	Onémé	A réhabiliter
		Djougou	5	7	7	Maraîchage et abreuvement du bétail	273 100	12	Donga	A réhabiliter
		Glazoué	5	6	10	Maraîchage et abreuvement du bétail	236 100	10	Onémé et Zou	A réhabiliter
2	PDA5	Zangnanado	1	1	1	Abreuvement bétail	80 000	-	-	Réhabilité 2018
		Zogbodoméy	-	-	-	-	-	-	-	-
Total Général			15	18	23		743 100	30		

Map 11: Map of climatic constraints in Benin

(Source: MEHU, Initial Communication in Benin on Climatic Changes, 2001 and PANA, 2006)





Map 12: Agro-Climatic Zones of Benin
Source: SIG – DPP/MAEP (2001)

87. Overall, the participating 5-municipalities/municipalities' local economy is made up of activities in the primary sector (*agriculture, horticulture, livestock farming and hunting; forestry and logging; fishing, fish farming and aquaculture*), in the secondary sector (*processing of agricultural products, textile manufacturing, woodworking*) and the tertiary sector (*trade, wholesale and resale activities, craft, tourism, mechanical shops: i.e. repair of motor vehicles and motorcycles, and related services, etc.*). As such, Agriculture is the main economic activity followed by livestock farming and trade; with fishing, fish-farming/aquaculture, etc. As stated earlier, agriculture is of the extensive and itinerant slash-and-burn type and is dependent on climate and fertilizers. Production is oriented towards cereals and tubers. Livestock farming as well as fishery and fish-farming are of the traditional kind, with limited use of veterinary and other special technical services (*Source: Municipalities PDCs, 2018-2022*). From 60 to 89% of the inhabitants of these municipalities live in rural areas. Agriculture-wide sector provides work to about 80-90% of the labour force largely composed by farmers and is roughly practiced on areas covering about 35-40% of the participating municipalities' landscape. Overall, the rainfall trend is often disrupted (*i.e. delayed start, intermittent rain-shortage/dry period, late end of the rainy season, increased heat waves, partly attributed to climate change factors, etc.*), causing changes in the annual agriculture production and productivity cycles.
88. The most cultivated crops are the following: cereals (*maize, rice, sorghum*); roots and tubers (*yam, cassava, coco-yam, potato*); legumes (*groundnut/peanuts, soybean, bambara groundnut, cowpea, Niebe/beans, Vouandzou, Goussi/Sesame, Soya*); market gardening/horticulture vegetables (*tomato, cabbage, okra and chilli*); cash crops (*cashew nuts, soybean, cotton and products harvested in the wild (shea nuts, néré, baobab, and alike)*), etc. constitute the basis of the production system. Market gardening (horticulture) is gradually gaining momentum in the municipalities around water reservoirs and in lowland areas suitable for agricultural production and contributes to household cash/income generating revenues.

Biodiversity and Forests:

89. From the North to the South, the country forest and biodiversity thins out considerably in the center and gives way to grassland. Elsewhere, cultivated crops predominate, including the immense palmgroves of lower and middle Benin and the coconut and palm-trees plantations on the 124Km long coastline and along the lagoons and swamps³³.
90. The OCRI participating municipalities have an abundance of lowland areas, forests (*i.e. sacred forests, classified forests and groves*), savannahs, private plantations, water bodies and waterways, natural water sources, soils (arable lands), and mineral resources (*i.e. sand, gravel, laterite, granite quarries*) (see 2018 - 2022 Municipalities PDCs).
91. Overall, the vegetation cover is dense and comprises of a mix of crops and fallow lands. The penepain is covered by wooded *savannah* and shrubby alternating with dense deciduous and semi-deciduous forests³⁴ of wooded (tree and shrub) savannahs³⁵ and some swamps and gallery forests running along the main waterways/watercourses and watersheds. Plant formations are

³³ - There are several listed classified forests, just to cite few, the largest being in the Upper Ouémé portion, in the South-West (35,000ha), Belléfoungou (1,300 ha), Koto (>1,091ha), etc. plus numerous locally worshipped and sacred forests, protected on a traditional level for various uses, especially to ward off bad spells. This second category of forest is essentially made up of woody species called "*Akomèni en solà*", "*kpalélé en dendi*" and "*kpalélén en yom*" such as Baréi, Panther, Nalohou and Kpatogou.

³⁴ - Semi-deciduous forests and/or swamps with exclusive species such as: *Celtis mildbraedii*, *Rinorea brachypetala*, *Dennettia tripetala*, *Pouchetia africana*, *Lasiodiscus mannii*, *Griffonia simplicifolia* and *Mansonia altissima*, *Pterygota macrocarp.* *Syzygium ovarianse*, *Xylopia rubescens*, *Mitragyna ledermannii*, *Uapaca paludosa*, *Rothmannia megalostigma*, *Naucllea xanthoxylon*, *Trichalsia reticulata*, *Harungana madagascariensis*, *Anthostema Aubryanum*, *Lasiomorpha senegalensis*, *Cynometra vogelii*, *Grewia malacocarpa*, *Grewia barombiensis*, *Zacateza pedicellata*, *Eremospatha macrocarpa*

³⁵ - with exclusive species mostly dominated by *Vitellaria paradoxa* (Shea) and *Parkia Biglobosa* (Nere), *Hildegardia barteri*, *Eugenia nigerina*, *Aframomum latifolium* and *Acridocarpus smeathmannii*, as well as rupicolous forests with exclusive species such as *Milletia warneckei* var. *porphyrocalyx* (cf. CBD Fourth National report, Benin : <https://www.cbd.int/doc/world/bj/bj-nr-04-fr.pdf>).

the district's most important natural resources in terms of land use.³⁶ The main species found in the project environment are: *Adansonia Digitata* (baobab), *Parkia Biglobosa* (nééré), *Anogeisus Leiocarpus*, *Daniellia Oliveri* (African Copalier), *Prosopus Africana* (*Prosopis*) *Pterocarpus Erinaceus* (Sandalwood), *Vitex Doniana*. Due to anthropogenic pressure, species such as *African mahogany*, *Néré*, *Shea*, *mango* (*Azedarakta Indika*), *eucalyptus*, *teak*, *cashew* and *Afzelia Africana*, *Samba wood* and the *Kapok tree* were introduced by man.

92. In some of these forests, endangered animal species and birds of great ornithological value can be found, such as: small to medium size reptiles and small game like, Red-bellied Monkeys, Babouins, grasscutters, antelopes, deers, giraffes, pangolins, hippopotames, crocodiles and caimans³⁷, let alone parrots, eagles, herons, flamants, and a handful of other transboundary migrant birds/
93. Aquatic fauna and flora in the middle and lower Ouémé are similar to those found in the rest of the Ouémé river basin. The water hyacinth, a seasonal plant, often announces the period of the floods. It is sometimes considered an invasive species because it creates a vegetal cover on water bodies which sometimes makes them impracticable, especially for fishing. The riverbed is also covered with riparian forests or bank vegetations. In most part of the project area, fishing activities and aquatic ecosystems are minimal, moderate to almost inexistent if not incipient because of the invasive species, and lack of fishing resources.

Social Features

Population and Demographics

94. According to the INSAE 2013 Fourth General Population and Housing Census results (*RGPH4, 2013*), the population in the OCRI participating municipalities is about **598,868 inhabitants**, a considerable increase from 2010 census³⁸. The population is mostly rural with a rate of 76%, with an average ratio of 52% of women versus 48% of men throughout. The district populations are unevenly distributed across the various localities. Although variable from one district to another, throughout, according to the DET (*2014*),³⁹ the average population density is quite high (46/54 inhabitants/km²) and young people tend to emigrate. Women population slightly exceeds that of male, representing 52% of the total population of the municipalities. Despite the high level of female representation, women's socioeconomic stature is still lagging and is indicative of the weight of sociocultural constraints that inhibit women's initiatives, hinder their education and stop girls from attending school much longer (*early marriage, families poverty level, rural exodus, etc.*).
95. Overall, the municipalities population is noticeably young, with a strong presence of 10-14 years olds in all localities, whilst the proportion of elderly remains very marginal. In addition, internal and external migrations have been noted, particularly because of rural exodus and child trafficking, particularly at the transboundary levels (*i.e. with bordering countries: Nigeria, Ghana, Burkina Faso and Niger*). Commercial and rural activities are the lead causes of immigration and emigration in most municipalities/municipalities. For example, it is the basis of the presence of *Holli*, *Yowa* populations (*in search of fertile lands*), and *Peulh/Fon Yoruba* (*for trade*).
96. The most predominant ethnic groups in the OCRI basin are the Fon (*gradually migrated and settled in the region*), Adja & Mina, Yoruba, Baribas, Foulani/Peulh (*vulnerable groups but mostly through*

³⁶ CBD Fourth National report, Benin: <https://www.cbd.int/doc/world/bj/bj-nr-04-fr.pdf>

³⁷ Zogbodomey 2017-2021 PDC

³⁸ - Although the Funding Proposal estimates that roughly about 3.2 million beninese (of which 45% are women) will likely be impacted or affected by the OCRI project throughout its lifespan.

³⁹ - According to the DET (*2014*),

transhumance stage), Yoa/Yowa, Yom-Lokpa, Idaatcha, Mahi, Solla or Piyopè, Hausa/Haoussa, Dendi, Bètammaribè, Boufale, , Otammaris, etc. (*Source: Municipalities 2018 – 2022 PDC*).

97. In recent years most municipalities have experienced conflicts between certain sociocultural groups, the most frequent oppose the Yoa/Yowa, Lokpa, Mahi, Yoruba (*majority ethnic groups*) to the Dendi, Peulh and Haoussa (*minorities*), and arise from the mismanagement of lands. In the peripheral municipalities, the coexistence of local populations and transhumant nomads is undermined by disputes arising from the destruction of crops by herds of cattle's divagation, resulting in serious casualties, including losses of lives.

98. Climate change impacts are felt disproportionately throughout the rural areas, hence triggering the abovementioned human movements and conflict situations (*i.e. cattle divagation*). Young people from the municipalities tend to relocate in the country's big cities (*Cotonou, Parakou, Bohicon*) in search of a better life, and/or across borders into Nigeria, Ghana, Senegal, Ivory-Coast, South Africa, etc.) or to Europe and the USA.

Human Développement Index (Education, Health & Social Protection)

99. Benin has a youthful age structure – almost 65% of the population is under the age of 25 – which is bolstered by high fertility and population growth rates. Although the majority of Beninese women use skilled health care *personnel* for antenatal care and delivery, the high rate of maternal mortality indicates the need for more access to high quality obstetric care, District-wise, the human development index shows rather some considerable improvements in all three aspects : Education, Health and Social Protection.

Education:

100. The education sector in the OCRI region has improved considerably over the past decades, with better schooling system and infrastructure, and better enrolment rates as described in the Feasibility study. Likewise, the literacy rate has improved, including technical schooling technics (farmer-field schools) that have shown to yield more tangible results on the ground, that ultimately has been helping local farmers. The project will build on these tangible facts to further boost the sustainable development in the region.

Health:

101. In Benin, most serious epidemic diseases have been brought under control by mobile health units and other facilities. The government of Benin has set goals of expanding its health care system, upgrading the quality of first referral care, promoting private sector care, and improving public sector care.

102. According to the Joint Monitoring Program of the World Health Organization and UNICEF (JMP-2009), over three quarters of the Beninese population had access to an improved water source in 2008, whereas 12% had access to improved sanitation. The share rose from 63% concerning water and from 5% concerning sanitation in 1990. Coverage in urban areas is considerably higher than in rural areas.

Table 9: Access to Water and Sanitation in Benin (2008)

		Urban (41% of the population)	Rural (59% of the population)	Total
Water	Improved water source	84%	69%	75%
	Piped on premises	26%	2%	12%
Sanitation	Improved sanitation	24%	4%	12%

Table 10: Water Treatment and Availability by zone

Improved	Unimproved
urban: 35.6% of population (2015 est.)	urban: 64.4% of population (2015 est.)
rural: 7.3% of population (2015 est.)	rural: 92.7% of population (2015 est.)
total: 19.7% of population (2015 est.)	total: 80.3% of population (2015 est.)

Source: Water treatment and availability, 2015 estimates. World Health Organization and UNICEF

103. Despite ongoing government-led improvement efforts, flash-flooding/stormwaters and wastewater treatment is extremely rare in Benin. This is mostly due to the limited infrastructure to harvest rainwaters and/or wastewaters; which leads to pollution and can cause water-borne diseases like malaria, typhoid and dengue fever; especially in the OCRI region. Malaria and waterborne diseases in Benin are the leading causes of mortality among children under five years of age and morbidity among adults. Malaria alone accounts for 40% of outpatient consultations and 25% of all hospital admissions, especially among workforce, hence placing an enormous economic strain on Benin's development, particularly in the ORB region endowed with a rich watershed system. The World Bank estimates (2009) that overall, households in Benin spend approximately one quarter of their annual income on the prevention and treatment of malaria. Benin's long-term goal is to (i) reduce the burden of malaria and all waterborne diseases, (ii) improve the national healthcare system, so to further boost the country's socio-economic development.

Social Protection:

104. The government's national social protection program has been remarkably effective in the project region constantly affected by climate change impacts and risks (*flash-flooding, droughts, invasive insects/crickets, shifting seasonal calendar, poor productivity, daunting poverty trend, etc.*). Besides the usual aid-support actions towards local communities (*i.e. food-aids, household reliefs efforts packages after disasters, IEC campaigns towards prevention and rebuilding efforts and additional capacity building, etc.*), the program has also been very active in designing and supporting HIMO/food-for-work actions meant to support individuals and households. Furthermore, throughout the years, the program has greatly contributed to empower women and young girls to be creative and fulfil their social ambitions through jumpstarting income generating activities such as horticulture, crafting and community-shops management; all of which contribute to enhancing their socioeconomic conditions, and therefore mitigate some of the climate change impacts on their livelihoods.

Poverty Profile: Communities Climate Change-Driven Socioeconomic Vulnerability

105. As stated earlier, in all three OCRI regions (*Donga, Hills and Zou*), the greatest vulnerability is found in forest areas⁴⁰ (*OCRI Baseline study, February 2018*); constantly under severe threats from pluviometry disruptions (*i.e. decrease in the number of rainy days and in the duration of the rainy seasons*) resulting in severe drought seasons, delayed and violent rainy season/storms, frequent flush-floods and a poor distribution of waterway runoff originating from shallow waters. Likewise, rising temperatures and high winds increase the vulnerability of these already fragile ecosystems. The persistent sensitivity of these environments to climate change leads to the gradual disappearance of vegetation cover, but also has both a direct and indirect impact on the fauna and flora found in these ecosystems. This is further exacerbated by anthropogenic pressures linked to intensive deforestation and land grabbing for ever-increasing agriculture. As such (*i.e. persistent sensitivity: drought and loss of arable land*), populations, particularly the Lukba and the Holli communities, but also a group of communities near the river banks around the Oueme River tributaries, often get flooded and loose most of their earnings and assets, hence making them poorer and poorer, can no longer resort to strictly nomadic agriculture and breeding and must

⁴⁰ - Forest resources are one of the main sources of livelihood and socio-economic and cultural reliance, especially for rural communities.

settle in new areas in order to find more favorable environments for farming and survival ; hence resulting in non-resilient agricultural practices more slash-and-burn deforestation habits, cultivation, and polluting practices like the unregulated and/or excessive usage of chemical agricultural inputs, which leads to a decrease in vegetation cover and increased poverty rate in the project areas.

106. More practically, these burnouts soften the soil cover, which with stormwaters and/or floods, easily wash out the fertile components of the arable lands (*i.e. destructive mudslides*), hence exacerbating the flooding episodes or premature flooding that destroy food crops, livestock and fragile mud-made homes⁴¹. In recent years, particularly large floods have pushed the Ouémé River out of its bed in the middle valley, causing real health risks (*waterborne diseases, malaria, dengue fever and typhoides episodes, as well as food shortages for local population, destruction of natural resources⁴² and increased poverty level*). Flooding occur regularly in the middle of the basin, usually varying between July and early November. As stated above, these floods⁴³, exacerbated by a fragilized soil from slash-and-burns and excessive usage of pesticides practices and longer droughts, result in significant degradation of the biophysical environment, including soil degradation by leaching⁴⁴ and partial destruction of the flora and fauna of flooded areas⁴⁵.

107. Although the middle valley region is expected to be less affected than the rest of the overall OCRI region, and to a certain extent, the country itself by future increases in temperature, UNFCCC⁴⁶ assessment predicts that an increase of 2.6 °C by 2100 may pose a real threat to the most vulnerable animal and plant species and thus significantly disrupt ecosystems, especially the most fragile ones. In addition to warmer and longer periods of heat, climate change is likely to lead to the development of invasive species, thereby disrupting the balance of the ecosystem and all activities that result from it; which altogether will exacerbate local beneficiary communities' poverty levels.

108. Furthermore, with about 40% of the population living below the poverty line, many desperate parents resort to sending their children to work in wealthy households as domestic servants (*a common practice known as vidomegon*), mines, quarries, or agriculture domestically or in Nigeria and other neighboring countries, often under brutal conditions. Unlike in other West African countries, where rural people move to the coast, farmers from Benin's densely populated mid-southern and northwestern regions move to the historically sparsely populated central region to pursue agriculture and some income generation activities.

109. Overall, poverty, unemployment, increased living costs, and dwindling resources increasingly drive the Beninese to migrate. An estimated 4.4 million, more than 40%, of Beninese live abroad. Virtually most Beninese emigrants move to West African countries, particularly Nigeria, Cote d'Ivoire, Ghana and Senegal, let alone in Southern Africa, Europe and the USA.

Land Tenancy, Transhumance & Social Cohabitation

110. As regard to agriculture, the main source of livelihood for rural OCRI beneficiaries, studies have shown that the difficulties lie with livestock farming more than an absence or impoverishment in the land. Due to the disruption of rainfall, rising temperatures and strong winds, feeding pastures

⁴¹ <http://www.beninto.info/2017/07/12/pluviometries-exceptionnelles-au-benin-crues-prematurees-penurie-inquietante-des-denrees-alimentaires-locales/>

⁴² <https://www.benintimes.info/societe/crue-du-fleuve-oueme-dans-la-commune-de-zogbodomey-kpokissa-et-dome-envahis-par-les-eaux-plus-de-4000-sinistres/>

⁴³ - Major flooding occur regularly in the middle of the basin, usually varying between July and early November.

⁴⁴ - Poor stormwaters infiltration that trigger destructive land/mudslides, hence further impoverishing agriculture lands.

⁴⁵ - In the middle valley, the most significant excesses of rainfall on record were in 1985, 1988, 1991, 1996, 1997, 2004 and 2010, while the largest shortages recorded in 1977, 1983, and 1984 (*i.e. DCNCC* <http://unfccc.int/resource/docs/natc/benn2f.pdf>).

⁴⁶ <http://unfccc.int/resource/docs/natc/benn2f.pdf>

for animals are shrinking more and more and breeders are confronted with real shortages to feed their animals. Transhumant pastoralists have put significant strain on pastures and agricultural soils as well as livestock watering difficulties, which are related to an increase in the number of animals around water sources. Both local and foreign breeders often invade and settle in agricultural areas, in violation of applicable national regulations governing transhumance⁴⁷ in Benin. All major crops are affected by the destruction of farms due to transhumance; however, farms that grow cassava, maize, and yam, the three main/mostly cultivated and consumed commodities in the region, are the most affected ones. Across the municipalities, particularly in the upper and middle Oueme, the level of destruction of these crop-farms is 30%, 26% and 15%, respectively; thus, the two tubers (*cassava & yam*) constitute altogether 45% of farm destruction rate as a result of transhumance. Because the Government defined transhumance corridor⁴⁸ spans through all project municipalities, overgrazing, destruction of farmers agricultural crops and means of livelihood (*i.e. destruction of protection fences, consumption and trampling of plants*) mostly due to the unanticipated arrivals of transhumant herders with their cattle in the region before the end of the harvesting period, lead to recurrent⁴⁹ and sometimes extreme, conflicts between local farmers and nomadic herders⁵⁰/breeders, that unfortunately often have a heavy cost both in terms of material losses, wounds and human lives.

111. Furthermore, the climate vulnerability of the area has also indirectly triggered intra-municipal conflicts, whereby clashes/conflicts either between families or certain socio-cultural groups or clans over land misuse or mismanagement⁵¹.

112. To sustainably tackle these cohabitation problems between farmers and herders, the Government, as well as municipalities are implementing social policies (*cf. our series of stakeholders' consultations*). Indeed, livestock breeding, and farming must respect the rule of shared space. Farmers and pastoralists who have adopted these practices are sensitive to the complementarity of the two economic activities. They create social cohesion, not competitiveness. Actors have also shown to be favourable to the creation of an environmental tax for local development to help offset some of these burdens.

Local Institutions/Social organizations and Gender issues

113. Although traditionally governed by royal power, participating municipalities are nowadays governed by modern power structures. Municipal powers are held by a Mayor at each municipal level, with district leaders at the district level, and chiefs at village or neighborhood level. Within the same municipality there are various civil society organizations such as the Cotton Producers Union (CPU), a cotton-producing villagers and mixed folk groups⁵². In all five municipalities (*Donga*,

⁴⁷ - The pastoral code (*i.e. Law n° 2018-20 concerning the pastoral code in the Republic of Benin*) plans for pastoral areas such as grazing areas, transit routes, the transhumance trail, resting and waiting areas, vaccination centres, watering holes or water points as well as fodder crops/water resources. It defines the obligations of every user, applicable to both crop farmers and livestock farmers. According to the Law, local authorities are responsible for ensuring that pastoral areas of between a minimum of 5 hectares and up to 20 hectares are kept clear in areas where sedentary pastoralism is practised. Moreover, livestock farmer must now hold a national transhumance certificate – which should be international if he crosses borders – and is obliged to vaccinate his herd. Furthermore, the law/pastoral code provides for the creation of a National Transhumance Management Agency (ANGT), under the supervision of the Ministry of Agriculture and Livestock. This agency is responsible of implementing the state's policy on matters of transhumance. Lastly, to better deal with recurring, transhumance-related conflicts at the municipal level, all PDCs have planned specific activities ranging from the establishment of transhumance routes to a ban on movement of animals (cattle).

⁴⁸ - The consultations which formed part of the OCRI project took place at the municipal level. Some representatives from sedentary Peulh communities took part in these. They emphasized concerns regarding their need to find pastureland in the area.

⁴⁹ - They are often the result of herds straying and the absence of a common agreement between breeders and farmers on the delimitation of transhumance routes.

⁵⁰ - These herders are coming both from within Benin and from neighboring countries, such as Nigeria, Ghana, Burkina Faso, Niger, Chad and/or Cameroon. The language and cultural barriers are often source of exacerbation of recurrent conflicts between herders and farmers, as well as between herders themselves. Despite both Beninese Government and the regional organization (CILSS) efforts, recurrence and related negative risks and impacts are often hampering development efforts on the ground.

⁵¹ - Example of most frequent/recent conflict between communities : Yoa/Yowa vs Dendi or Haoussa minorities in the municipality of Copargo.

⁵² Zagnanado and Zogbodomey monographies

Hills and Zou), women appear to be well and better organized than their peer men, despite playing a marginal role in the overall decision-making and planning processes.

114. Women's overall social and political situation in Benin is characterized by two key factors: (i) *low participation*⁵³ *in decision-making process*, and (ii) *violence against women in various forms*. The low participation of women in political, economic, and civic life is mainly associated with their difficulty to access to land property – particularly arable land – and therefore to creating revenue-generating activities. The wife is subjected to her husband and does not have direct access to financial resources such as savings or credit. Women generally have limited access to land by inheritance, putting them in a situation of land insecurity. This dependence is increased by the high drop-out rate of girls at school, and to the illiteracy rate. This situation seems to be improving in some municipalities where women say they have easy access to land.

115. Community-wise, those with limited access to basic socio-economic resources are the most vulnerable: breeders, farmers, especially small farmers, cash crop production, market gardeners, fishermen, livestock farming pastoralists, hunters and traditional healers (INE report, February 2017)⁵⁴.

Language, Culture and Religion

116. Country-wise, and most particularly in the OCRI areas, the traditional religion (**Vohdoun**), various culture and languages prevail (lowest and coastal zones: *Zogbodmey & Zaganando*). While in the middle and lowest Ouémé Catholic/Protestant/Christianity is highly practiced (*Glazoué*), in the upper/northern parts (*Copargo & Djougou*), Islam is predominant. Other faiths Protestant and other religions pre-exist and peacefully co-habit and practiced (*Municipalities 2018 – 2022 PDC*).

⁵³ - For example, according to the Dassa-Zoumé PDC in 2009 (the next-door municipality to Glazoué), out of 256 village counsellors in the municipality, only 9 were women. In Copargo, out of 15 municipal counsellors, and 46 village leaders, no woman features in municipal decision-making bodies, except for the city hall's SG who is a woman.

⁵⁴ - Transport, trade and crafts, as well as the quarrying of sand are much less affected by climate variability and extreme weather events.

IV- POLITICAL, STRATEGIC, LEGAL & INSTITUTIONAL FRAMEWORK GOVERNING ENVIRONMENTAL & SOCIAL RISKS, IMPACTS & OPPORTUNITIES MANAGEMENT

117. Safeguard policies are essential tools to prevent and mitigate undue harm to people and their environment (*biophysical and human*) during the entire development process. When identifying and designing a project, safeguards standards should help assess the possible environmental and social risks, impacts (positive or negative) and opportunities associated with a sustainable development intervention. During project implementation, safeguards standards should help define measures and processes to effectively manage risks and enhance positive impacts and opportunities. The process of applying safeguard standards can be an important opportunity for stakeholder consultation, participation and engagement, enhancing the quality of project proposals and increasing beneficiaries' ownership and social accountability.

4.1 Political and Strategic Framework

118. The following vision for Benin was outlined in BENIN ALAFIA 2025: *"By 2025, Benin should be a country whose development is low-carbon and climate change-resilient"*. The overall aim behind this government's strategic vision is to contribute to the sustainable development of Benin, by integrating climate considerations into the country's strategic, sectorial, and operational plans⁵⁵.

119. This strategic focus responds to Benin's dual need to face up to the adverse effects of climate change: by identifying, adopting, disseminating and assimilating adaptive measures on one hand, and a commitment to reducing greenhouse gas emissions (GHG) on the other. Specific actions include: **a) strengthen the resilience of local communities and local economy (OS-1); b) reduce anthropogenic greenhouse gas emissions (OS-2); and c) safeguard the protection of communities, particularly those that are most vulnerable to natural disasters (OS-3)**. This Government's strategy will be implemented through twelve sub-programmes organized around three 'pillars' including adaptation, reducing climate risks and mitigation:

- **Pillar 1:** *Strengthen the resilience of local communities and agricultural production systems in order to ensure food security by improving productivity and avoiding losses in the major agricultural sub-sectors; build local communities' capacity in the management of decentralized, resilient development.*

- **Pillar 2:** *Reduce GHG emissions of anthropogenic origin and improve the potential for carbon sequestration, both in terms of at-source reduction of GHG emissions and the strengthening of carbon sequestration in wooded areas.*

- **Pillar 3:** *Reduce climate risk to reduce communities' vulnerability to natural disasters and climate-related diseases.*

120. To better tackle foreseen climate phenomena, the Government of Benin (GoB) has put in place the following institutional and operational measures, at both central and local levels:

-At the institutional level, through the establishment of: the Ministry of Environment in charge of Climate Change, Reforestation and the Protection of Natural and Forestry Resources (MECGCCRPNF), which has become the Ministry of Living Conditions and Sustainable Development (MCVDD), as well as the Directorate-General for Climate Change (DGCC), the National Fund for the Environment and Climate (FNEC), the establishment of the National Programme for the Management of Climate Change (PNGCC), the National Climate Change Committee (CNCC) and the Commission for the Economic Modelling of Climate Impacts and the Integration of Climate Change into the National Budget (CMEICB).

⁵⁵ BENIN ALAFIA 2025

- At the operational level through adaptive and mitigation measures, and by building local and national capacity.




121. For COP21, Benin developed its planned nationally determined contribution (PNDC) in September 2015 and submitted its nationally determined contribution (CDN/NDC) in July 2017. The latter sets out the country's progression within the 2030 timeframe in the fight against climate change, in order to contain the increase in global warming to under 2°C, as per the international community's recommendations (*CDN Benin, 2017*). In terms of mitigation, Benin foresees an overall reduction to its cumulative GHG emissions (not including the forestry sector) of 21.4% from 2021 to 2030, as compared to the status quo.

122. National efforts account for something in the region of 16.4%, while conditional contributions account for 83.6%. The implementation of planned measures could also contribute to increasing Benin's cumulative capacity for carbon sequestration by 5.7% over the 2021–2030 period, when compared to a maintenance of the status quo; this would be achieved by reducing the annual rate of deforestation by 41.7% (*CDN Benin, 2017*).

123. In terms of adaptation, the Republic of Benin's levels of vulnerability at the national scale are generally average and occasionally high. All livelihoods and ways of life are extremely vulnerable to the effects of climate change. The main areas affected are agriculture, water resources, forests, and coastal regions, in addition to energy resources and human health. The principal aims of the PNDC involve reducing the vulnerability of ecosystems and socio-economic systems to a range of potential climate change effects, by adopting appropriate measures and policies. Climate risk prevention and warning systems must therefore be strengthened, to particularly safeguard vulnerable agro-environmental areas (i.e. *February 2018 feasibility study*). Moreover, Benin has developed and adopted a series of policy tools in order to manage its environment, including:

124. **Government Action Programme entitled, "Benin Revealed" (PAG):** The "*Benin Revealed*" government programme is the principal guiding tool for governmental action during the 2017–2021 period. It consists of three pillars, the third of which aims to: "*Improve the living conditions of the population*".

125. **National Environmental Policy document (PNE):** Benin's National Environmental Policy (NEP) provides an overall guiding framework for the different national and international development actors to promote a reasonable management of the environment. To promote the healthy management of the environment and natural resources, the government's policies are grounded in:

-  The acknowledgement of environmental concerns in the national development plan;
-  The removal and/or decrease in negative impacts of public and private development programmes and projects on the environment;
-  The improvement of the population's living conditions;

126. In this sense, the policies aim to:

- evaluate development projects in environmental terms;
- promote industrial technology that respects the environment and a reasonable management of industrial waste;
- oversee and control the emission of pollutants into the atmosphere, waterways and soils;
- include environmental costs as a factor in decision-making.

127. **National Programme for the Management of the Environment (PNGE):** This programme aims to: (i) integrate the environment into all its projects; (ii) contribute to the protection and sustainable

management of the environment; (iii) strengthen municipalities' capacity for self-management; (iv) ensure local populations acquire the knowledge, values, behaviours and necessary practical know-how required for environmental management; and (v) develop national capacity in terms of environmental information management.




128. Environmental Action Plan (EAP/PAE): The EAP/PAE was drawn up in 2001. It consists of the strategic framework for the implementation of national environmental policies, focusing on the following objectives: *i) strengthening of national capacity; ii) conservation and sustainable use of biodiversity and natural resources; iii) improvement to the living conditions of both rural and urban populations; and iv) an improvement in decision-making and good governance in environmental matters.*

129. National Strategy for the Management of Wetlands (SNGZH): Benin was a signatory to the RAMSAR Convention in 2000⁵⁶. The provisions of this convention demand that the participating states develop a clear and forward-thinking national policy on the management and use of wetlands, as per Resolution VII.6 of July 1987. As part of this, Benin drew up its SNGZH in 2013, which focuses on the conservation of biodiversity in situ, the protection of wetlands and aquatic ecosystems. This strategy offers a diagnosis of the current management of wetlands in Benin and outlines a vision in which, *"by 2025 wetlands will be inhabitable areas that provide the necessary natural resources to fight against poverty at the local and national level, and contribute to the conservation of worldwide biodiversity"*. The strategy defines eleven (11) protection principles that underpin a decentralized, participatory management of wetlands, setting four strategic targets: *i) preserve environmental habitats and fundamental elements of biodiversity in wetland areas; ii) give sustainable value to resources in order to produce wealth and reduce poverty; iii) implement the institutional and legislative framework for the management of wetlands; and iv) build national capacity for an optimal sustainable management of wetlands that can be shared with neighbouring countries.* Fortunately, **there is no identified RAMSAR site within the Ouémé River Basin area.**

130. National Implementation Strategy for the United Nations Framework Convention on Climate Change (SNMO-CCNUCC): As a signatory to the United Nations Framework Convention on Climate Change, Benin drew up its national implementation strategy (SNMO-CCNUCC) in 2003; this enabled the country to have a clear vision of both the opportunities available and the implementation measures required to implement the convention. The SNMO-CCNUCC therefore suggests measures designed to adapt and/or mitigate the impact of climate change, based on analysis conducted in several sectors, as well as priority development actions.

131. Strategy and Action Plan for Biodiversity 2011–2020 (SPAB): On one hand the SAPB aims to *"take urgent, effective measures with a view to bringing an end to the biodiversity loss, in order to ensure that by 2020 ecosystems are resilient and continue to provide the essential services required, thus preserving the diversity of life on Earth, and contributing to human wellbeing and the ending of poverty"*; on the other hand it seeks to, *"contribute to the sustainable development of Benin and reduce poverty through a fair and reasonable management of biodiversity in the period leading up to 2020"*. The achievement of these objectives is part of an overall vision according to which, *"by 2020 decentralized communities, the state and civil society will be more involved and concerted, definite action to learn about, promote, conserve and restore biodiversity for the wellbeing and socio-economic development of all of Benin's populations"*.

⁵⁶ - As a gentle reminder, there is no identified/designated RAMSAR site in the OCRI intervention region.

132. **National Integrated Water Resource Management Action Plan (NIWRMAP/PANGIRE)**: It aims to achieve a balance between, (i) *water usage as a fundamental subsistence aspect for a fast-growing population* and, (ii) *the preservation and protection of the resource in order to indefinitely guarantee its functions and characteristics*. This plan makes use of a participatory process to define a series of actions to be taken to implement IWRM in Benin. The plan is organized in seven action areas, namely: i) *reform the water governance framework*; ii) *strengthen human, organizational and material capacity in the management of water resources*; iii) *integrate financial and economic aspects into the management of water resources*; iv) *knowledge and monitoring of water resources*; v) *bring together and promote water resources using a IWRM approach*; vi) *preserve and protect water and environmental resources*; and, vii) *set up prevention, mitigation and adaptation measures for climate change and other water-related risks*.
133. **Low-carbon, climate change-resilient development strategy 2016–2025**: The low-carbon, climate change-resilient development strategy is a multisectorial initiative designed for the short to medium term, covering the 2016–2025 period. The strategy responds to Benin’s dual need to face up the adverse effects of climate change, by identifying, adopting, disseminating, and making use of adaptive measures, while also meeting its desire to reduce GHG emissions on the other.
134. The vision for the strategy is that “*by 2025, Benin should be a country whose development is low-carbon and resilient to climate change*” (BENIN ALAFIA 2025). Its overall aim is to contribute to the sustainable development of Benin, by integrating climate concerns into the country’s strategic, sectorial and operational plans. Specifically, it aims to reinforce one of the eight (8) overriding themes of the 2025 ALAFIA strategy, that of the “*human and material basis for sustainable development*”, which in turn covers the three following sub-sectors: Urban and environmental management (*growing degradation of the environment and chaotic urbanization*), Promotion of technology (*significantly behind in technological terms*), promotion of the economy (*productivity and prosperity challenges*).
135. **National strategy for the strengthening of human resources, learning and capacity development to encourage green development that is low in emissions and resilient to climate change**. This strategy was developed as part of the “**One UN Training Service Platform on Climate Change (UN CC: Learn)**” pilot project. The objectives set out when developing the strategy were:
-  Establish climate change priorities and the consequent capacity building initiatives;
 -  Evaluate the human resource capacities and skills in the relevant sectors and key institutions;
 -  Identify priority actions to strengthen learning and skills development.
136. **Communication strategy to strengthen the adaptive capacities of climate change stakeholders, for the purposes of farming and food security in Benin**: This strategy aims to meet the urgent need of strengthening the adaptive capacities of stakeholders on the negative effects of climate change on farming and food security in the PANA1 area of operation. The strategy’s primary objective is to ensure visibility for the adaptive actions against climate change in the nine (9) pilot municipalities, as well as the assimilation and sharing of ongoing experience. To achieve this objective, coordinated and planned communication activities at the municipal levels will be required, so as to strengthen adaptive capacities against the negative effects of climate change on farming and food security, while keeping in mind that beyond the spread and exchange of information or the sharing of knowledge, communication should aim for behavioural change and the adoption of new production habits, to the benefit of the targeted community. The main target groups will be producers (*crop farmers, livestock farmers and fishermen*), the processors and traders, institutional partners (ministries) and community stakeholders (*local administrators, NGOs, the media...*).

137. The document is built on three strategic axes, which provide an answer for the specific communication needs and outline the strategic initiatives to be led. These operational axes involve:

- a change in attitudes in relation to climate change to improve the level of adaptation
- the ending of practices that do not favour climate change adaptation
- the setting up of an information and communication system to document and disseminate lessons learned and good practice.

138. The Second National Announcement on Climate Change by the Government of Benin shows a number of progresses when compared to the CNI, both in terms of subjects and fields covered, the methodological tools employed, and the areas of activity and ecosystems considered. Similarly, the gains made and/or lessons learned through the projects or programmes that have supported national communication – such as, for instance, the Regional Capacity Building Project to improve the quality of Greenhouse Gas Emission inventories, and the National Action Programme for Climate Change Adaptation (PANA) – were highlighted during the document's creation.

139. **National Action Programme for Climate Change Adaptation (PANA):** PANA was intended to enable greater precision when establishing the vulnerability levels of the livelihoods of socio-economic development stakeholders, as well as determining the most urgent, priority adaptive needs, bearing in mind that the resources and capacities to intervene are available to the targeted social groups.

140. The vulnerability evaluation conducted with local people facilitated, amongst other things:

- A more specific understanding of how climate change is perceived by the recipient communities;
- An evaluation of the negative effects of climate change on the communities, natural resources and socio-economic activities;
- An analysis of the vulnerability of livelihoods and ways of life in-light-of actual variations in climate and extreme meteorological phenomena;
- The documentation of the adaptive measures adopted by different communities in different sectors;
- The identification of adaptive needs felt by communities but not met owing to a lack of resources;
- A record of the adaptive needs adopted in each locality's Municipal Development Programme;
- The determination of priority options local communities need to implement urgently;
- The understanding of criteria put forward for the selection of priority options at the departmental and national levels.

141. As a result, the overall assessment of climate change vulnerability in the most vulnerable geographical areas of Benin revealed the following results:

- The confirmation of drought, flooding and late and violent rainstorms as the three major climate risks on the Republic of Benin's territory;
- The emergence of strong winds and excessive heat as two climate risks that can have a significant impact in certain areas and situations;
- The existence of localized climatic risks, such as rising sea levels, although with a low geographic footprint, but capable of major economic, social and environmental impacts;
- Proof that the following are highly exposed to climate risk in the agro-ecological zones of : (1) the north and center of the country: (i) *river basins, food and resource-producing agriculture, and (ii) farming*

smallholders, market gardeners/horticulture and emerging agricultural businesses, and fishermen; and, (2) the south of the country: (i) food-producing agriculture, soils, water resources, human health and biodiversity; and ii) smallholders, fishermen and livestock farmers.

142. Strategic Plan for the Development of the Agricultural Sector 2025 (PSDSA) and National Agricultural Investment, Food Security and Nutritional Action Plan (PNIASAN) 2017–2021: The Strategic Plan for the Development of the Agricultural Sector (PSDSA) is Benin’s agricultural policy document for 2025. It is based on an assessment of the implementation of the Strategic Plan for the Recovery of the Agricultural Sector (PSRSA, 2011–2015), taking into account changes in the national, regional and international contexts, as well as the direction of the Detailed Programme of African Agriculture (PDDAA) and the ECOWAS Agricultural Policy (ECOWAP). The PSDSA has been developed using 2025 as a targeted deadline. For the next five years it has been endowed with a National Agricultural Investment, Food Security and Nutritional Action Plan (PNIASAN 2017–2021). Ahead of their enforcement, three related documents have been developed and approved: (i) a programmatic framework for the agricultural sector; (ii) an institutional framework to guide and monitor the agricultural sector; and, (iii) a national strategy for the promotion of agricultural subsidiaries using the agricultural cluster tool. The PSDSA vision is for, “*a dynamic Beninese agricultural sector by 2025; an attractive and competitive sector that is resilient to climate change and a creator of wealth and jobs, one which responds equally to the need for food security and nutrition for the Beninese people as well as the economic and social development of all segments of the country’s population.*”

4.2- Legal and Institutional Framework

143. The legal and institutional framework for environmental and social management, as well as climate change issues in Benin includes, among many others, all of the below:

Multilateral Environmental and Social Treaties

144. Benin is a signatory to several binding international agreements on the environment and social. Among the international commitments, conventions and agreements, the following protocols interfere with the OCRI project’s activities:

Table 11: Some legally binding international texts on the environment and social dimensions:

Conventions / Agreements	Date of adoption or ratification
Climate and Atmosphere	
<i>The Montreal Protocol on Substances that Deplete the Ozone Layer and its amendments</i>	Mars 16, 1993
<i>United-Nations Framework Convention on Climate Change (UNFCC)</i>	June 30, 1994
<i>Vienna Convention for the Protection of the Ozone Layer</i>	Jun 30, 1994
<i>Kyoto Protocol to the UNFCC</i>	Dec. 11, 1997/Effect. Feb.16,2005
<i>Paris Agreement</i>	April 22, 2016/Effect. Nov.4,2016
Land and physical cultural resources	
<i>The Convention on the Protection of World Cultural and Natural Heritage</i>	Sept. 14, 1982
Biodiversity and Natural Habitats	
<i>Convention on International Trade in Endangered Species</i>	May 28, 1984
<i>Convention on Biological Diversity</i>	June 30, 1994

<i>Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitats</i>	<i>Jan. 24, 2000</i>
<i>Convention on the Conservation of Migratory Species of Wild Animals (CMS)</i>	<i>May 31, 1983</i>
<i>African convention on the protection of nature and natural resources</i>	<i>Sept. 15, 1968</i>

4.2.1 National Regulatory and Legal Framework for the E&S applicable to the Project (OCRI)

- ✚ **Republic of Benin's Constitution of December 11, 1990:** The Constitution is the supreme legal standard underpinning the legitimacy of all actions for the protection of the environment and social dimensions in Benin. It establishes the rights to (i) a healthy environment and social, (ii) a sustainable environment, (iii) the defence and protection of the environment as a fundamental human right;
- ✚ **Law n°98 – 030 of February 12, 1999 of the framework law on the environment in Benin.** Adopted on February 12, 1999, the framework law on the environment is broad, establishing a certain number of legal and institutional provisions. It “*outlines the basis of environmental and social policies and organises their implementation*”. It further stipulates that environmental protection and management are integral parts of social and economic development plans and their implementation strategies. In its Art. V, it particularly highlights Environmental and Social Impacts Assessment and related Emergency Plans.
- ✚ **Law n°2010-44 of October 21, 2010 on water management in the Republic of Benin.** This law formalizes the “*Integrated Water Resource Management (IWRM)*” and firms up the general legal framework along with basic principles of IWRM in Benin. The law confirms policy on the protection of water in Art. 28 of the framework law on the environment in Benin, according to which: “*spillages, drainage, discharge or deposits of any nature, whether direct or indirect, which may cause or increase the pollution of the waters, are forbidden, and are subject to prior authorization in accordance with the active laws and regulations in Benin*”.
- ✚ **Law n° 2016-06 of May 26, 2016 on the framework law on land use in the Republic of Benin.** Adopted on May 26, 2016, the framework law on land use in the Republic of Benin establishes the rules and fundamental practices governing land use practices in the country. It further determines the bodies involved at various levels in the management and monitoring of land use processes, as well as the country's strategic choices.
- ✚ **Law n° 2013-01 of January 14, 2013 on ground law and state code.** This law and its applicable decrees constitute the main legal references in relation to state and land tenure law in Benin. It aims to “*determine the rules and fundamental principles relating to land and domanial questions in the Republic of Benin, supporting the organization and operation of the land and domanial regimes*”.
- ✚ **Law n° 2002-016 of October 18, 2004, on wildlife policy in the Republic of Benin.** Drawn up with the aim of protecting the country's natural heritage and wildlife resources, this law aims for a sustainable usage of wildlife resources that does not exceed allowed limits, hence guaranteeing the renewal of their stocks. It underlines also the principles of the framework law of Art. 50 on the environment which stipulates that “*any activity that may endanger wildlife or their natural habitat is either prohibited or subject to the prior approval of the administration.*”
- ✚ **Law n° 93-009 of July 2, 1993 on forest policy in the Republic of Benin.** Adopted on July 2, 1993, this law concerns “*the management, protection and use of forests, as well as the trade and industry that are related to forest goods*” (Art. 1). Forests, as defined in Article 2 of Law 93-009, are to be understood as, “*areas of land which include a cover of vegetation, including mangroves but excluding agricultural crops that may: (i) provide wood or non-agricultural products; (ii) provide shelter to wildlife and other biological resources; (iii) have beneficial effects on soil,*

climate, biodiversity, water sources or the natural environment; and/or, (iv) perform a recreational, cultural and/or scientific function”.

- ✚ **Law n° 2007-20 of August 23, 2007 on the safeguarding of cultural heritage, as well as natural heritage that may have a cultural significance, in the Republic of Benin.** This law defines what is to be understood as national heritage and determines the conditions for its management; it also defines the applicable sanctions in the event of a failure to comply with the conservation and safeguarding measures.
- ✚ **Law n° 87-014 of September 21, 1987 on natural resources protection and hunting practice in the Popular Republic of Benin.**
- ✚ **Law n° 87-013 of September 27, 1987 on the wild pasture, cattle domestication and transhumance regulation.**
- ✚ **Interministerial decree n°010/MISAT/MDR/DCAB of January 20, 1992, on the creation, organization, attribution and functioning of transhumance committee.** This Committee is established at local, district, county and national levels;
- ✚ **Decree n° 094-64 of March 21, 1994 on the classification of the Pendjari National Park as a Biosphere Reserve.**
- ✚ **Decree n° 2001-094 of February 20, 2001 fixing potable water quality norms in the Republic of Benin.** Articles 29, 30, 31 and 32 determine the protection boundaries of both underground and surface waters.
- ✚ **Decree n° 2001-095 of February 20, 2001, fixing the creation of environmental units in the Republic of Benin.**
- ✚ **Decree n° 2003-332 on solid wastes management in the Republic of Benin.**
- ✚ **Laws and regulations on environmental assessments in the Republic of Benin.** To operationalize the provisions of the framework law, several decrees concerning the organization of environmental assessment procedures in the Republic of Benin have been adopted, together with decrees on the applicable quality standards to the environment, air quality, drinking water, waste-waters, noise, etc.
- ✚ **Decree n° 2001-235 of July 12, 2001 on the organization of environmental impact assessment procedures in the Republic of Benin.**
- ✚ **Decree n° 2001-093 of February 20, 2001, on the elaboration of environmental audit procedures in the Republic of Benin.**
- ✚ **Decree n° 2017-332 of July 6, 2017 on the organization of environmental assessment procedures in the Republic of Benin.** This applies to “any policy, plan, programme, project or development activity that may have positive and/or negative effects on the environment” (Art. 2). According to Art. 3, an environmental assessment includes: “the Strategic Environmental Assessment (SEA), the Environmental and Social Management Framework (ESMF), the Environmental Impact Study (EIS), the Environmental Audit (EA), the Public Audience (PA), the Environmental Inspection (EI), the Resettlement Action Plan (RAP) and the Resettlement Policy Framework (RPF)”.

145. The following are subject to the SEA: “policies, strategies, plans or programmes relating to protected areas, agriculture, forestry, fisheries, energy, mining, industry, transport, waste management, water management, telecommunications, socio-economic infrastructure, tourism, education, health, urban planning, development plans and any other domain likely to have impacts on the environment.” Policies, strategies, plans or programmes covered by national defence secrecy (*Secret de Défense*) may not be required to comply with the Strategic Environmental Assessment (SEA) process; in this case a specific decree is issued by the Council of Ministers” (See

Art. 8). This decree requires the mandatory elaboration of an ESMF as part of the environmental assessments (see Art. 3).

146. Moreover, besides being a signatory of several Rio generation conventions such as the United-Nations Framework Convention on Climate Change (UNFCCC) in 1994 and the Kyoto Protocol in 1997 & 2005 ; Benin has succinctly elaborated the UNFCCC implementation strategy document, the initial communication on climate change in 2008, and the second national communication in 2011, as well as handful of others.

Applicable FAO/GCF Environmental and Social Safeguards Standards/Policies

a. *Proposed Project Risk Classification*

147. Consistently with both the applicable FAO/GCF environmental and social safeguards standards and Benin regulations, the environmental and social screening of the proposed project investments prescribed in its two major components' activities, more precisely in *component 1*, revealed that these activities are small in size and amplitude, and present no large-scale, significant or irreversible social and environmental impacts, and are designed to rather have positive social and environmental benefits, both individually and cumulatively, at the local and national levels, respectively. The identified potential impacts are primarily those at the local level (*i.e. sites-specific within the project intervention areas*), associated with activities that imply the involvement of communities on a purely voluntary and demand-driven basis. The foreseen environmental and social risks are moderate to low, mostly site specific and typical of category B operations, because of their easily manageable and reversible nature. More precisely, according to FAO Environmental and Social Risk Classification, the project belongs to the moderate risk category defined as follows:

(i) Projects with potential and identified environmental and/or social impacts.

- ✦ Although moderately, the natural development of native biodiversity may possibly be affected.
- ✦ Natural processes in soils and water harvesting, conservation and management may be affected.

(ii) The potential impact is not unprecedented in the project area.

- ✦ Activities to be developed have already been implemented, and still are, by the recipient native communities and private sector, as they do to well-known farming activities.

(iii) Potential impacts are limited to the project footprint

- ✦ In the event of any of the potential, previously identified impacts being observed, these will occur in the project area of operation, at a rather smaller scale.

(iv) Potential impacts are neither irreversible nor cumulative.

- ✦ Potential impacts, because of their low level and site-specific nature, are reversible and non-cumulative, providing the practices put forward in the OCRI project are applied correctly.
- ✦ Potential impacts will be treated individually and cumulatively through *component 1* of the project and across the entire area of operation, thus reducing the likelihood of cumulative impacts. Positive socio-economic impacts will be spread equally across the beneficiary households. Though there is no Ramsar sites identified in the project area; however, particular precautions will be taken in buffer zones around protected areas of natural beauty, and biosphere reserves, taking into account effects they may have on the vital developmental processes of the species native and endemic to these areas, with specific measures taken to mitigate said-effects. For example, the OCRI project will only promote a consistent fight against those pests and

diseases that may be liable to affect the production models in the buffer zones. With regards to the planting of trees and the reforestation of wooded areas, the project will set out a clear landscaping plan, created for implementation in areas of great natural potential and avoiding any negative or irreversible impact on indigenous forests by guaranteeing the rapid recovery of riverside areas and the protection of water sources – notably for native and endemic species. The objective is therefore to improve the livelihoods of the communities living in and/or exploring these areas, while preserving protected natural areas.

(v) *Negative impacts may be resolved through the use of recognized good management practices, or reducing pollution, both of which have been successfully employed in the project areas, and well-known of local communities.*

148. In light of the above, the Project is been classified as moderate risk (**Category “B”**) and it is expected that the project activities, as described in Chapter 1.2 above, will trigger the following five Environmental and Social Safeguard Policies, namely: ESS 2 (*Biodiversity, Ecosystems and Critical Habitats*), ESS 3 (*Plant Genetic Resources for Food and Agriculture*), ESS 5 (*Pest and Pesticide Management*), ESS 7 (*Decent Work*), ESS 8 (*Gender Equality*) and ESS9 (*Indigenous Peoples and Cultural Heritage*). Because at this very juncture the physical footprints of proposed project activities are unknown and will so be prior to or by project appraisal, therefore, to comply with these policies/standards basic requirements and prerogatives, particularly ESS9 as per FAO and GCF requirements, a framework approach is adopted. The project has consequently prepared both an **environmental and social management framework (ESMF)** and a **Stakeholder Engagement Plan (SEP)** that each includes a detailed **Social Assessment (SA)** outline highlighting the importance and need for a sustainable inclusion of Vulnerable Groups in the project intervention areas, consistent with applicable standards, policies and national regulations core requirements, be it for FAO/GCF and Benin, respectively.

149. The ESMF embedding the SA, sets forth basic prescriptions to be followed during project implementation, once detailed footprints of proposed project activities are known suggesting the preparation of site-specific **Environmental and Social Management Plan (ESMPs)** to mitigate any identified social and environmental risks and impacts, while maximizing on the opportunities generated in lieu.

b. *FAO/GCF standards to be applied*

Table 12: FAO/GCF Safeguards Standards to be applied

FAO Environmental and Social Standards	Applicable ?	Reason
ESS 1 – Natural Resources Management	NO	Not applicable. Non eligible activities. The project involves a Sustainable Management of Natural Resources approach (SLM, IWRM).
ESS 2 – Biodiversity, Ecosystems and Critical Habitats	YES	Some of the project’s areas of operation may include protected areas or natural – and particularly fragile – habitats. Farming techniques such as the use of chemical pesticides will not be permitted in the event of buffer zones. A biodiversity management framework is included in the ESMF.

ESS 3 – Plant Genetic Resources for Food and Agriculture	YES	The proposed project includes activities under Component 1 that involve use of certified seeds for the Farmer Field Schools (FFS), and does not involve the introduction of new species or varieties ; rather, it may involve introduction of locally developed and registered climate-resilient crop varieties already known and used by local communities, thus ESS3 ⁵⁷ is triggered. Though throughout the initial consultation sessions with Government experts and foreseen beneficiary communities an initial selection of potential varieties has been identified, still, specific varieties and crops as well as the amounts required are to be determined. All FAO procedures and GoB's applicable regulations related to the purchase of seeds will be closely adhered to. For consistency and accuracy purpose, the ESMF/ESMP, provides ways of ensuring that seeds used are indeed officially registered.
ESS 4 – Animal, Livestock and Aquatic Genetic Resources for Food and Agriculture	NO	Not applicable. Non-eligible activities. The project does not include activities involving the introduction or displacement of animals or fish from one area to another. Similarly, there are no plans to introduce new grazing areas (fodder) along transhumance routes.
ESS 5 – Pest and Pesticide Management	YES	The policy is triggered mainly due to the known extensive usage of pesticides in and around the Oueme River Basin areas, particularly in the project area on major crops such as Cotton, Sorghum, Peanuts, etc. While the project will not procure pesticides and/or promote the use of pesticides, it may result in indirect increased use of chemical pesticides ⁵⁸ in nearby areas if production increases (<i>horticulture, fish farming and subsistence agriculture</i>). This is to state that the project may entail an increased, indirect use of pesticides in line with an increase in production. In order to remedy this, in instances where avoidance is not possible, the project ESMF/ESMP provides an Integrated Pest Management (IPM) approach favouring its continuous usage locally, and via activities like training on the safe handling and usage of pesticides. To that extent, Farmers will be further sensitized on the advantages of such integrated approach in the fight against pests and vectors but will not be forced to adopt it or change their practices against their will. The project will continue to support the voluntary use of natural/bio-pesticides and inputs that are respectful of the environment, and much safer to people, especially the poorest ones. The use of harmful/Highly Hazardous Pesticides (HHP) will therefore not be allowed under any circumstances. The ESMF/ESMP includes an exclusion/a negative list consistently with ESS5 prescriptions.
ESS 6 – Involuntary Resettlement and Displacement	NO	Not applicable. Non eligible activities Proposed activities will mostly imply the involvement of communities on a purely voluntary and demand-driven basis. No land acquisition is foreseen, rather participant farmers, including foreseen farmer field activities, will use or be on farmers owned lands. Thus, the project involves neither the physical nor the economic displacement of people.
ESS 7 – Decent Work	YES	Both within the ORB and OCRI areas, a number of tenant and migrant farmers/agricultural workers have been identified in the project area (<i>often granted fewer rights than other workers</i>). Similarly, very young workers who must support their families outside of school hours have also been observed. Consequently, ESS7 is triggered, and Occupational Health and Safety (OHS) and sensitization training sessions related to farming value-chain works, using the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests will also be provided to all farm workers and government technicians; bearing in mind the associated risks which currently exist in the project's area of operation (<i>the use of pesticides and related nocive substances</i>). ESS 7 acknowledges that decent work and full, productive employment must be promoted, and that both are vital to guaranteeing food security and reducing poverty. ESS 7 is rooted in the FAO vision for sustainable farming and nutrition, which explicitly emphasizes the importance of decent work. ESS 7 uses the ILO (<i>International Labour Organization</i>) definition of " decent work " as, " <i>productive employment for men and women in conditions that safeguard their freedom, equality, security and human dignity</i> ". All staff employed on the project will be hired consistently with the prevailing labour laws and working hours to which the country adheres, and with fair pay.

⁵⁷ - ESS 3 defines Plant Genetic Resources for Food and Agriculture (PGRFA) as the entire diversity of the plants used, or with the potentials to be used, in agriculture for, the production of, food, fodder, and fiber. Plant Genetic Resources for Food and Agriculture (PGRFA) include the accessions of germplasm holdings (ex-situ collections), wild species found in nature (in situ) that may include crop wild relatives (CWRs); landraces or traditional varieties maintained on-farm; breeding materials in crop improvement programs; and improved varieties registered and/or released for cultivation. ESS 3 recognizes the International Plant Protection Convention (IPPC) as the framework that provides tools to protect plant resources from pests and diseases (including weeds). ESS 3 recognizes the two key instruments that regulate access and benefit-sharing, Indigenous Peoples' Rights (IPR) and farmers' rights relating to PGRFA as the International Treaty on Plant Genetic Resources for Food and Agriculture and the Convention on Biological Diversity (CBD) through its Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization. ESS 3 recognizes that the application of the Cartagena Protocol on Biosafety to the CBD results in safeguards that ensure that the handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology do not have adverse effects on biological diversity and/or pose risks to human health.

⁵⁸ - ESS 5 defines pesticides as any substance, or mixture of substances of chemical or biological ingredients intended for repelling, destroying or controlling any pest or regulating plant growth. A pest is defined as any species, strain or biotype of plant, animal or pathogenic agent injurious to plants and plant products, materials or environments and includes vectors of parasites or pathogens of human and animal disease and animals causing public health nuisance. ESS 5 recognizes that pesticides can contribute to effective crop and food protection during production and in storage. Pesticides are also used in forestry, livestock production and aquaculture to control pests and diseases. At the same time pesticides are designed to be toxic to living organisms, are intentionally dispersed in the environment, and are applied to food crops. ESS 5 recognizes that pesticide use poses risks to users, others nearby, consumers of food and to the environment. In LMICs these risks are often elevated by overuse, misuse and lack of effective regulatory control. ESS 5 follows the guidance on the life-cycle management of pesticides as provided by the International Code of Conduct on Pesticide Management and its supporting technical guidelines that are drawn up by a FAO/WHO expert panel and expand on specific articles.

ESS 8 – Gender Equality	YES	The Project already incorporates a Gender Analysis and Action Plan, with Specific gender-targeted activities built into the project design, nonetheless, the policy is triggered consistently with GoB and FAO strategic vision of promoting gender mainstreaming in the Agricultural sector. Women and youth contribute greatly in the participating municipalities agriculture and livelihood sustainability. Different practices with regard to salary conditions have been observed between men and boys but also between women and girls. Without forcing it, and respectful of applicable national regulations, beneficiaries will be informed of the advantages of the FAO Gender Equality Policy, which offers an equal chance to men and women, and the same salary scale for the same type of work.
ESS 9 – Indigenous Peoples and Cultural Heritage	YES	<p>Applicable.</p> <p>the Benin Constitution recognizes no Indigenous Peoples in Benin, and prohibits discrimination between and towards Beninese, Peulh or Fullani are fully recognized citizen of Benin and therefore do not meet the criteria of Indigenous Peoples, as specified in the policy simply because there have no physical attachment to a specific culture, language or areas ; per FAO and GCF E&S safeguards standards and policies, however, the Fulani and Peulh do meet their set-forth criterion; and for that very reason, the ESS9 is triggered and a detailed Social Assessment outline is embedded in both the Environmental and Social Management Framework (ESMF) and the Stakeholder Engagement Plan (SEP).</p> <p>Transhumance is mostly practiced by Peulh/Foulani communities in the country, and/or living in the region, or who make use of areas spanning several countries ; many of them actually are coming from the neighboring countries (<i>Niger, Nigeria, Burkina Faso, Ghana, and as far as Cameroon</i>). Their presence with their cattle creates serious problems with local native peoples as a result of the recurrence of animal divagations during the pre-harvest and harvest periods. This is simply because local communities also practice livestock farming. This issue will be taken into account in the SA and in the relevant risk management, building on ongoing Government and local efforts to peacefully and satisfactorily mitigate these apparent and recurrent sources of conflicts.</p> <p>The full SA will be developed, amply consulted upon using and complying with FPIC principles and once approved it will be implemented during project implementation, ensuring that vulnerable groups are fully taken into consideration throughout the project lifespan.</p> <p>Likewise, while no physical cultural heritage will be expected to be encountered, unearthed and/or misplaced during project implementation, however, provision “or “<i>Chance-finds proced”res</i>” are included in the ESMF to help properly mitigate such encounter should it occur then.</p>

Table 12-Bis: FAO/GCF & GOB’s rationale and criterion on the Indigenous Peoples Policy’s triggering

No.	FAO	GCF	GOB
(a)	priority in time with respect to occupation and use of a specific territory;	Collective attachment to geographically distinct habitats, ancestral territories, or areas of seasonal use or occupation as well as to the natural resources in these areas;	Unlike in Central and Eastern Africa or Central America and East Asia and Pacific, in Benin, there is NO such a specification of belonging to a specific territory. Here, the Fulani & Peulh live altogether with the others community-members, though they focus on their herding activities (cattle farming, etc.). The focus on the Fulani and Peulh communities is assimilated to the fact that in other countries, such as Cameroon these communities have been recognized and accounted for in the National Constitutions as indigenous. Though they practice the same identifiable herder/transhumance socio-cultural habits, they do not fully meet the criteria.
(b)	the voluntary perpetuation of cultural distinctiveness (e.g. languages, laws and institutions);	<p>A distinct language or dialect, often different from the official language or languages of the country or region in which they reside. This includes a language or dialect that has existed but does not exist now due to impacts that have made it difficult for a community or group to maintain a distinct language or dialect.</p> <p>Customary cultural, economic, social, or political systems that are distinct or separate from those of the mainstream society or culture;</p>	There is no voluntary perpetuation of distinctiveness (language, laws and institution). The only, if any, distinctiveness is the seasonal transhumance taking their cattle from one area to another. This is one way to perpetuate their transhumance culture. However, it is worth noting that (i) cattle farming is not only used by Peulh & Fulani, other Beninese communities also practice cattle farming, and henceforth, (ii) the pasture Fulani and Peulh target and use are the very same that other Beninese cattle farmers target and use, and therefore there is no specifically dedicated location (cultural attachment), rather, they travel anywhere cattle can find green pasture and water sources.
(c)	self-identification;	Self-identification as members of a distinct indigenous social and cultural group and recognition of this identity by others;	The Constitution discriminate #no one as the constitution even recognize that any foreigner living in Benin generally has the same rights than any other Beninese. Besides, the Fulani and Peulh in Benin do not self-identify as indigenous people.
(d)	an experience of subjugation, marginalization, dispossession, exclusion or discrimination (whether or not these conditions persist)		The communities do not feel different from the others Beninese, and there is therefore no specific marginalization nor subjugation or dispossession, exclusion or discrimination. During the consultations, they indicated that they feel and live freely and fearlessly as any other Beninese. The Constitution prohibits any discrimination between and towards Beninese.

150. The GCF, currently developing its own environmental and social safeguards standards/policies and Directives, has provisionally adopted the International Financial Corporation (IFC) Performance Standards and directives of implementation for the purposes of safeguarding GCF projects. There are Eight (08) performance standards covering the main environmental and social questions that must be considered when starting a project and determining environmental and social safeguards compliance and performance, using best international practices.

151. This project has been screened against FAO environmental and social standards, consistently with applicable national environmental and social management regulations, ensuring that the project is consistent with the objectives of GCF-enforced Performance Standards (see *Table 13 below*):

Table 13. Correspondences between IFC/(GCF) Performance Standards & FAO Environmental and Social Safeguards

IFC (GCF endorsed) Performance Standards (PS)	FAO Environmental and Social Safeguards (ESS)
PS1 – Assessment and Management of Environmental and Social Risks and Impacts	ESS1 – Natural Resources Management
PS2 – Labour and Working Conditions	ESS8 – Gender Equality
PS3 – Resource Efficiency and Pollution Prevention	ESS7 – Decent Work
PS4 – Community, Health, Safety, and Security	ESS5 – Pest and Pesticide Management
PS5 – Land Acquisition and Involuntary Resettlement	ESS7 – Decent Work (<i>partially</i>)
	ESS6 – Involuntary Resettlement and Displacement
PS6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources	ESS2 – Biodiversity, Ecosystems, and Natural Habitats
	ESS3 – Plant Genetic Resources for Food and Agriculture
	ESS4 – Animal – Livestock and Aquatic Genetic Resources for Food and Agriculture
PS7 – Indigenous Peoples	ESS9 – Indigenous Peoples and Cultural Heritage
PS8 – Cultural Heritage	

Source: Chemas Consulting Group, LLC, Octobre, 2021

152. As stated earlier, and consistently with ESMF core requirements, an exclusion (**non-eligibility**) list is provided in Annex 8, with details activities that **will not** be financed under the OCRI project.

Comparative Analysis between Benin Regulations & FAO/GCF Safeguards Standards

153. A comparative analysis between the applicable national legislations/regulations on environmental and social management and FAO/GCF environmental and social safeguards standards, reveals some convergences :

- The existence of a framework law on environmental management, a national strategy on the environment, and a national action plan on the protection and sustainability of the environment ;
- the obligation put upon a contractor to undertake an environmental and social impact assessment for infrastructure, structure and equipment that may, because of their dimensions, the nature of implemented activities or of their incidence on the natural environment, to negatively impact the Environment ;
- The indication of key elements that comprise the environmental and social impacts assessment ;
- The existence of national policies and directives on public and occupational health and safety, including the environmental and greenhouse gases pollution control ;
- The Labor Law ;
- The regulation on occupational health and safety, and standards for the emission and rejection into the work environment ;
- Etc.

154. This analysis aims at identifying the shortfalls/limitations within the national legislation in order to make some recommendations aiming at satisfying the requirements of applicable environmental and social standards to the project.

Table 14 : Requirements of OCRI triggered environmental & social safeguards standards and pertinent national regulations

FAO ESSs	Requirements of FAO's ESS	Relevant National Regulations applicable to OCRI	Ad'hoc Provisions to complement national regulations applicable to the project
ESS 2 : Biodiversity Ecosystem and Critical Habitats	<u>Environnemental & Social Assessment</u> ESS 2 highlights the responsibilities of the Government of Benin in terms of environmental and social impacts , risks and opportunities assessment, implementation and monitoring at each step of an FAO-funded project.	<ul style="list-style-type: none"> ✓ The December 11, 1990 Constitution ; ✓ The February 12, 1998 Environmental Framework-Law ; ✓ Decree n°2017-332 of July 6, 2017 on Environmental and Social Assessment procedures in the Republic of Benin that urges each project that may negatively impact the Environment to undertake a Social and environmental impacts assessment. 	The national regulation does satisfy the ESS 2 requirements. Therefore, the national regulation will be complied with on all project activities .
ESS 3 : Plan Genetic Resources for Food Agriculture	ESS 3 highlights the responsibilities of the Government of Benin in terms of the safe and sustainable use of seeds and related genetic resources to support agriculture activities and community food security and safety on all FAO-funded operations	<ul style="list-style-type: none"> ✓ The December 11, 1990 Constitution ; ✓ The February 12, 1998 Environmental Framework-Law ; <p>Law n° 91-004 of February 11, 1991 on the regulation of phytopharmaceutical resources in the Republic of Benin, more precisely on requirements afferent to the sanitary protection of agricultural products via the prevention and fight against hazardous organisms both for their introduction and/or dissemination on the national territory, so as to safeguard and guaranty a safe and prosperous sustainable development environment ;</p>	National regulations do not totally satisfy core requirements of ESS 3 ; therefore ESS 3 will be fully complied with.
ESS 5 : Pest and Pesticides Management	<p>ESS 5 acknowledges that agriculture activities often lead to the pollution of the air, waters and soil/lands which consequently contribute to the weakening or impoverishing of already limited and scarce natural resources. These effects could threaten neighboring communities, ecosystem services and the environment, both locally and regionally.</p> <p>Thus, the ESS explains the core requirements for the rationale and sustainable usage of resources and pollution prevention and management throughout the project lifespan, consistently with international good practices in the Agricultural sector.</p>	<ul style="list-style-type: none"> ✓ Law n° 2010-44 of October 21, 2010 on water management in the Republic of Benin ; Law n°2002-016 of October 18, 2004 on fauna regim ; Law n° 93-009 of July 2, 1993 on Forest regim , and Law law n° 87-015 of September 21, 1987 of public hygiene code of the Republic of Benin edicting core requirements on the management, protection, exploitation of natural resources as well as the prevention of pollutions. ✓ Law n° 91-004 of February 11, 1991 on the regulation of phytopharmaceutical resources in the Republic of Benin, more precisely on requirements afferent to the sanitary protection of agricultural products via the prevention and fight against hazardous organisms both for their introduction and/or dissemination on the national territory, so as to safeguard and guaranty a safe and prosperous 	The national regulation does satisfy the ESS 5 requirements. Therefore, the national regulation will be complied with on all project activities .

FAO ESSs	Requirements of FAO's ESS	Relevant National Regulations applicable to OCRI	Ad'hoc Provisions to complement national regulations applicable to the project
		<p>sustainable development environment ;</p> <p>✓ Article 4 of Law n° 98 - 030 of February 12, 1999 on Environmental framework law in the Republic of Benin that states the following general principles : (i) prevent and anticipate actions so to trigger immediate or future impacts on the overall quality of the Environmental ;</p> <p>✓ Avoid or stop all pollution, degradation or roughly the negative/adverse impacts on the Environment. Likewise, Article 50 of the very same Law suggests that "Any activity that could negatively impact animal species or their natural environment is either forbidden or foremost subjected to the Government's pre-approval".</p>	
ESS 7 : Decent Work	<p>ESS 7 acknowledges the importance of job creation and income generating activities for poverty reduction and the promotion of a solid economic growth, especially in rural areas. It requires the promotion of good relations between employees and employers and improve the benefits of a development project by fairly treating project workers and granting them with safe and secured working conditions. Its very purpose is to :</p> <ul style="list-style-type: none"> • Promote occupational health and safety ; • Encourage the fair/equitable treatment, non-discrimination and the equality of chances for all project workers/employees ; • Protect project employees, notably the vulnerable ones ; • Prevent/forbid the use of all kinds of force labor or child labor ; • Sustain the principles of free association/union and workers collective conventions consistently with applicable national law ; • Provide project employees with means to freely report/speak out on key problems that occur at their workplaces. <p>Moreover, ESS 7 also emphasizes on the risks and impacts of the project on health, safety and security of project affected people, and on the the project responsibility to avoid or minimize to the extent possible, these risks and impacts, by lending a special attention on groups that, because of their particular situation/condition, could be considered as vulnerables.</p>	<p>✓ Article 182 of Law n°98-004 of January 27, 1998, on labor code in the Republic of Benin, which states that « <i>to protect workers life and health, employer ought to take all the necessary measures adaptable to the constructor's operational conditions</i> ».</p> <p>✓ To protect the health and safety of population article 88 of Law n° 98 – 030 of February 12, 1999 on the Environment framework law in the Republic of Benin states that « <i>No one can initiate/undertake constructions, operations, infrastructures, plans, projects and programs without complying with environmental and social impacts assessment procedures, whenever the later is required by the laws and regulations</i> ».</p> <p>✓ Likewise, article 8 of <i>Decembre 11</i>, 1990 Constitution state that « <i>Human-being is sacred and unviolable. State has the absolute obligation to respect and protect him/her. It should guarantee him/her a full enjoyment. Therefore, it ensures its citizens an equal access to health, education, culture, information, professional training and employment</i> ».</p>	<p>National regulations do not totally satisfy core requirements of ESS 7 ; therefore ESS 7 will be fully complied with. The national requirements will therefore include the following provisions :</p> <ul style="list-style-type: none"> - Elaborate and implement a Project Grievance Redress Mechanism (GRM) ; - Elaborate and implement specific clauses on (i) <i>gender-base violence (GBV)</i>, (ii) <i>sexual abuse, exploitation and harassment (SEAH)</i>, and, (iii) <i>child labor</i> ; - Elaborate and implemente the Environmental, health/hygiene and security (EHS) Code ; - Elaborate a comprehensive salary matrix for both employees and temporaries.

FAO ESSs	Requirements of FAO's ESS	Relevant National Regulations applicable to OCRI	Ad'hoc Provisions to complement national regulations applicable to the project
	Furthermore, the ESS 7 encourages the inclusion of quality and security considerations, as well as climate change aspects in the conception and implementation of project activities. It also avoid or minimizes the exposure of communities to risks related to diseases (STI, COVID-19, Ebola, HIV-AIDS, etc.) and dangerous products.		
ESS 8 : Gender Equality	ESS 8 highlights the responsibilities of the Government of Benin in terms of stakeholders consultation, participation and engagement, with a specific emphasis on gender equity ; ensuring no one is been dicarded or discriminated because of his/her gender bias or tendency in an FAO-GCF funded project.	<ul style="list-style-type: none"> ✓ The December 11, 1990 Constitution , and more specifically its Article 8 which states that « <i>Human-being is sacred and unviolable. State has the absolute obligation to respect and protect him/her. It should guarantee him/her a full enjoyment. Therefore, it ensures its citizens an equal access to health, education, culture, informtion, professional training and employment</i> ».; ✓ The February 12, 1998 Environmental Framework-Law ; ✓ Decree n°2017-332 of July 6, 2017 on Environmental and Social Assessment procedures in the Republic of Benin that urges each project that may negatively impact the Environment to undertake a Social and environmental impacts assessment, with a specific focus on gender equity assessment. 	<p>National regulations do not totally satisfy core requirements of ESS 7 ; therefore ESS 8 will be fully complied with.</p> <p>The national requirements will further include the following provisions :</p> <ul style="list-style-type: none"> - Elaborate and implement a Project Grievance Redress Mechanism (GRM) ; - Elaborate and implement specific clauses on (i) <i>gender-based violence (GBV)</i>, (ii) <i>sexual abuse exploitation and harassment (SEAH)</i>, and, (iii) <i>child labor</i> ; - Elaborate and implement the Environmental, health/hygiene and security (EHS) Code ; - Elaborate a comprehensive salary matrix for both employees and temporaries to showcase gender equity.
ESS 9: Indigenous Peoples and Cultural Heritage	ESS 9 ensures that the UN Declaration on the Rights of Indigenous Peoples is respected in all FAO's projects, promotes the right to self-determination and development with identity of indigenous peoples and vulnerable groups, guarantees the application of the principle of Free, Prior and Informed Consent (FPIC) of indigenous peoples affected by the project, recognizes, respects and preserves the rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems of Indigenous Peoples and protects cultural heritage and avoids its alteration, damage or removal.	✓ N/A	The project will ensure continuous stakeholder engagement and consultations with vulnerable groups following FPIC procedures.

Source: Chemas Consulting Group, LLC, October, 2021

V. IDENTIFICATION & ASSESSMENT OF POTENTIAL ENVIRONMENTAL AND SOCIAL SAFEGUARDS RISKS, IMPACTS & OPPORTUNITIES OF OCRI

5.1. Overview of OCRI Environmental and Social Risks, Impacts and Opportunities

155. As stated earlier above, the screening of proposed **Component 1** and **Component 2** activities in each of the participating 5 municipalities (*Copargo, Djougou, Glazoué, Zogbodomey and Zagnanado*), using FAO's Environmental and Social Screening Form (*see Annexes 4-5 & 6*), revealed a rather moderate risk rating, because of the low, site specific nature, type and magnitude of the risks which are mostly reversible and easily manageable. The Project has been rated as a moderate risk and classified as a category B operation and it expected project activities will trigger the following Environmental and Social Safeguard Policies: **ESS 2** (*Biodiversity Ecosystem and Critical Habitats*), **ESS 3** (*Plan Genetic Resources for food and Agriculture*), **ESS 7** (*Decent Work*), and **ESS 8** (*Gender Equity*) and **ESS 9** (*Indigenous Peoples and Cultural Heritage*). consistently with applicable environmental and social safeguards policies, standards and/or regulations of the recipient country (*Benin*), the Food and Agriculture Organization of the United-Nations (FAO) and the Green Climate Fund (GCF). As respectively prescribed by the abovementioned policies, standards and regulations, this **environmental and social management framework (ESMF)**⁵⁹ and the **Stakeholder Engagement Plan (SEP)**, each including a detailed outline of an inclusive and constructive **Social Assessment (SA)** are elaborated for due diligence in addressing identified impacts, risks and opportunities.
156. Overall, the environmental and social impacts of the OCRI project will be positive, as well as generate series of opportunities for beneficiary communities. Besides the inequality in the labour market and presence of landless farmers in the project area who will be included in project activities; the project is expected to improve agricultural land and the natural resources upon which Beninese farmers work is based, and on improved climate-resilient agricultural practices as well as improved natural resources management, specifically water management technics across the ORB basin. More specifically, better functioning ecosystems, controlled transhumance practices, and a greater and collaborative stakeholders' engagement and participation, will positively affect human health and well-being in the long run.
157. Socially, the project will engage women, youth and vulnerable communities through a Gender Action Plan that ensures proactive mainstreaming of women, youth, and vulnerable groups into all activities, empowering them with agricultural skills and knowledge. Livelihoods are expected to improve greatly, based on increased adaptive capacities within the target communities of the 5 participating municipalities. Investments in better and more adaptable machinery, equipment, technology, and high-quality agricultural inputs used on-farm and off-farm, as well as learning-by-doing technics through farmer-field schools practices, are expected to reduce impacts of climate change on agricultural productivity and production, and yield better and more sustainable results in Benin.
158. Furthermore, the project is expected to positively impact government ministries and departments, facilitating improved coordination and planning of natural resources and agricultural extension services with a climate adaptation and mitigation focus. In addition to these positive impacts, the project incorporates special participatory training sessions and activities in farmer field school and similar formats under Component 2 to ensure that farmers are able to

⁵⁹- As mentioned earlier, the ESMF will serve to further guiding project implementing agencies and stakeholders on environmental and social assessment, mitigation of impacts, and monitoring and reporting procedures during project implementation, including grievance redress mechanisms (GRM) and other corporate institutional requirements, such as gender-based violence, sexual exploitation and abuse, child labor, workers influx, citizen engagement, etc.

proactively enhance their livelihoods in ways that would not have occurred in a “without project” scenario.

159. In instances where pesticide use is unavoidable, training on the safe handling of pesticides will be provided and bio-pesticides will be promoted over other more hazardous and toxic varieties. The more people will be trained on the safe and secure usages of pesticides, the greater communities will be better off and the best for reconvening such knowledge sharing. There will be no pesticide procurement under the project, and highly hazardous pesticides will not be used in the project areas. The project is not focused on construction activities, though minor construction activities may be pursued for the sake of rehabilitating, constructing small dams, establishing new agro-met systems or some selected agriculture silos and/or warehouses. Due to the small size of such water stations and/or community-driven infrastructures, potential negative impacts are expected to be minor and can be easily mitigated. For example, biophysical environment risks (*i.e. noise pollution during installation, air pollution due to dust, and health/safety risks, ...*) during installation of agro-met stations, are envisaged to be low-to-moderate, localized, and temporary.

5.2 Breakdown of Impacts per Component

160. Complementary to what is stated hereabove, the key findings on the OCRI project foreseen positive and negative impacts in the participating five municipalities of the ORB area could be summarized as follows:

161. **Positive Impacts:** The project is expected to improve the natural resources and agricultural land upon which farmers work, based on improved, climate-resilient agricultural practices and natural resources management (*specifically water management across the basin*). Environmentally, improved farming practices will support better functioning ecosystems which, in turn, can positively affect human health and well-being in the long run. Investments in machinery and equipment, technology, and high-quality agricultural inputs used on-farm and off-farm are expected to reduce impacts of climate change on agricultural productivity and production. Special FFS sessions and activities under Component 1 will ensure that farmers are able to proactively “do better” than they would under the without-project scenario speaking, livelihoods are expected to improve based on increased adaptive capacities within the target communities. The project may also positively reduce levels of migrant labor, given that increased productivity of land may reduce the need for farmers to migrate in search of work elsewhere, be it in Cotonou (*rural exodus*) or to the neighboring countries (*immigration*). The drive to implement climate resilient agriculture and to establish climate smart water management information portal is expected to positively impact government ministries and departments, facilitating improved coordination and planning of natural resources and agricultural extension services with a climate focus. The project also engages women through a Gender Action Plan that ensures proactive mainstreaming of women into all activities, empowering women with agricultural skills and knowledge.

162. **Negative Impacts:** Potential negative impacts are minor, mitigatable, and forecast only for the implementation stages. From the social perspective, the project’s inclusion of landless farmers and tenants means that there is a potential risk of changes in tenant/landlord relationships due increased in land value resulting from increased agricultural productivity. In addition to this, and as part of the wholehearted cultural induction/education of children, in Benin, as in many other African countries, youth often assist their respective families with farming works, and there is therefore, a risk that those youth may work beyond what is age-appropriate, unless closely

monitored. From the environmental perspective however, increased agricultural production may result in the generation of new environmental waste from, for instance, slow-release fertilizers that do not fully breakdown/decompose. Thus, increased production is also often a trigger for increased pesticides use, even if the pesticide use is indirect and not promoted under this project. Provision of seed and planting materials for the FFS and introduction of climate-resilient crop varieties also increases the project to medium risk, even though the inputs used and varieties recommended would be registered/certified and already in use within the country (albeit on a smaller scale). Last of all, while the project is not focused on construction activities, minor construction activities may be pursued for the sake of establishing small water retention infrastructure (i.e. dams), agricultural warehouses (i.e. *seed-banks, agricultural inputs, family-size silos, etc.*). Due to the small size of such infrastructures, potential negative impacts are expected to be minor, mostly site-specific and easily mitigatable, for example: noise pollution during installation, air pollution due to dust, and health/safety risks during installation. All of these negative impacts – most of which are linked to Component 1 – are envisaged to be low-to-moderate, localized, temporary, and thus mitigatable.

163. A breakdown of the expected positive and potential negative impacts, by output (all risks being linked to Component 1), is provided in the following charts, based on components description from the available Financing Proposal:

a. Overview of risks, impacts and mitigation measures per component, and ways for improvements

Table 15: Breakdown of risks, impacts and mitigation measures per Component

Risk identified	Possible negative impacts	Possible positive impacts	Mitigation measures	Responsibility
Component 1 :				
Climate Resilient Crop production enhanced and Ecosystem services restored in the Upper and Middle Ouéme				
The project will underline the use of water by promoting small irrigation projects (the "drop by drop" system, for instance, and other small-scale dams) in the lowlands, which are traditionally aimed at setting up small-scale family farming.	<ul style="list-style-type: none"> - Increased risk of COVID-19 contamination (<i>gathering at FFSs</i>) -Increased usage of pesticides (i.e. <i>risk of contamination at a much larger scale if not contained</i>); - soil salinisation - conflicts over the sharing of water -Poor quality maintenance of water infrastructure and waterworks (<i>lickages, floods and pollution of waterbodies, ...</i>) -Likely risk of increase degradation of deforestation and natural resources - decrease in the quantities of water available downstream 	<ul style="list-style-type: none"> - Social discrimination (<i>risk of non-selection and/or inclusion of gender aspects during the selection process of TOT, as well as during the certification of TOT. Even so, risk of them, not being respected when leading a group of male farmers, etc.</i>) -Poor knowledge transfert (<i>inconsistence, incomplete with local women (cultural barriers, etc.)</i>), -more effective water management - longer period during which water is available. -Unforeseen land acquisition (<i>i.e. fallow lands, increased land grab, further slash and burn and deforestation</i>) -Increased violent conflicts partly due to (i) increased transhumance trends; and (ii) rapid acquisition of new lands 	<ul style="list-style-type: none"> - Target smallholders in the lowland areas - Involve local water services in charge of water - Adopt plans to share and distribute water at the platform level - Training and awareness-raising for producers on water-saving methods available (Integrated Water Resource Management, IWRM) 	<ul style="list-style-type: none"> - DGE - INE - Municipal and traditional authorities - Project coordination - Local MAEP services - EIG

The project will regenerate or equip lowland areas for community gardening to supply local markets or rice farming	<ul style="list-style-type: none"> - increase in anthropogenic pressure on these areas - risks of conflicts arising between producers and new arrivals - risk of conflict between crop farmers and livestock farmers 	<ul style="list-style-type: none"> - crop diversification - increase in production and income - improvement in employment 	<ul style="list-style-type: none"> - Encourage dialogue between different parties - Support the operation of a land governance organization involving local communities and authorities 	<ul style="list-style-type: none"> - Local MAEP services - Local platforms - Project coordination - Municipal and traditional authorities
The project plans to promote the use of market gardening seeds as well as forest plants and fruit trees	<ul style="list-style-type: none"> -Moving new, unsuitable, or invasive species from one area to another -Poor water infrastructure and civil works quality; -Pollution risk (<i>biophysical & human environment</i>) -Accident risks during civil works (COVID-19, etc.) -Risk of broader contamination of the surrounding watersheds, lands properties, air and atmosphere due to an excessive usage of uncontrolled pesticides. -Increased deforestation during water infrastructures construction/rehabilitation, -Risk of destruction of tree nurseries and/or agricultural crops prior to project appraisal due partially to (i) animal divagation, and (ii) transporting harvested crop out from the farm fields to the villages. 	<ul style="list-style-type: none"> - Agricultural diversification -Encourage native vegetables and tree species that are rural and of economic interest -Jobs creation for women, youth and vulnerable groups; -Gender Discrimination (due to frustrations generated from lack of transparency in the selection process of who the key beneficiaries could be), -Risk of persistent conflict between transhuman herders and farmers due to the poor visualization of existing/proposed transhumance boundaries 	<ul style="list-style-type: none"> -Promote local varieties and those adapted to the environment (<i>those with short life cycles and/or drought/disease-resistant</i>) -Set up a programme to improve local species and varieties 	<ul style="list-style-type: none"> - MAEP technical services - Project coordination - University
The project will make sufficient amounts of seeds and local plants available	<ul style="list-style-type: none"> -Introduction of untested plants and seeds 	<ul style="list-style-type: none"> -Seed issues would no longer be a problem 	<ul style="list-style-type: none"> - Ensure that specifications are strictly adhered to as regards seed and plant purchases - Involve seed and plant testing service 	<ul style="list-style-type: none"> - MAEP technical services - Project coordination - grower associations

b. Gender Equality:

164. In the absence of equity and equality, certain project envisioned actions could have some impacts on gender bias/relations in the given communities of the 5 participating municipalities. Impacts could be the aggravation of tendential disequilibrium both in terms of economic power between men and women, intellectual resources, and the know-how, and between local communities traditionally established or communally called/labelled “autochtones” and newly establish immigrant communities.

5.3 Assessment of Cumulative Impacts.

165. Overall, the cumulative project impacts are expected to be positive, as the overall objective is to increase climate resiliency of the most vulnerable farmers in Benin. Even with these expected, major positive impacts, the project has been classified as moderate risk (*i.e. Category B*) largely due to inequality in the labor market and presence of landless farmers in the project area who will be included in project activities.

166. In its efforts to improve the participating communities' livelihoods and living conditions better off, the OCRI Project equally triggers/carries on some important threats to the sustainability of the Environment (*biophysical and human*) in the ORB area. These cumulative impacts could be:

167. **Agricultural pressure on the existing natural resources:** land scarcity, loss of habitats, triggered wildfires, impactful climate change effects, the practice/implementation of certain activities that require huge agricultural lands (community wood-forest, nurseries, and plantations, and extensive usage of pesticides in the region that will/could further weaken land fertility and affect the overall quality of the ORB watershed could further increase the pressure over land in the riparian territories to OCRI interventions areas. However, the established community-led co-management of certain natural resources and forest platforms and the development of income-generation activities (tree-nurseries, agroforestry, horticulture, honey production, aquaculture, etc could surely help diversify communities' source of income and safeguards the arable lands; and

Transhumance with its downsize effects: recurrent conflicts between herders and farmers that oftentimes leads/results in deadly and socioeconomically detrimental outcomes. Gladly, interministerial Decree n°402/MIS/MAEP/P/MAEC/MCVDD/MEF/MDGL/DC/SGM/ DAIC/SA/082SGG18 of December 18, 2018 on the operational modalities of the 2018-2019 transhumance campaign in the Republic of Benin imposes some restrictions in the Transhumance practice. The implementation of these measures could further exacerbate these restrictions and negatively impact herders. This was extensively discussed during the field consultation and more constructive alternatives ought to be designed and found to ease and satisfactorily facilitate the sustainable implementation of the OCRI project within the ORB region. More precisely, (i) explore engagement with national authorities to work with neighbouring countries to enhance understanding of transhumance cycles, corridors and dynamics; and if deemed necessary, (ii) redefine transhumance corridors and mechanisms for compensation of losses emerging from damages, and (iii) Strengthen the role of civil society in providing training on conflict prevention and mediation mechanisms and vivre ensemble.

5.4 The Without Project Scenario:

168. As stated above, the overall vision of this project is to sustainably improve the livelihood and living conditions of Beninese farmers active in the participating 5 municipalities face with growing and constraining climate change factors. The project area context speaks volumes of the difficult condition farmers are current faced with in the project intervention areas. OCRI contribution is foreseen to bring way more positive benefits than adverse risks and impacts, which, as determined by its moderate to low safeguards risk rating and category B stance as mostly site specific and easily manageable.

169. Consequently, the without project contribution will most likely further increase the current constraining factors in a context of impactful climate change regime and hinder more the future of theses beneficiary farmers livelihoods and living conditions. Moreover, this will add more difficulties on the Government's efforts to alleviate rural poverty, especially in this ORB region; which altogether will result in more rural exodus and immigration, especially from the working forces (youth); transformational changes from farmers to other more affordable work skills (*mechanics, trader, security agents, porters, informal income generating businessmen/women, etc.*); hence, further and further depleting the Agricultural wide-sector from its main workforce. As for the biophysical environment, available arable land, scattered natural resources, as well as quality of water and grassland will be further shrunk and depleted; thus, adding more burden on remaining rural households; increase land ownership and natural resources co-sharing more

problematic with an exponential rise of transhuman-driven conflicts and detrimental consequences.

170. This is to, simply further justify, the timeliness, and overall relevance of OCRI project in supporting Government of Benin's efforts and recipient communities' vision to foster a better future for their lives.

VI. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

171. For moderate risk projects, FAO requires the development of an environmental and social management plan to set out the measures and actions required for the project to manage and effectively mitigate environmental and social risks and achieve compliance with the triggered ESS.

172. In this case, the ESMP will list the commitments and actions the OCRI project will undertake to achieve compliance with the five triggered FAO/GCF Safeguards Standards, namely ESS 2 (*Biodiversity Ecosystem and Critical Habitats*), ESS 3 (*Plant Genetic Resources for Food and Agriculture*), ESS 5 (*Pest and Pesticides Management*), ESS 7 (*Descent Work*), ESS 8 (*Gender Equity*), and ESS9 (*Indigenous Peoples and Cultural Heritage*) throughout the entire project lifecycle.

173. In case of a change management that leads to a reclassification of the project takes place during the implementation stage of this project, and new risks are identified, the ESMP will be reviewed accordingly.

6.1 Mitigation Measures Checklist

174. By design, the project is expected to have far greater environmental benefits than adverse environmental impacts. The potential adverse environmental impacts from the project are likely to be small in scale and limited in size. Spatial and temporal distribution of impacts that would result from the project activities, as well as the sub-projects requires specific attention particularly during project screening.

175. However, it is recognized that such impacts, if they are not identified early enough during the planning and preparation stages, and their mitigation measures adequately integrated into the project planning and implementation, can most likely accrue into larger impacts. Given the fact that minimum impact sub-projects are eligible and the level of available fund for each district, such impacts could be easily mitigated using sensible site selection criteria, good construction practices in harmony with the local culture and diligent management practices in the operational phase⁶⁰.

176. This section discusses the impacts and mitigation measures for two prospective components. The following table is described the impacts and mitigation measure from the agricultural production activities.

Table 16: Potential Risks, Impacts and Mitigations Measures

Potential Risks	Mitigation Measures & Opportunities to enhance positive impacts	Relevant National Regulations and/or Laws, Gaps therein, and supplementary Action/Measures to be Taken
Component 1 : Climate Resilient Crop production enhanced and Ecosystem services restored in the Upper and Middle Ouémé		
Temporary dust/noise/water and soil pollution during land preparation, water infrastructure	Systematic watering of installation site during dry and windy weather, morning, and afternoon, when within at least 25 to 50m of an occupied production landfield and/or dwelling. Installation to be conducted during regular working hours.	The Beninese National Environmental Regulation , enforced in part through its February 12, 1998 Environmental Framework-Law and Decree n°2017-332 of July 6, 2017 on Environmental and Social Assessment procedures in the Republic of Benin that urges each project that may negatively impact the Environment to undertake a Social and environmental impacts assessment and comply with core recommendations to mitigate these adverse impacts (<i>biophysical environment : air, noise, soil, water pollution, etc.</i>). Thought these seem to be strongly grounded, there

⁶⁰-As mitigation measures must be taken into account as part of the sub-project design and costs, the ESMP does not need a separate budget allocation. However, it is imperative that activities' costs reflect the resources needed to fully implement the ESMP.

		are/will be moments where some gaps filling might be required to ensure consistency with applicable international standards throughout.
Effects of intensified agricultural production	Train farmers on environmentally and socially appropriate farming practices. Instruction in safe selection and use of pesticides (<i>in instances where use is unavoidable</i>), promotion of organic fertilizers, as well as the informed use of mineral fertilizers (<i>when unavoidable</i>), promotion of the concept of integrated pest management (IPM) procedures/approach, and emphatic discouragement of the use of persistent herbicides/ pesticides that could be very detrimental to humans and the environment as a whole.	In addition to the abovementioned regulations and Decree, numerous other national laws are relevant to fertilizers and pesticides use in agriculture. These laws are considered to be sufficient based on FAO/GCF standards. However, there are often gaps in their application and enforcement. As such, the project proposes supplementary measures (as outlined in the preceding column) to ensure that farmers are aware of and abide by these rules and guidelines. In particular, the project is offering training in relevant areas of IPM and socially environmentally appropriate climate smart farming practices.
Indirect overuse of herbicides/ pesticides	Provision of training on IPM and GAP (<i>Good Agriculture Practices</i>), procedures/practices to farmer groups at demonstration sites. When use of pesticides is inevitable, bio-pesticides will be strongly recommended over other types. Training will also be provided on the safe handling of pesticides. No pesticides will be procured under the project, and highly-hazardous pesticides (HHP) will not be used (<i>see Annex 8 for the non-eligibility list, and Annex 12 for the list of authorized pesticides in Benin, all others are banned</i>). Annex 11 provides guidelines for pest management.	As above.
Excessive application of fertilizer and/or generation of new environmental waste due to slow-release fertilizer	Provision of extension and training on correct identification and use of fertilizer appropriate to the soil and crop(s); promotion of composting and use of manure, when possible. For the use of fertilizers, as management practices differ according to the site conditions and farm systems, fertilizers (nutrients) will be applied following the guiding principles of 4R Stewardship, specifically: 1. Right Source (<i>suitable source of nutrients</i>) 2. Right rate (<i>quantity applied according to crop requirement and soil test</i>) 3. Right time (<i>Fertilizer applied at the time when the crop can best utilize it</i>) 4. Right placement (<i>Suitable method of nutrient/fertilizer application</i>)	As above
Introduction of climate resilient varieties developed and used within the country, but not yet properly registered	Only use native species and/or locally developed varieties that are registered and well-known and used by local farmers (<i>see negative list in Annex 1 for more details</i>). When deemed necessary, screening by FAO's technical team unit on plant protection (AGPM) will be conducted.	Applicable national regulations do provide a sufficiently robust basis for managing risks associated with introducing newly developed varieties, including certification, in their national research laboratories. To further ensure the project only positively impacts the agricultural landscapes within which it works, the project will only pursue introduction of varieties that are native species and/or locally developed, registered and used.
Provision of seeds (<i>carrying risk of uncertified/unregistered varieties</i>)	Only use registered, certified seeds (<i>see negative list in Annex 8 for more details</i>)	The Beninese National Environmental Regulation , enforced in part through its February 12, 1998 Environmental

		<p>Framework-Law and Decree n°2017-332 of July 6, 2017 on Environmental and Social Assessment procedures in the Republic of Benin as well as Law n° 91-004 of February 11, 1991 on the regulation of phytopharmaceutical resources in the Republic of Benin ; these laws</p> <p>are considered to be sufficient to ensure adherence to GCF/FAO standards as they relate to risks associated with seed distribution. Because of the relative variability of these requirements, The project will therefore comply with both ESS 5 and these laws by exclusively using seeds that are locally registered and certified and currently being used on the ground around the country. In case of conflict or contradiction during project implementation,</p>
Bonded labor and/or child labor	<p>The project will conduct no activities if child labor is present; rather, activities and community participation would be dependent upon ensuring that children are not engaged in child labor or age-inappropriate youth work, as well as gender-based violence (GBV) and sexual exploitation abuse and harassment (SEAH).</p> <p>For any areas in which bonded labor and/or age-inappropriate youth work or GBV/SEAH are identified during safeguards screenings prior to project implementation, the project will offer sensitization training on safe, decent rural employment, and age-appropriate work (<i>given that under-age children and youth often assist their respective families with farming work off</i>). Use of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT), building on good work already conducted by FAO, will be put into contribution to help improve labor and land tenancy relations.</p> <p>More broadly speaking, trainings to be provided through the Farmer Field Schools and/or business owners will create a win-win situation for landowners and tenants.</p> <p>Equal opportunity will be provided for participants to increase their capacities to understand Good Agriculture Practices (GAP), decent rural employment, and safe, age-appropriate work.</p> <p>The same approach is used in the Women Open School (WOS) format. The approach taken in FFS has been seen to increase income and standards of living whilst, at the same time, raise awareness on social issues.</p> <p>To ensure ongoing monitoring of potential child and/or bonded labor, as well as GBV/SEA issues, the project has already some provisions: (i) annual refresher trainings on safeguards, including issues related to GBV/SEAH and CL; (ii) annual</p>	<p>The Beninese Labor Law strongly prohibits employment of any child (<i>defined as an individual who has not completed his/her fourteenth year of age</i>) in a range of fields, as well as the use of forced sex as GBV/SEAH.</p> <p>Under this project, participating farmers and contractors will be bound by the applicable labor law and avoid child labor (CL) and under-age youth work, as well as GBV/SEAH issues within project activities, and thus ensure adherence to (<i>and respect for</i>) relevant Human Rights.</p> <p>Furthermore, to ensure consistency with ESS 7 requirements supplementary measures (<i>i.e. trainings for farmers</i>) geared toward addressing this gap, and thus ensuring full adherence to GCF/FAO standards, including FAO's ESS 7 on Decent Work.</p> <p>Trainings for project staffs are geared toward ensuring full and effective application of both the provisions in the national labor law and the supplementary requirements actions/measures to be taken to ensure full adherence to GCF/FAO standards.</p>

	consultations with participants to identify changes in status, potential concerns, etc.; and, (iii) monitoring and reporting on ESMPs every six months.	
Increased value of land due to heightened agricultural productivity, prompting issues with land tenancy arrangements.	Although the standard is not triggered under this project, as no land acquisition is contemplated, and all participating farmers lands will be personally owned, however, for precautionary measures, the use of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT) will be enforced.	No national policies and/or laws directly address potential risks associated with the changing value of land as a result of increasing agricultural productivity associated with external support/assistance, and the associated potential impacts on tenancy arrangements. As such, the project includes supplementary actions/measures to actively promote the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT) to ensure full adherence to GCF/FAO safeguards.

177. Summary of Environmental Mitigation Measures: Indirect, increased use of pesticides will be mitigated against by proactively offering training on IPM. In instances where pesticides use is unavoidable, training on the safe handling of pesticides will be provided and bio-pesticides will be promoted over other varieties. There will be no pesticides procurement under this project, and highly hazardous pesticides (HHP) would not be used in the project areas. Both the PCU and LPIU Safeguards specialists will work closely with recipient communities to ensure systematic compliance with these safeguards measures.

178. Summary of Social Mitigation Measures: Risks associated with decent rural employment, GBV/SEAH, occupational health and safety, and land tenure will be mitigated with application of: (i) *the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT)*; (ii) *sensitization training on safe, decent rural employment and age-appropriate work, given that youth often assist with the farming work of their respective families, including GBV and SEAH*; and (iii) *safe and secured use of pesticides*. To further ensure social inclusion of vulnerable groups and citizen/stakeholders' engagement, ongoing consultations/participatory M&E will continue throughout the project life cycle as a means of providing a feedback loop to foster stakeholders' ownership and social accountability. The established grievance redress mechanism (GRM) will be conducted in line with the requests from community consultations and will be sensitive to the needs of vulnerable groups, especially widows, disadvantaged and disabled.

6.2 Approach to Enhance Project Implementation

179. This ESMF, along with the Gender Action Plan (GAP), is not being used solely as a compliance process: it goes beyond compliance and takes a proactive approach in design. Similarly, the grievance redress mechanism included in this document is not just about being a last-resort mechanism; rather, the GRM is about creating a project culture of transparency with built-in feedback systems.

180. Gender Action Plan are taken as positive aspects that help the project implementation units in identifying and developing activities for greater environmental and social co-benefits. To ensure, that the social and environmental issues are addressed properly in accordance and in compliance with the FAO Standards and GCF Policies, all project activities shall systematically undergo a thorough screening, assessment, review, and clearance process before the physical execution of project activities.

181. This chapter describes the process for ensuring that environmental and social safeguards concerns are adequately addressed through the proposed institutional arrangements and procedures used by the project for managing the identification, preparation, approval, implementation and reporting of sub-activities. The detailed environmental and social safeguard process is listed below:

Step 1: Defining Sub-Activities

182. As mentioned above, by design, the project is expected to have far greater social and environmental benefits than adverse social and environmental impacts. The potential adverse environmental and social impacts from the project are likely to be small in scale and limited in size. Nonetheless, it is recognized that such impacts can accrue into much larger impacts if they are not identified early enough during the planning cycle and their mitigation measures duly integrated into the project planning and implementation.

183. Considering activities to be implemented in each project site will be, very similar, in nature, size and scale across the implementation area, it is proposed that screening for potential risks and impacts is undertaken at sub-activity level. Sub-activities constitute a valid tool to identify expected impacts, mitigation, and monitoring measures.

184. In this context, for each sub-activity, physical sites will be identified along with activities, including capacity building/training and stakeholder engagement information specific to each selected site.

Step 2: Environmental and Social Risk Screening of Sub-Activities

185. During project implementation stage, once the physical footprints of subproject activities are known, FAO's environmental and social screening checklist (*Annexes 4- 5 & 6*) will determine if a sub-activity will require a site-specific **Environmental and Social Management Plan (ESMP)**. While the nature, magnitude, reversibility, and physical location of impacts are main elements in the screening of sub-activities, however, expert judgment will be a main factor in deciding whether or not a site-specific ESMP is required for a sub-activity.

186. For a sub-activity that requires a site-specific ESMP, the proposal must include a set of mitigation measures with monitoring and institutional arrangements to be taken during the implementation phase to correctly manage any potential adverse environmental and social impacts that may have been identified.

187. FAO will undertake environmental and social screening exercise using FAO's **Environmental and Social Screening Checklist (ESSC)**. Once the physical footprints of its implementation sites and beneficiaries are determined, a screening checklist will be completed per sub-activity and signed off by the safeguards specialist at the Project Coordination Unit (PCU) level. The results of the screening checklists will be aggregated by the safeguards specialist. This document will be sent to the FAO's Environmental and Social Management (ESM) Unit in Rome for review and endorsement.

Screening of sub-activities involves:

- Checking that involved activities are permissible (*as per the legal and regulatory requirements of the project*);
- Determining the level of environmental and social assessment required based on the level of expected Impacts and opportunities.

188. The E&S screening checklist (ESSC) will result in the following screening outcomes: (i) *determine the category for further assessment*; and (ii) *determine which environmental and social assessment instrument to be applied*.

189. Pre-implementation safeguards documents (*i.e. one per sub-activity*) will be prepared by the environmental and social safeguards specialist in the PCU⁶¹ prior to the implementation of activities and sent to ESM Unit in FAO Headquarters in Rome for final review and endorsement.

190. The documents will outline the following information relative to each sub-activity:

- a. description of the activities to be carried out in all sites
- b. description of each implementing site:
 - i. Geography and specificities in terms of activities ;
 - ii. Beneficiaries and stakeholders ;
 - iii. Map of the site⁶² ;
- c. Description of the stakeholder engagement process that was carried out in the inception phase and the stakeholder engagement plan to be carried during implementation;
- d. Break down of information by site about the grievance mechanism and disclosure;
- e. Aggregated results of the environmental and social screening checklists per sub-activity signed off by the Safeguards Specialist in the Coordination Unit.
- f. Where applicable, site-specific Environmental and Social Management Plans (ESMPs) identifying mitigation measures, indicators, responsibilities, budget and timeframe. The ESMP will be added to the monitoring plan to ensure safeguards performance is regularly reported upon along with stakeholder engagement monitoring per site.

Step 3: Environmental and Social Risk Management (Monitoring and Reporting)

191. Sub-activities classified as medium risk based on the environmental and social risks identified during the screening process will then be required to develop site-specific ESMPs that include information on the mitigation actions, the indicators, budget and timeframe where the completion of such mitigation actions are expected.

192. While the nature, scale, magnitude, reversibility, and location of impacts are main elements in the screening of sub-activities, however expert judgment will be a main determining factor in deciding whether or not a site-specific ESMP is required for a sub-activity.

193. The site-specific ESMP should include:

- **Mitigation Measures:** Based on the environmental and social impacts identified from the checklist, the ESMP should describe, with technical details, each mitigation measure, together with designs, equipment descriptions and operating procedures as appropriate.
- **Monitoring:** Environmental and social monitoring during the implementation of the sub-activities, in order to measure the success of the mitigation measures. Specifically, the monitoring section of the ESMP provides:
 - ✓ A specific description and technical details of monitoring measures that include the parameters to be measured, the methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions.

⁶¹ - The ESSC could also be prepared by the **Safeguards Specialist** at the LPIU level at local level, reviewed and approved by the **Senior Environmental and Social Safeguards Specialist** at the PCU level in Cotonou then sent to the **ESM Unit** in Rome for final review and endorsement.

⁶² - ... if only available and easily acquirable

- ✓ Monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and to furnish information on the progress and results of mitigation, e.g. by annual audits and surveys to monitor overall effectiveness of this ESMF.

- *Institutional Arrangements*: The ESMP should also provide a specific description of institutional arrangements, i.e. who is responsible for carrying out the mitigating and monitoring measures (*for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting and staff training*).

194. Additionally, the ESMP should include an estimate of the costs of the measures and activities recommended so that the necessary funds are included. The mitigation and monitoring measures recommended in the ESMP should be developed in consultation with and participation of all project affected/impacted groups to incorporate their concerns and views in the design of the ESMP.

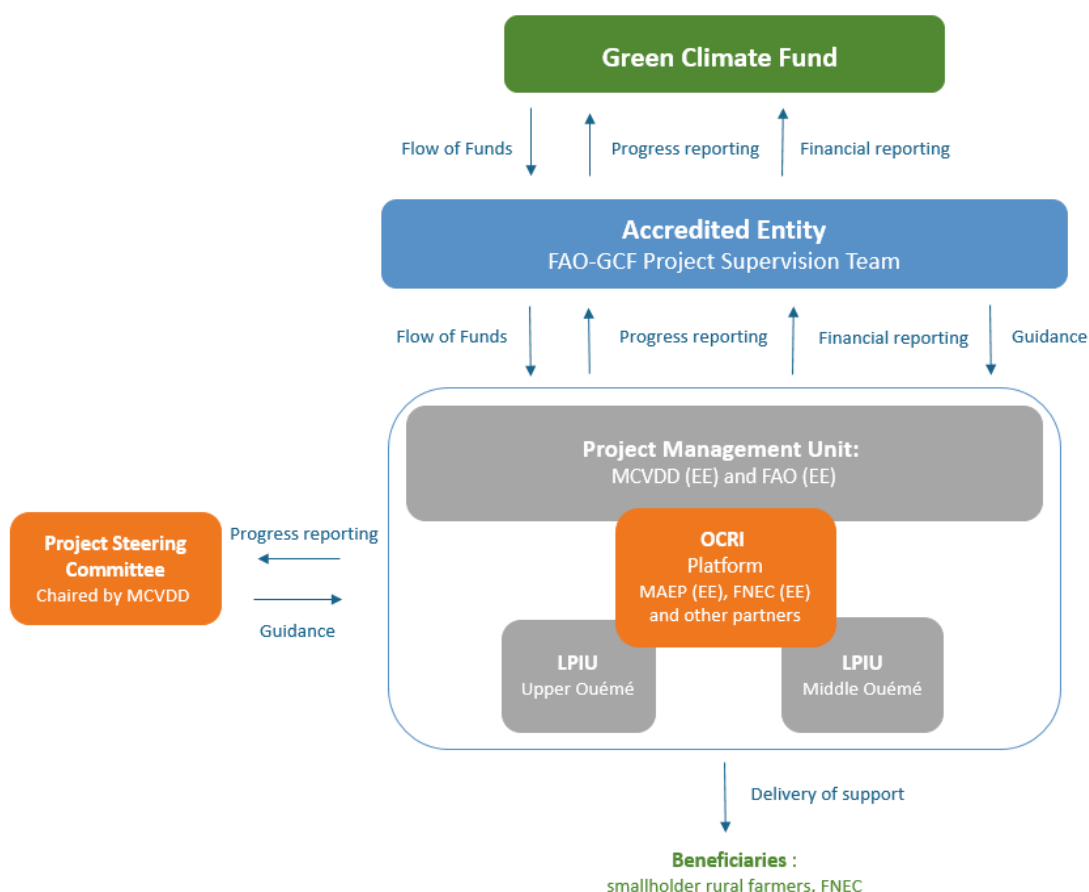
195. Once the pre-implementation documents with ESMPs are endorsed by the ESM unit in FAO Headquarters in Rome, the safeguards specialist from the PCU will ensure ESMPs are included and reported upon, along with stakeholder engagement in the context of the monitoring plan.

196. In this context, field staff will be responsible for monitoring the progress, as relevant, in the monitoring plan, as well as to identify any potential risks that may emerge throughout the implementation phase. This information will be compiled in progress reports and templates will include a section on E&S risk management, where the above information will be adequately reported upon.

197. Information from progress reports will be received by the environmental and social safeguards specialist in the project coordination unit (PCU) who will compile the information received in the progress reports, as well as that related to grievances received from project affected persons to feed in a semi-annual report on Environmental and Social Safeguards Performance to be endorsed by the ESM unit in FAO Headquarters in Rome.

6.3 Safeguards Implementation Arrangements (SIA)

Figure 2: OCRI Implementation Arrangements – Safeguards Focus.



Project Implementation Arrangement for Safeguards:

198. For safeguards implementation, the Project Coordinator leading the **Project Coordination Unit (PCU)** will have the overall responsibility and accountability for the implementation of the project, including environmental and social safeguards compliance. More specifically, S.He will be the recipient of all project related grievances at both the central and local levels, as detailed within the Grievance Redress Mechanism process in the below pages (i.e. section IX) of this ESMF. The roles and responsibilities of PCU staff are described in more details in both the project description in this document and in the Funding Proposal.

199. → **Project Coordination Unit (PCU)**: At the national level, a Project Coordination Unit, led and hosted by the MCVDD and co-chaired by MAEP, will be established in Cotonou to ensure political anchorage within the overarching decision-making structures, policies, standards and strategies. A **National Project Coordinator (NPC)** will be responsible for the physical operational and administrative project implementation and coordination with all project stakeholders, and operational leadership of the PCU. Under the overall leadership of the NPC, and in close coordination with the co-EEs, OCRI-PCU will be responsible for providing support to the implementation of day-to-day activities at the national/central level; as well as coordinate with the two (2) local PIU (**LPIUs**) and municipal Focal Points the implementation of activities at sub-regional level, and ensure these are aligned and consistent with the implementation trend of activities in each of the five municipalities. The PCU staff, at central level, will include, in addition to other specialities, a devoted and well-motivated **Senior Environmental and Social Safeguard**

Officer (SESSO) with Social Inclusion, Gender, Citizen Engagement, Environment and/or Natural Resources Management expertise.

200. The SESSO will be hired to ensure compliance with the ESMF, its implementation, and its regular reporting across all project activities. In order to retain close proximity to the project municipalities, the SESSO will be based out of the PCU in Cotonou and ensuring that the staff on-the-ground in the project areas (*i.e. the two Safeguards Specialists in the two Local PIUs*) conduct a screening for sub-activities prior to implementation, and then mitigate for any medium-risk activities using site-specific ESMPs developed during implementation, based on that very screening checklist, once project activities footprints are clear.
201. → **Local Project Implementation Units (LPIUs)**: At the local level, two Local Project Implementation Units (LPIUs), one for the Upper Ouémé and one for the Middle Ouémé, led by MAEP and co-chaired by MCVDD, will be established locally in the field. As the field-level operational arms of the PCU, each LPIU will be headed by a **Project Technical Director (PTD)**, appointed by MAED, and a **Deputy Project Technical Director (DPTD)** appointed by MCVDD. To support both the PTD and DPTD in the day-to-day project operations in each LPIU, OCRI will recruit two sub-regional Project Coordinators (SRPC) to oversee project implementation at local level. The two ESSOs will report directly to the SESSO who will coordinate the safeguards reporting work and liaise with the ABE (*Agence Béninoise de l'Environnement*) to ensure compliance with applicable national regulations.
202. The physical location of the LPIUs offices will be jointly identified and coordinated with the Agriculture and **Environment** departments and the municipalities to ensure synergies and liaison among all stakeholders.
203. LPIU staffs will include among other staffs an **Environment and Social Safeguards Officer (ESSO)**, with some knowledge as community development/mobilizer officer with Gender (GVB/SEA), vulnerability, citizen engagement and/or GRS expertise.
204. Just like in the PCU, the LPIUs will comprise a mixt of government staff members and project-recruited staffs. FAO, as funding institution and co-PIU, will also provide technical and administrative support to the government (MCVDD, MAEP, ABE, etc.), PCU and LPIUs.
205. FAO/GCF will have a designated Lead Environmental and Social Safeguards Adviser (LESSA), an International Consultant who will spearhead the safeguards compliance agenda to ensure FAO/GCF standards and policies are fully and adequately complied with. He will work in tandem with the PCU ESSO, the LPIUs ESSOs and ABE Safeguards team to ensure overall project performance on safeguards throughout the lifespan of OCRI project.
206. The main activities of the abovementioned units will include, among others: planning, budgeting and implementing; financial management, procurement, safeguards compliance, social and environmental development/performance, supervision, monitoring and evaluation, auditing, grievance redress and reporting. The PCU will prepare the project annual work plan and budget (AWPB) for clearance by a Project Steering Committee (PSC) each year, and report on the progress of the project against the AWPB on a semi-annual and annual basis. These will feed into the semi-annual and annual performance reports (SA/APR), including financial management, procurement, safeguards compliance and sustainable development reports that OCRI/PCU will provide to FAO; which in return, will subsequently provide these reports to GCF, for accountability purpose.
207. Besides the fiduciary (*i.e. procurement and financial management*) and safeguards reporting systems, the PCU will set up and implement a project monitoring and evaluation system to monitor

and evaluate planned outputs, outcomes and objectives based on the project's Logical Framework. Moreover, a computerized Management Information System (MIS) will be created and used by the PCU and LPIUs to track and compile pristine information on overall project implementation performance, results, and lessons learned.

208. As part of the project's effort to ensure sufficient capacity of project personnel to effectively manage environmental and social risks throughout the project implementation period, the project will:

(i) include safeguards-related requirements in the Terms of Reference for relevant project-recruited staff; and

(ii) actively strengthen the relevant capacity of these individuals once recruited. The envisaged capacity strengthening (*as outlined in section 6.6 & Table 18 below: ESMF Budget and Timeline*) includes: (i) an initial training on E&S safeguards for all project personnel; and (ii) annual refresher trainings on E&S safeguards for all project personnel and implementing partners.

Table 17: Partners Roles & Responsibilities

Partners	Roles & Responsibilities
MCVDD (DDEPN)	As the national level project lead, the MCVDD will spearhead the sustainable implementation of OCRI in due consultation with its sister-partner MAEP. As host of the OCRI PCU, its environmental and social unit will diligently spearhead the implementation, monitoring, and reporting on Safeguards compliance. The DDEPN, besides ensuring that environmental and social impacts studies are taken into consideration as part of the sector's programs and projects, will also ensure the OCRI project overall focus and sustainable implementation and monitoring of its activities on the ground, jointly with MAEP, as well as supporting the capacity building action plan.
MAEP (DDP)	- The Programming and Planning Department (DPP) ensures recommendations of the environmental and social impacts studies are complied with on the ground throughout the project implementation cycle. It represents the Government's Contracting Authority on the ground and will spearhead the LPIU teams. - The DPP ensures the supervision and regular monitoring of project activities, as well as the coordination and liaison between contributors and the concerned organizations and public services at local levels.
Project Coordination Unit (PCU)	For OCRI, the PCU is responsible for several aspects: - on the ground implementation, monitoring, control, supervision and reporting of OCRI activities on behalf of the joint team-leadership of MCVDD and MAEP. - Ensure field activities are compliant with the project safeguards and its classification, in partnership with the national Environmental and Social Management Unit of ABE; - Establish consultative, participatory and inclusive communication channels with recipient communities - Satisfactorily implement the capacity building action plan, monitor and report on it accordingly
ABE	Will ensure whether OCRI's environmental and social provisions are in line with applicable national regulations and laws and foresee the approval process of the overall environmental and social impact assessments (ESMF and site-specific ESMPs). ABE will also participate in the external monitoring phases
DGRE	Responsible for all water resources collection activities, as well as their sustainable monitoring and protection
Municipalities	As local administrative power, each of the five participating municipalities will ensure the effective and positive implementation of the social and environmental safeguards measures. Each of their technical departments will be prepared to monitor construction activities relating to infrastructure and hydroponic developments, so as to protect the overall Environment (<i>biophysical and human</i>) and maximise its advantages.
OSP/SPO	Through the OSPs that brings together all beneficiary communities, it will ensure that mitigation measures put forward in the ESMF and national water resources management guidelines are adhered to at local levels.

6.4 Integrated Pests and Pesticides Management Plan

209. As stated in the tables above and some of the listed national laws and regulations, procurement of pest and pesticides is not envisaged under this project. However, the project could include sub-projects relating to enhancement of agricultural productivity and introduction of high value crops, support seed banks and beekeeping. These activities could result in the use of pesticides and therefore ESS 5 (*Pests and Pesticides Management*) is triggered. The ESMF has included a screening tool to identify subprojects that would need to prepare a simple integrated pest management plan (IPPMP). Such subprojects will prepare and publicly disclose an IPPMP before

they are approved for physical implementation. The Project will include relevant training at the field level such as in pest management (PM), selecting disease free seeds, bee keeping, etc. A mechanism will be put in place to demonstrate Integrated Pest Management procedures and to develop a farmer education program that stresses good and safe practices for storage and application of pesticides.

210. The project will use the FAO Guidance document provided in *Annex 11* for identifying the need to prepare an IPPMP for a sub-project. A separate IPPMP is needed if expected quantities of pesticides to be used are significant from health and environment (*biophysical & human*) standpoint; or if pesticides use or other non-indigenous biological control into an area will be introduced; or if hazardous products (*WHO Class Ia & Ib*) will be financed. The IPPMP consists of the following components:

- ✚ Activities
- ✚ Actors and partners
- ✚ Institutional arrangements for implementation
- ✚ Phasing plan
- ✚ Cost estimates

211. The activities of the PMP are designed to ensure that implementation of the OCRI project in the selected 5 municipalities of the ORB area complies with both FAO/GCF ESS5 and corresponding national regulation.

- ➔ *Activity 1* – If feasible, study tours will be organized to similar programs/agency where farmers participatory Pest Management (PM) programs have been successfully implemented. The study tour will be organized for representatives of selected project district areas. A national PM workshop will be organized to cross fertilize and share experiences gained during the study tour and to facilitate the implementation of the PMPs.
- ➔ *Activity 2* - Promoting the adoption of PM practices
 - ✓ Supporting activities of the Community PM Action Committees
 - ✓ Developing PM training capacity in the extension services
 - ✓ Developing PM capacities amongst PIU and farmer Groups
 - ✓ Production of field brochures, PM posters, field guides and other IPM promotional materials; purchase of various PM Extension Guides publications.
 - ✓ Public awareness programs and PM networking amongst the project stakeholders
- ➔ *Activity 3* - Training in pesticides management; safe and secure use of pesticides
 - ✓ Making decisions to use pesticides
 - ✓ Transport, storage, handling, and distribution of pesticides
 - ✓ Safe application of pesticides
 - ✓ Risks in the handling and use of pesticides
 - ✓ Managing risks and pesticide poisoning
 - ✓ Protective gear; use and maintenance
 - ✓ Public awareness raising on the safe use of pesticides; radio talks, social medias, etc.
- ➔ *Activity 4* - Strengthening national regulatory frameworks and institutional capacities
 - ✓ Support PCU to assist with national coordination of PMP activities of OCRI project.

- ✓ Support teams and beneficiaries to participate effectively in the implementation of the PMP

➔ **Activity 5 - Integrated Vector Management:** surveillance of disease vector populations in the environment of small irrigation schemes.

- ✓ Surveillance teams to be set up in villages around the water sources and irrigation sites to conduct regular surveys on the incidence of waterborne diseases.
- ✓ Training in environment and social management for the control of waterborne diseases

6.5 ESMF Monitoring and Evaluation

Project Monitoring & Evaluation

212. Currently FAO M&E conducts multiple impact assessment studies for the project they implement: Baseline Surveys, Post-Distribution Assessments, and Impact Assessments, etc. The Baseline Surveys, conducted regularly, will employ a hybrid approach that uses FAO Field Monitors. An Impact Assessment to evaluate the project performance and achievements will be conducted once all data have been analyzed, activities implemented, and results validated by FAO Benin. FAO will submit to GCF technical report on the project activities every six months via an agreed upon template will be reporting on quarterly basis.

Sub-Project Monitoring and Evaluation

213. Monitoring and reporting will be supervised by FAO staff. Members of the community, through their representatives, should be trained to undertake both compliance monitoring and impact monitoring. This will be done throughout the sub-project cycle namely:

- ✚ *During the planning phase*, communities will participate in the identification of indicators for monitoring the mitigating measures;
- ✚ *During the implementation phase*, monitoring the execution of any works with respect to environmental and social aspects,
- ✚ *During the operation and maintenance phase*, the overall environmental monitoring (*including monitoring human-natural resources conflict*) and alerting on any emerging environmental hazards in conjunction with the ongoing sub-project activities. Communities will pass on their observations and concerns through the local FAO Project staff.

6.6 ESMF Implementation Timeline and Budget

214. As outlined in the ESMF, the day-to-day implementation of the ESMF for the OCRI project, will be led by a full-time project-recruited Senior Environmental and Social Safeguards Officer (SESSO) at the PCU level in Cotonou, and supplemented by two other SESO, one in each LPIU level. The foreseen duration of the OCRI is five (5) years. The estimated total budget for safeguards implementation is: **\$295,000USD**. The total hiring of the proposed three (03) OCRI Safeguards Officers, during the 5-year project. along with their provision for personal capacity strengthening each year (**\$45,0000**) is estimated to be Four Hundred, Sixty-Five Thousand (**\$465,000 USD**). However, if the option to integrate gender mainstreaming in the safeguards management, especially at local level, as described below (see 2nd table below for details), the overall budget for safeguards and gender mainstreaming management will rather be seven

hundred thirty-five thousand (**\$735,000 USD**)⁶³. This cost is included in the project overall cost, notably in component 3.

Table 18: ESMF Timeline & Budget for OCRI Implementation

Note: LESSA (FAO): → Lead Environmental & Social Safeguards Advisor
ESSOs (PCU/LPIUs): → Environmental & Social Safeguards Officer (SESSO/ESSOs) +
GMO (LPIUs): → Gender Mainstreaming Officer (GMOs)

⁶³ These costs also include some costs related to gender but there is no duplication in the project budget

LFM	ACTIVITY	INDICATOR	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				COST US\$	Comments	RESPONSIBILITY
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	CAPACITY BUILDING																				50 K				
	1. Capacity Building of project staff on E&S Safeguards ONBOARDING+ Refresher Courses (5)	Training of FAO/ABE/DGE C staff on E&S Safeguards																			50,000	FFS Technicians of the municipalities and communities are involved	ESM Unit FAO		
	E&S SCREENING AND ASSESSMENT																				180 K				
	1. Identification of sub-activities	List of Sub-Activities																			5,000		FAO LESSA/Project Safeguards Specialist/ESM Unit		
	2. Environmental and Social screening in sub-activities	E&S Screening Checklists																			25,000		FAO LESSA and Project Safeguards Specialists		
	3. E&S Assessment and drafting of safeguards related documentation for compliance per sub-activity	Pre-implementation documents per sub-activity																			150,000		ESSOs/GMO-Gender and Biodiversity Specialists/ESM Unit		
	MONITORING AND REPORTING																				39.5 K				
	1. Monitoring and reporting on Safeguards Performance and Stakeholder Engagement	Progress reports (section SE& ESMP)																			9,500		FAO Lead ESS Advisor /Project Unit ESSOs		
		Semi-annual Compilation of E&S safeguards performance																			25,000		Safeguards Specialist/ESM Unit		
	STAKEHOLDER ENGAGEMENT																				30.5K				
	1. Stakeholders Consultation 2	Consultation Reports																			14,000				
	1.1 Municipal Characterization and Consultation Process Planning																				2,500		Project-Unit/MCDD/MAEP		
	1.2 Municipality level Consultations																				2,000		Project-Unit /MCDD/MAEP		
	1.3 Local Level Consultations																				2,000		Project-Unit /MCDD/MAEP		
	1.3.1 Consultations with Disadvantage Groups																				2,000		FAO Safeguards Specialists		
	1.3.2. Consultations with women																				2,000		FAO Gender Specialist		
	1.4 Consultation with MCVDD and MAEP																				2,000		FAO/Project-Unit		
	1.5 Validation of Information																				500		FAO/Project-Unit/MCDD/MAEP		
	2. Stakeholders Consultation 3	Consultation Reports																			8K				
	2.1 Municipal Characterization and Consultation Process Planning																				1,500		Project-Unit/MCDD/MAEP		

217. Should that suggested institutional set up is approved and enforced, therefore the overall budget for safeguards and gender mainstreaming of the OCRI project will amount **Seven Hundred Thirty-Five Thousand (\$735,000 USD)**⁶⁴, as described in the below table for more accuracy purpose.

Table 20: Key PCU & LPIU Safeguards and Gender Mainstreaming Staff estimated Budget

Designation	Duration	Unit Cost/Year	Total Cost
Senior Environmental and Social Safeguards Officer	60	36,000	180,000
Environmental & Social Safeguards Officer 1	60	24,000	120,000
Environmental & Social Safeguards Officer 2	60	24,000	120,000
Gender Mainstreaming Officer 1	60	24,000	120,000
Gender Mainstreaming Officer 2	60	24,000	120,000
Capacity Building to enhance their (05) performance	FF	3,000	75,000
Grand Total	---	\$147,000	\$735,000

6.7 Public Dissemination/Disclosure

218. Public dissemination of relevant information on the project, particularly safeguards related instruments, simplifies the effective participation of all stakeholders. Necessary project related information will be publicly disclosed by FAO and the Government of Benin before consideration of OCRI funding Proposal by GCF Board, ensuring it is accessible, appropriate and considerate/respectful of local beneficiaries' cultures. Particular attention should also be paid to the needs of specific community groups that may be directly or indirectly affected by project's implementation (*i.e. poverty level, literacy, gender, language*).

219. As stated above, as an AE for all category B/moderate to low risks rating operations, FAO is compelled to comply with its social and environmental safeguards standards and policies core requirements by publicly disclosing all relevant project documents/safeguards instruments⁶⁵, on its website (*i.e. www.fao.org/environmental-social-standards/disclosure-portal/en/*) but also in-country, at least 30 days prior to project appraisal.

⁶⁴ These costs also include some costs related to gender but there is no duplication in the project budget

⁶⁵ - i.e. whichever applies e.g. environmental and social analyses, environmental and social impacts assessments, environmental and social management frameworks, indigenous peoples plan and other relevant documentation, etc.

VIII - GRIEVANCE REDRESS MECHANISM – GRM

7.1 Complaints Management Procedure - CMP

220. As set forth and required by FAO/GCF applicable social and environmental safeguards standards/policies, OCRI project will establish - based on the one existing in FAO Benin, and creating links with the mechanism established by the Government of Benin - a thorough and inclusive system to manage and process grievances/complaints, raised by beneficiary communities as a consequence of likely negative impacts caused by project activities during the implementation process of OCRI investment operations. The very purpose of establishing and fostering such a mechanism - in line with prevailing FAO procedures and prerogatives⁶⁶ - is to ensure any potential project affected person (PAP) has a legal process through which his/her Human Rights are respected and taken into consideration to avoid any harm or wrong-doing on his/her efforts to sustain his/her livelihoods and living conditions.
221. As such, FAO is committed to ensuring that its programmes/projects are implemented in accordance with the Organization's environmental and social safeguards standards. To successfully achieve its objectives and ensure that beneficiaries of FAO-GCF programmes/projects have access to an effective and timely efficient mechanism to address their concerns (*some/most/all of...*) about non-compliance with its applicable standards/policies' obligations, the institution (FAO-GCF) may intervene and complete the processing, reviewing and execution of all steps required at the programme/project management level, through the Office of the Inspector General (OIG), whose mandate is to review complaints that cannot be resolved independently. Concerns, complaints, or grievances from FAO investment operations' beneficiaries, as a result of potential violations of FAO/GCF's environmental and social safeguards commitments, will be primarily resolved by FAO. To this end concerns may be raised, consistently with applicable eligibility criteria, and only related to safeguards triggered standards' impacts on project affected persons (PAP).
222. Complaints should be handled at the most immediate and appropriate level (*i.e. project management team*), and if necessary, at the Regional Office level, before exploring other likely available possibilities. If a concern or grievance cannot be resolved through passive consultation and actions at the project management team level, the case should then be moved to the Office of the Inspector General (OIG), consistently with prevailing safeguards standards and guidelines. Project manager, consistently with FAO Lead Safeguards and Sustainability Advisor and the PCU's SESSO, will therefore ensure that the core concerns are brought to the attention of the project management (PIU). During project complaints resolution procedure, principles such as impartiality, respect of Human Rights, compliance with applicable national standards, consistently with S&E standards, equality, transparency, honesty, and mutual respect should be enforced. Whenever all amicable means to resolve PAP's complaint have been exhausted, he/she could always reach out to the judicial system (***Tribunal***) as a last resort to seek reparation of his/her project-related grievance.
223. While this **grievance redress mechanism** (GRM) is mostly tailored to address complaints directly related to safeguards-driven impacts on PAP, and could only be initiated by these PAPs; for a broader project related complain handling, the project will/may set up one or more claim handling mechanisms for the processing of complaints (*general/specific*) on the ground. Contact details and information about how to file a project related complaint will be announced at all stakeholders'

⁶⁶ <http://www.fao.org/3/a-i4439e.pdf>

consultation and participation meetings, workshops and other related events throughout the project cycle.

224. Project related SEAH and GBV grievances will be managed through the FAO GRM system which is accessible, inclusive, survivor-centred and gender-responsive, with specific procedures for SEAH and GBV including confidential reporting with safe and ethical documenting of such cases, that indicate when and where to report incidents, and what follow-up actions will be undertaken. GBV pathways will be established and operationalized to provide timely services and redress to survivors.

225. As indicated in the sections above, as part of its mitigation measures OCRI will ensure sensitization training on safe, decent rural employment and age-appropriate work, given that youth often assist with the farming work of their respective families, including GBV and SEAH, in particular as part of the Dimitra Clubs. In addition, as described in Annex 8, Dimitra Clubs will supports its members accessing the existing mechanism in Benin for supporting victims of GBV which includes several services available to victims: (i) medical care, including consultation, examinations, treatment, issuance of a medical certificate, follow-up, etc. This support is provided by health facilities and by specialised NGOs; (ii) psychological support extended by social promotion centres and NGOs; (iii) legal and judicial support, including complaints, security, prosecution, repression, etc, offered at the level of the Commissariats, Courts; and (iv) social support also by social promotion centres and NGOs, including emergency accommodation, family or social reintegration, socio-professional reintegration, etc.

226. Moreover, it is expected that:

- ✚ Awareness raising material will be distributed to provide the necessary information regarding the contact information and the step-by-step procedures to be followed when filing such complaint,
- ✚ Project will document and issue reports on the complaints (*i.e. type, nature, extent, etc.*) received and how they were dealt with as part of the follow-up compliance process (*i.e. timeline [received/completed]*).

The procedure includes the following steps:

1. The complainant files a complaint (*i.e. either in writing or verbally/orally given the illiteracy issues in the participating municipalities*) using one of the means available through the grievance procedure. Complaint should be addressed to the Project Coordinator who will assess the complaint's eligibility (*if the complaint is done verbally, the Project takes good notes and file them using the normal channel for records keeping, verification and transparency purpose*). The confidential nature of the complaint will be respected throughout the duration of the complaint/grievance redress procedure.
2. All complaints, regardless of their eligibility soundness, must be foremost attended for and cases treated with the utmost consideration and diligence by the PC team, responsible for (i) recording them, (ii) writing back an acknowledgement letter to the complainant within a maximum of **ten (10) business-days** explaining (a) its receivability, (b) the process to be followed to fairly treat the complaint; and (c) the approximate timeframe it might take before the team could revert to him/her;
3. Eligible complaints will be handled by the PCU's Safeguards team⁶⁷, treated diligently and under the overall leadership of the Project Coordinator (PC).

⁶⁷ - Obviously, all GRM related issues should be handled by the SESSO. While at local level, ESSOs will be the primary recipients for handling GRM issues, they should systematically report all complaints received to the SESSO for consistency purpose. The later will guide them throughout the process as they keep reporting to him/her. The SESSO will, de facto, keep Project management (PC, PIU team and FAO ESM Unit in Rome) abreast on efforts being made to satisfactorily settle each case. All received and processed complaints will be adequately filed in project documents for records.

- If the case is easily resolvable by the PCU team, then the PC (Coordinator) will immediately write back to the complainant to satisfactorily report on the positive outcome. Once this amicable solution is well-received by the complainant, a positive settlement letter is prepared by the PCT and jointly signed by both the Coordinator and the complainant, hence closing the case. The PCT files the letter into project documents as a testimony of the successful handling of the case. This process should last not more than **thirty (30) business days from its onset**,
 - If the situation appears to be too complicated, or the complainant does not accept the proposed resolution outcome, then the complaint will be passed onto a higher level (*i.e. the Office of the Inspector General- OIG*) until a solution is finally reached, and Complainant is satisfied. Then, the case is brought to closure and filed for records. This process should last not more than **sixty (60) business days from its onset**,
5. When all alternatives at PCT and OIG levels have been exhausted and complainant is still unsatisfied, with the outcomes; thereafter, the case is brought before the **Legal System/Court (Tribunal) as a last resort** to seek for final reparation. The outcome of this final resolution mechanism will be de facto filed for records into project documentation. This process could last between **30 days from its onset to a maximum of one (01) year, due to the judicial system internal procedures uncertainties**.
 6. In accordance with the grievance resolution procedures, the person responsible for processing of the complaint may directly/indirectly interact with the complainant or may request interviews and/or meetings to better understand and grasp the very reasons for the complaint while exploring alternatives.
 7. For verification and transparency purpose, all records (*i.e. complaints, correspondences & resolutions outcomes, etc.*) must be duly registered for every complaint submitted and adequately filed into project documents.

Internal process

227. **Project Coordination Unit (PCU – level 1)**. As stated above, the complaint/grievance could be submitted orally or in writing to the project coordinator or his/her representative, member of the PCU. Once received, the complaints will be recorded, carefully reviewed and categorized based on its receivability (*receivable/not receivable as it's either not safeguards related or is a soft one easily solvable and thus doesn't need to move any further*). If so, then the issue is immediately resolved by the project coordinator who will then notify the complainant, and thereby close the case after duly recording the whole process.
228. **National Steering Committee (NSC – Level 2)**. If the complaint has not been resolved and cannot be resolved at level 1 because it's beyond the managerial power of the Coordinator, then the case is moved up and passed onto the NSC (*level 2*).
229. **FAO Country Representative (FAO/AE – Level 3)**: The assistance of the FAO Country Representative is required if a proposed resolution was not accepted at either level 1 or level 2.
230. **Judicial System as a Last Resort**: As clearly described previously, whenever a case cannot be properly dealt with at these levels, and/or complainant is still dissatisfied with the given resolution, then, he/she has the legal Human Rights to bring the case before the civil tribunal to seek reparation and reinstatement of his "Human Rights". Once the case's final litigation is granted, the said-case could then be brought to final closure.

231. **Resolution:** Each resolution of a complaint that concludes with complainant's acceptance of the ruling must be immediately subject to a signed agreement between all concerned parties (*i.e. Complainant, authority, Project and FAO*).

Table 24: Actions and References for the resolution of complaints/grievances

RECIPIENT OF GRIEVANCE	ACTIONS REQUIRED
Local Project Coordinator/Senior S&E Safeguards Officer (PIU/LPIU)	Must register the complaint at local level (<i>in each of the 2 L-PIUs, preferably by each of the locally-based social and environmental safeguards officer, who will report to both the local project coordinator and the Senior Safeguards Officer at the PCU</i>). Local PC will then send eligible complaints to the Central PCU Coordinator with copy to the SESSO in Cotonou within 2 working days. The Whole process should be duly recorded for verification and transparency purpose.
Project Coordination Unit (PCU)/ SESSO	PCU Coordinator, in coordination with the SESSO, must respond within 5-10 working days of receipt of the given complaint.
Project Oversight Committee (POC)	Any organization may receive a complaint and must provide proof of receipt of said complaint. If the case is accepted, then the receiver must send all the information to the Project oversight committee members (PCT) for a quick debriefing meeting to find a reasonable and sustainable resolution. The response must be sent within 10-15 working days after the meeting ⁶⁸ .
FAO Country Representative in Benin	Must, respond within 5 working days of receiving of the case. FAO Country Representative Tel. + 229 21 31 42 45 / + 229 96 94 56 18
FAO Regional Office for Africa in Ghana	Must respond within 5 working days after receiving the case, and in consultation with FAO Representative based in Accra-Ghana: FAO Regional Representation. #2 Gamel Abdul Nasser Road P. O. Box GP 1628, Accra, Ghana Tél.: +233 (0)302 610930 Télécopie: +233 (0)302 668427 Courriel: fao-ro-africa@fao.org
Office of the Inspector General	Must respond within 10 business days after receiving the case from the ROA. OIG will explore all viable options to resolve the case. Failure to do so will lead to the last resort: the Judicial System. Furthermore, to report possible fraud and bad behaviour by: ➤ confidential fax: (+39) 06 570 55550 ➤ e-mail: Investigations-hotline@fao.org ➤ confidential hotline: (+ 39) 06 570 52333

<http://www.fao.org/3/a-i6190f.pdf>

7.2 Closing the Look and Fostering Sustainability

232. While grievances are inevitable in sustainable development operations, and they are meant to weight the checks and balances as to how well the project is doing in terms of making beneficiaries lives “**better-off**”; however, one core lessons to be learnt is to always avoid triggering such grievances. Though there is never a better way to avoiding such triggering; inclusive and systematic stakeholder consultation not only at the very early stages of project formulation, and thereafter throughout the project lifespan, has always proven to avoid or minimize their occurrence. Therefore, one common sense is to always keep in mind that the earliest inclusive and participatory stakeholder consultation is started earliest enough in a project life cycle, the better beneficiaries ownership such project activities (*i.e. feeling part and partial of the whole process*), and foster social accountability behaviour towards that very project. Experience has shown that

⁶⁸ - Although not contemplated in this set-up, there may be another channel through the Mediator of the Republic who is another viable and often amiable way of resolving grievances. If deemed necessary, this could possibly be explored to quickly settle cases.

triggering these two pillars (i.e. Community Ownership & Social Accountability) often leads to fostering project Sustainability.

IX. CONCLUSION

"Nous avons entendu parler de ce projet, il nous interesse beaucoup, et nous savons que c'est pour nous aider qu'il vient; alors, nous l'attendons avec impatience, nous espérons qu'il ne nous sera pas arraché; car nous nous engageons à faire qu'il réussisse et reste pour toujours dans la commune de Glazoué....."
.... "We have heard about the OCRI project, we like it and have been expecting it, as we know that it will greatly help us, so we can't wait to welcome it, and hope it will not be taken away from us ; as we are committed to make it a successful project so that it can remain forever in Glazoué..."

233. By this strong statement from a woman farmer in Glazoué district (*Agouagon village*), one can clearly hear the collective voices of all farmers in the participating 5 municipalities ; and equally weight the welcoming and highly committed and capable-hands desperately waiting for the OCRI project to materialize. It undoubtedly speaks volumes about both its timeliness and relevance for thousands of poor rural farmers in the ORB region and in Benin. It's truly clear from them : They can't afford to loose this great projet !

234. The Ouémé-River-Basin Climate Resilience Initiative (**OCRI**) development objective is *"to promote the sustainable development and climate resilience of landscapes and rural communities in the upper and middle Ouémé watershed in Benin"*, by reducing greenhouse gas emissions and improving the resilience and sustainable adaptation of vulnerable agroecosystems and of rural communities in the Ouémé watershed in a context of climate change, aiming towards food and water security. This development objective is expected to be achieved through the implementation of its three main components. The proposed Project (OCRI) is foreseen to have a total cost of \$35, 314,576 **million USD**.

235. From an environmental and social safeguards standpoint, consistently with both the applicable FAO/GCF environmental and social safeguards standards and Benin regulations, the environmental and social screening of the proposed OCRI project investments (*i.e. components 1*), in each of the participating 5 municipalities (*Copargo, Djougou, Glazoué, Zogbodomey and Zagnanado*), revealed a rather moderate risk rating, because of the low, site specific nature, type and magnitude of the risks which are mostly reversible and easily manageable. The Project has been rated as a moderate risk and classified as a category B operation and triggered five Environmental and Social Safeguard Standards, namely ESS2 (*Biodiversity Ecosystem and Critical Habitats*), ESS 3 (*Plant Genetic Resources for Food and Agriculture*), ESS 5 (*Pest and Pesticides Management*), ESS 7 (*Descent Work*) and, ESS 8 (*Gender Equity*), respectively. Moreover, because, at this very juncture of project preparation the detailed footprints of foreseen projects sub-activities are not yet fully defined and known, and definitely will not so be prior to project appraisal, therefore, as respectively prescribed by the abovementioned policies, standards and regulations, an **environmental and social management framework (ESMF)**⁶⁹ is elaborated for due diligence in addressing identified impacts, risks and opportunities.

236. Overall, the cumulative project environmental and social impacts are expected to be positive, and generate series of opportunities for beneficiary communities, as the overall objective is to increase climate resiliency of the most vulnerable farmers in Benin. Besides the inequality in the labour market and presence of landless farmers in the project area who will be included in project activities; the project is expected to improve agricultural land and the natural resources upon which Beninese farmers work is based, and on improved climate-resilient agricultural practices as well as improved natural resources management, specifically water management technics across

⁶⁹- As mentioned earlier ; the ESMF will serve to further guiding project implementing agencies and stakeholders on environmental and social assessment, mitigation of impacts, and monitoring and reporting procedures during project implementation, including grievance redress mechanisms (GRM) and other corporate institutional requirements, such as gender-based violence, sexual exploitation and abuse, child labor, workers influx, citizen engagement, etc.

the ORB basin. More specifically, better functioning ecosystems, controlled transhumance practices, and a greater and collaborative stakeholders' engagement and participation, will positively affect human health and well-being in the long run.

237. During project implementation stage, once the physical footprints of subproject activities are known, to ensure, that the identified social and environmental issues are properly addressed in accordance and compliance with the FAO Standards and GCF Policies, all project activities will systematically undergo (i) a thorough screening, assessment, review, and clearance process, and (ii) elaborate site-specific **Environmental and Social Management Plan (ESMP)** prior to the physical execution of project activities in each of the selected 5 municipalities. Hence, the elaboration of the ESMF allowed to identify series of environmental and social risks and impacts, and the elaboration of an environmental and social management plan (ESMP) that includes a comprehensive implementation arrangement scheme to help implement the identified series of safeguards mitigation measures.
238. The implementation arrangements as they pertain specifically to environmental and social safeguards will be led by the Project Coordination Unit (PCU) that includes a solid environmental and social safeguards compliance unit, led at the central level by a Senior Environmental and Social Safeguards Officer (SESSO) and at local level, a binôme of an Environmental and Social Safeguards Officer (ESSO) and a Gender Mainstreaming Officer (GMO) in each of the Local PIU (LPIU). In addition to Safeguards and Gender mainstreaming, the PCU-team will be the recipient of all project related Grievance Redress Mechanism (GRM) process at both the central and local levels, as detailed herewith in this ESMF.
239. The estimated total budget for safeguards compliance over the foreseen six (6) years duration of the OCRI Project is: **seven hundred thirty-five thousand (\$735,000 USD)**⁷⁰. This cost is included in the project overall cost, notably in component 3.

⁷⁰ These costs also include some costs related to gender but there is no duplication in the project budget.

X. BIBLIOGRAPHY

An Indication of few publications and/or relevant documents

- FAO, Commune de Djougou, Plan de Développement Communal de Djougou, 2018-2022, Aout, 2017
- FAO, Commune de Glazoué, Plan de Développement Communal de Glazoué, 2018-2022,
- FAO, Commune de Copargo, Plan de Développement Communal de Copargo, 2018-2022, Aout 2017
- FAO, Commune de Glazoué, Plan de Contingence Communal, Nov. 2014,
- FAO, Baseline information about the 5 targeted municipalities, Baseline study, 2018
- FAO, Mission technique, étude de faisabilité du projet OCRI FVC-FAO-Benin, Rapport Provisoire, Septembre, 2019
- FAO, Etude de faisabilité du projet OCRI FVC-FAO-Benin, Volet Aménagement Hydro-agricole, Oct, 2019
- UNDAF-Govmt du Benin, Plan Cadre des Nations-Unies pour l'Assistance au Développement, 2019-2023, Juillet, 2018
- DIBCOOP Mission Report, Finalization Mission GCF-FAO-Benin Proposal, August, 2019
- FAO, Profile Commune de Glazoué, Novembre, 2019
- Fahala A., Monographie de la Commune de Zagnanado, Afrique Conseil, Avril 2006
- FAO, Water Resources and Flow of Rivers in Benin, 1983
- Houkpe, J, Diekkruiger, B. Badou, D.F, Afouda A., Non-Stationary Flood Frequency Analysis in the Ouémé River Basin, Benin Republic, *Hydrology* 2015,
- World Bank. Inondations au Benin: Rapport d'Évaluation des Besoins Post Catastrophe; WB. Wash., DC, USA, 2011.
- WBG, Projet Forêts Classées du Benin, Cadre de Gestion Environnementale et Sociale, Mars 2019
- Intergovernmental Panel on Climate Change (IPCC). Climate Change: The Climate Change; Contribution of the Working Group I to the third Assessment Report of the Intergovernmental Panel on Climate Change; Cambridge University Press: Cambridge, UK, 2001.
- Biao, I.E.; Alamou, A.E.; Afouda, A. Improving rainfall-runoff modelling through the control of uncertainties under increasing climate variability in the Oueme River basin (Benin,WA). *Hydrol. Sci. J.* **2016**,.
- Biao, I.E; Gaba, C.O.U.; Alamou, A.E.; Afouda, A.A. Influence of the uncertainties related to the random component of rainfall inflow in the Oueme river basin (Benin, West Africa). *Int. J. Curr. Eng. Technol.* **2015**,
- Biao, I.E. Assessing the Impacts of Climate Change on River Discharge Dynamics in Oueme River Basin, (Benin, West Africa), Laboratory of Applied Hydrology, University of Abomey-Calavi (UAC), Cotonou, October 2017
- Afouda, A.; Ould Baba Sy, M.; Gaye, A.T.; Cabral, A.; Nazoumou, Y.; Compaore, A.J.; Sanoussi, R. Impact of Climate Change and Variability on Water Resources in West African Watersheds: What Are the Prospects? Synthesis Report-Writeshop: Dakar, Senegal, 2007.
- Barrios, S.; Ouattara, B.; Strobl, E. *The impact of climatic change on agricultural production: Is it different for Africa?* Food Policy 2008.,
- Afouda, L. C. A., Zinsou V., Balogoun, R. K., Onzo, A. et Ahohuendo, B. C., (2013): Inventaire des agents pathogènes de l'anacardier (*Anacardium occidentale* L.) au Bénin,
- BM (2019): République du Bénin, Projet Forêts Classées, Mission d'appui technique, Document d'aide-mémoire,
- FAO, (2018), Fiche technique, reconnaissance des maladies du maïs en culture au Bénin et méthodes de lutte,
- FSA/D-AGRN/UAC (2013): Etude des huit zones agroécologiques du Bénin, Document 4^{ème} promotion de GRMA,
- INSAE (2013): 4^e Recensement Général de la Population et de l'Habitation (RGPH4), Direction des Etudes Démographiques,
- INSAE/EMICoV (2015) : Note sur la pauvreté au Bénin en 2015, 29 p.

INSAE (2016) : Principaux indicateurs sociodémographiques et économiques (RGPH-4, 2013), 27 p.

INSAE (2018): Cinquième Enquête Démographique et de Santé au Bénin (EDSB-V) 2017-2018, 74 p.

Water Footprint Network, Benin, Country Water Footprint, Oct.2016

MAEP (2009) : Cadre de Gestion Environnementale et Sociale. Prog. d'Urgce d'Appui à la Sécurité Alimentaire (PUASA), MAEP-PNUD (2006) : Programme d'Action National d'Adaptation au Changement Climatique, Septembre 2006,.

ECOWAS, Transboundary River Basin, Atlas on regional integration, August 2006

MAEP (2017) : Cadre institutionnel d'orientation et de suivi du secteur agricole,

MAEP/INRAB/CRAVN (2014) : Etude relative à la filière riz : élaboration d'un document référentiel,

AFD/MAEP, (2003): Diagnostic global de la filière anacarde au Bénin, Projet d'amélioration et de diversification des systèmes d'exploitation –PADSE,

MAEP/Programme Cadre d'Appui à la Diversification Agricole & Programme d'Appui à la Diversité Agricole (2016): Plan de Gestion des Pestes (PGP), version finale,

PNUD/FAO/ Ministère du Développement Rural, (2000) : Cultures d'exportation et diversification Agricole,

MPD (2018) : Plan National de Développement, 2018-2025,

PGFTR (2012): Cadre de Gestion Environnementale et Sociale. Version finale, DGFRN/MEHU,

Réseau National pour une Gestion Durable des Ressources Génétiques (2013): Projet de soutien à l'extension de l'agriculture agro-écologique du Bénin ; Etudes des pratiques agroécologiques au Bénin,

Vigan J. (2013) : Etude des huit zones agroécologiques du Bénin. 4^{ème} Promotion LMD DU GRMA, DAGRN/FSA/UAC, Abomey-Calavi, Bénin,.

FAO, Pakistan Environmental and Social Management Framework, *Transforming the Indus Basin with Climate Resilient Agriculture and Water Management*, 2017,

WB-FAO, Somalia, Environmental and Social Management Framework, Emergency Drought and Resilience Project, 2015

Selected Applicable National Laws,

- Loi n°90-32 du 11 décembre 1990 portant Constitution de la République du Bénin
- Décret n° 2017-332 du 06 juillet 2017 portant organisation des procédures de l'évaluation environnementale en République du Bénin
- Loi n° 98 - 030 du 12 février 1999 portant loi-cadre sur l'environnement en République du Bénin
- Loi n°97-029 du 15 janvier 1999 portant organisation des Municipalités en République du Bénin
- Loi n°2013-01 du 14 août 2013 portant code foncier et domanial en République du Bénin
- Loi n°2018 -18 du 06 août 2018 sur les changements climatiques en République du Bénin
- Loi n° 93-009 du 02 juillet 1993 portant régime des forêts en République du Bénin
- Loi n° 2002-016 du 18 octobre 2004 portant régime de la faune en République du Bénin
- Loi n° 2007-20 du 23 août 2007 portant protection du patrimoine culturel et du patrimoine naturel à caractère culturel en République du Bénin
- Loi n°2017-05 du 29 août 2017 fixant les conditions d'embauche, de placement de main-d'œuvre et résiliation du contrat de travail en République du Bénin,
- Décret N°2018-175 du 16 mai 2018 portant création, attributions, organisation et fonctionnement du Comité National d'Agrément et de Contrôle de qualité des Engrais en République du Bénin.
- Décret N° 218-171 du 16 Mai 2018 portant création, attributions, organisation et fonctionnement du Comité National de Gestion des Pesticides
- Décret N°2018-176 du 16 mai 2018 fixant les modalités de gestion et de contrôle de qualité des engrais en République du Bénin

- Décret N°2018-172 du 16 mai 2018 fixant les modalités d'application des règlements communautaires sur l'homologation des pesticides en République du Bénin
- Arrêté interministériel N° 402/MISP/MAEP/MAEC/MCVDD/MEF/MDGL/DC/SGM/DAIC/SA/082 SGG18 du 13/12/2018 fixant les modalités de déroulement de la campagne de transhumance 2018-2019 en République du Bénin,
- Décret N°2018-173 du 16 mai 2018 instituant le catalogue béninois des espèces et variétés végétales

Research Websites

- www.wikipedia.com
- www.google.com
- www.usaid.gov
- www.fao.org
- www.un.org
- www.wfp.org
- www.undp.org
- www.worldbank.org

Etc.

X. ANNEXES

Annex 1: FAO Environmental and Social Safeguards Screening Checklist

Annex 2: FAO Environmental and Social Safeguards Matrix

Annex 3: FAO Environmental and Social Screening Form (*for Category B Projects*)

Annex 4: Sub-project Environmental and Social Safeguards Management Plan for Category B Subprojects

Annex 5: Non-Eligibility List & Indicative Preferred List of OCRI activities

Annex 6: “Chance-Find” Procedures

Annex 7: FAO Guidance Document for Pest and Pesticides Management in Field Projects

Annex 8: List of Authorized Pesticides in Benin

Annex 9: Certified Companies to distribute Phytopharmaceutical products in Benin

Annex 1: FAO Environmental & Social Safeguards Screening Checklist

Environmental and Social Risk Identification – Screening Checklist

Trigger Questions

	Question	YES	NO
1	<p>Would this project:</p> <ul style="list-style-type: none"> Result in the degradation (biological or physical) of soils or undermine sustainable land management practices; or Include the development of a large irrigation scheme, dam construction, use of wastewater or affect the quality of water; or Reduce the adaptive capacity to climate change or increase GHG emissions significantly; or Result in any changes to existing tenure rights (formal and informal) of individuals, communities or others to land, fishery and forest resources? 		x
2	Would this project be executed in or around protected areas or natural habitats, decrease the biodiversity or alter the ecosystem functionality, use alien species, or use genetic resources?		x
3	<p>Would this project:</p> <ul style="list-style-type: none"> Introduce crops and varieties previously not grown, and/or; Provide seeds/planting material for cultivation, and/or; Involve the importing or transfer of seeds and or planting material for cultivation <u>or</u> research and development; Supply or use modern biotechnologies or their products in crop production, and/or Establish or manage planted forests? 	x	
4	Would this project introduce non-native or non-locally adapted species, breeds, genotypes or other genetic material to an area or production system, or modify in any way the surrounding habitat or production system used by existing genetic resources?		x
5	<p>Would this project:</p> <ul style="list-style-type: none"> result in the direct or indirect procurement, supply or use of pesticides: <ul style="list-style-type: none"> on crops, livestock, aquaculture, forestry, household; or as seed/crop treatment in field or storage; or through input supply programs including voucher schemes; or for small demonstration and research purposes; or for strategic stocks (locust) and emergencies; or causing adverse effects to health and/or environment; or result in an increased use of pesticides in the project area as a result of production intensification; or result in the management or disposal of pesticide waste and pesticide contaminated materials; or result in violations of the Code of Conduct? 	x	
6	Would this project permanently or temporarily remove people from their homes or means of production/livelihood or restrict their access to their means of livelihood?		x
7	Would this project affect the current or future employment situation of the rural poor, and in particular the labour productivity, employability, labour conditions and rights at work of self-employed rural producers and other rural workers?		x

8	<p>Could this project risk overlooking existing gender inequalities in access to productive resources, goods, services, markets, decent employment and decision-making? For example, by not addressing existing discrimination against women and girls, or by not taking into account the different needs of men and women.</p>		x
9	<p>Would this project:</p> <ul style="list-style-type: none"> • have indigenous peoples* living outside the project area¹ where activities will take place; or • have indigenous peoples living in the project area where activities will take place; or • adversely or seriously affect on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (physical² and non-physical or intangible³) inside and/or outside the project area; or • be located in an area where cultural resources exist? <p>* FAO considers the following criteria to identify indigenous peoples: priority in time with respect to occupation and use of a specific territory; the voluntary perpetuation of cultural distinctiveness (e.g. languages, laws and institutions); self-identification; an experience of subjugation, marginalization, dispossession, exclusion or discrimination (whether or not these conditions persist).¹The phrase "Outside the project area" should be read taking into consideration the likelihood of project activities to influence the livelihoods, land access and/or rights of Indigenous Peoples' irrespective of physical distance. In example: If an indigenous community is living 100 km away from a project area where fishing activities will affect the river yield which is also accessed by this community, then the user should answer "YES" to the question.²Physical defined as movable or immovable objects, sites, structures, group of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance located in urban or rural settings, ground, underground or underwater.³Non-physical or intangible defined as "the practices, representations, expressions, knowledge and skills as well as the instruments, objects, artifacts and cultural spaces associated therewith that communities, groups, and in some cases individuals, recognize as part of their spiritual and/or cultural heritage"</p>		x

Annex 2: Social and Environmental Safeguards Screening Matrix

ESS 1 - NATURAL RESOURCES MANAGEMENT

Question	Management of soil and land resources	No	Yes	Comments
1.1	Would this project result in the degradation (biological or physical) of soils	LOW RISK	MODERATE RISK Demonstrate how the project applies and adheres to the principles of the World Soil Charter	
1.2	Would this project undermine sustainable land management practices?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
	Management of water resources and small dams	No	Yes	Comments
1.3	Would this project develop an irrigation scheme that is more than 20 hectares or withdraws more than 1000 m ³ /day of water?	LOW RISK	MODERATE RISK Specify the following information: a) implementation of appropriate efficiency principles and options to enhance productivity, b) technically feasible water conservation measures, c) alternative water supplies, d) resource contamination mitigation or/and avoidance, e) potential impact on water users downstream, f) water use offsets and demand management options to maintain total demand for water resources within the available supply. g) The ICID-checklist will be included, as well as appropriate action within the project to mitigate identified potential negative impacts. h) Projects aiming at improving water efficiency will carry out <u>thorough water accounting</u> in order to avoid possible negative impacts such as waterlogging, salinity or reduction of water availability downstream.	
1.4	Would this project develop an irrigation scheme that is more than 100 hectares or withdraws more than 5000 m ³ /day of water?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.5	Would this project aim at improving an irrigation scheme (without expansion)?	LOW RISK	MODERATE RISK The ICID-checklist will be included, as well as appropriate action within the project to mitigate identified potential negative impacts. Projects aiming at improving water efficiency will carry out <u>thorough water accounting</u> in order to avoid possible negative impacts such as waterlogging, salinity or reduction of water availability downstream.	
1.6	Would this project affect the quality of water either by the release of pollutants or by its use, thus affecting its characteristics (such as temperature, pH, DO, TSS or any other)?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.7	Would this project include the usage of wastewater?	LOW RISK	MODERATE RISK Demonstrate how the project applies and adheres to applicable national guidelines or, if not available, the WHO/FAO/UNEP Guidelines on Safe Usage of Waste Water in Agriculture	
1.8	Would this project involve the construction or financing of a dam that is more than 15 m. in height?	LOW RISK	CANNOT PROCEED	
1.9	Would this project involve the construction or financing of a dam that is more than 5 m. in height?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
	Tenure	No	Yes	Comments

1.10	Would this project permanently or temporarily deny or restrict access to natural resources to which they have rights of access or use Could this project result in any changes to existing tenure rights' (formal and informal ²) of individuals, communities or others to land, fishery and forest resources? ¹ Tenure rights are rights to own, use or benefit from natural resources such as land, water bodies or forests ² Socially or traditionally recognized tenure rights that are not defined in law may still be considered to be 'legitimate tenure rights'.		LOW RISK	PROCEED TO NEXT Q	
	1.10.1	Could this project result in a negative change to existing legitimate tenure rights?	MODERATE RISK Demonstrate how the project applies and adheres to the principles/framework of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT)	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
	Climate		No	Yes	Comments
1.11	Could this project result in a reduction of the adaptive capacity to climate change for any stakeholders in the project area?		LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.12	Could this project result in a reduction of resilience against extreme weather events?		LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.13	Could this project result in a net increase of GHG emissions beyond those expected from increased production?		LOW RISK	PROCEED TO NEXT Q	
	1.13.1	Is the expected increase below the level specified by FAO guidance or national policy/law (whichever is more stringent)?	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	LOW RISK	
	1.13.2	Is the expected increase above the level specified by FAO guidance or national policy/law (whichever is more stringent)?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

ESS 2 - BIODIVERSITY, ECOSYSTEMS AND NATURAL HABITATS

	Protected areas, buffer zones or natural habitats	No	Yes	
2.1	Would this project be implemented within a legally designated protected area or its buffer zone?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
	Biodiversity Conservation	No	Yes	Comments
2.2	Would this project change a natural ecosystem to an agricultural/aquacultural/forestry production unit with a reduced diversity of flora and fauna?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
2.3	Would this project increase the current impact on the surrounding environment for example by using more water, chemicals or machinery than previously?	LOW RISK	MODERATE RISK Demonstrate in the project document what measures will be taken to minimize adverse impacts on the environment and ensure that implementation of these measures is reported in the risk log during progress reports.	
	Use of alien species	No	Yes	Comments
2.4	Would this project use an alien species which has exhibited an invasive* behavior in the country or in other parts of the world or a species with unknown behavior? *An invasive alien species is defined by the Convention on Biological Diversity as "an alien species whose introduction and/or spread threaten biological diversity" (see https://www.cbd.int/invasive/terms.shtml).	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
	Access and benefit sharing for genetic resources	No	Yes	Comments

2.5	Would this project involve access to genetic resources for their utilization and/or access to traditional knowledge associated with genetic resources that is held by indigenous, local communities and/or farmers?	LOW RISK	<p>MODERATE RISK</p> <p>Ensure that the following issues are considered and appropriate action is taken. The issues identified and the action taken to address them must be included in the project document and reported on in progress reports.</p> <p>For plant genetic resources for food and agriculture (PGRFA) falling under the Multilateral System of Access and Benefit-sharing (MLS) of the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty), ensure that Standard Material Transfer Agreement (SMTA) has been signed and comply with SMTA provisions.</p> <p>For genetic resources, other than PGRFA falling under the MLS of the Treaty:</p> <ol style="list-style-type: none"> 1. Ensure that, subject to domestic access and benefit-sharing legislation or other regulatory requirements, prior informed consent has been granted by the country providing the genetic resources that is the country of origin of the resources or that has acquired the resources in accordance with the Convention on Biological Diversity, unless otherwise determined by that country; and 2. Ensure that benefits arising from the utilization of the genetic resources as well as subsequent applications and commercialization are shared in a fair and equitable way with the country providing the genetic resources that is the country of origin of the resources or that has acquired the resources in accordance with the Convention on Biological Diversity; and 3. Ensure that, in accordance with domestic law, prior informed consent or approval and involvements of indigenous and local communities is obtained for access to genetic resources where the indigenous and local communities have the established right to grant such resources; and 4. Ensure that, in accordance with domestic legislation regarding the established rights of these indigenous and local communities over the genetic resources, are shared in a fair and equitable way with the communities concerned, based on mutually agreed terms. <p>For traditional knowledge associated with genetic resources that is held by indigenous and local communities:</p> <ol style="list-style-type: none"> 1. Ensure, in accordance with applicable domestic law, that knowledge is accessed with the prior and informed consent or approval and involvement of these indigenous and local communities, and that mutually agreed terms have been established; and 2. Ensure that, in accordance with domestic law, benefits arising from the utilization of traditional knowledge associated with genetic resources are shared, upon mutually agreed terms, in a fair and equitable way with indigenous and local communities holding such knowledge. <p>Ensure that the project is aligned with the Elements to Facilitate Domestic Implementation of Access and Benefit Sharing for Different Subsectors of Genetic Resources for Food and Agriculture when it is the case</p>	

ESS 3 - PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

	Introduce new crops and varieties	No	Yes	Comments
3.1	Would this project Introduce crops and varieties previously not grown?	LOW RISK	<p>MODERATE RISK</p> <p>Follow appropriate phytosanitary protocols in accordance with IPPC</p> <p>Take measures to ensure that displaced varieties and/or crops, if any, are included in the national or international ex situ conservation programmes</p>	
	Provision of seeds and planting materials	No	Yes	Comments
3.2	Would this project provide seeds/planting material for cultivation?	LOW RISK	PROCEED TO NEXT Q	

	3.2.1	Would this project involve the importing or transfer of seeds and/or planting materials for cultivation?	LOW RISK	<p>MODERATE RISK</p> <ul style="list-style-type: none"> • Avoid undermining local seed & planting material production and supply systems through the use of seed voucher schemes, for instance • Ensure that the seeds and planting materials are from locally adapted crops and varieties that are accepted by farmers and consumers • Ensure that the seeds and planting materials are free from pests and diseases according to agreed norms, especially the IPPC • Internal clearance from AGPMG is required for all procurement of seeds and planting materials. Clearance from AGPMC is required for chemical treatment of seeds and planting materials • Clarify that the seed or planting material can be legally used in the country to which it is being imported • Clarify whether seed saving is permitted under the country's existing laws and/or regulations and advise the counterparts accordingly. • Ensure, according to applicable national laws and/or regulations, that farmers' rights to PGRFA and over associated traditional knowledge are respected in the access to PGRFA and the sharing of the benefits accruing from their use. Refer to ESS9: Indigenous peoples and cultural heritage. 	
	3.2.2	Would this project involve the importing or transfer of seeds and/or planting materials for research and development?	LOW RISK	<p>MODERATE RISK</p> <p>Ensure compliance with Access and Benefit Sharing norms as stipulated in the International Treaty on Plant Genetic Resources for Food and Agriculture and the Nagoya Protocol of the Convention on Biodiversity as may be applicable. Refer also to ESS2: Biodiversity, Ecosystems and Natural Habitats.</p>	
	Modern biotechnologies and the deployment of their products in crop production		No	Yes	Comments
	3.3	Would this project supply or use modern plant biotechnologies and their products?	LOW RISK	<p>MODERATE RISK</p> <ul style="list-style-type: none"> • Adhere to the Cartagena Protocol on Biosafety of the Convention on Biological Diversity to ensure the safe handling, transport and use of Living Modified Organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health. • Adhere to biosafety requirements in the handling of Genetically Modified Organisms (GMOs) or Living Modified Organisms (LMOs) according to national legislation or • Take measures to prevent gene flow from the introduced varieties to existing ones and/or wild relatives 	
	Planted forests		No	Yes	Comments
	3.4	Would this project establish or manage planted forests?	LOW RISK	<p>MODERATE RISK</p> <ul style="list-style-type: none"> • Adhere to existing national forest policies, forest programmes or equivalent strategies. • The observance of principles 9, 10, 11 and 12 of the Voluntary Guidelines on Planted Forests suffice for indigenous forests but must be read in full compliance with ESS 9- Indigenous People and Cultural Heritage. • Planners and managers must incorporate conservation of biological diversity as fundamental in their planning, management, utilization and monitoring of planted forest resources. • In order to reduce the environmental risk, incidence and impact of abiotic and biotic damaging agents and to maintain and improve planted forest health and productivity, FAO will work together with stakeholders to develop and derive appropriate and efficient response options in planted forest management. 	

ESSA 4 - ANIMAL (LIVESTOCK AND AQUATIC) GENETIC RESOURCES FOR FOOD AND AGRICULTURE

	Introduce new species/breeds and change in the production system of locally adapted breeds	No	Yes	Comments
4.1	Would this project introduce non-native or non-locally adapted species, breeds, genotypes or other genetic material to an area or production system?	LOW RISK	PROCEED TO NEXT Q	

4.1.1	Would this project foresee an increase in production by at least 30% (due to the introduction) relative to currently available locally adapted breeds and can monitor production performance?	CANNOT PROCEED	LOW RISK	
4.1.2	Would this project introduce genetically altered organisms, e.g. through selective breeding, chromosome set manipulation, hybridization, genome editing or gene transfer and/or introduce or use experimental genetic technologies, e.g. genetic engineering and gene transfer, or the products of those technologies?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
4.2	Would this project introduce a non-native or non-locally adapted species or breed for the first time into a country or production system?	LOW RISK	MODERATE RISK A genetic impact assessment should be conducted prior to granting permission to import (cover the animal identification, performance recording and capacity development that allow monitoring of the introduced species/ breeds' productivity, health and economic sustainability over several production cycles) <ul style="list-style-type: none"> http://www.fao.org/docrep/012/i0970e/i0970e00.htm ftp://ftp.fao.org/docrep/fao/012/i0970e/i0970e03.pdf 	
4.3	Would this project introduce a non-native or non-locally adapted species or breed, independent whether it already exists in the country?	LOW RISK	MODERATE RISK <ul style="list-style-type: none"> If the project imports or promotes species/breeds with higher performance than locally adapted ones, ensure: feed resources, health management, farm management capacity, input supply and farmer organization to allow the new species/breeds to express their genetic potential Follow the OIE terrestrial or aquatic code to ensure the introduced species/breed does not carry different diseases than the local ones Include a health risk assessment and farmer/veterinary capacity development in the project to ensure the introduced species/breed do not have different susceptibility to local diseases including ecto- and endo-parasites than the locally adapted/native species/breeds. 	
4.4	Would this project ensure there is no spread of the introduced genetic material into other production systems (i.e. indiscriminate crossbreeding with locally adapted species/breeds)?	MODERATE RISK Introduce a) animal identification and recording mechanism in the project and b) develop new or amend existing livestock policy and National Strategy and Action Plan for AnGR	LOW RISK	
	Collection of wild genetic resources for farming systems	No	Yes	Comments
4.5	Would this project collect living material from the wild, e.g. for breeding, or juveniles and eggs for on-growing?	LOW RISK	MODERATE RISK Guidance to be provided	
	Modification of habitats	No	Yes	Comments

4.6	Would this project modify the surrounding habitat or production system used by existing genetic resources?		LOW RISK	MODERATE RISK Guidance to be provided	
4.7	Would this project be located in or near an internationally recognized conservation area e.g. Ramsar or World Heritage Site, or other nationally important habitat, e.g. national park or high nature value farmland?		LOW RISK	MODERATE RISK Guidance to be provided	
4.8	AQR	Would this project block or create migration routes for aquatic species?	LOW RISK	MODERATE RISK Guidance to be provided	
4.9		Would this project change the water quality and quantity in the project area or areas connected to it?	LOW RISK	MODERATE RISK Guidance to be provided	
4.10	Would this project cause major habitat / production system changes that promote new or unknown chances for geneflow, e.g. connecting geographically distinct ecosystems or water bodies; or would it disrupt habitats or migration routes and the genetic structure of valuable or locally adapted species/stocks/breeds?		LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
4.11	Would this project involve the intensification of production systems that leads to land- use changes (e.g. deforestation), higher nutrient inputs leading to soil or water pollution, changes of water regimes (drainage, irrigation)?		LOW RISK	MODERATE RISK Guidance to be provided	

ESS 5 - PEST AND PESTICIDES MANAGEMENT

Supply of pesticides by FAO		No	Yes	Comments
5.1	Would this project procure, supply and/or result in the use of pesticides on crops, livestock, aquaculture or forestry?	LOW RISK	<p>MODERATE RISK</p> <ul style="list-style-type: none"> Preference must always be given to sustainable pest management approaches such as Integrated Pest Management (IPM), the use of ecological pest management approaches and the use of mechanical/cultural/physical or biological pest control tools in favour of synthetic chemicals; and preventive measures and monitoring, When no viable alternative to the use of chemical pesticides exists, the selection and procurement of pesticides is subject to an internal clearance procedure http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/E_SS5_pesticide_checklist.pdf The criteria specified in FAO's ESM Guidelines under ESS5 must be adhered to and should be included or referenced in the project document. If large volumes (above 1,000 litres of kg) of pesticides will be supplied or used throughout the duration of the project, a Pest Management Plan must be prepared to demonstrate how IPM will be promoted to reduce reliance on pesticides, and what measures will be taken to minimize risks of pesticide use. It must be clarified, which person(s) within (executing) involved institution/s, will be responsible and liable for the proper storage, transport, distribution and use of the products concerned in compliance with the requirements. 	

5.2	Would this project provide seeds or other materials treated with pesticides (in the field and/or in storage) ?	LOW RISK	<p>MODERATE RISK</p> <p>The use of chemical pesticides for seed treatment or storage of harvested produce is subject to an internal clearance procedure [http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/E_SSS_pesticide_checklist.pdf]. The criteria specified in FAO's ESM Guidelines under ESS5 for both pesticide supply and seed treatment must be adhered to and should be included or referenced in the project document.</p>	
5.3	Would this project provide inputs to farmers directly or through voucher schemes?	LOW RISK	<p>MODERATE RISK</p> <ul style="list-style-type: none"> FAO projects must not be responsible for exposing people or the environment to risks from pesticides. The types and quantities of pesticides and the associated application and protective equipment that users of a voucher scheme are provided with must always comply with the conditions laid out in ESS5 and be subject to the internal clearance procedure [link]. These must be included or referenced in the project document. Preference must always be given to sustainable pest management approaches such as Integrated Pest Management (IPM), the use of ecological pest management approaches and the use of mechanical or biological pest control tools in favour of synthetic chemicals 	
5.4	Would this project lead to increased use of pesticides through intensification or expansion of production?	LOW RISK	<p>MODERATE RISK</p> <p>Encourage stakeholders to develop a Pest Management Plan to demonstrate how IPM will be promoted to reduce reliance on pesticides, and what measures will be taken to minimize risks of pesticide use. This should be part of the sustainability plan for the project to prevent or mitigate other adverse environmental and social impacts resulting from production intensification.</p>	
5.5	Would this project manage or dispose of waste pesticides, obsolete pesticides or pesticide contaminated waste materials?	LOW RISK	<p>HIGH RISK</p> <p>A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.</p>	

ESS 6 INVOLUNTARY RESETTLEMENT AND DISPLACEMENT

		No	Yes	Comments
6.1	Would this removal* be voluntary? *temporary or permanent removal of people from their homes or means of production/livelihood or restrict their access to their means of livelihoods	CANNOT PROCEED	<p>HIGH RISK</p> <p>A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.</p>	

ESS 7 - DECENT WORK

		No	Yes	Comments
7.1	Would this project displace jobs? (e.g. because of sectoral restructuring or occupational shifts)	LOW RISK	<p>HIGH RISK</p> <p>A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.</p>	
7.2	Would this project operate in sectors or value chains that are dominated by subsistence producers and other vulnerable informal agricultural workers, and more generally characterized by high levels "working poverty"?	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate the likely risk of perpetuating poverty and inequality in socially unsustainable agriculture and food systems. Decent work and productive employment should appear among the priorities of the project or, alternatively, the project should establish synergies with specific employment and social protection programmes e.g. favouring access to some social protection scheme or form of social insurance. Specific measures and mechanisms should be introduced to empower in particular the most vulnerable /disadvantaged categories of rural workers such as small-scale producers, contributing family workers, subsistence farmers, agricultural informal wage workers, with a special attention to women and youth who are predominantly found in these employment statuses. An age- and gender-sensitive social value chain analysis or livelihoods/employment assessment is needed for large-scale projects.</p>	

7.3	Would this project operate in situations where youth work mostly as unpaid contributing family workers, lack access to decent jobs and are increasingly abandoning agriculture and rural areas?	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely risk of unsustainably ageing agriculture and food systems by integrating specific measures to support youth empowerment and employment in agriculture. A youth livelihoods/employment assessment is needed.</p> <p>Complementary measures should be included aiming at training youth, engaging them and their associations in the value chain, facilitating their access to productive resources, credit and markets, and stimulating youth-friendly business development services.</p>	
7.4	Would this project operate in situations where major gender inequality in the labour market prevails? (e.g. where women tend to work predominantly as unpaid contributing family members or subsistence farmers, have lower skills and qualifications, lower productivity and wages, less representation and voice in producers' and workers' organizations, more precarious contracts and higher informality rates, etc.)	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely risk of socially unsustainable agriculture and food systems by integrating specific measures to reduce gender inequalities and promote rural women's social and economic empowerment. A specific social value chain analysis or livelihoods/employment assessment is needed for large-scale projects.</p> <p>Facilitation should be provided for women of all ages to access productive resources (including land), credit, markets and marketing channels, education and TVET, technology, collective action or mentorship. Provisions for maternity protection, including child care facilities, should be foreseen to favour women participation and anticipate potential negative effects on child labour, increased workloads for women, and health related risks for pregnant and breastfeeding women.</p>	
7.5	Would this project operate in areas or value chains with presence of labour migrants or that could potentially attract labour migrants?	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate potential discrimination against migrant workers, and to ensure their rights are adequately protected, with specific attention to different groups like youth, women and men.</p>	
		No	Yes	Comments
7.6	Would this project directly employ workers?	LOW RISK	<p>MODERATE RISK</p> <p>FAO projects will supposedly guarantee employees' rights as per UN/FAO standards as regards information on workers' rights, regularity of payments, etc. Decisions relating to the recruitment of project workers are supposed to follow standard UN practices and therefore not be made on the basis of personal characteristics unrelated to inherent job requirements. The employment of project workers will be based on the principle of equal opportunity and fair treatment, and there will be no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, etc.</p>	
7.7	Would this project involve sub-contracting?	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely risk of perpetuating inequality and labour rights violations by introducing complementary measures. FAO projects involving sub-contracting should promote, to the extent possible, subcontracting to local entrepreneurs – particularly to rural women and youth – to maximize employment creation under decent working conditions. Also, FAO should monitor and eventually support contractors to fulfil the standards of performance and quality, taking into account national and international social and labour standards.</p>	
		No	Yes	Comments
7.8	Would this project operate in a sector, area or value chain where producers and other agricultural workers are typically exposed to significant occupational and safety risks?	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely OSH risks by introducing complementary provisions on OSH within the project. Project should ensure all workers' safety and health by adopting minimum OSH measures and contributing to improve capacities and mechanisms in place for OSH in informal agriculture and related occupations. For example, by undertaking a simple health and safety risk assessment, and supporting implementation of the identified risk control measures. Awareness raising and capacity development activities on the needed gender-responsive OSH measures should be included in project design to ensure workers' safety and health, including for informal workers. Complementary measures can include measures to reduce risks and protect workers, as well as children working or playing on the farm, such as alternatives to pesticides, improved handling and storage of pesticides, etc.</p> <p>Specific provisions for OSH for pregnant and breastfeeding women should be introduced. FAO will undertake periodic inspections and a multistakeholder mechanism for monitoring should be put in place.</p>	

7.9	Would this project provide or promote technologies or practices that pose occupational safety and health (OSH) risks for farmers, other rural workers or rural populations in general?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
		No	Yes	Comments
7.10	Would this project foresee that children <u>below</u> the nationally-defined minimum employment age (usually 14 or 15 years old) will be involved in project-supported activities?	LOW RISK	CANNOT PROCEED	
7.11	Would this project foresee that children <u>above</u> the nationally-defined minimum employment age (usually 14 or 15 years old), but under the age of 18 will be involved in project-supported activities?	LOW RISK	MODERATE RISK Take action to anticipate likely risk of engaging young people aged 14-17 in child labour by changing design or introducing complementary measures. For children of 14 to 17 years, the possibility to complement education with skills-training and work is certainly important for facilitating their integration in the rural labour market. Yet, children under the age of 18 should not be engaged in work-related activities in connection with the project in a manner that is likely to be hazardous or interfere with their compulsory child's education or be harmful to the child's health, safety or morals. Where children under the age of 18 may be engaged in work-related activities in connection with the project, an appropriate risk assessment will be conducted, together with regular monitoring of health, working conditions and hours of work, in addition to the other requirement of this ESS. Specific protection measures should be undertaken to prevent any form of sexual harassment or exploitation at work place (including on the way to and from), particularly those more vulnerable, i.e. girls.	
7.12	Would this project operate in a value chain where there have been reports of child labour?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
		No	Yes	Comments
7.13	Would this project operate in a value chain or sector where there have been reports of forced labour?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

ESS 8 - GENDER EQUALITY

		No	Yes	Comments
8.1	Could this project risk reinforcing existing gender-based discrimination, by not taking into account the specific needs and priorities of women and girls?	LOW RISK	MODERATE RISK Take action to anticipate likely risk of perpetuating or reinforcing inequality by conducting a gender analysis to identify specific measures to avoid doing harm, provide equal opportunities to men and women, and promote the empowerment of women and girls.	
8.2	Could this project not target the different needs and priorities of women and men in terms of access to services, assets, resources, markets, and decent employment and decision-making?	LOW RISK	MODERATE RISK Take action to anticipate likely risk of socially unsustainable agriculture practices and food systems by conducting a gender analysis to identify the specific needs and priorities of men and women, and the constraints they may face to fully participate in or benefit from project activities, and design specific measures to ensure women and men have equitable access to productive resources and inputs.	

ESS 9 INDIGENOUS PEOPLES AND CULTURAL HERITAGE

		No	Yes	Comments
9.1	Are there indigenous peoples* living outside the project area** where activities will take place??	LOW RISK	GO TO NEXT QUESTION	
9.1.1	Do the project activities influence the Indigenous Peoples living outside the project area?	LOW RISK	MODERATE RISK A Free, Prior and Informed Consent Process is requiredProject activities should outline actions to address and mitigate any potential impactPlease contact the ESM/OPCA unit for further guidance.	

9.2	Are there indigenous peoples living in the project area where activities will take place?	LOW RISK	<p>MODERATE RISK</p> <p>A Free Prior and Informed Consent process is required. If the project is for indigenous peoples, an Indigenous Peoples' Plan is required in addition to the Free Prior and Informed Consent process. Please contact the ESM/OPCA unit for further guidance.</p> <p>In cases where the project is for both, indigenous and non-indigenous peoples, an Indigenous Peoples' Plan will be required only if a substantial number of beneficiaries are Indigenous Peoples. project activities should outline actions to address and mitigate any potential impact. Please contact ESM/OPCA unit for further guidance.</p> <p>A Free, Prior and Informed Consent Process is required</p>	
9.3	<p>Would this project adversely or seriously affect on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (physical* and non-physical or intangible**) inside and/or outside the project area?</p> <p>*Physical defined as movable or immovable objects, sites, structures, group of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance located in urban or rural settings, ground, underground or underwater. **Non-physical or intangible defined as "the practices, representations, expressions, knowledge and skills as well as the instruments, objects, artifacts and cultural spaces associated therewith that communities, groups, and in some cases individuals, recognize as part of their spiritual and/or cultural heritage"</p>	LOW RISK	<p>HIGH RISK</p> <p>A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.</p>	
9.4	Would this project be located in an area where cultural resources exist?	LOW RISK	<p>MODERATE RISK</p> <p>To preserve cultural resources (when existing in the project area) and to avoid their destruction or damage, due diligence must be undertaken to: a) verify that provisions of the normative framework, which is usually under the oversight of a national institution responsible for protection of historical and archaeological sites/intangible cultural heritage; and b) through collaboration and communication with indigenous peoples' own governance institutions/leadership, verifying the probability of the existence of sites/ intangible cultural heritage that are significant to indigenous peoples.</p> <p>In cases where there is a high chance of encountering physical cultural resources, the bidding documents and contract for any civil works must refer to the need to include recovery of "chance findings" in line with national procedures and rules.</p>	

Annex 3: Social Assessment Outline for Vulnerable Groups

Acronyms & Abbreviations

Introduction

This section will provide some relevant background information that would enable to pin down both the overall and specific contexts of OCRI formulation and implementation roadmap. This preview will set out the rationale of the undertaking (*i.e. why the SA, what for, and for which outcomes, etc.*) by showcasing the particular case of these vulnerable groups within the OCRI intervention areas, the likelihood of risks and impacts that may generate from project foreseen activities, and meanwhile propose some constructive strategies and assessment tools as to how to reach this very end objective of properly mitigating these impacts in a way that will rather improve their living conditions.

- General Context
- Objective of the Assessment
- Methodology and Assessment Tools and Results

Legal and Institutional Framework

This section will unveil both the legal and institutional framework under which the OCRI project is being prepared and under which it will be implemented, both at the central and local levels. More specifically, it will highlight the very rationale of the specific attention given to the issues of vulnerable groups, particularly the *Fulani* and *Peulh*, let alone other groups, such as the *Holli* and *Lopa*, as well as the climate-affected communities. The section will make an attempt to show how the project will also rely on local customs and cultures to ascertain a peaceful handling and treatment of issues related to this specific vulnerable group without singling them out and/or fragilizing/exposing them; henceforth instead of constructing, end up rendering their living conditions instead difficult to bear.

General Objective and Project Description

The very purpose of this section is to pin down the OCRI overall development perspective, within a well-defined context, and activities tailored to sustain such a development objective. A specific focus will be given to the project intended objective to constructively involve vulnerable groups, namely *Fulani* and *Peulh*, let alone other climate-induced/triggered vulnerables. A specific focus will describe the gradual vulnerability of these groups in each of the 5 participating project districts.

Project Development Context

- General Geographical and social contexts
- Project Activities

Overview of the OCRI Intervention Area

- Copargo
- Djogou
- Glazoue
- *Zogbodoméy*
- *Zagnanado*

Conflict Sensitivity Analysis (Vulnerable Groups)

Benin is known as one of the leading political and social democracy in Western Africa. Its legacy has been very inspiring to many of its nearby neighbors. Nevertheless, given the global and factual climate change risks and impacts on local communities, particularly the landless and agriculture-dependent communities, such as those in

the OCRI project intervention areas, and more specifically on the Fulani and Peulh; this section will attempt to highlight some of the likely sources of conflicts impacting these communities; understand its seriousness, its incremental risks towards OCRI's implementation roadmap, and propose some community-driven solutions to either offset them, at least to properly mitigate them in a way that they won't hinder OCRI development perspective.

Stakeholder Consultation, Participation and Engagement, & Analysis and Social Baseline Data

As an important aspect of any development perspective, the stakeholder consultation, participation and engagement process enable to both encourage "*ownership*" building and to foster "*social accountability*" throughout the lifespan of a given project. In the specific case of OCRI, this section will strengthen this particular aspect, emphasising its relevance within the specific parameters of the FPIC process, built on fearlessness and non-reprisal bearing. It will also help establish an invaluable baseline database to serve the project in properly mainstreaming the addressing of vulnerable groups dimensions in the OCRI targeted five districts.

Expected Social Impacts and Social Risk Matrix

Alternative and Project Design Measures

Key Recommendations

This section will build upon the very above and suggest likely ways forward to lessen the risks and adverse impacts while maximizing/building better on the positive impacts of the project. This will be explored via each of the 2 components to ensure a well-routed and targeted outreach to the Vulnerable Groups.

- Component 1:
- Component 2:

Social Mitigation Measures

The Social Assessment will portray some factual measures to be used and accounted for to properly mitigate the foreseen risks and impacts. Overall, while it explores best ways forward, it also ensures that issues related to Fulani and Peulh, most particularly, let alone to other extend-vulnerable groups such as Lupa, Holli, Fishermen, and seasonally affected flash-flood communities along the Oueme river stream are well-looked up to and will greatly contribute to making the project socially sound. To that extend, a strong focus will be put on building these beneficiary communities to ensure project sustainability, well beyond its closure.

Capacity Building and Strengthening

Vulnerable Groups Action Plan

Building on the constructive footprints of the measures described here above, the VGAP will be rather more focused on the Peulh and Fulani to ensure that specific attention is given to them and that appropriate measure, alongside a budget and criterion to properly monitor these measures. The VCAP will be inclusive enough and will participate in fostering a more enabling environment to bridge the social gaps and encourage peace and sustainability.

Grievance Redress Mechanism

As in any sustainable development project, there are always risks and ways of igniting a problem. The ignition of such problems, if not well-managed, early enough, could result and lead to detrimental situations for the project. Henceforth, a GRM is prepared as an anticipative way to offer implementable solutions and reinstate the very human rights of OCRI stakeholders, regardless of he/her origin. Henceforth, the abovementioned GRM will offer amicable means, tools and ways to solve projects and avoid hindrance of such missed opportunities on the overall project performance.

Monitoring and Assessment Mechanism

Lastly, but not least, after setting up and following up on all the above-mentioned building blocks, one can likely believe that there will be no risks of all or if so, at least very minimal ones and thus easily mitigable, as per category B operations. Therefore, a suitable monitoring and evaluation mechanism will be developed to look at

these issues and ensure that efforts being explored by the Government of Benin, altogether with its international investment partners as in the case of the OCRI project will be implemented in due course to meet OCRI development objective.

Annex 3-Bis: Environmental and Social Screening Form (focus on Cat. B operations)

During project implementation stage and prior to activities physical implementation, every OCRI sub-activity will de facto undergo an initial screening, utilizing FAO's Safeguards Screening Checklist (see below).

Based on the environmental and social screening outcome, sub-activities will be categorized as low, moderate, or high risk. Based on the screening, sub-activities will either be approved for implementation, or will be amended to meet the requirements detailed within this ESMF (*specifically, all sub-activities must have low-to-moderate impact; high risk sub-activities will not be allowed under the OCRI project, nor will sub-activities which involve elements listed in the Annex 1 Non-Eligibility List of this document*).

Guidance and Examples for Sub-Activity Categorization

Categorization: To ensure that the extent of the review is commensurate with the nature of risk, categorization is a useful step in procedures where based on basic information about a project such as sector and scale, the level of E&S risk the project could pose is determined. This also enables the PCU Safeguards Officer (SESSO) and LPIUs ESSOs to determine the extent and sophistication of the E&S review required. Categorization may be low, moderate or high. For the purposes of this project, all sub-activities are expected to be Category B (Medium) or Category C (Low) risk. FAO is only accredited to implement Cat. B projects.

➔ Medium Risk (Category B) Sub-Activity:

Transactions with a limited number of potentially adverse environmental or social impacts that are generally site-specific, largely reversible, and readily addressed through mitigation measures that reduce the risk to moderate or low levels are normally classified as Category B. The following characteristics indicate a Category B:

- Environmental and social risks for the most part are mostly limited to and readily mitigated through application of good industry practice as described in relevant Environmental, Health and Safety Guidelines;
- Labor and working conditions are unlikely to include harmful child labor, involuntary or compulsory labor, or significant occupational health and safety issues;
- Significant land acquisition or significant land use change is not expected, nor is there expectation of displacement of people or significant loss of livelihoods due to project activities; and
- Socially or economically disadvantaged groups, such as tribal or ethnic groups or similar communities, are not known to occur in the project's area of direct impact, nor does the activity involve use of lands to which they are collectively attached, or where those communities are present but consultation has indicated Free Prior and Informed Consent (FPIC).

➔ **Low Risk (Category C) Sub-Activity:** Sub-activity proposals that are perceived to have minimal or no adverse environmental and/or social impacts are classified as Category C, and no further environmental or social safeguards assessment work needs to be done after initial screening and categorization. Nonetheless, despite being a category C project, it is however recommended to keep a closer eye to the ways in which gender, disability and gender aspects are being dealt with.

Annex 5: Sub-Project Environmental and Social Management Plan for Category “B” Sub-Projects

1. Activity Name: _____

2. Activity Type: _____

3. Brief description of the activity (activity components including assisting services, scope of service, number of beneficiaries, etc.)

4. Brief description of the activity's location and geographical features (nature of location: rocky or dusty, the previous usage of the location):

5. Description of the activity typical surrounding area: for a circle of 50m radius from the drainage point, especially locations of environmental sensitivity (utilities, constructions, land usage, water sources) etc.).

(Sketch drawing of the project)

6. Environmental Impacts & Mitigation Measures* (Construction & Operation Phase)

Activity's Phase	Parameter	Influencing Factor	Mitigation Measure	Institution Responsibility for Execution
Design				
Construction				
Operation				

Example for design phase: Parameter: Water, influencing factor: Disposal of wastewater, mitigating measure: design proper wastewater treatment, Responsibility: Consultant

7. Does the activity need monitoring during its operation? (in case there is a probability of polluting water resources, or soil or air) YES/No

8. In case the answer is yes, mark the monitoring issues applicable to your activity:

- Monitoring water sources
- Monitoring the performance of health care waste disposal
- Monitoring the performance of sanitary drainage system
- Monitoring the cleanness of the building's yard
- Monitoring the planting of trees in the building's yard
- Monitoring access to natural resources by eligible beneficiaries

Table for Environmental monitoring during activity implementation

Parameter	Indicator	Location	No. of samples	Intervals	Responsibility

Annex 6: Non-Eligibility List & Indicative Preferred List of OCRI Activities:

A- Non-Eligibility List

The following activities are prohibited under the Project (*ineligible or “Non-eligibility list”*) in order to avoid adverse irreversible impacts on the biophysical environment and people, the following activities are explicitly excluded from funding:

- (i) Relocation and/or demolition of any permanent houses or business.
- (ii) Use of the project as an incentive and/or a tool to support and/or implement involuntary resettlement of local people and village consolidation.
- (iii) Land appropriation
- (iv) Land acquisition using eminent domain without FAO-mandated consultation and agreement of the owner.
- (v) New settlements or expansion of existing settlements.
- (vi) Activities that would likely create adverse impacts on ethnic disadvantaged groups/peoples within the village and/or in neighboring villages, or activities unacceptable to ethnic groups living in an ethnic homogenous village or a village of mixed ethnic composition.
- (vii) Imposing ideas and changing priorities identified by the community and endorsed at the Municipalities Councils without community consultation, prior review and clearance from the PCU.
- (viii) Damage or loss to cultural property, including sites having archeological (prehistoric), paleontological, historical, religious, cultural and unique natural values.
- (ix) Resources access restriction (e.g. restricted access to farming land, transhumance corridors) that could not be mitigated and will result in adverse impacts on the livelihoods of ethnic groups and disadvantage peoples.
- (x) Activities of any kind within natural habitats and existing or proposed protected areas.
- (xi) Purchase of banned pesticides, insecticides, herbicides and other unbanned pesticides, unbanned insecticides and unbanned herbicides and dangerous chemicals exceeding the amount required to treat efficiently the infected area. However, if pest invasion occurs, the use of small amounts of eligible and registered pesticides in Benin will be allowed if supplemented by additional training of farmers to ensure pesticide safe uses in line with FAO/IFC policies and procedures (*FAO clearance will be needed*). And no pesticides, insecticides and herbicides will be allowed in the buffer zone of protected areas, protected forests, and/or natural habitats; should there be one nearby OCRI intervention area. Highly Hazardous Pesticides (HHP) will not be used by the project.
- (xii) Purchase of destructive farming gear and other investments detrimental to the environment.
- (xiii) Forestry operations, including logging, harvesting or processing of timber and non-timber products (NTFP).
- (xiv) Unsustainable exploitation of natural resources.
- (xv) Introduction of non-native species, unless these are already present in the vicinity or known from similar settings to be non-invasive, and harmful to farmers livelihoods resources;
- (xvi) Significant conversion or degradation of natural habitats or where the conservation and/or environmental and social gains do not clearly outweigh any potential losses.
- (xvii) Production or trade in any product or activity deemed illegal under Benin’s laws or regulations or international conventions and agreements, or subject to international bans.
- (xviii) Labor and working conditions involving harmful, exploitative, involuntary or compulsory forms of labor, forced labor, child labor or significant occupational health and safety issues.
- (xix) Trade in any products with businesses engaged in exploitative environmental and/or social behavior.
- (xx) Sub-activities that require full EIA (*i.e. Category A*) **WILL NOT BE** funded including any projects that will use or induce the use of hazardous materials (**including asbestos**) or any banned chemicals.

B- Indicative Preference list for OCRI Activities

- i) Promote climate resilient agriculture practices;
- ii) Promote sustainable and climate-smart management of water resources;
- iii) Promote the use of Integrated Pest Management (IPM), as well as the use of natural/organic pesticides from herbs (*biopesticides*), rather than chemical pesticides, in instances where pesticides must be used;
- iv) Promote skills development to increase climate resiliency of farmers, especially women and disable people; and
- v) Promote improvement of the enabling environment (*i.e. financial opportunities, governing institutions, agricultural extension, policies and/or acts*) to facilitate increased and sustained uptake of CRA practices and climate-informed water management.

Annex 7: “Chance-Find” Procedures

The following “*chance find*” procedures applies to individual farmers as well as individual contractor, and therefore must be included in all contractors’ contracts (*i.e. Letters of Agreement*), in instances where the contracted party is assisting with implementation of either Component 1 or Component 2:

If during the course of its intervention the Farmer or Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during project implementation, the individual farmer or Contractor shall:

- ✚ Stop the activities in the area of the “chance-find”;
- ✚ Delineate the discovered site or area;
- ✚ Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities or the National Culture Administration take over;
- ✚ Notify the supervisory Safeguards Officer (SESSO/ESSO) within the PCU and/or LPIU who, in turn, will notify the Coordinator and respective Project Directors and then responsible local authorities immediately (*within 24 hours or less*);
- ✚ Responsible local authorities would be responsible of protecting and preserving the given site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by government approved archeologists. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
- ✚ Decisions on how to handle the finding shall be taken by the responsible local authorities. This could include changes in the layout (*such as when finding an irremovable remain of cultural or archeological importance*) conservation, preservation, restoration and salvage;
- ✚ Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities; and
- ✚ Project activities could resume only after permission is given from the responsible local authorities about safeguarding of the discovered heritage.

Note that the reporting of chance finds only occurs when an item/area/etc. of cultural significance is found, and is only carried out insofar as what is detailed above (*i.e. reporting the find, reporting how the item/area will be treated moving forward*). Reporting begins with the local level implementer (*i.e. staff tasked to implement the project within a village*) notifying the Safeguards Officer, after which, the Safeguards Officer guides the process according to the instructions above (*e.g. notifying the relevant government authorities*).

Annex 8: FAO Guidance Document for Pests and Pesticides Management in Field Projects

This guidance document has been prepared by the FAO Plant Production and Protection Division (AGPM) and replaces a Field Programme Circular from 8/92 on Pesticides Selection and Use in Field Projects. It provides guidance on pest management and the selection and use of pesticides in FAO projects. Its objective is to reduce reliance on pesticides through promotion of Pest Management (PM) and to avoid that pesticides procured by FAO, or on the advice of FAO, cause harm to people, animals, plants or the environment. As such, it also serves to limit reputational risk and liabilities for FAO.

The outlined rules and procedures apply to all pesticide procurement, and advice on pesticide procurement, within the framework of FAO field projects, including emergency assistance and activities implemented by subcontractors. It involves an established procedure for mandatory clearance of such projects and activities by the Deputy Director AGP, as specified below.

Background

Pesticides require special attention because they are toxic and their distribution and use should always involve managing the risks to human health and the environment. Furthermore, inappropriate use of pesticides may reduce agricultural productivity and result in pesticide residue levels that become a constraint to marketability of crops both on domestic and export markets. Although most countries have pesticide legislation, many may still lack capacity to ensure appropriate selection, management, use and disposal of pesticides. Circumstances in developing countries often make it difficult for farmers to follow recommended practices regarding personal protection, use and cleaning of application equipment, storage of pesticides, and disposal of obsolete pesticides and empty containers.

In many cases, use of pesticides is still unnecessarily high, uneconomic and unsustainable. Available non-chemical techniques and PM approaches often can help reduce pesticide use.

The overall framework for sound pest and pesticide management is provided by the FAO/WHO International Code of Conduct on Pesticide Management⁷¹ and its accompanying technical guidelines.

⁷¹ - AGPM Website: FAO/WHO International Code of Conduct on Pesticide Management (2014): <http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/code/en/>

Pest management

The protection of plants from pests is an integral part of agriculture. The presence of pests does not automatically require control measures, as pest populations are usually under some form of natural control and actual economic damage may be insignificant. When plant protection measures are deemed necessary, available non-chemical pest management techniques should be considered with preference before a decision is taken to use pesticides, even if the cost is higher or specialist inputs are required that make use of non-chemical options more complex.

Proper comparison of pest management strategies requires a full assessment of costs that takes into account additional private costs (e.g. personal protection, storage, health effects on users) and public costs (negative effects on public health and the environment).

Where possible, pest management strategies should be based on an PM approach. Pesticides should only be supplied following a detailed assessment of the actual field situation, the nature and the impact of the pest, and an evaluation of available pest management options.

Selection and procurement of pesticides

If pesticides are deemed to be the best or only available option, then careful and informed consideration should be given to the selection of pesticide products. Factors to be taken into account include efficacy and likelihood of development or presence of resistance by the target organism. Overriding importance should be given to reducing negative effects on human health and the environment.

FAO does not maintain a list of permitted or non-permitted pesticides. However, in line with the provisions of the FAO/WHO International Code of Conduct on Pesticide Management and relevant multilateral environmental agreements that include pesticides, the following list of criteria will need to be met in order for a pesticide to be considered for use in an FAO project:

1. The product should not be subject to the Stockholm Convention on Persistent Organic Pollutants. The list of pesticides concerned can be found at: <http://chm.pops.int>.
2. The product should be registered in the country of use. If specified in the registration decision, the product should be permitted for the crop-pest combination concerned.
3. Users should be able to manage the product within margins of acceptable risk. This means that FAO will not supply pesticides that fall in WHO Hazard Class 1 or GHS Class 1 and 2. Pesticides that fall in WHO Hazard Class 2 or GHS Class 3 can only be provided if less hazardous alternatives are not available and it can be demonstrated that users adhere to the necessary precautionary measures⁷².
4. Preference should be given to products that are less hazardous, more selective and less persistent, and to application methods that are less hazardous, better targeted and requiring less pesticides. Products listed in Annex 3 of the Rotterdam Convention should for instance be avoided.

Any international procurement of pesticides must abide with the provisions of the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. Pesticides listed in Annex III of the Convention and subject to the PIC procedure, and requirements of the Convention, can be found at the website of the Secretariat of the Rotterdam Convention:

<http://www.pic.int/Implementation/Pesticides/tabid/1359/language/en-US/Default.aspx>

Pesticide management

The following requirements apply to all pesticides that are being supplied directly by FAO and to pesticides supplied by others within the framework of FAO projects.

⁷² - The hazard classification concerns the formulated product. Formulations with a low concentration of active ingredient are less hazardous than formulations with a high concentration of the same active ingredient. The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification (http://www.who.int/ipcs/publications/pesticides_hazard/en/) classifies technical products based on acute oral and dermal toxicity. It includes a conversion table that allows determination of the hazard class for the pesticide formulation under consideration. Towards 2008, this list will be replaced by the Globally Harmonized System of Classification and Labelling of Chemicals, which in addition to acute toxicity also takes into consideration chronic health risks and environmental risks (http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html). The term "pesticide formulation" means the combination of various ingredients designed to render the product useful and effective for the purpose claimed; the form of pesticide as purchased by users. The term "active ingredient" means the biologically active part of the pesticide.

1. Procurement of pesticides should be preceded by a thorough risk assessment, which should lead to adequate measures to reduce health and environmental risks to acceptable levels.
2. Quantities to be provided should be based on an accurate assessment of actual needs in order to avoid over-use or accumulation of stockpiles that may become obsolete. Pesticides should not be provided as fixed components of input packages of projects, credit schemes or emergency assistance.
3. Appropriate application equipment and protective gear should be provided in adequate quantities along with the pesticides, unless it is explicitly confirmed that the recommended equipment and gear is already sufficiently available.
4. Training of users may be required to ensure they are capable of handling the supplied pesticides in a proper and responsible manner.
5. Proper storage of pesticides in accordance with FAO guidelines should be ensured for all supplies.

Clearance

The following documents and activities require clearance from the respective FAO Sub- and/or Regional Coordinator and Plant Protection Officer. Review and clearance of pesticide purchase requests including treated seeds and treatment of stored agricultural products will be carried out in close collaboration with FAO HQ based Pest and Pesticide Management Group (AGPMC) (c/o Senior Officer Pesticide Risk Reduction Group (AGPMC)):

- All orders for pesticides to be procured by FAO, regardless of whether bought through Headquarters order, field project order or local purchase.
- Project documents that envisage procurement of pesticides.
- Terminal reports for projects that involved pesticide supply.

Requests for clearance should be submitted to the respective FAO Sub-/Regional Coordinator and Plant Protection Officer (*focal point for pesticides and crop protection*). Requests for procurement of pesticides must include a completed Request for Procurement of Pesticides (Annex I: Pesticide check list) for each pesticide.

In addition, clearance must be obtained from the respective FAO Sub-/Regional Coordinator and Plant Protection Officer for any contemplated collaboration with a pesticide company or other entity of the pesticide industry (*i.e.: in designing or implementing training*). This in addition to the established general procedure for OPC approval of collaboration with the private sector as described in DGB 2014/14.

Conditions to be met for purchase and use of pesticides

For the purchase and use of any pesticide product, it must be assured, that the following conditions are met:

- ✚ The product must be registered in the *target country* by the respective national authority;
- ✚ The company providing the pesticide has to declare that they are observing the **FAO/WHO International Code of Conduct on Pesticide Management**, especially its provisions on labelling⁷³, as well as packaging and transport of pesticides;
- ✚ Individuals involved in applying the pesticide will be trained in the use of protective equipment, use of the pesticide application equipment and protection of health and the environment from exposure to pesticides;
- ✚ The protective equipment supplied to applicators complies with EC, US or appropriate internationally accepted standards;
- ✚ Suitable application equipment that permits pesticide applicators to apply the pesticide in the correct dose without causing human and environmental exposure, will be used or provided if it is not available;

⁷³ - Reference to Guideline on Good labelling practice for pesticides: <http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Download/label.pdf>

- ✚ All empty pesticide containers will be triple rinsed and punctured in accordance with FAO guidelines⁷⁴. If pesticides are to be purchased for seed treatment (*seed storage chemical or seed treatment*), the following conditions must be met:

At the seed treatment facility:

- ✚ Each pesticide seed treatment product must be cleared by AGP and must be registered in *Countries concerned (importing/exporting country)* by the relevant national authority/authorities.
- ✚ The company providing the pesticide has to declare that they are observing the **FAO/WHO International Code of Conduct on Pesticide Management**, especially its provisions on labelling, as well as packaging and transport of pesticides or pesticide-treated seeds.
- ✚ Users of seeds treated with pesticides must adhere to the necessary precautionary measures described on the product labels (e.g. wearing a protective mask, goggles and gloves).
- ✚ The treatment of seeds must be done in an appropriately equipped facility that ensures full containment of the pesticides.
- ✚ Users of seed treatment equipment should be provided with suitable application equipment and instructed on calibration, use and cleaning of the equipment.
- ✚ Treated seeds must be dyed using an unusual and unpalatable color to discourage consumption.
- ✚ All packages containing treated seeds must be clearly marked "*Not for human or animal consumption*" and with the skull and crossbones symbol for poison.

At the point of use of the treated seeds:

- ✚ Those handling treated seeds should be informed that the seeds are treated with pesticides which can have toxic effects on their health, the health of others and on the environment.
- ✚ Handlers should be advised to wear clothes that fully cover their body (long sleeves, long trousers/skirt and closed shoes), and -if not available- be provided with gloves and dust masks and instructed on their use and advised to wash themselves and their clothes after handling the seed.
- ✚ Packaging from treated seeds should not be reused for any purpose.

Further guidance Further guidance on all aspects of pesticide distribution, handling and use, is provided by the International Code of Conduct on Pesticide Management, and the Technical Guidelines that have been produced in support of the Code itself (*Copies are available from the AGPMC website: <http://www.fao.org/agriculture/crops/core-themes/theme/pests/en/>*).

The Plant Production and Protection Department (AGPM) and Pest and Pesticide management group/Pesticide Risk Reduction team (AGPMC) and Sub-, Regional Plant Protection Officers will be available to provide further clarification.

⁷⁴ - Reference to Guideline on Management options of empty pesticide containers :
http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Containers08.pdf

Annex 9: List of Authorized Pesticides in Benin

N°	Nom commercial	Matière(s) active(s)	Formulation	Conditionnement	Nature
1	ACTELIC GOLD DUST	Primiphos-méthyl 16g/kg Thiam e thoxam 3,6g/kg	DP	Sachet de 50g	Insecticides de traitement des stocks
2	CRUSER EXTRA COTTON	Méthalexyl-M 3,34 g/l Fludioxomyl 8,34 g/l Thiam e thoxam 350g/l	FS	Bidon de 20 L	Insecticide/fongicide de traitement des semences de coton
3	EMACOT FORT 48 EC	Em amectine benzoate 48 g/l	EC	Facon de 500 ml	Insecticide sur cotonnier
4	PROTECT DP	Deltaméthrine 1g/kg Primiphos-méthyl 15g/kg	DP	Sachet de 50g	Insecticides de traitement des stocks
5	IDEFIX	Hydroxyde de cuivre 65,6%	WP	Sachet de 1000g ou de 1kg	Fongicide bactériale contre la nervation noire du chou
6	BAHIA 100	Cyperméthrine 72g/l Abamectine 28g/l	EC	Flacon de 500ml ou de 1L	Insecticide acaricide du cotonnier
7	AKITO 25	Beta cyperméthrine 25g/l	EC	Flacon de 1L	Insecticide contre les ravageurs de l'amarante
8	NYNAD+ PATE	Difénacoum 0,005%	RB	Sceau de 20 kg	Rodenticide
9	KILLER 480 g/l	Glyphosate 480 g/l	SL	Flacon de 1L	Herbicide total
10	LAGON 575 SC	IS oxafuol 75g/l Aclonifène 500g/l	SC		Herbicide prélevé du maïs
11	CORAGEN 2 SC	Chlorantraniprole 200g/l	SC		Insecticide coton
12	VIPER 46 EC	Acétamipride 16g/l Indoxacarbe 30 g/l	EC	Flacon de 200 ml	Insecticide tomate
13	CALTHIO MIX 485 WS	Im idaclopride 350 g/l Méthalexyl 35g/kg Thiram 100g/kg	WS	Sachet de 25g	Insecticide/fongicide de traitement des semences de coton
14	COTOMENCE 450 WP	Im idaclopride 250 g/kg Thiram 100g/kg	WP	Carton de 1kg	Insecticide/fongicide de traitement des semences de coton
15	BELT EXPERT 480 SC	Flubendiamide 240 g/l + Thiaclopride 240g/l	SC	Flacon de 100ml	Insecticide coton
16	EMACOT A 112 EC	Em amectine benzoate 49g/l + Acétamipride 64g/l	EC	Flacon de 1L	Insecticide coton
17	CUTTER 112 EC	Em ame ctine benzoate 49g/l + Acétamipride 64g/l	EC	Flacon de 125 ml	Insecticide coton
18	THALIS 112 EC	Em ame ctine benzoate 49g/l + Acétamipride 64g/l	EC	Flacon de 125 ml	Insecticide coton
19	SIBEMAC 112 EC	Em ame ctine benzoate 49g/l + Acétamipride 64g/l	EC	Flacon de 250 ml	Insecticide coton

N°	Nom commercial	Matière(s) active(s)	Formulation	Conditionnement	Nature
20	EMA STAR 112 EC	Em ame ctine benzoate 49g/l + Acétamipride 64g/l	EC	Flacon de 250 ml	Insecticide coton
21	ABALAM 58 EC	Lambda-cyhalothrine 30g/l + Abame ctine 28g/l	EC	Flacon de 1L	Insecticide coton
22	SIBOPHOSATE 360 SL	Glyphosate 360 g/l	SL	Flacon de 1L	Herbicide total
23	KALACH 360 SL	Glyphosate 360 g/l	SL	Flacon de 1L	Herbicide systémique non sélectif
24	AKIZON 4SC	Nicosulfuron 40 g/l	SC	Flacon de 1L	Herbicide
25	DURBAN B 200/18 EC	Cifluthrine 18g/l Chorpyriphos ethyl 200g/l	EC	Flacon de 1L	Insecticide coton
26	LASER 480 SC	Spinos ad 480 g/l	SC	Flacon de 1L	Insecticide coton
27	DURBAN 4 E	Chorpyriphos ethyl 480g/l	EC	Flacon de 1L	Insecticide
28	GARIL	Triclopyr 72g/l Propanil 360 g/l	EC	Flacon de 1L	Herbicide riz
29	CALFOS 500 EC	Profénophos 500g/l	EC	Flacon de 1L	Insecticide -acaricide
30	ALPHACAL P218 EC	Alpha cyperméthrine 18g/l Profénophos 200g/l	EC	Flacon de 1L	Insecticide -acaricide
31	CYPERCAL P330 EC	Cyperméthrine 30g/l Profénophos 300g/l	EC	Flacon de 1L	Insecticide -acaricide
32	TOPSTAR 400SC	Oxadiargyl 400g/l	SC	Flacon de 1L	Herbicide riz
33	LAMBDACAL P315 EC	Lambda-cyhalothrine 15g/l Profénophos 300g/l	EC	Boîte de 1L	Insecticide –acaricide coton
34	LAMBDACAL P215 EC	Lambda-cyhalothrine 15g/l Profénophos 200g/l	EC	Boîte de 1L	Insecticide –acaricide binaire sur cotonnier
35	GALLANT SUPER	Haloxypol méthyle ester 104g/l	EC	Boîte de 1L	Herbicide sur cotonnier
36	LASER 480 SC	Spinos ad 480 g/l	SC	Sachet de 50 ml	Insecticide sur cultures maraîchères
37	SPINTOR POUDRE	Spinos ad 1.25 g/kg	DP	Sachet de 50 g	Insecticide pour le traitement des grains stockés
38	CALIFOR G	Glyphosate 360 g/l Fluome turon 250g/l Prometrine 250g/l	SC	Flacon de 1L	Herbicide coton
39	NURELLE D 36/200	Cyperméthrine 36g/l Chlopyriphos ethyl 200g/l	EC	Flacon de 1L	Insecticide coton
40	NURELLE D 35/300	Cyperméthrine 35g/l Chlopyriphos ethyl 300g/l	EC	Flacon de 1L	Insecticide coton
41	DURBSBAN B 318	Cifluthrine 18g/l Chlopyriphos ethyl 300g/l	EC	Flacon de 1L	Insecticide coton

N°	Nom commercial	Matière(s) active(s)	Formulation	Conditionnement	Nature
42	CHANGO 122 SE	Indoxacarbe 50 g/l Cyperméthrine 72g/l	SE	Flacon de 1L	Insecticide coton
43	COTONEX P SC	Fluométuron 250g/l Prométhryne 250g/l	SC	Flacon de 1L	Insecticide coton
44	COTTONEX PG 560 SC	Fluométuron 250g/l Prométhryne 250g/l Glyphosate 60 g/l	SC	Flacon de 1L	Insecticide coton
45	COTOGARD SC	Fluométuron 250g/l Prométhryn 250g/l	SC	Flacon de 1L	Insecticide coton
46	MALICK 108 EC	Haloxypop-r-methyl 108g/l	EC	Flacon de 1L	Insecticide coton
47	EMIR 88 EC	Cyperméthrine 72g/l Acetamipride 16,6 g/l	EC	Flacon de 1L	Insecticide coton
48	CALIFE 500 EC	P--rofénofos 500g/l	EC	Flacon de 1L	Insecticide coton
49	THUNDER 145 O-TEQ	Betacyfluthrine 45g/l Im idacioprid 100g/l	OD	Flacon de 1L	Insecticide et aphicide coton
50	PACHA 25 EC	Acetamipride 16,6 g/l Lambda-cyhalothrine 15g/l	EC	Flacon de 1L	Insecticide cultures maraîchères
51	LAMBACAL P 630 EC	Lambda-cyhalothrine 30g/l Profénophos 600g/l	EC	Flacon de 1L	Insecticide coton
52	LAMBACAL P 645 EC	Lambda-cyhalothrine 45g/l Profénophos 600g/l	EC	Sachet de 165 ml	Insecticide coton
53	MARSHALL 35 DS	Carbosulfan 350 g/kg	DS	Tonne de 50kg	Insecticides semences
54	CONQUEST 88 EC	Acetamipride 16 g/l Cyperméthrine 72g/l	EC	Bidon de 0,5 L	Insecticide coton
55	PYRINEX QUICK 212 EC	Deltathrine 12 g/l Chlorpyrifos ethyl 200 g/l	EC	Bidon de 1 L	Insecticide coton
56	THIAN 175 O-TEQ	Flubendiamide 100g/l Spirotetramate 75 g/l	OD	Flacon de 100ml	Insecticide coton
57	ATO IBI 01	Betacyperméthrine 18 g/l Chlorpyrifos ethyl 300 g/l	EC	Flacon de 1L	Insecticide – coton binaire acaricide
58	FINISH 360 SL	Glyphosate acide 360 g/l	SL	Flacon de 1L	Herbicide systémique non sélectif de post- levée
59	GLYFOS 360 SL	Glyphosate acide 360 g/l	SL	Flacon de 1L	Herbicide systémique de post-levée
60	MAMBA 360 SL	Glyphosate acide 360 g/l	SL	Flacon de 1L	Herbicide total systémique non sélectif
61	CONQUEST C176 EC	Acetamipride 32 g/l Cyperméthrine 144g/l	EC	Flacon de 1L	Insecticide
62	CAPT 88 EC	Acetamipride 16 g/l Cyperméthrine 72 g/l	EC	Flacon de 1L	Insecticide binaire sur cotonnier

N°	Nom commercial	Matière(s) active(s)	Formulation	Conditionnement	Nature
63	HERBALM 720 SL	2,4D 72%	SL	Boîte de 1L	Herbicide riz, palmier à huile, hévéa, canne à sucre, céréales
64	GLYPHALM 720 WG	Glyphosate 720 g/kg	WG (granule dispersible)	Emballage: sachet Sur-emballage: carton de 10 kg	Herbicide total
65	FANGA 500 EC	Profenofos 500 g/l	EC	Flacon de 1L	Insecticide coton
66	GLYPHALM 360 SL	Glyphosate acide 360 g/l	SL	Bidon de 5 L	Herbicide total systémique non sélectif
67	COTALMP 218 EC	Lambda-cyhalothrine 18g/l Profenofos 200 g/l	EC	Flacon de 1L	Insecticide coton
68	COTALMP 310 EC	Lambda-cyhalothrine 10g/l Profenofos 300 g/l	EC	Flacon de 1L	Insecticide coton
69	CYFLUTRALM P 218 EC	Cyfluthrine 18 g/l Profenofos 200 g/l	EC	Flacon de 1L	Insecticide coton
70	CYFLUTRALM P 318 EC	Cyfluthrine 18 g/l Profenofos 300 g/l	EC	Flacon de 1L	Insecticide coton
71	GLYCEL 41%	Glyphosate acide 410 g/l	SL	Flacon de 1L	Herbicide
72	TERBULOR 500 EC	Terbutryn 167 g/l Métolachlore 333g/l	EC	Flacon de 1L	Herbicide maïs et coton
73	STEWARD 150 EC	Indoxacarbe 150 g/l	EC	Flacon de 170 ml	Insecticide coton
74	DEFICAL 8 EC	Pyraflufen ethyl 8 g/l	EC	Flacon de 1L	Herbicide –défoliant coton
75	SELECT 120 EC	Cléthodim 120g/l	EC	Flacon de 1L	Herbicide coton
76	TRIPRO	Triclopyr 72 g/l Propanil 360 g/l	EC	Flacon de 1L	Herbicide de post levée du riz
77	CALTHIO I 350	Im idacloprid 25 g/l Thiram 100 g/l	FS	Bidon de 20 L	Insecticides /fongicide de traitement des semences coton
78	KALACH EXTRA 70	Glyphosate 700 g/l	SG	Sachet de 250g	Herbicide coton et maïs
79	EMACOT 019	Em amectine benzoate 19 g/l	EC	Flacon de 0,5 l	Insecticide contre les chenilles carpophages et phyllophages du cotonnier
80	MOMTAZ 45	Im idacloprid 250 g/l Thiram 200 g/l	WS	Sachet de 50 kg	Insecticides /fongicide de traitement des semences coton
81	MONCEREN GT 390	Im idacloprid 233 g/l Pencycuron 50g/l Thiram 107 g/l	FS	Boîte de 25 l	Insecticides /fongicide de traitement des semences coton
82	ACTELLIC 300 CS	Primiphos-méthyl 300 g/l	CS	Sachet de 833 ml	Insecticide pour lutte antivectorielle de la malaria
83	ICON 10 CS	Lambda-cyhalothrine 100g/l	CS	Sachet de 62, 5 ml	Insecticide pour lutte antivectorielle

N°	Nom commercial	Matière(s) active(s)	Formulation	Conditionnement	Nature
84	CALLIFAN EXTRA 152 EC	Bifenthrine 120 g/l Acétamipride 32g/l	EC	Flacon de 250 ml	Insecticide cotonnier
85	COBRA 120	Acétamipride 64g/l Spinétorame 56 g/l	EC	Sachet dose de 125 ml ou bidon de 1L	Insecticide coton
86	STOMP CS(BAS 455 48 H)	Pendiméthaline 455 g/l	CS	Flacon de 1L	Herbicide contre adventices annuelles du cotonnier
87	COTONIX 328	Deltaméthrine 12g/kg Chlorpyrifos ethyl 300 g/l Acétamipride 16g/l	EC	Flacon de 500 ml	Insecticide coton
88	VIZIR C 92 EC	Cyperméthrine 72g/l Acetamipride 20 g/	EC	Flacon de 1L	Insecticide acaricide du cotonnier
89	DEKAT -D 720 SL	2,4-D sel de diméthylamine 720 g/l	SL	Flacon de 1L	Herbicides contre adventices dicotylédones du riz
90	NICOMAÏS 40 SC	Nicosulfon 40 g/l	SC	Flacon de 1L	Herbicides contre les graminées et dicotylédones en culture de maïs
91	ACARIUS 18 EC	Abamectine 18g/l	EC	Flacon de 500 ml	Insecticide acaricide contre les acariens et chenilles des légumes feuilles
92	COGA 80 WP	Mancozèbe 800 g/kg	WP	Sachet de 100g	Fongicide contre la cercosporiose de laitue et le chancre de l'amarante
93	NOVAC 116 SC	Novaluron 100 g/l Acétamipride 16g/l	SC	Flacon de 500 ml	Insecticide coton
94	EMA SUPER 56 DC	Em amectine benzoate 24 g/l Acétamipride 32g/l	DC	Flacon de 250 ml	Insecticide coton
95	GLYPHOGAN 360 SL	Glyphosate 360 g/l	SL	Flacon de 1 L	Herbicide total
96	EMA 19,2 EC	Em amectine benzoate 19,2 g/l	EC	Flacon de 312,5 ml	Insecticide coton

Annex 10: Certified Companies to distribute Phytopharmaceutical Products in Benin

N°	RAISON SOCIALE	N° AGRÉMENT	DATES	
			Obtention	Expiration
1.	Société Internationale de Commerce et de Représentation (SICREP)	APD-16/R4-07/CNAC	05/12/16	04/12/21
2.	UNIDIS SARL	APD-15/R1-049/CNAC	25/03/15	24/03/20
3.	BIDOMAHOUSSI SARL	APD-16/R1-55/CNAC	05/12/16	04/12/21
4.	KLASS INTERNATIONAL SARL	APD-18/R1-70/CNAC	27/07/18	26/07/23
5.	ACCUEIL PAYSAN Sarl	APD-14-81/CNAC	06/08/14	05/08/19
6.	GEI-AFRICA Sarl	APD-14-82/CNAC	06/08/14	05/08/19
7.	ADAHA ET FILS	APD-14-83/CNAC	06/08/14	05/08/19
8.	SIBEP Sarl	APD-14-84/CNAC	21/07/14	20/07/19
9.	SINAA	APD-14-85/CNAC	02/12/14	01/12/19
10.	PHYT'OIL SA	APD-15-86/CNAC	26/02/15	25/02/20
11.	BIO PHYTO-COLLINES	APD-15-87/CNAC	26/02/15	25/02/20
12.	EVAKELY GROUP	APD-15-88/CNAC	25/03/15	24/03/20
13.	GALILEO Sarl	APD-15-89/CNAC	28/12/15	27/12/20
14.	MELCHISEDECH Sarl	APD-15-90/CNAC	28/12/15	27/12/20
15.	MUREX SA	APD-15-91/CNAC	28/12/15	27/12/20
16.	STD Sarl	APD-16-92/CNAC	21/01/16	20/01/21
17.	TOP AGRI Sarl	APD-16-93/CNAC	21/01/16	20/01/21
18.	KAIROS BENIN	APD-16-94/CNAC	21/01/16	20/01/21
19.	MALIKA Sarl	APD-16-95/CNAC	27/01/16	26/01/21
20.	BENIN SEMENCES SARL	APD-16-96/CNAC	23/06/16	22/06/21
21.	SOTIG International	APD-16-97/CNAC	23/06/16	22/06/21

N°	RAISON SOCIALE	N° AGRÉMENT	DATES	
			Obtention	Expiration
22.	JEYOS-AGRO-SERVICES Sarl	APD-17-98/CNAC	23/01/18	22/01/23
23.	ECOCLEAN BENIN Sarl	APD-17-99/CNAC	23/01/18	22/01/23
24.	AKATEC-GROUP Sarl	APD-17-100/CNAC	23/01/18	22/01/23
25.	LE PLAISIR	APD-17/R1-054/CNAC	23/01/18	22/01/23
26.	EDI-BENIN	APD-17/R1-051/CNAC	23/01/18	22/01/23
27.	SUNSHINE	APD-17/R2-047/CNAC	23/01/18	22/01/23
28.	SEBA 3D SARL	APD-18/R3-0037/CNAC	27/07/18	26/07/23
29.	SAGA GROUP SARL	APD-18/R1-67/CNAC	27/07/18	26/07/23
30.	KOMABANIN ET FILS	APD-18-101/CNAC	27/07/18	26/07/23
31.	AKOYAF ET FILS	APD-18-102/CNAC	27/07/18	26/07/23
32.	BENIN-AGRI-VERT	APD-18-103/CNAC	27/07/18	26/07/23
33.	3D AFRIQUE	APD-18-104/CNAC	27/07/18	26/07/23
34.	LA PAIX DU ROUTIER	APD-18-105/CNAC	27/07/18	26/07/23
35.	SYCA ET FILS	APD-18-106/CNAC	27/07/18	26/07/23
36.	NUCEXWEKPE	APD-18-107/CNAC	27/07/18	26/07/23
37.	"IDI LE RUISSEAU DE DIEU"	APD-18-108/CNAC	27/07/18	26/07/23
38.	"AF BTP"	APD-18-109/CNAC	27/07/18	26/07/23
39.	"ZAMO ET FILS"	APD-18-110/CNAC	27/07/18	26/07/23
40.	AGRO-PHYTO SERVICE BENIN	APD-18-111/CNAC	27/07/18	26/07/23
41.	UNITE PLURIELLE	APD-18-112/CNAC	27/07/18	26/07/23
42.	LES FRUITS TILLOU	APD-18-113/CNAC	27/07/18	26/07/23
43.	DABARA MOSKOUT	APD-18-114/CNAC	27/07/18	26/07/23
44.	AGOUNTIN ET FILS	APD-18-115/CNAC	27/07/18	26/07/23

N°	RAISON SOCIALE	N° AGRÉMENT	DATES	
			Obtention	Expiration
45.	ADJAMALE ET FILS	APD-18-116/CNAC	27/07/18	26/07/23
46.	GLESSI NAN MON AGBON SARL	APD-18-117/CNAC	27/07/18	26/07/23
47.	SOCIETE GENERALE DES INTRANTS AGRICOLES (SGIA)	APD-18-118/CNAC	27/07/18	26/07/23
48.	SOCIETE POUR LE DEVELOPPEMENT DU COTON (SODECO)	APD-18-119/CNAC	27/07/18	26/07/23

