



Implementation and institutionalization of a National Monitoring and Management Frameworks for Living Modified Organisms and Invasive Alien Species

Part I: Project Information

GEF ID

10981

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT No

NGI No

Project Title

Implementation and institutionalization of a National Monitoring and Management Frameworks for Living Modified Organisms and Invasive Alien Species

Countries

Cameroon

Agency(ies)

UNEP

Other Executing Partner(s)

Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)

Executing Partner Type

Government

GEF Focal Area

Multi Focal Area

Taxonomy

Focal Areas, Climate Change Adaptation, Climate Change, Enabling Activities, United Nations Framework Convention on Climate Change, Biodiversity, Land Degradation, Integrated and Cross-sectoral approach, Sustainable Land Management, Influencing models, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Stakeholders, Private

Sector, Individuals/Entrepreneurs, SMEs, Local Communities, Education, Communications, Indigenous Peoples, Beneficiaries, Civil Society, Community Based Organization, Non-Governmental Organization, Academia, Trade Unions and Workers Unions, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Women groups, Gender results areas, Participation and leadership, Awareness Raising, Knowledge Generation and Exchange, Capacity Development, Integrated Programs, Capacity, Knowledge and Research, Knowledge Generation, Innovation, Targeted Research

Sector

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Duration

36 In Months

Agency Fee(\$)

134,412.00

Submission Date

4/12/2022

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-2-6	GET	753,973.00	3,768,850.00
BD-3-8	GET	349,339.00	1,500,000.00
LD-1-4	GET	311,552.00	1,558,775.00
Total Project Cost (\$)		1,414,864.00	6,827,625.00

B. Indicative Project description summary

Project Objective

To strengthen institutional biosecurity frameworks in the management of invasive alien species and living modified organisms through a coordinated risk analysis measure

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Effective Biosecurity Legislative, Policy, Regulatory and Institutional Frameworks	Technical Assistance	<p>Integrated Biosecurity policy, regulatory and institutional frameworks established and operationalized.</p> <p>Indicators: Improvement in IAS management framework operational score, as per the Core indicators captured; Establishment and operationalization of a National Biosecurity Agency: Incorporation of biosecurity issues at the agency level; Establishment and operationalization of Biosecurity technical Secretariat.</p>	<p>1.1. A National Biosecurity Strategy (NBS) developed, validated and supported by budgeted action plans.</p> <p>1.2. A National Biosecurity Agency is established and sustainably operationalized</p> <p>1.3. A cross-sectoral policy coordination framework is established for the incorporation of biosecurity issues including risk-based management of IAS and LMOs into the legal and policy framework of mandated agencies</p>	GET	110,000.00	500,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
2. Incorporation of biosecurity measures into pathways for monitoring and management of biological introductions	Technical Assistance	<p>Sustainable biosecurity strategies for risk-based prevention, early detection and rapid response implemented and tested at project pilot sites</p> <p>Indicators: national biosecurity strategies are operational and effective</p>	<p>2.1.. National biosecurity tools tested at pilot site level with regards to:</p> <p>? Risk-based Management Strategies</p> <p>? Contingency Planning Process And Emergency Response Exercises</p> <p>? Decision Making Processes Agreed Across Sectors</p> <p>2.2. Biosecurity measures incorporated in the restoration of degraded lands using local plant species and tree products (Bambusa spp, Irvingia spp.)</p>	GET	479,339.00	2,250,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
3. Biosecurity Capacity integrated in regulatory, institutional and national education systems	Technical Assistance	<p>Institutional capacity strengthened with the use of knowledge management and learning strategies for effective biosecurity.</p> <p>Indicators:</p> <p>Strengthened national capacities in key agencies and biosecurity successfully integrated into the national educational system</p> <p>A National biosecurity Knowledge Management System is established to inform effective IAS prevention, control, monitoring and management, in partnership with key stakeholders.</p> <p>Indicators:</p> <p>Operational National Biosecurity Information System coupled with the appropriate implementation of a national biosecurity and awareness raising plan.</p>	<p>3.1. National biosecurity capacity strengthened for diagnostic, testing and monitoring of IAS and LMOs</p> <p>3.2. A National Biosecurity Information System (NBIS), including a participatory monitoring network using citizen science and modern ICT is operationalized to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols.</p> <p>3.3. The national biosecurity communication and awareness raising plan implemented</p> <p>- Key institutions sensitized on the existence and use of national</p>	GET	591,525.00	2,844,863.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
4. Project Coordination M &	Technical Assistance	<p>Project Outcome</p> <p>Effective Project Coordination and management with agreed measurable outputs and indicators</p> <p>Indicators:</p> <p>A coordination mechanism in place with functional organs.</p> <p>Effective project reporting, monitoring and Evaluation</p>	<p>4.1. Project Benefit Monitoring and Evaluation plan implemented.</p> <p>4.2. Mid Term / Terminal - Monitoring and Evaluation (UNEP).</p>	GET	110,000.00	550,000.00
Sub Total (\$)					1,290,864.00	6,144,863.00

Project Management Cost (PMC)

GET	124,000.00	682,762.00
Sub Total(\$)	124,000.00	682,762.00
Total Project Cost(\$)	1,414,864.00	6,827,625.00

Please provide justification

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Environment, Protection of Nature and Sustainable Development	Grant	Recurrent expenditures	500,000.00
Recipient Country Government	Ministry of Environment, Protection of Nature and Sustainable Development	In-kind	Recurrent expenditures	6,327,625.00
Total Project Cost(\$)				6,827,625.00

Describe how any "Investment Mobilized" was identified

N/A

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNEP	GET	Cameroon	Biodiversity	BD STAR Allocation	1,103,312	104,815	1,208,127.00
UNEP	GET	Cameroon	Land Degradation	LD STAR Allocation	311,552	29,597	341,149.00
Total GEF Resources(\$)					1,414,864.00	134,412.00	1,549,276.00

E. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

50,000

PPG Agency Fee (\$)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNEP	GET	Cameroon	Biodiversity	BD STAR Allocation	20,000	1,900	21,900.00
UNEP	GET	Cameroon	Land Degradation	LD STAR Allocation	30,000	2,850	32,850.00
Total Project Costs(\$)					50,000.00	4,750.00	54,750.00

Core Indicators

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
5000.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2,000.00			

Indicator 3.3 Area of natural grass and shrublands restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1,000.00			

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2,000.00			

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	5,000			
Male	5,000			
Total	10000	0	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

The proposed project interventions will contribute to BD-2-6 and BD 3-8 addressing drivers to protect habitats and species through the Prevention, Control and Management of Invasive Alien Species and the Implementation of the Cartagena Protocol on Biosafety. This will ensure tools, interventions and capacity is installed to support science-based decision making in the sustainable utilization of biodiversity. The results and deliverables shall contribute to the new Post 2020 Global Biodiversity Framework especially Target 6 on Invasive Alien Species and Target 17 on Biosafety through safeguarding biodiversity, managing genetic resources and related benefits through sound science risk assessment, pre- and post- approval monitoring measures and engagement with the end users of genetic resources. It will also contribute to Targets 20 ? 21 by ensuring informed and prior consent or Advanced Inform Agreements in the handling of biological introductions, inclusion and transparency in decision making with clearly defined roles for indigenous and local communities. Furthermore, this project will also contribute to BD -4 Program 9 and LD-2 Program 3 by supporting mechanisms for forest landscape management and restoration. Additional information is provided in Annex I.

Part II. Project Justification

1a. Project Description

1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description); 2) the baseline scenario and any associated baseline projects, 3) the proposed alternative scenario with a brief description of expected outcomes and components of the project; 4) alignment with GEF focal area and/or Impact Program strategies; 5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 7) innovation, sustainability and potential for scaling up.

Global Environmental problems:

The Republic of Cameroon, is bordered by Nigeria to the west; Chad to the northeast; the Central African Republic to the east; and Equatorial Guinea, Gabon and the Republic of the Congo to the south. Cameroon's coastline lies on the Bight of Biafra, part of the Gulf of Guinea and the Atlantic Ocean. **The latitudinal coordinate of Cameroon is 7.3697° N. The longitude of this country is 12.3547° E.** The country has a total land surface area of 475,442 km², Cameroon has a population of approximately 23.5 million inhabitants. The population can be divided into eight ethnic groups (Cameroon Highlanders; Equatorial Bantu; Kirdi; Fulani; Northwestern Bantu; Eastern Nigritic; other African; and non-African) and those who speak French (80%) and those who speak English (20%) as their principal European language. Cameroon is a Republic with a President as Head of State, and a Prime Minister who is considered the official head of government, an upper house (Senate) and Lower House (National Assembly). Cameroon ranks 26th in Africa in terms of GDP per capita (US\$ 3,358 in 2017), it displays low levels of human development (HDI of 0.518 in 2015) and medium levels of inequity (GINI coefficient of 44.6 in 2007). The Cameroonian economy is based on agriculture, forestry, mineral resources, fisheries and some emerging industry. Its main exports are primary products with major markets including France, Italy, South Korea, Spain, and the United Kingdom. With regards to import, Cameroon's main imports are cereals, fish and capital equipment. The country's main import partners are China and France. Others include: Nigeria, Belgium, Italy and United States[1].

Invasive Alien Species (IAS) in Cameroon

Cameroon is often referred to as "Africa in miniature" for its geological and cultural diversity. Natural features include beaches, deserts, mountains, rainforests, and savannas. This diversity is reflected in the country's rich biodiversity. 90% of African ecosystems are represented in Cameroon and the country ranks fourth in Africa in floral richness and fifth in faunal diversity. Cameroon's biodiversity is characterized by

a high degree of globally significant national and regional endemic species, many of which are threatened. Invasive Alien Species (IAS)[2]² constitute a significant threat to Cameroon's biodiversity. This is reflected in the fact that IAS management has been identified as a priority in Cameroon's NBSAP <https://www.cbd.int/doc/world/cm/cm-nbsap-v2-en.pdf>.

The country began to develop and incorporate IAS management into a comprehensive biosecurity approach under the recently completed UNEP/GEF *Cameroon Biosecurity Project* (Development and Institution of a National Monitoring and Control System (Framework) for Living Modified Organisms (LMOs) and Invasive Alien Species (IAS)). The first phase of execution of the Cameroon Biosecurity project had as objective to strengthen national capacities in order to prevent and control the introduction, establishment and spread of invasive alien species (IAS) and the management of LMOs through the implementation of a risk-based decision making process. The project financed by the Global Environment Facility (GEF) and the Government of Cameroon, had as executing agency the Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED) under the supervisory authority of the United Nations Environment Programme (UNEP). At the operational level of the project, the key collaborating Ministries included: the Ministry of Agriculture and Rural Development (MINADER), the Ministry of Higher Education (MINESUP) and the Ministry of Scientific Research and Innovation (MINRESI).

Under this project, stakeholder surveys yielded a list of 164 major invasive species, 85 of which were crop pests and diseases, 54 were plant invaders, 20 were animal and human diseases and 9 were aquatic invaders and vertebrates. Examples include water hyacinth (*Eichhornia crassipes*) and water lettuce (*Pistia stratiotes*) which are affecting fresh water habitat, *Chromolaena odorata* which has colonized large areas of forest and savannah, and the variegated grasshopper (*Zonocerus variegatus*) which is a generalist agricultural pest throughout Cameroon. Furthermore, a black list of 46 prohibited species (14 vertebrates and 32 plant species) and a white list of 118 species were developed.[3]³ Knowledge of IAS, their impact, and management approaches has increased considerably among those in responsible agencies because of the Cameroon Biosecurity Project. However, this knowledge is yet to spread to the general population[4]⁴. Zoonotic diseases also continuously bring up new Alien and Invasive Species to Cameroon including Ebola, Swine flu, Avian flu and recently COVID-19.

Living Modified Organisms (LMOs)

Agriculture is the backbone of the Cameroonian economy, engaging approximately 70% of the population. Most agriculture is performed at the subsistence scale but there is also an important commercial sector producing cash crops such as banana, cocoa, oil palm, rubber, coffee, tea, sugar, and tobacco. It has been claimed that the adoption of LMO crops can be of great benefit for the country, for example by increasing crop yields and by utilizing 'green' practices such as the reduction of pesticide use and irrigation. However, there are potential risks to the technology such as invasiveness, 'genetic pollution' of local

biodiversity through gene transfer, health impacts on livestock and people as well as socio-economic costs in terms of monopolization of the agricultural production chain by commercial farmers and large transnational corporations. Therefore, in line with the provisions of the Cartagena Protocol, it is imperative that LMO introductions are only undertaken guided science-based risk analysis process, including post-introduction monitoring. A key component of the Cameroon Biosecurity project has been the establishment of an objective risk-based approach to the management of proposed species (LMO and non-LMO) introductions. Under this project, inspection systems and methods for LMOs have been developed coupled with capacity building on risk analysis, detection, diagnostics and monitoring techniques and commodity audit systems. However, although, 12 capacity building sessions were carried out during the first phase of execution of the project, there is a need for a more in-depth capacity building/ strengthening at the level of the 10 regions of Cameroon. This will ensure greater project outreach and impact.

Biosecurity

The Cameroon Biosecurity Project pioneered a harmonized approach to build coordinated institutional frameworks with a capacity to detect, test and effectively manage introduced biological organisms (IAS and LMOs^[5]) that could have potential adverse effect to biodiversity. The rationale behind managing IAS and LMOs under the same framework is that the introduction of any new species poses a potential risk, so it is necessary to conduct some form of risk assessment of the species itself and of its introduction pathway(s). Although details of risk assessment and risk management differ, the process of IAS and LMO risk analysis has many commonalities and principles. Thus, implementing a harmonized approach can optimize the use of human and material resources which are always inadequate, especially in Cameroon and developing countries to support the safe use and science based decision making on intended and unintended biological introductions, monitoring and enforcement and related emergency procedures.

As highlighted above, Cameroon is centrally located in the Central Africa region and has a high rate of movements of humans and goods and services including trading in biological products. Cameroon is rich in biodiversity and such biological invasions or introductions have led to a continuous flow of non native biological organisms which tend to persist in the environment and become invasive. A key example is the water hyacinth menace in the Port of Douala which constitutes a serious threat to other aquatic biodiversity as it had considerably reduces the quantity of fishing catch, completely blocks several pathways into inhabited creeks and is resistant to some introduced management strategies notably the manual harvesting by a local community for its transformation into manure. Through the efforts of the Government of Cameroon via the Ministry of Environment, Protection of Nature and Sustainable Development in collaboration with the Watershed Task Group (WTG), water hyacinth in the Port of Douala is slowly being managed. A potential pathway for the introduction of invasive species is linked to ballast water management. Large cargo ships use ballast water to balance their weight and keep them stable during a voyage. While ballast water is essential for safe and efficient modern shipping operations, its discharge into a new environment can pose serious ecological, economic and health problems due to the multitude of marine species transported in ships' ballast water. These include bacteria, microbes, small invertebrates,

eggs, cysts and larvae of various species which can become potentially invasive to the new marine environment. The flow of sea water and freshwater tend to mix up at the estuary with some of these potential invasives going into freshwater bodies around the Douala area.

Besides biological invasions through trade and shipping movements, there is also the commercial release of LMOs in neighbouring Nigeria and with porous border posts, these released products are likely to be introduced into Cameroon. Absence of a dedicated framework with a supportive science based decision making guided by biosecurity policy and regulatory measures means the problem on unplanned and illegal introduction of biological organisms will persist. This has the potential of impacting negatively on Cameroon's well endowed biodiversity which is part of the global sink for our human kind., Cameroon's forest and biodiversity are public international goods, this are central to multilateral and environmental agreements such as the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD). The problems of illegal transboundary movements of biological organisms if not managed will have negative adverse impacts on the integrity of biodiversity and the ecosystem services that Cameroon contributes in addressing our global environmental challenges.

The Biosecurity Baseline Scenario

The Cameroon Biosecurity Project ? achievements and challenges

The Cameroon Biosecurity Project has advanced the harmonized approach to biosecurity in Cameroon through its achievements[6]⁶ including the following:

- ? The submission of the National Biosecurity Law and its enabling instruments to the Government for the effective tabling of this draft Law before Parliament.. The Law contains provisions for an integrated approach in the prevention, control and management of risks from the introduction of IAS and LMOs and products thereof. It makes specific provisions for the creation of a National Biosecurity Agency as a legally mandated coordination body, and Technical Departments to provide scientific advice in four sectors (Food Safety, Biosafety, Plant Health and Animal Health).
 - ? An analysis of the national biosecurity profile through trade and other activities of Cameroon through the identification of the main pathways for species introduction.
 - ? An analysis of invasion risks of pathogens and LMOs in Cameroon.
 - ? The publication of manuals on contingency planning and emergency response exercises, inspection systems and methods including treatments, commodity audit systems for compliance with risk assessment, invasive species control systems and procedures, revised risk analysis / management.
 - ? Undertaking of training of trainers, national training, and development of training manuals in: risk analysis of LMOs, detection, diagnosis and monitoring of biological invasions, inspection systems and treatments, commodity audit systems, integrated management of biological invasions, contingency planning and emergency response.
 - ? Quantification of baseline, mid-term and end of project knowledge on biological invasions.
 - ? Development of a National biological invasions communications and awareness-raising plan.
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- ? Production of lists of major invasive species in Cameroon and national black and white lists.
- ? Quantification of the occurrence and abundance of priority invasive species in Cameroon.
- ? Design of a biological monitoring network.
- ? Quantification of the impact of priority invasive species.
- ? Production of an interoperable database of introduced species for Cameroon.

The above represent considerable achievements. However, challenges to effective and sustainable biosecurity remain, as summarized here and as detailed in the section on gaps.

- ? The text of an overarching biosecurity act has been drafted but it is yet to be passed.
- ? The accompanying supplementary texts of application of the Biosecurity Act (subsidiary legislation) are yet to be drafted.
- ? The necessary biosecurity-related amendments to relevant sectoral legislation are yet to be drafted.
- ? Training courses need to be rolled out at national level to help build significant biosecurity capacity and awareness.
- ? LMO detection laboratories need to be certified and relevant standard operational procedures established
- ? Strengthening of the institutional capacities of other national laboratories in LMO detection, diagnostics and monitoring .
- ? Knowledge products have not been translated into easy to use and easy to access resources.
- ? The Cameroon Biosecurity Strategy needs to be implemented at the national level.

Linkages and lessons from previous project

The proposed project builds on the lessons learned from the previous phase of execution. This constitutes an advantage in terms of project management and reporting. Some of the lessons learned from the previous phase of execution of the project include:

? The project suffered lots of delays as a result of changes in management and delays in recruitment of international consultants. Besides these delays, attempting to develop policy and legislation, produce a myriad of guidelines and technical manuals in two languages, as well as creating national awareness of biosecurity, merging the two thematic areas of LMOs and IAS was challenging and unrealistic for the planned 4- year duration of the project. However, to mitigate the above challenges, the project put in place, streamlined measures for the recruitment of consultants; training was carried out on biosecurity issues and provisions were made for the translation of some project outputs.

? The legal and institutional framework which would provide a sound basis for mainstreaming the project into governmental operations was not in place at the end of the project. Indeed, the draft Law has been developed and translated but is yet to be adopted at the national level. The time frame for its promulgation is not known. The second phase of execution will further aid the promulgation of the Law.

? During the first phase of the execution of the project, some stakeholders including Civil Society Organisations, and the private sector were identified. These stakeholders are important in projects in which the achievement of the expected long-term impacts is highly dependent on their actions. Further,

identifying 'champions' among the different groups of stakeholders is envisaged during the second phase of execution and will not only contribute to successful project implementation but also facilitate progress along the causal pathway towards global environmental objectives in the post-project period.

? The mobilisation of the co-financing of the project became a serious challenge during the first phase of project implementation with the withdrawal of IUCN and the late release of funds from the government. With the current integration of the project into the national budgetary system, the project has benefitted from co-financing. Measures as recommended by the Terminal Evaluation has been put in place to ensure the sustainability of the co-financing mechanism during the second phase of execution.

? Even though gender was not discussed in the initial project document, gender was mainstreamed in project implementation. Women were recruited as consultants, and many women from various ministries played substantive roles in project execution. Women were substantially represented as workshop participants. Gender is a key component in project designs in international development. Where gender has not been explicitly analysed in project design, it is feasible to execute projects with gender consideration in mind. During the second phase of execution, gender analysis will be a key consideration.

? From Project Inception in 2011 until 2013, a challenge encountered in project execution was the loss of significant amounts of funds due to fluctuations in exchange rates from US Dollars to the CFA account. This was an experience in cases whereby payments made to international consultants were done in dollars. This led to financial losses as a result of converting funds (obtained from GEF/ UNEP) from dollars to CFA and back into dollars causing significant losses for the project. To avoid the loss of project resources in future projects as a result of fluctuations in exchange rates and financial transfers, a dollar account was created for the project in March 2013. This financial structure will be maintained during the second phase of execution to avoid loss in funds as a result of fluctuations in exchange rates.

Associated Baseline Projects: There are a large number of on-going Government programmes as well as initiatives supported by development partners and the Government that directly and indirectly address biosecurity in Cameroon which constitute 'business as usual'. The baseline can be divided into four parts: 1. Activities addressing national level plant and animal biosecurity (mostly implemented by MINADER and MINEPIA); 2. Activities addressing IAS management for biodiversity conservation and ecosystem services implemented by various state and non-state actors; 3. Activities concerning integrated pest management (IPM) that have implications for IAS in agriculture and in the wider landscape; 4. Biosafety activities and 5. Land restoration

1. National Biosecurity: The National Plant Protection Organisation under the Ministry of Agriculture and Rural Development (MINADER) is responsible for the protection of plant life or health and the prevention or the limitation of damage from risks arising from entry, establishment or spread of plants. Relevant activities include the implementation of plant quarantine regulations. There are also specific protocols such as the strict biosecurity protocols being implemented through MINADER and the Institute for Agricultural Research for Development (IRAD) for the prevention of South American Leaf Blight ' SALB (*Microcyclus ulei*), which has decimated the rubber industry in Brazil, has not established in Cameroon. The Ministry of Livestock, Fisheries and Animal Industries (MINEPIA), through its Animal Health

Section is the National Competent Authority for the importation of live animals and the certification of products/food of animal origin. MINEPIA, together with FAO and WTO has been working on a project for the elaboration of national Strategic Plans for the Control of Transboundary Animal Diseases. There exist a national program for the prevention and fight against emerging and re-emerging zoonoses (also referred to as the "National One Health Programme") piloted at the Prime Minister's Office regrouping key Ministries such as MINEPIA, MINFOF, MINSANTE and MINEPDED. Strengthening and incorporation of science based biosecurity measures will support national management of transboundary animal and zoonotic diseases including the current COVID 19 and future pandemics. This would provide response measures on zoonotic diseases.

2. IAS management for biodiversity conservation and ecosystem services: MINFOF, the ministry responsible for wildlife and protected area management in Cameroon undertakes a number of control/restoration activities relating to biological invasions that have become established in forests while MINEPDED has led initiatives to manage water weeds. This work is supported by international NGOs such as IUCN who are actively involved in IAS issues including management in protected areas such as the Lake Chad Basin and the Tri-National Sangha (TNS), and national NGOs such as Green Connexion currently working on the conservation of freshwater plants in Cameroon in the Sanaga, Nyong, Mbam, Ntem and Djikem, and the Watershed Task Group (WTG) who are managing water hyacinth (*Eichhornia crassipes*) in the Douala area in collaboration with MINEPDED. The African Marine Mammal Conservation Organisation (AMMCO) is working in collaboration with MINEPDED in managing *Salvinia molesta* in Lake Ossa in Dizangue in the Littoral region of Cameroon.

3. Integrated Pest Management: IPM in Cameroon in banana, plantain, cassava and maize, has been spearheaded by MINADER in the smallholder sector through its initiative to put in place phytosanitary information on integrated crop protection in the forest zone of Cameroon through a farmer field school approach. Other organizations are working on IPM in other sectors and locations. This includes IRAD who are pioneering integrated approaches to the management of *Loranthus* in rubber plantations; IPM in smallholder palm oil plantations affected by *Ganoderma* wilt fungus spearheaded by the Cameroon Development Corporation (CDC); integrated management of fruit flies using surveillance and area-wide control through farmers' groups in Njombe (Littoral Region) working with IRAD researchers; and the International Institute of Tropical Agriculture (IITA) who have pioneered several successful biological control initiatives in Cameroon and the West and Central African regions, and the promotion of IPM in many crops including cassava, plantain, maize, soybean, sorghum and beans.

4. Biosafety activities: Cameroon has passed the Biosafety Law (No. 2003/006 of 21 April 2003) and a Decree to implement the Biosafety Law (No. 2007/0737 of 31 May 2007). These would be superseded by the Biosecurity Act which is currently in draft form. Under Prime Ministerial Order No 2012/039/CAB/PM of 30 January 2012, a National Biosafety Committee (NBC) was then established as a consultative organ under the Biosafety National Competent Authority (MINEPDED) with the mandate to give scientific opinions on all questions relating to the management of LMO-related risks. This Committee, which is still functional, is made up of representatives of ministerial departments, state universities, and research institutions working on issues of biosafety and the association of consumers' rights. Officially mandated levels of activity concerning the importation of LMOs into Cameroon are low compared with many other countries, with no official LMO imports before 2012 (but see the gaps section for information

on possible unofficial introductions. From 2012, efforts have been initiated, under the supervision of MINEPDED, MINADER, and MINRESI, by Bayer (which has now merged with Monsanto) through SODECOTON (Société de Développement du Coton du Cameroun) to import LMO cotton (varieties incorporating the Bt toxin and with resistance to the herbicides Glyphosate and Glufosinate) for confined field trials. The Competent National Authority (CNA) for Biosafety which is the Ministry of Environment, Protection of Nature and Sustainable Development issued 02 Advanced Informed Agreements for the GM cotton field trials. In 2012, MINEPDED delivered authorization N° 00794/AP/MINEPDED/SG/DSCPR/SDCPB of 31st of May 2012 for the importation of 10kg Genetically Modified Cotton seeds (FM989-GLT) and 10kgs of non GM cotton (FM989) for confined field trials in the Northern regions of Cameroon. In 2015, a second authorization N° 00988/L/MINEPDED/SG/DAG of 6th of July 2015 was delivered for the importation of Genetically Modified cotton for open field trials for a period of 3 years. For every authorisation issued by the Competent National Authority, import permits were issued by the Ministry of Agriculture and Rural Development.

5. Land Restoration: The pioneer legislation on environment and forest management is 1994 forestry laws and its implementation decree of 1995 including the environmental legal framework of 1996. These legislations have as fundamental principle safeguarding forest cover and sustainable management. The Forest and Environment Sector Program - FESP, (1996) renders these prior policy frameworks operational and facilitates alignment of GEF focal area initiatives to local realities. The FESP is set up to coherently; in a sectoral manner, ensure participatory interventions to facilitate such actions as restoration and biodiversity conservation where appropriate; sustainable management of forest and wildlife resources; in a coordinated manner, such that processes can easily attract co-funding into what is termed a 'basket fund'; or a common pool of financial resources, irrespective of donor. The National Reforestation Plans set ambitious site-specific restoration targets across the country. Boosted by Cameroon's Bonn Challenge and AFR100 Pledge to restore 12 Million hectares of degraded landscapes by 2030, national level restoration is kicking off with the participation of 183 bodies nationwide, including 74 local councils, 36 non-governmental organizations, and business bodies. With regards to the National Bamboo Management Plan (2017-2021), the government of Cameroon (GoC) via the Ministry of Forest and Wildlife (MINFOF), in its strategy of sustainable forest management, has decided to develop Non-Timber Forest Products (NTFP) including bamboo. This strong political will to develop the bamboo sector in Cameroon has been translated by the fact that Cameroon join the International bamboo and rattan Organisation (INBAR) and subsequently, on 25/ 11/ 2013 signed an MoU with INBAR aimed at developing the bamboo and rattan sector in Cameroon for poverty alleviation.

The long-term solution is to undertake a comprehensive and inter-sectoral approach to biosecurity through the incorporation of IAS prevention, control and management and LMO risk analysis into mainstream sectoral priorities and relevant actions to improve management and conservation of forest, agricultural, coastal and marine ecosystems. This will produce global benefits in terms of conservation of globally significant biodiversity and the arrest and reversal of ecosystem degradation which are key environmental threats with global implications. The national program for the prevention and fight against emerging and re-emerging zoonoses regroups key Ministries such as MINEPIA, MINFOF, MINSANTE and MINEPDED. This program seeks to meet up with expectations in terms of prevention and fight against emerging and re-emerging zoonoses through the strengthening of epidemiological surveillance and response systems, capacity building of actors at all levels through fundamental and operational training as

well as research on zoonoses while respecting the 'one health' approach. Other sector ministries intervene at various levels of the programme. This programme has been very effective in the management of the Avian influenza outbreak in 2016 and the prevention of the Ebola virus on the national territory via its contingency plans and emergency response mechanisms. Some members of this programme are also involved in the management of the COVID-19 outbreak. Creating linkages between the project and the national program for the prevention and fight against emerging and re-emerging zoonoses will foster a better national framework for biosecurity in Cameroon.

Barriers: Although the programs and projects described above address numerous elements necessary for effective biosecurity, the baseline for the proposed project is characterized by a number of key deficiencies and barriers to the effective integration of IAS and LMO issues into biological resource management activities across all relevant sectors. These barriers, which will persist in the absence of the GEF intervention, include:

Fragmented legislative, policy, regulatory and institutional framework: Biosecurity in Cameroon is currently fragmented and piecemeal, being vested in nine major sectoral agencies (MINADER, MINEPIA, MINEPDED, MINSANTE, MINMIDT, MINRESI, MINESUP, MINFOF, and MINCOMMERCE) whose biosecurity mandates are outlined in Section 2 (Stakeholders) and numerous pieces of legislation. Relevant legislation covers: plant health: (3 laws, 18 decrees, and 3 decisions); animal health - 5 laws, 24 decrees, 2 ordinances, 4 decisions; food safety - 1 law, 4 decrees; environmental protection - 3 laws, 8 decrees; and biosafety - 3 laws, 12 decrees.

The regulatory framework relating to plant protection, animal health and IAS contains the following gaps: a sectoral approach with the major emphasis on productive sectors, an absence of texts on invasive alien species; no mention of surveillance including at border posts; a lack of measures for the detection of IAS; and the absence of provisions for contingency planning, early detection and rapid response, eradication, and sustainable management of IAS. The regulatory framework relating to food safety is highly fragmented with authority being vested in MINEPIA, MINADER, MINEPIA, MINSANTE, and MINMIDT. The regulatory framework relating to biosafety is very broad in scope covering both LMOs and their products, the target text is limited to the field of safety regulations governing modern biotechnology, an absence of a recognized and applicable methodology for risk assessment, a lack of precision on the notion of competent administration, and an absence of a system for prevention, analysis and risk management.

This fragmentation is reflected in the institutional framework for biosecurity. MINADER has the main responsibility and capacity for the management of invasive plants and plant pests but its activities are restricted to the management of those species of agricultural significance. MINEPDED has been involved in projects to manage invasive plants with environmental impact such as water hyacinth but this approach focuses on single species management only and does not take into account all stages of the IAS management hierarchy from prevention to restoration. This situation is paralleled in MINEPIA where the focus is on disease and vector management for animals of direct economic value but with very little focus on the possibility of vertebrate introductions (notably fish) or microbial introductions (eg. viruses including

SARS-COV) becoming invasive. MINFOF has a mandate for IAS management in protected areas but is unable to execute this effectively. The fragmented food safety institutional environment is summarized under section 2 on the role of stakeholder institutions in Biosecurity. For biosafety, there is doubt about the credibility of controls (possibility of illegal importation of LMOs into the national territory). There have been allegations of non-authorized field trials that have been conducted in Cameroon. The trial of a GM mosquito modified so that it cannot be colonized by Plasmodium (the agent of malaria) and the trial of a live GM vaccine against the "Peste des petits ruminants", for instance, have been mentioned in CBP activities, though this evidence has not been confirmed. It has also been mentioned that scientists who travel abroad sometimes bring back a few LMO seeds that they cultivate at a small scale in open fields. Regardless of such possible field trials, research on the presence of LMO-derived elements in processed foods in the Northern part of Cameroon revealed the presence of two LMO cotton strains and five LMO maize strains among seeds collected in the field from farmer's reserves, researchers and local seed companies. The detected GM cotton strains were the same as those that have since then been authorized in the SODECOTON confined field trial. The five GM maize strains were identified out of a total of ten varieties, which tends to indicate that the issue of unauthorized GM importations is not marginal.

Insufficient capacity to integrate biosecurity issues into (multiple) key sectors: Capacity in areas such as traditional and molecular diagnostics/identification, risk analysis, inspection methods and integrated approaches to the management of biological invasions exists in Cameroon but is insufficient for the implementation of an integrated cross-sectoral risk-based approach to biosecurity. A similar skill set is required to assess the risk and environmental impact posed by LMOs and other introduced species. However, a useful start in the building of systematic biosecurity capacity was made during the CPB under which six raining of trainers workshops and six national trainings were conducted resulting in the development of six training manuals and six (06) customized course notes. The training manuals, together with trained trainers constitute essential resources that can be used to roll out training to wider constituents. However, training is not synonymous with capacity building as the training must be used regularly if it is to be truly transformative. This use will require an enabling legislative, policy, regulatory and institutional framework and effective knowledge management. Capital equipment and supplies for LMO detection are also required especially for laboratories found in the Northern regions of Cameroon to increase national coverage. During the first phase of project execution, laboratory equipment was procured and donated to the laboratories of the Biotechnology Centre of the University of Yaounde I and the Biotechnology Unit of the University of Buea as institutional support for LMO detection, diagnostics and monitoring. Amongst the equipment procured, is a Real-Time PCR which has been very essential in carrying out testing of COVID-19 in the Biotechnology Centre of the University of Yaounde I. Furthermore, Cameroon has budgeted some resources for the procurement of a Real-Time PCR to support the Biotechnology Unit of the University of Buea as well as some accessories for both laboratories for the year 2021. The COVID-19 outbreak in Cameroon has revealed the need to boost the institutional capacity of more laboratories to carry out mass testing as well as other biosecurity tasks.

Inadequate implementation of cost-effective risk-based biosecurity measures: IAS management has rarely taken an integrated approach in which IAS considerations are embedded into the management of other anthropogenic pressures, such as land degradation, fragmentation and pollution, that render a system

vulnerable to IAS and compound their impact. The continued growth of trade and transport-related movements has increased IAS risks for Cameroon and the risks posed by Cameroon as an IAS source for other countries. Successful management initiatives have been undertaken in agriculture (e.g. biological control for the cassava mealybug and the building of smallholder capacity through farmer field schools), and in health (e.g. the One Health Programme which is taking a multi-sectoral, multidisciplinary, synergistic and holistic approach to the management of health-related issues in Cameroon). However, good practice has not been systematically transferred to other sectors (e.g. introduction of risk-based biological control as adopted in the agricultural sector has not been utilized for biodiversity conservation. This inconsistent application of good practice has serious implications for management effectiveness of all landscapes including PAs. By failing to mainstream biosecurity concerns, the country runs the risk of addressing one environmental concern at the expense of another.

Insufficient knowledge, awareness and access to useful, timely and detailed information of relevance to biosecurity: Most people in Cameroon are aware of specific issues that relate to biosecurity, generally related to outbreaks of human and animal disease, zoonotic diseases and agricultural pests. However, awareness about IAS and biosafety as a generic issue with environmental, social and economic impacts is low. Most people in Cameroon would probably not be familiar with the term 'invasive alien species' or 'living modified organism'. Without basic levels of awareness about the causes and consequences of biological invasions, and biosafety it is unlikely that the general public will provide the consistent support and collaboration that an effective biosecurity framework requires. Although the information baseline about IAS and LMOs is imperfect a great deal of relevant information has been collected and assembled during the Cameroon Biosecurity Project. For example, critical invasive species pathways have been identified, the biosafety baseline situation has been evaluated, black and white lists of invasive species have been produced and generic IAS and LMO contingency plans for incursions have been drawn up. However, critical information is still lacking. It is essential that invasion risks of live imports and potential IAS vectors are assessed in a timely manner. This requires rapid access to relevant and credible information. EIAs do not systematically incorporate assessments of IAS risk, partly due to inadequate information on native and non-native alternatives to recommended (potentially invasive) plants to be used for purposes such as landscaping, agroforestry and erosion control. Invasive species distributions in Cameroon have not been systematically assessed nor has the vulnerability of different climatic zones to different biological invaders; knowledge which is becoming increasingly important in the light of climate change. In the realm of biosafety, information has been gathered, mainly from commercial interests proposing LMO introductions, to inform an environmental risk analysis but no work has yet to be initiated to assess the potential socio-economic impacts of LMO introductions. The precursors to a knowledge management system has been produced under the Cameroon Biosecurity Project but there is not yet an easy to access one stop shop through which to obtain relevant information.

During the execution of the first phase of Cameroon biosecurity project, a baseline, mid-term and end of project knowledge evaluation were carried out. The findings revealed a small and progressive increase in knowledge levels concerning biological invasions and LMOs in Cameroon. The target groups for these evaluations was comprised of major project stakeholders; project personnel, Project Advisory Committee,

Project Technical Adviser, component taskforces, members of the national biosafety committee and resource persons. There were positive trends for biological invasions management practices to which the CBP has substantially contributed. There has also been an increased implementation of officially mandated biosecurity measures and improved management strategies that were influenced by CBP outputs. Behaviour change concerning LMOs revealed an increased acceptance of LMOs as being potentially useful if introduced under a science-based regulatory regime. As recommendation, a thorough orientation of key stakeholders on LMO through training is recommended; with the modules covering biosafety, risks and benefits of modern biotechnology, risk analysis of LMOs, and public awareness, consultation and participation. Furthermore, it is strongly recommended that a survey of this kind is undertaken at the beginning of any follow-up project to ensure that the project implementation team is aware of prevailing knowledge, attitude and practice (KAP) levels among the key stakeholders as a prelude to capacity building work to ensure a sound foundation for future efforts.[8]⁷ Under the CBP, a national biosecurity communication strategy[9]⁸ was produced but this has yet to be implemented on a large scale. Hence, there is need for further support to carry out more awareness-raising activities within the Cameroon Biosecurity project in order to create a wider outreach and more impact.

The Proposed Alternative Scenario

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The project is designed to support the operationalization of the National Biosecurity Act and its purpose to *lay down a biosecurity integrated approach in the prevention, control and management of risks from the introduction of invasive alien species and living modified organisms and products thereof*. **At the national level**, the project will aim to support the production of a National Biosecurity Strategy (NBS) and the establishment of a National Biosecurity Agency to coordinate the implementation of the NBS. It will strengthen the capacity of key institutions to prevent, control and manage IAS; and effectively implement the provisions of the Cartagena Protocol on Biosafety, integrate critical partners into IAS prevention and control mechanisms and biosafety; improve information resources on biosecurity; and put in place priority setting and decision-making tools for more effective prevention, control and management of IAS and management of LMOs. **At the site level**, the project will prevent the entry and spread of IAS through the development and implementation of prevention and early detection and rapid response systems, in order to prevent IAS problems at source and thus avoid costly control and eradication efforts. It will promote the more effective management of IAS threats and support ecosystem restoration in selected PAs to sustain populations of threatened species. The project will work with local residents and producers to reduce the potential impacts of IAS stemming from productive activities within and around conservation areas. It will also support measures to address IAS in sites where existing IAS are having a severe impact on biodiversity and/or ecosystem functions, and where control and eradication measures can be cost-effectively implemented with a high likelihood of success. Project outputs will be geared at boosting the government's efforts in the effective management and control of IAS. The project outputs will add value to the activities carried out by the national program for the prevention and fight against emerging and re-

emerging zoonoses (also referred to as the "National One Health Programme") piloted at the Prime Minister's Office. In 2016, the generic contingency planning and emergency response manual developed under the UNEP-GEF Cameroon Biosecurity Project (CBP) Component 2 was used as a base document for the development of the national contingency plan for the avian influenza under the One Health Programme and proved to be very effective in the management of the avian influenza outbreak in Cameroon in 2016. Similar linkages can be proposed between the project and existing any national biosecurity initiatives to ensure a well-coordinated national biosecurity framework.

Specifically, under **Component 1**, the project will put in place a comprehensive policy, regulatory and institutional framework for effective prevention, control and management of invasive alien species and management of LMOs. Based upon a review of the strengths, weaknesses, opportunities and threats to biosecurity in Cameroon undertaken in the CBP, the National Biosecurity Law was drafted and transmitted to the Government. From this point onwards, the project is accompanying the administrative process by providing support for the effective tabling of this draft Law before Parliament. The drafted National Biosecurity Law will be supported by texts of application that will establish a National Biosecurity Agency to be funded from sustainable sources of finance to provide overall national coordination on biosecurity and the development of a National Biosecurity Strategy to ensure that biosecurity implementation in Cameroon takes into account the current national policy and institutional framework, regional initiatives and global biosecurity practices on IAS and LMO prevention and management. The strategy will be accompanied with a budgeted Biosecurity Action Plan with specific and costed activities, timelines, and roles and responsibilities will be developed to support implementation. To oversee implementation going forward, an "apex agency" (the National Biosecurity Agency) will be established to provide overall national coordination on biosecurity, and a cross-sectoral policy coordination framework will be put in place to ensure the incorporation of biosecurity issues into the legal and policy framework of all relevant agencies at the national and sub-national levels. The National Biosecurity Agency will be supported by a Biosecurity Technical Secretariat comprising a small number of full-time staff/technical experts on a comprehensive range of IAS and LMOs, pathways, vectors and management approaches. At the policy and strategic level, the project will ensure that biosecurity considerations are mainstreamed into the National Development Strategy and relevant legislations, including those applying to: plant health, such as the law applying to phytosanitary protection (law 2003/003 of 21 April 2003), animal health, such as the law applying to the regulation of zoosanitary inspection (law 2000/017 of 19 December 2000); the protection of wildlife, such as the law applying to the forest, fauna and fishing regime (law 94/01 of 20 January 1994); food safety, such as the regulation applying to the creation, organization and functioning of the National Codex Alimentarius Committee (Regulation 26/CAB/PM of 14 February 2008); and environmental protection, such as the framework law applying to environmental management (law 96/12 of 05 August 1996). In addition, where possible, formal or informal partnerships will be facilitated to assist in risk-based IAS and LMO management across all landscapes.

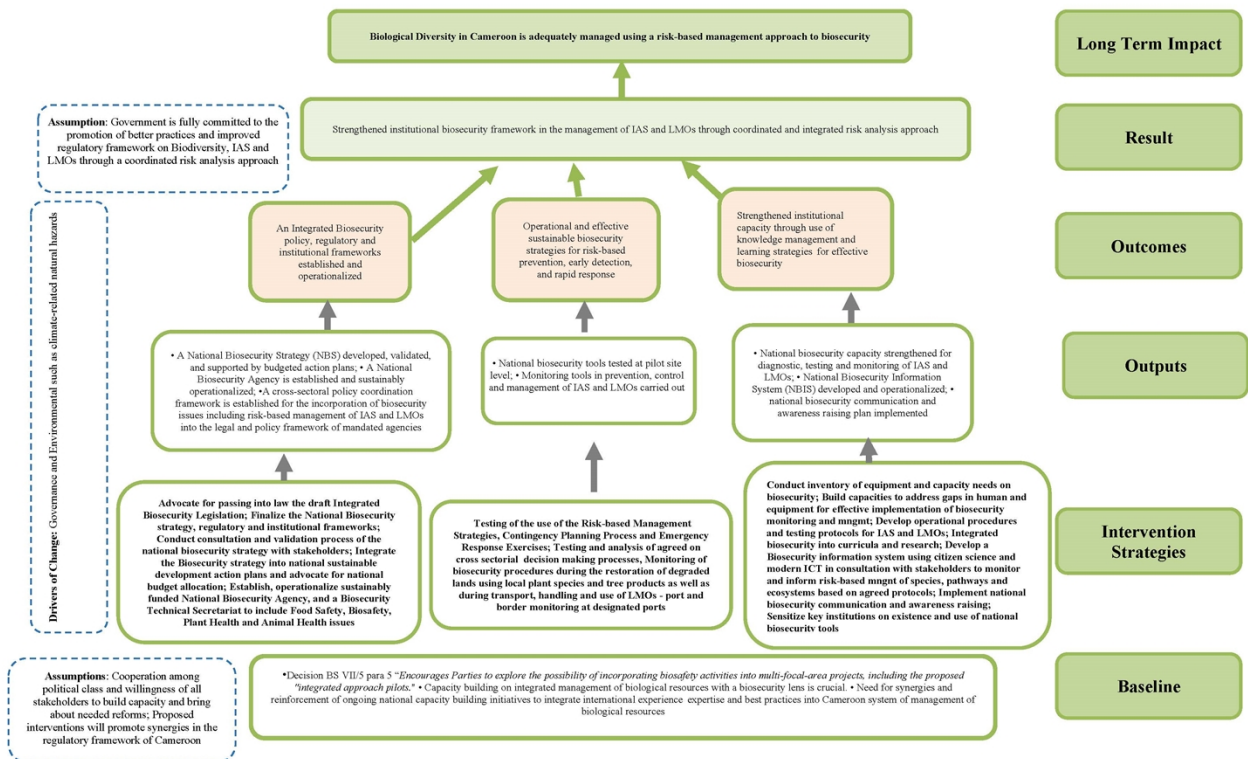
Under **Component 2**, the project will implement a set of activities focused on pathways management and integrated management of a range of key landscapes which will incorporate biosecurity considerations to ensure that objectives are met without unintended consequences in terms of IAS and LMO impacts. Pre-border, border and post-border prevention and early detection and rapid response along prioritised pathways into and within the country will be reinforced by an approach based upon species and pathways

risk assessment. Pilot IAS and LMO detection, diagnosis and monitoring activities will be carried out. Based on activities undertaken during the CBP, priority pilot cost recovery activities will be implemented to ensure the Financial sustainability of the National Biosecurity Agency, Technical Secretariat and biosecurity operations. A strong focus will be put on building the capacity of border and frontier management staff incorporating biosecurity operations in review and assessment of new biological introductions into the country. This component will also ensure that biosecurity procedures are respected during the restoration of degraded lands using local plant species and tree products (*Bambusa spp*, *Irvingia spp*). The sites chosen for the restoration of degraded land will also be considered as pilot sites for testing biosecurity manuals and front end guidance developed during the first phase of project execution. The activity on land restoration will be carried out in collaboration with the GEF Tri Child Project and will ensure synergy and effectiveness in Government action in the restoration of degraded landscapes.

Under **Component 3**, the project will, where needed, help to build the capacity of the various agencies and technical staff mandated to deal with different aspects of IAS and LMO prevention, control and management. Priority training requirements will be determined through a biosecurity assets inventory and capacity needs assessment process. The specialized training will be built on the substantial baseline provided by the diverse biosecurity training implemented under the Cameroon Biosecurity Project. The assets and needs assessment process will also help priorities equipment and supply needs for effective IAS and LMO detection, diagnosis and monitoring activities. The project will undertake activities that will provide timely access to information required for decision-making, ensure that information is kept up to date and provides inputs for evidence-based adaptive management based on agreed protocols, raise awareness of biosecurity as a cross-sectoral issue to build support for IAS-related work, and encourage participation in IAS-related activities. The project will spearhead the implementation of the National Biosecurity Communication Strategy to increase awareness of biological invasions among key stakeholder groups and the general public as an essential contribution to a more effective biosecurity approach for the country. The Communication Strategy incorporates an international element, the objective of which is to promote replication of project outcomes in neighbouring countries, in the West and Central African subregions and in the African Region. IAS tools and manuals developed under the CPB will be further refined to meet the needs of individual agencies for use in day to day biosecurity operations. Finally, biosecurity will be integrated into school and tertiary education curricula, thus mainstreaming biosecurity concept into the Cameroonian educational system.

The project is conceptualised in Figure 1 below

Figure 1 - Theory of Change



Incremental reasoning and global environmental benefits

The project's **incremental approach** can be summarised as follows: The Government of Cameroon has clearly identified the importance of safeguarding its natural capital (biodiversity and ecosystem services) by mainstreaming biosecurity into key policy, regulatory and institutional frameworks and across key sectors through, among other actions, its support for the Cameroon Biosecurity Project and the process of submitting the National Biosecurity Act to Parliament. However, despite this strong commitment, the integration of IAS and LMO management priorities has not formally started and systemic and institutional barriers still remain to achieving the required changes, despite the urgency of the issue of land and forest degradation and associated impacts on biodiversity, ecosystem services and livelihoods. **In the baseline situation**, the barriers are insufficient capacity for integrating biosecurity concerns into all management actions that affect the interdependent terrestrial, coastal and marine ecosystems mean that a business-as-usual scenario would promote continued weakness in terms of coordination and integration of biosecurity concerns among the various sectors and stakeholders that manage or influence terrestrial, coastal and marine resources and ecosystems. As a result, IAS and LMO risks to key ecosystem services such as biodiversity conservation, climate change adaptation and mitigation, and watershed services will continue to be widespread in areas ranging from upland and lowland forests and grassland ecosystems to agricultural landscapes and out to marine habitats, with significant impacts including biodiversity loss, sedimentation, pollution and nutrient overloads flowing from terrestrial to coastal to marine ecosystems. **In the alternative scenario enabled by the GEF**, systemic and institutional barriers to mainstreaming IAS

prevention, control and management and LMO management will be removed at the national, and local levels, backed by incentives for community-based natural resource management to make sustainable land and forest management compatible with effective biodiversity and ecosystem management. The integration of biosecurity considerations into the various programmes and projects described in the baseline analysis will help to improve the management effectiveness of PAs, prevent species extinctions, management of zoonotic diseases, sustainably conserve globally significant biodiversity, and protect and improve ecosystem function; thereby strengthening the national economy and local livelihoods, and generating global environmental benefits. At the pilot landscapes, stakeholder capacity development and local level integrated green development will reduce the threat posed by IAS and LMOs and help to ensure that interventions affecting land use such as reforestation, grazing land, biofuel, plantation and species introduction for erosion control do not result in negative side-effects in terms of IAS and LMO impacts. This will contribute to sharp decreases in pasture and forest degradation, improved status of globally significant biodiversity and improved and sustainable livelihoods. Addressing knowledge gaps, strengthening capacity for more holistic ecosystem management, and promoting inter-sectoral coordination and policy harmonisation should be considered to be a major contribution to the implementation of activities under the NBSAP and more broadly to the National Development Strategy because of the implications of integrating biosecurity issues into sectoral policies and plans on the Cameroonian economy as a whole.

Global Environmental Benefits: The project is designed to: i) reduce significantly threats to globally significant biodiversity by improving management frameworks to prevent, control, and manage invasive IAS and manage LMOs; ii) avoid extinction as a result of IAS management; iii) improve management effectiveness of protected areas (in line with Core indicator 3); and; iv) strengthen capacity and partnerships to mainstream IAS prevention, control and management. The project will also contribute to the goals of the CBD in implementing activities identified in the Cameroon NBSAP. The project will also directly contribute to the implementation of the [Post 2020 Global Biodiversity Framework](#) specifically Targets 6 ? on Invasive Alien Species, 17 on Biosafety, Targets 20 ? 21 on equitable and transparent inclusion of indigenous people and local communities and participation in decision making. It will also contribute knowledge, experience and lessons to address some of the key issues in managing biological invasions as was envisaged under the Aichi targets (see Annex 1). The project will directly or indirectly contribute to all 17 SDGs but in particular to SDG 2 (zero hunger) and SDG 12 (Ensure sustainable production and consumption patterns) by embedding biosecurity considerations into mainstreaming sectors, SDG 13 (Climate Change) with the advent of GM trees and their potential role in the fight against climate change, SDG 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development) by incorporating risk-based IAS and LMO management into marine resource management, and SDG 15 (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss) by incorporating risk-based IAS and LMO management into land management decisions and by directly managing IAS and LMO impacts to conserve biodiversity in terrestrial protected areas.

Innovation, sustainability and potential for scaling-up: This approach acknowledges and actively incorporates the issues of scale, proximity and interconnectedness of environmental systems, and utilises a cross-cutting approach to provide ?joined up? solutions for sustainable development. Addressing

biosecurity as a national issue with systemic causes and consequences will help to ensure that a suite of interacting threats to the terrestrial and marine environment are addressed. By tackling issues relating to IAS and LMOs under the biosecurity issue will ensure that limited capacity in risk-based management is maximally utilised, notably through the use of systematic prevention, early detection and rapid response, control and management through pathways and species-based risk analysis process. In addition to IAS and LMOs, other threats include land-based pollutants, nutrients and sediment, disrupted hydrological services, and degradation of critical habitat that have significant negative impacts on important coastal/marine ecosystems including wetlands, mangroves, seagrass beds and coral reefs. The management systems adopted through this project will build on approaches to mainstreaming IAS pioneered in the Pacific Ocean and in Seychelles (under a UNDP-GEF Project). However, they differ from the Seychelles work and that adopted in SIDS in several key dimensions: the incorporation of biosafety under the biosecurity umbrella; the development of coordination and implementation mechanisms that take into account the greater importance of agriculture to Cameroon than Seychelles, Cameroon's relatively diversified economy and its relatively high biosecurity capacity at least in terms of the traditional functions of a national quarantine service. The emphasis, therefore, will be on improving upon existing structures in multiple sectors to embed IAS and LMO considerations, not on creating major new structures from scratch. Breaking down silos and embedding biosecurity considerations in sectoral decision-making can help to move IAS and LMOs from the margins to the mainstream for improved efficiency, effectiveness and sustainability. Cost recovery options for IAS and LMO management will be investigated in all sectors so that economic sustainability is addressed across all aspects of the project thus internalising externalities and providing finance for IAS and LMO management operations. This approach of systematic reinforcement and inter-sectoral coordination can be a model for developing countries with relatively diversified economies and significant fragmented IAS and LMO management capacity. The emphasis on national biosecurity measures through this project will help to sustain the biodiversity gains leveraged by the project. Community groups will be contacted early in the PPG process to elicit their interest and cooperation. There is a long and successful tradition of community participation in biodiversity conservation activities in Cameroon. Embedding IAS considerations into activities undertaken at the site and landscape levels will help the individuals involved and the communities they represent to appreciate the importance of IAS which will enhance their effectiveness as land stewards. The experiential nature of the learning involved in implementing IAS-related activities will complement more traditional training, awareness and knowledge exchange activities to build a practical appreciation of the value of IAS-related knowhow. Experiencing the practical benefits of incorporating biosecurity considerations into daily operations can help internalize an issue that has, in most countries, persisted as a barely acknowledged externality. The integrated approach to IAS prevention, control, and management developed in this project can serve as a good practice model for developing countries and countries in transition seeking to balance productivity with environmental sustainability.

[1] Information obtained from <https://tradingeconomics.com/cameroon/imports>

[2] Not all target species are strictly speaking alien to the systems under consideration. For example, *Typha latifolia* is native to much of tropical Africa but can take advantage of changed water and salinity levels (often precipitated by invasive alien water weeds) to become invasive. *Pteridium*

aquilinum is distributed globally and its origin is unclear. Strictly speaking, therefore, it is more precise to refer to 'invasive species' but the term 'alien' is maintained in this document because of its widespread usage.

[3] MINEPDED (2015). Black and white lists of priority invasive species and management

approaches for Cameroon. [<https://cm.chm-cbd.net/bch-cameroun/projet-biosecurite/information-and-awareness-raising-component/black-and-white-lists-priority-invasive-species-and-management-approaches>]

[4] MINEPDED (2018). Quantification of end of project knowledge levels concerning biological invasions and LMOs in Cameroon. [<http://cm.chm-cbd.net/bch-cameroun/projet-biosecurite/information-and-awareness-raising-component/quantification-end-project-knowledge-levels-concerning-biological-invasions-and>]

[5] Although reference is made to 'IAS and LMOs' throughout this document, this is not meant to imply that all LMOs are IAS. IAS are a subset of all introduced species, the vast majority of which do not become invasive. LMOs are also a subset of all introduced species. LMO introductions have a short history so it is not possible to conclude that very few LMO species are likely to become invasive at this stage. However, the history of (non-LMO) species introductions supports this assertion.

[6] Project outputs can be found on the CHM national portal <http://cm.chm-cbd.net/bch-cameroun/projet-biosecurite>

[7] The Water hyacinth and the Lake Ossa sites will be used as project pilot sites. The potential sites will be further reviewed during the PPG stage. These sites will be used to simulate and test the tools and concepts developed

[8] <http://cm.chm-cbd.net/bch-cameroun/projet-biosecurite/information-and-awareness-raising-component/quantification>

-end-project-knowledge-levels-concerning-biological-invasions-and

[9] <http://cm.chm-cbd.net/bch-cameroun/projet-biosecurite/information-and-awareness-raising-component/national-biological-invasions-communications-and-awareness-raising-plan>

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

The project will be implemented at the national level (Cameroon located between latitude 2.16° N ? 13.09° N and longitude 8.48° E ? 16.09° E), with a strong focus on ports of entry. The project will focus on six ports of entry as follows: the Douala & Kribi seaports, the Douala and Yaounde airports

and the Ideanau and Kye Ossi points of entry. National ports of entry and internal locations of phytosanitary and zoosanitary posts are indicated in the map below.

Map 1: Positions of Phytosanitary Posts on the map of Cameroon (Ndikontar 2009).



2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

N/A

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement

Stakeholder	Role in biosecurity and in the project
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Stakeholder	Role in biosecurity and in the project
Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)	<p>MINEPDED is the central authority for the protection of the environment in Cameroon. As the focal point for the Cartagena Protocol, MINEPDED is the regulatory agency for approval of all importation requests for LMOs and the setting of conditions for import and the issuing of certification for export and is responsible for the assessment of the environmental impacts of potential LMO introductions to Cameroon. MINEPDED is the operational focal point for CBD under which it has coordinated the production and implementation of the NBSAP. It is the focal point for the UN Convention to Combat Drought and Desertification in Africa (UNCCD) and the GEF Climate Change Mitigation Technical Focal Point Agency. Climate change adaptation and mitigation activities and land management activities can result in unplanned consequences in terms of IAS impacts. MINEPDED will help ensure that biosecurity considerations are integrated into LD and CC activities to minimize biological invasions-related risks. MINEPDED is responsible for the development of the EIA system in Cameroon and will help ensure that biosecurity considerations are incorporated into the EIA process.</p> <p>MINEPDED will coordinate project preparation (PPG stage) and execution. It will establish a Project Coordination Unit (PCU) located in the ministry. A representative of MINEPDED will chair the Project Steering Committee. MINEPDED will coordinate the implementation of risk-based management of LMO transfer, handling and use, the incorporation of the issue of biological invasions in environmental planning (EIAs, etc.), and will provide expertise particularly in the area of biosafety.</p> <p>The PCU will work in collaboration with the Coordination Unit of the GEF TRI Child Project to ensure that biosecurity considerations are taken into account during the restoration of degraded landscapes using local plant species and tree products such as <i>Bambusa spp.</i>, <i>Irvingia spp.</i> in target sites.</p>
Ministry of Agriculture and Rural Development (MINADER)	<p>MINADER is directly responsible for the majority of activities that concern plant-related biosecurity in Cameroon and plays a significant role in land management for agriculture and ecosystem services. Plant protection through prevention of entry of pests and diseases is the responsibility of the MINADER Plant Protection Service (NPPO in accordance with the IPPC). MINADER also conducts surveys of IAS, undertakes seed testing, supports the development of IPM and the introduction of biological control agents, the development and monitoring of regulations and standards, and crisis management in agriculture.</p> <p>MINADER will provide expertise during project preparation in the development of plant-related biosecurity measures especially from the National Protection Office and related departments. It will take the lead in activities concerning the implementation of risk-based management to the import and export of plants and plant products, the incorporation of risk-based decision-making processes in pest management in arable systems and will provide expertise particularly in the area of plant protection during the project preparation.</p>

Stakeholder	Role in biosecurity and in the project
Ministry of Livestock, Fisheries and Animal Industries (MINEPIA)	<p>MINEPIA is directly responsible for the majority of activities that concern domestic animal-related biosecurity in Cameroon and plays a significant role in land management for agriculture and ecosystem services. The management of the introduction of diseases with animals and animal products is undertaken by the Animal Health section of MINEPIA. MINEPIA operates zoosanitary control in accordance with the principles outlined in the WTO/SPS Agreement and the standards developed by OIE. MINEPIA is mandated to supervise sanitary control in maritime and river fishing, and to ensure safety of food of animal and fishery origin.</p> <p>MINEPIA will take the lead in the development and execution of activities concerned with biosecurity relating to trade in animals and animal products, the incorporation of the issue of biological invasions into animal import and export decision-making, the incorporation of risk-based decision making processes in the management of biological invasions in pastoral systems, will assist (along with MINSANTE) in the incorporation of the issue of biological invasions into decisions relating to vector management, and will provide expertise particularly in the area of animal health and management of zoonotic diseases during the project preparation.</p>
Ministry of Basic Education (MINEDUB) and Ministry of Secondary Education (MINSEC)	<p>These Ministries (MINEDUB and MINSEC) will provide expertise on primary and secondary curriculum development, assist the project in incorporating biosecurity into relevant education courses and provide expertise on training and capacity building during the project preparation and execution.</p>
Ministry of Forestry and Wildlife (MINFOF)	<p>MINFOF provides for the establishment and management of a protected areas system, making provision for the conservation and protection of forests and trees and the licensing and sale of forest produce. In this role, MINFOF is responsible for the management of IAS that threaten forest systems and protected areas and the export of materials (possible invasives and associated pests & diseases).</p> <p>MINFOF will incorporate the issue of biological invasions into decisions relating to forestry e.g. importation of exotic forestry and agro-forestry species and will provide expertise particularly in the area of forest pests during the project preparation and execution.</p>
Ministry of Scientific Research and Innovation (MINRESI);	<p>MINRESI oversees all state-funded research institutions in Cameroon. It is responsible for directing research to ensure that it conforms to the demands of the country's development planning. MINRESI oversees the work of IRAD whose work is related to biosecurity through its agricultural research and extension activities and the work of the National herbarium.</p> <p>MINRESI will provide expertise on the development and implementation of research related to biosecurity during the project preparation and execution. They will also provide experts to support the development of technical manuals and guidelines on risk analysis, detection and monitoring using biosecurity measures</p>

Stakeholder	Role in biosecurity and in the project
Ministry of Higher Education (MINESUP)	<p>MINESUP oversees the execution of all higher education in Cameroon. It is responsible for the content and quality of tertiary education including courses of relevance to biosecurity as taught at universities in Cameroon including the University of Yaounde 1 and the University of Buea.</p> <p>MINESUP will provide expertise on tertiary curriculum development, assist the project in incorporating biosecurity into relevant tertiary education courses and provide expertise on training and capacity building during the project preparation and execution. They will also provide laboratory services at the designated laboratories at University of Yaounde 1 and the University of Buea to provide LMO Detection and PCR/ELIZA based methodologies to support detection of LMOs and IAS as applicable</p>
Ministry of Public Health (MINSANTE)	<p>MINSANTE is responsible for the management of human health and invasive diseases. Although these are considered outside the remit of biosecurity as defined in the draft Biosecurity Act, this ministry remains a key player in the biosecurity system as a whole. MINSANTE is involved in inspection at ports of entry in close collaboration with biosecurity agencies. This helps to minimize duplication and overlap in terms of information acquisition and recommended actions. In addition, the management of vector-borne diseases is the responsibility of MINSANTE and MINEPIA. MINSANTE controls quarantine of persons and use of LMOs (vaccines pharmaceuticals) in medicine, and food hygiene standards and plays a key role in emergency responses in the management of infectious diseases using Biosecurity responses including COVID-19 among others</p> <p>MINSANTE will, along with MINEPA, assist in the incorporation of the issue of biological invasions into decisions relating to vector management, infectious diseases and provide expertise particularly in the area disease vector management during the project preparation..</p>
Ministry of Finance (MINFI)	<p>MINFI, through its Customs and Excise service, is the front line for the interception of goods at the point of entry for the collection of tariffs and the regulation of border issues relating to terrorism and smuggling ? particularly drugs. MINFI is a key stakeholder in implementing biosecurity measures relevant to trade-related biosecurity pathways.</p> <p>MINFI will incorporate the issue of collection of duties and fees into decisions relating to the movement of biological material through entry points, coordinate data on manifests to biosecurity officials at points of entry to facilitate inspection and provide expertise particularly in the area of inspection during the project preparation and execution of planned activities.</p>

Stakeholder	Role in biosecurity and in the project
Ministry of Mines Energy and Technological Development (MINMIDT)	MINMIDT is responsible for the local transformation of agricultural and forestry products in conjunction with Ministry of Forestry and Wildlife, etc., and the promotion and management of quality of products meant for the local market and for export in conjunction with the relevant administrations. It has several departments of relevance to biosecurity such as the Department of Quality Development which also harbours the focal point for the Codex Alimentarius. In this regard, MINMIDT will be incharge of creating norms and standards for LMO management in Cameroon during the project implementation and in the operationalization of the national biosecurity system.
Ministry of Trade (MINCOMMERCE)	MINCOMMERCE is responsible for promoting and defending the quality of products for local/foreign markets, and monitoring the application of importation standards in conjunction with relevant administrations. The ministry through its agencies (e.g the Chambers of Commerce) will assist in development of biosecurity and monitoring standards as it relates to trade and movement of products during project execution
Indigenous Peoples and Local Communities;	Local communities and indigenous communities will be a key stakeholder under all components but particularly in Components 2 and 3. Community based organizations will be involved in all relevant capacity building and communication-related activities both as recipients of project inputs but also as resource providers. Representatives of relevant community-based organizations will sit on the Project Steering Committee. Local communities such as the Douala 4 Council will be involve in execution activities at the pilot site aon the control of the water hyacinth (<i>E. crassipes</i>). This will apply to other local communities such as the Douala 5 Council and the Lagdo in the Northern part of Cameroon.

Stakeholder	Role in biosecurity and in the project
Civil Society Organisations	<p>Civil Society Organisations such as NGOs, Coperative Societies and Common Initiative Groups will play a major role in awareness raising and information dissemination under component 4 of the project. They will contribute to the elaboration of interventions under Component 4 and provide expertise in community engagement and outreach activities. Civil Society Organisations such as the Watershed Task Group, the TADU Dairy Cooperative and the African Marine Mammal Conservation Organisation (AMMCO) will be involved in project execution especially at the pilot site level.</p> <p>? The Watershed Task Group (WTG) is managing water hyacinth (<i>Eichhornia crassipes</i>) in the Douala area in the Littoral Rgion of Cameroon.</p> <p>? TADU Dairy Cooperative is actively involved in the management of the Bracken fern (<i>Pteridium aquilinum</i>) in Kumbo in the North West region of Cameroon. This site was identified as a project pilot site during the first phase of project execution and could serve as a good pilot site for the second phase as well.</p> <p>? Another civil society organization of interest is the African Marine Mammal Conservation Organisation (AMMCO) which is actively involved in the control of <i>Salvinia molesta</i> in Lake Ossa in the Littoral Region of Cameroon. The control of <i>S. molesta</i> involves the use of a biological control agent, the salvinia weevil (<i>Cyrtobagous salviniae</i>), a method which has been tested and proven to be very effective as a primary control tool for salvinia in several countries. The project will work with AMMCO to ensure that biosecurity measures are respected during the control of <i>S. molesta</i>.</p>
Private Sector	<p>The Biosecurity project indirectly works with the private sector via the National Biosafety Committee (NBC). For the first phase of execution of the project, the Cameroon Biosecurity project accompanied the NBC during the GM cotton field trials carried out by SODECOTON and BAYER in Northern Cameroon. In 2020, the GM field trials were terminated.</p> <p>During the second phase of execution of the Cameroon Biosecurity project, the project will work with the private sector in the domain of information and awareness raising and will make available, project deliverables (technical manuals, reports etc.) in enforcing biosecurity measures in Cameroon. The biotechnology laboratories having benefitted from equipment procured by the project, will serve as detection and monitoring centres for LMOs.</p>
Other stakeholders	<p>Other stakeholders will include local governments, universities and research organizations, and multilateral and bilateral partners working on related activities.</p>

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

In recent years, the Cameroonian government has demonstrated a surface-level commitment to improving women's rights across the country. Cameroon is party to the

major international treaties and forums concerning women's rights, including CEDAW and the Beijing Declaration Platform for Action. As such, it constitutionally recognizes gender equality and has actively encouraged women's political participation at a national level. The Cameroonian government supports women's initiatives, in both the Ministry of Women's Affairs as well as several gender-related non-governmental organizations (NGO's).

As part of the process of transforming Cameroon into an Emerging Economy by 2035, the Government of Cameroon prepared a Growth and Employment Strategy Paper in 2009 that is currently being implemented and takes into cognizance gender considerations. To support this vision, a gender assessment will be conducted to develop a project-specific gender mainstreaming strategy and action plan during the PPG. As a result, gender and social issues will be fully considered in the project, and gender accountability as a cross-cutting issue that will be tracked as part of the project's M&E system.

With the development of gender-sensitive indicators in the logframe and monitoring framework the project will pursue a gender-sensitive approach whereby gender equality in participation will be strongly promoted. The success factors behind existing good practice examples of women and youth inclusion in activities will be investigated as a basis for scaling up. Under all components, participation of women on an equal footing will be promoted in terms of both numbers involved and degree of participation in decision-making. Equal participation of men and women in governance systems and decision-making forums and in capacity building activities will be encouraged. During the design phase of the project, the role played by women in different project components (gender baseline) will be documented and this information will be used in planning and implementing project activities to help ensure that the project promotes gender equality. The project will work closely with women's associations and businesswomen. The project will encourage qualified women applicants for positions under the project as per Government rules and regulations .

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources;

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women.

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

The activities of private industry and private landowners are key IAS drivers. Private industry representatives will work closely with the project with regard to IAS issues of relevance to land and seascape management. Private industry and industry associations (such Chambers of Commerce) will be consulted over the biosecurity implications of trade-related issues and will be the target of awareness raising and capacity building activities based around the development and implementation of good practice guidelines to embed IAS issues into key sectors whose activities have IAS implications. **Section 2 on Stakeholder engagement highlights and provide some examples of Private sector engagement which will be further updated during PPG stage in the consultative process.**

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Risk	Level	Management strategy
Biosecurity measures lack broad based support leading to poor compliance.	L	A high degree of collaboration is necessary, so it is important to develop a participatory framework for project development and implementation. Experience with the Cameroon Biosecurity Project helped to develop structures to maximize intra- and inter-sectoral collaboration (Project Advisory Committee and Interministerial Task Teams). These structures will be built upon to maximize collaboration among the component lead agencies. The roles delegated to other entities will be formalized through applicable agreements (e.g. MoUs) with MINEPDED using clear ToRs that will be developed during the PPG. During project implementation, the final design of specific initiatives will continue to include key stakeholders and to ensure their inputs are considered in decision-making. During project implementation there will also be ongoing participation and inclusion of all stakeholders in activities that may impact them, both positively and negatively. The project will implement the National Biosecurity Communication Strategy and Action Plan that will specifically target the development of support among key stakeholders and the general public for effective biosecurity.

Risk	Level	Management strategy
Institutional conflicts over the management of land resources constrain implementation of activities.	M	Overlaps persist between institutional jurisdictions in Cameroon so the potential for conflicts exists. This will be managed through the participatory framework for project development and implementation outlined above and also stakeholder representation at the Project Steering Committee level.
Insufficient community mobilization and involvement in the project constrain implementation of activities.	L	Community groups will be contacted early in the PPG process to elicit their interest and cooperation. There is a long and successful tradition of community participation in biodiversity conservation activities in Cameroon. An example can be seen within the Water Hyacinth Project, whereby, the Watershed Task Group (WTG) in collaboration with MINEPDED, has actively engaged community participation in the management of water hyacinth in the Douala area and has organised several trainings on the transformation of water hyacinth in to compost, biogas as well as the production of mats, baskets etc. Community participation will be maximized by securing of Free, Prior and Informed Consent (FPIC) from community groups, the involvement of local communities in restoration-related activities as volunteers and paid staff and the development of local management committees in pilot studies as appropriate.
Liberalized trade will increase the risk of IAS introductions.	M	The project will help strengthen the institutional biosecurity framework so that the pressures resulting from increased imports can be effectively managed. Key sector ministries including the Ministry of Commerce and other regulatory officials will be trained on the use of the tools developed for risk analysis and decision making.
Lack of transparency about planned or actual LMO introductions will jeopardize effective risk-based management	M	The project will establish a transparent mechanism for risk-based biosafety so social actors will need to adopt transparent procedures if their activities are to be legally supported. Training for detection and enforcement as well as project-led communication activities will be implemented to minimize illegal introduction and propagation of LMOs.

Risk	Level	Management strategy
<p>Climate Change: Cameroon is likely to witness sea level rise and extended dry spells, which may make conditions more suitable for colonization of certain IAS.</p>	<p>H</p>	<p>Risk assessments will take into account changing climate conditions. General Climate change adaptation measures will be developed and undertaken through other interventions and coordination with this intervention is essential to ensure that adaption measures do not increase IAS risks.</p> <p>The mean annual temperatures for Cameroon are projected to rise by 1.75°C (1.32°C to 2.56°C) in 2040-2059[1] accompanied by a rise in annual precipitation by 30.07mm (-256.09mm to 367.41mm). This may result in an increased frequency of extreme events such as floods as well as droughts especially in the northern regions of Cameroon. As a consequence to climate change, loss of pasture lands, reduced access to water supplies, degradation of water quality, scarcity of water resources for livestock, crop loss/ failure, loss of marine habitat, increased ranges of vector-borne diseases and increased risk from waterborne diseases may prevail in these regions. Faced with this challenges, the public may potentially import and use LMOs (for ex. GM Cotton) that are better adapted (or perceived to be tolerant) to abiotic stress. During PPG, the potential of climate change scenarios on the countries? response will be integrated into capacity building activities. Furthermore, strategies will be put in place to anticipate and proactively manages such changes in public perception of LMOs under circumstances of climate change.</p>

Risk	Level	Management strategy
Disease Outbreak (Covid-19)	Medium	<p>Statistics published by the WHO, as at 10 December 2021, there have been 107,549 confirmed cases of COVID-19 with 1,823 deaths, reported to WHO. As of 5 December 2021, a total of 970,440 vaccine doses have been administered..[2]</p> <p>Cameroon is the most affected country in the central African region. The first case was declared on the 6th march 2020 and ever since then, many measures have been taken by Cameroonian government with the aim of reducing the transmission of this virus. Compared to other countries, a complete lockdown has not been observed, because the pandemic found a weak economy, tortured by the various crisis in his North regions with Boko haram and South-West and North-west regions with separatists? group. The country could not afford a complete break of his economic activities.[3]</p> <p>COVID-19 pandemic found a weak economy due to the different internal crises that the country is facing. Companies located in the southwest and northwest regions have been paralyzed by political issues. Both regions account for 16.3% of Cameroonian GDP (Mbadi, 2019)[4]. Among them, the greatest employer of the country in terms of the number of employees: CDC, which all activities have been stopped since then.</p> <p>The UNDP forecasted that because Cameroon relies a lot on the importation, worldwide lockdowns will create a shortage in inputs, in the same way, it may create a slowdown of economic activities. The COVI-19 pandemic has had significant devastating effects on the country?s economic activities. Some companies are already feeling these effects. In a survey made by GICAM (2020) from the 13th to 21st April 2020, in a sample of 100 enterprises, 92% admitted the pandemic is harming their turnover[5]. Globally, 44% of companies declared that the purchases have been affected. Most impacted are manufacturing company with 56%. Tomatoes and chicken sectors are facing a severe crisis. Tomatoes crisis is firstly due to borders closed of countries like Equatorial Guinea and Gabon which greatly import tomatoes from Cameroon. Prices drop to 80% and placed several producers in a very difficult position.</p> <p>With the devastating effect of COVID-19 on the economy of the countries affected, governments are focusing public resources on rebuilding the economies of countries. Cameroon is not an exception There is a risk that, Cameroon will prioritize the management of its internal security challenges over project co-financing in its 2021 national budget.</p> <p>The risk is only partly under project control. The PPG will portray the importance of having a strong national biosecurity framework in place and foster financial commitment from key sectorial stakeholder institutions.</p>

[1] <https://climateknowledgeportal.worldbank.org/country/cameroon/climate-data-projections>

[2] <https://covid19.who.int/region/afro/country/cm>

[3] https://mpr.aub.uni-muenchen.de/102245/1/MPRA_paper_102245.pdf

[4] Mbadi, O. (2019). Crise anglophone au Cameroun: les entreprises dans la tourmente. Jeune Afrique.

[5] GICAM. (2020). COVID-19 Impact sur les entreprises au Cameroun. GICAM

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

Infrastructure and arrangements for overall project administration will be based on those developed for the UNEP/GEF Cameroon Biosecurity Project. Project coordination and implementation arrangements will be established within 3 months through MINEPDED, the lead executing agency. The project will be implemented by UNEP and executed at the country level by MINEPDED (the National Executing Agency). MINEPDED will designate a National Project Coordinator supported by 1 ? 2 administrative and financial assistants and possibly an IT staff to maintain the biosecurity website/nBCH. The National Project Coordinator will be accountable to MINEPDED and to UNEP for the delivery of agreed national project outputs, maintain regular communication within MINEPDED and with UNEP and will supervise the work of the Project Coordination Unit (PCU), which will be responsible for the day to day running of the project. The PCU will be established within MINEPDED. The Project Coordinator will be supported by technical advisor(s) with technical experience in all aspects of biosecurity. The Technical Advisor(s) will not work full time on the project but will be available for remote consultation and will undertake regular missions to assist in the technical delivery of project components. The role of the Project Technical Advisor(s) will be to act as the corporate knowledge on technical issues for the project and to provide mentoring and re-enforcement training for national staff. The technical advisor(s) would need to work closely with consultants and extract from their work and reports the key elements that need to be incorporated into the change management actions towards the provision of a biosecurity framework that is being attempted. The project?s biosecurity activities and knowledge management activities will ensure that the project interventions take into account both site-based and landscape level impacts. The project will coordinate and work closely with the Secretariat of the One Health Programme in Cameroon. UNEP will work to ensure that previous relevant experiences

in biodiversity, climate change and SLM projects are taken into account in planning and implementation. Coordination with ongoing projects and programs will be facilitated by UNEP and will involve ongoing contacts with project executing agencies as well as coordination through formal project structures such as its steering committee and working groups.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions?

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

- National Biodiversity Strategy and Action Plan (NBSAP) - X
- CBD National Report - X
- Cartagena Protocol National Report - X
- Nagoya Protocol National Report - X
- National Plan for Environmental Management
- UNFCCC National Communications (NC)
- UNFCCC Biennial Update Report (BUR)
- UNFCCC National Determined Contribution
- UNFCCC Technology Needs Assessment
- UNCCD Reporting

This project is country-driven having been developed through a highly consultative process involving principal stakeholders and decision-makers in the fields of environment, fisheries, agriculture, finance, energy and climate change mitigation, including national authorities and parastatal, national planning committee, as well as representative of civil society. The project is consistent with, and supportive of the following national strategies and plans and reports and assessments under relevant conventions: The 2030 National Development Strategy, The Cameroon National Plan for Environmental Management (2009) defines the overarching environmental objectives and strategies for the country, which provides a framework for the implementation of the National Biodiversity Strategy and Action Plan (2012-2020) which identifies IAS as a key driver of biodiversity loss and the importance of

addressing its root causes such as transport, tourism and trade; the 2012 Forestry and Wildlife Subsector Strategy; and the National One Health Strategy (2012), National Climate Change Adaptation Plan (2015), and the Sustainable Land Management Policy and Investment Plan (2011).

8. Knowledge Management

Outline the knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The project design incorporates a third component on knowledge management and learning. This is a clear demonstration of the central importance that the project places on timely access to reliable information as a foundation for risk-based IAS and LMO management. Activities undertaken under Component 3 will review and consolidate existing information, establish monitoring systems and communicate relevant information in appropriate formats for different national and international audiences guided through the development of a National Biosecurity Communications and awareness plan. An internet based National Biosecurity Information System (NBIS) will be developed with entry points for information and knowledge entry points or nodes for different stakeholders including the Regulatory agencies, private sector, local communities and Civil Society. The NBIS will also generate user friendly dissemination materials, FAQs and status updates which will be shared through the District Councils, through the media (Radio shows, TV and drama groups among others) and the Ministry responsible for dissemination All KM activities will build upon policy and implementation activities undertaken in Components 1 and 2 and will be supported by capacity building undertaken in Component 2. In addition, the project will build upon the knowledge products developed under the Cameroon Biosecurity Project to ensure that the system combines technology, processes and protocols, and most critically people, in a system that manages knowledge for the benefit of the entity in question and the wider system of which it is a part. It is vital, therefore, that the system is compatible with existing systems used in Cameroon such as those developed under the National One Health Strategy, contains clear, agreed upon and implementation processes and protocols and is owned by those in charge of its long-term implementation.

9. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

Low

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

Risk	Level	Management strategy
Biosecurity measures lack broad based support leading to poor compliance.	L	A high degree of collaboration is necessary, so it is important to develop a participatory framework for project development and implementation. Experience with the Cameroon Biosecurity Project helped to develop structures to maximize intra- and inter-sectoral collaboration (Project Advisory Committee and Interministerial Task Teams). These structures will be built upon to maximize collaboration among the component lead agencies. The roles delegated to other entities will be formalized through applicable agreements (e.g. MoUs) with MINEPDED using clear ToRs that will be developed during the PPG. During project implementation, the final design of specific initiatives will continue to include key stakeholders and to ensure their inputs are considered in decision-making. During project implementation there will also be ongoing participation and inclusion of all stakeholders in activities that may impact them, both positively and negatively. The project will implement the National Biosecurity Communication Strategy and Action Plan that will specifically target the development of support among key stakeholders and the general public for effective biosecurity.
Institutional conflicts over the management of land resources constrain implementation of activities.	M	Overlaps persist between institutional jurisdictions in Cameroon so the potential for conflicts exists. This will be managed through the participatory framework for project development and implementation outlined above and also stakeholder representation at the Project Steering Committee level.

Risk	Level	Management strategy
Insufficient community mobilization and involvement in the project constrain implementation of activities.	L	Community groups will be contacted early in the PPG process to elicit their interest and cooperation. There is a long and successful tradition of community participation in biodiversity conservation activities in Cameroon. An example can be seen within the Water Hyacinth Project, whereby, the Watershed Task Group (WTG) in collaboration with MINEPDED, has actively engaged community participation in the management of water hyacinth in the Douala area and has organised several trainings on the transformation of water hyacinth in to compost, biogas as well as the production of mats, baskets etc. Community participation will be maximized by securing of Free, Prior and Informed Consent (FPIC) from community groups, the involvement of local communities in restoration-related activities as volunteers and paid staff and the development of local management committees in pilot studies as appropriate.
Liberalized trade will increase the risk of IAS introductions.	M	The project will help strengthen the institutional biosecurity framework so that the pressures resulting from increased imports can be effectively managed. Key sector ministries including the Ministry of Commerce and other regulatory officials will be trained on the use of the tools developed for risk analysis and decision making.
Lack of transparency about planned or actual LMO introductions will jeopardize effective risk-based management	M	The project will establish a transparent mechanism for risk-based biosafety so social actors will need to adopt transparent procedures if their activities are to be legally supported. Training for detection and enforcement as well as project-led communication activities will be implemented to minimize illegal introduction and propagation of LMOs.
Climate Change: Cameroon is likely to witness sea level rise and extended dry spells, which may make conditions more suitable for colonization of certain IAS.	H	<p>Risk assessments will take into account changing climate conditions. General Climate change adaptation measures will be developed and undertaken through other interventions and coordination with this intervention is essential to ensure that adaption measures do not increase IAS risks.</p> <p>The mean annual temperatures for Cameroon are projected to rise by 1.75°C (1.32°C to 2.56°C) in 2040-2059[1] accompanied by a rise in annual precipitation by 30.07mm (-256.09mm to 367.41mm). This may result in an increased frequency of extreme events such as floods as well as droughts especially in the northern regions of</p>

Risk	Level	Management strategy
		<p>Cameroon. As a consequence to climate change, loss of pasture lands, reduced access to water supplies, degradation of water quality, scarcity of water resources for livestock, crop loss/ failure, loss of marine habitat, increased ranges of vector-borne diseases and increased risk from waterborne diseases may prevail in these regions. Faced with this challenges, the public may potentially import and use LMOs (for ex. GM Cotton) that are better adapted (or perceived to be tolerant) to abiotic stress. During PPG, the potential of climate change scenarios on the countries? response will be integrated into capacity building activities. Furthermore, strategies will be put in place to anticipate and proactively manages such changes in public perception of LMOs under circumstances of climate change.</p>

Risk	Level	Management strategy
Disease Outbreak (Covid-19)	Medium	<p>Statistics published by the WHO, as at 10 December 2021, there have been 107,549 confirmed cases of COVID-19 with 1,823 deaths, reported to WHO. As of 5 December 2021, a total of 970,440 vaccine doses have been administered..[2]</p> <p>Cameroon is the most affected country in the central African region. The first case was declared on the 6th march 2020 and ever since then, many measures have been taken by Cameroonian government with the aim of reducing the transmission of this virus. Compared to other countries, a complete lockdown has not been observed, because the pandemic found a weak economy, tortured by the various crisis in his North regions with Boko haram and South-West and North-west regions with separatists? group. The country could not afford a complete break of his economic activities.[3]</p> <p>COVID-19 pandemic found a weak economy due to the different internal crises that the country is facing. Companies located in the southwest and northwest regions have been paralyzed by political issues. Both regions account for 16.3% of Cameroonian GDP (Mbadi, 2019)[4]. Among them, the greatest employer of the country in terms of the number of employees: CDC, which all activities have been stopped since then.</p> <p>The UNDP forecasted that because Cameroon relies a lot on the importation, worldwide lockdowns will create a shortage in inputs, in the same way, it may create a slowdown of economic activities. The COVI-19 pandemic has had significant devastating effects on the country?s economic activities. Some companies are already feeling these effects. In a survey made by GICAM (2020) from the 13th to 21st April 2020, in a sample of 100 enterprises, 92% admitted the pandemic is harming their turnover[5]. Globally, 44% of companies declared that the purchases have been affected. Most impacted are manufacturing company with 56%. Tomatoes and chicken sectors are facing a severe crisis. Tomatoes crisis is firstly due to borders closed of countries like Equatorial Guinea and Gabon which greatly import tomatoes from Cameroon. Prices drop to 80% and placed several producers in a very difficult position.</p> <p>With the devastating effect of COVID-19 on the economy of the countries affected, governments are focusing public resources on rebuilding the economies of countries. Cameroon is not an exception There is a risk that, Cameroon will prioritize the management of its internal security challenges over project co-financing in its 2021 national budget.</p> <p>The risk is only partly under project control. The PPG will portray the importance of having a strong national biosecurity framework in place and foster financial commitment from key sectorial stakeholder institutions.</p>

[1] <https://climateknowledgeportal.worldbank.org/country/cameroon/climate-data-projections>

[2] <https://covid19.who.int/region/afro/country/cm>

[3] https://mpra.ub.uni-muenchen.de/102245/1/MPRA_paper_102245.pdf

[4] Mbadi, O. (2019). Crise anglophone au Cameroun: les entreprises dans la tourmente. Jeune Afrique.

[5] GICAM. (2020). COVID-19 Impact sur les entreprises au Cameroun. GICAM

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
SRIF-Cameroon Biosecurity PIF_am	

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And GEF Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Dr. Haman Unusa	GEF Operational Focal Point	Ministry of Environment Protection of Nature and Sustainable Development	5/19/2022

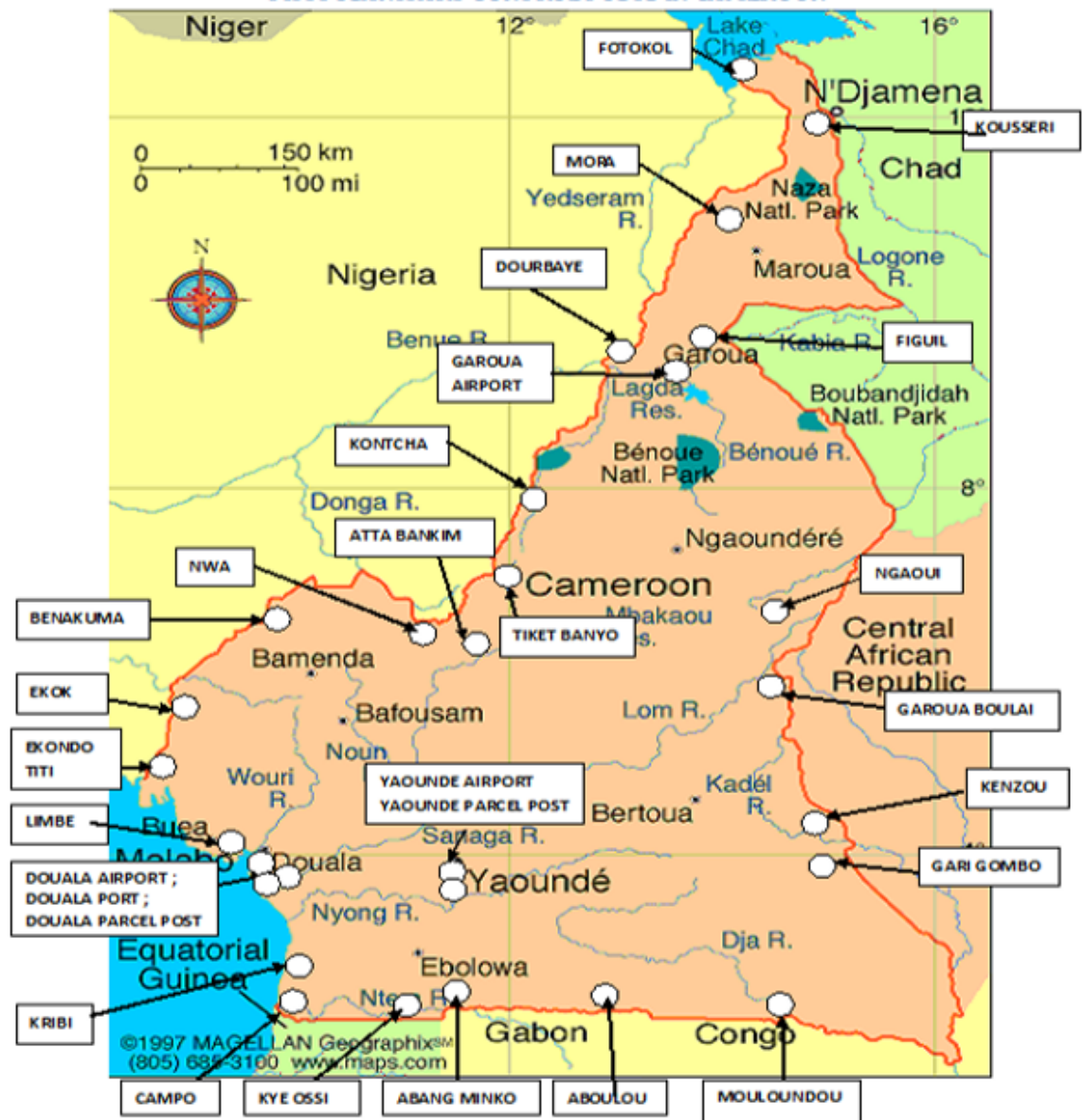
ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

Map 1: Positions of Phytosanitary Posts on the map of Cameroon (Ndikontar 2009).



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Table