



Implementation of National Biosecurity Framework of Ethiopia

Part I: Project Information

GEF ID

10984

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Implementation of National Biosecurity Framework of Ethiopia

Countries

Ethiopia

Agency(ies)

UNEP

Other Executing Partner(s)

Environmental Protection Authority of Ethiopia

Executing Partner Type

Government

GEF Focal Area

Biodiversity

Taxonomy

Focal Areas, Species, Biodiversity, Supplementary Protocol to the CBD, Biosafety, Influencing models, Demonstrate innovative approach, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Stakeholders, Type of Engagement, Private Sector, Individuals/Entrepreneurs, Communications, Local Communities, Indigenous Peoples, Beneficiaries, Civil Society, Gender Equality, Gender Mainstreaming, Women groups, Sex-disaggregated indicators, Gender results areas, Access to benefits and services, Participation and leadership, Integrated Programs, Capacity, Knowledge and Research, Theory of change, Learning, Adaptive management, Knowledge Generation, Capacity Development

Sector

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48 In Months

Agency Fee(\$)

172,369.00

Submission Date

4/13/2022

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-3-8	GET	814,415.00	1,000,000.00
BD-2-6	GET	1,000,000.00	3,000,000.00
Total Project Cost (\$)		1,814,415.00	4,000,000.00

B. Indicative Project description summary

Project Objective

To develop and implement a national biosecurity framework for safe and credible identification, assessment, monitoring, enforcement, and management system for biological invasions/introductions in Ethiopia.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
I. Policy, regulatory and technical Frameworks on Biosecurity	Technical Assistance	1. Policy and Regulatory instruments on Biosecurity established	1.1 Policy on Biosecurity, strategy and Action plans on IAS and LMOs developed 1.2 Measures to operationalise the Biosafety Proclamation through updated biosecurity directives focused on biosafety and biosecurity measures on IAS	GET	200,000.00	500,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
II. Institutional Capacity Building for the management and control of Invasive Alien Species (IAS) and the implementation of the Cartagena Protocol on Biosafety	Technical Assistance	2. Fully operational institutional frameworks for the management of LMOs and IAS including an updated information system established	<p>2.1 Updated Inventory and Map of IAS developed</p> <p>2.2 Administrative system for handling LMOs and IAS established</p> <p>2.3 Identified laboratories to handle LMO and IAS detection upgraded</p> <p>2.4 Operational manuals for handling including detection, risk assessment and management, emergency responses</p> <p>2.5 Decision making systems for IAS and LMOs tested through selected pilot studies</p> <p>2.6 A capacity building and training strategy on Biosecurity developed for identified stakeholders involved in the management of IAS and LMOs including Trainer of Trainers workshops for Port entry officials, Regulatory agency officials, Scientists, Policy makers, Civil society and importers/exporters</p>	GET	1,000,000.00	1,500,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
III. A National biosecurity Knowledge and Information Management System	Technical Assistance	3. A National biosecurity Knowledge Management System is established to inform effective IAS prevention, control, monitoring and management, in partnership with key stakeholders.	<p>3.1 A National Biosecurity Information System (NBIS), including a participatory monitoring network using citizen science and modern ICTS (information, communication technology Systems) is operationalized to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols.</p> <p>3.2 The national biosecurity communication and awareness raising plan developed and implemented through sensitisation for key institutions (manuals, guidelines and operating procedures)</p>	GET	314,415.00	500,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IV. Project Monitoring and Evaluation	Technical Assistance	4. Effective Project Coordination and delivery meeting agreed measurable outputs and indicators	4.1 A comprehensive project monitoring and evaluation (M&E) framework developed and implemented drawing on best practices and lessons learnt 4.2 Mid-Term/Terminal Evaluation	GET	140,000.00	500,000.00
Sub Total (\$)					1,654,415.00	3,000,000.00

Project Management Cost (PMC)

GET	160,000.00	1,000,000.00
Sub Total(\$)	160,000.00	1,000,000.00
Total Project Cost(\$)	1,814,415.00	4,000,000.00

Please provide justification

N/A

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	Environmental Protection Authority	In-kind	Recurrent expenditures	4,000,000.00
Total Project Cost(\$)				4,000,000.00

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	Ethiopia	Biodiversity	BD STAR Allocation	1,814,415	172,369	1,986,784.00
Total GEF Resources(\$)					1,814,415.00	172,369.00	1,986,784.00

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	Ethiopia	Biodiversity	BD STAR Allocation	50,000	4,750	54,750.00
Total Project Costs(\$)					50,000.00	4,750.00	54,750.00

Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management for conservation and sustainable use

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
100,000.00	0.00	0.00	0.00

Indicator 1.1 Terrestrial Protected Areas Newly created

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
100,000.00	0.00	0.00	0.00

Name of the Protected Area	WDP A ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
Akula National Park Dabaeta chian of mountain	125689	SelectHabitat/Species Management Area	90,000.00			<input type="checkbox"/>
Akula National Park Firka River Basin	125689	SelectHabitat/Species Management Area	10,000.00			<input type="checkbox"/>

Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

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

Name of the Protected Area	WDP ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
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Indicator 2 Marine protected areas created or under improved management for conservation and sustainable use

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
50,000.00	0.00	0.00	0.00

Indicator 2.1 Marine Protected Areas Newly created

Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
50,000.00	0.00	0.00	0.00

Name of the Protected Area	WDP ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
Akula National Park Lemba Wetland	125689	SelectHabitat/Species Management Area	25,000.00			<input type="checkbox"/>
Akula National Park Wetland Bochese and Abayi Danaba	125689	SelectHabitat/Species Management Area	25,000.00			<input type="checkbox"/>

Indicator 2.2 Marine Protected Areas Under improved management effectiveness

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

Name of the Protected Area	W DP A ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
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Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
70000.00	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)
15,000.00			

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)
15,000.00			

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)
40,000.00			

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)

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
100000.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
15,000.00			

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
20,000.00			

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
40,000.00			

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
25,000.00			

Documents (Please upload document(s) that justifies the HCVF)

Title Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	981355	0	0	0
Expected metric tons of CO ₂ e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	981,355			
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting	2024			
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting	2028			
Duration of accounting	3			

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

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	2,000			
Male	4,000			
Total	6000	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. Potential CO2 mitigation for Core Indicator 6 was estimated using the FAO Ex-ACT methodology as 981,355 tonnes of CO2. The calculation is attached as an Annex to the PIF. The estimated figures will be reviewed during the PPG phase.

Part II. Project Justification

1a. Project Description

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.

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

Ethiopia is known for its rich natural resources and is endowed with a substantial amount of water resources. Ethiopia has also been identified as one of the eight centres of origins of different cultivated crops (eg. Teff, Barley, Wheat, Coffee, Sorghum). The country's diverse environmental conditions and cultural history of the people make Ethiopia an important primary and secondary center for many cultivated species, serving as an economically and ecologically important source of germplasm.

Ethiopia is located in the horn of Africa, bordering Eritrea in the North, Djibouti and Somalia in the East, Kenya in the South, Sudan and South Sudan in the West. The country stretches from 3°N of the equator to 15°N latitude and from 33°E to 48°E longitude, and has an area of 1,127,127km². Ethiopia is the ninth largest country in Africa while its population of over 100 million, makes it the second most populated country in the continent.

Ethiopia has rugged and mountainous topography with an altitude ranging from a height of 4620 meters above sea level at Mount Ras Dejen in North Gondar to a low of 116 meters below sea level in the Dalol Depression of the Afar region. Because of the combined effects of the above factors, Ethiopia is endowed with variable environmental futures that are inhabited by amazingly great diversity of plant, animal and microbial genetic resources which play vital economic, social and environmental roles. However, these resources have been adversely affected by direct and indirect pressures such as of invasive alien species and new biological introductions to the national ecosystems.

Invasive Alien Species

Invasive Alien Species (IAS) are currently becoming one of the potential threats of Biological Invasions to both water bodies and dry landscapes of the country. There are about 35 invasive alien species identified in Ethiopia and prioritization of invasive alien species was done by considering facts such as the magnitude of invasiveness, threats to local biodiversity, socio-economic and human health impacts. Priority species are Parthenium weed (*Parthenium hysterophorous*), Mesquites (*Prosopis juliflora*), Water hyacinth (*Eichhornia crassipes*), Lantana (*Lantana camara*), striga species and Ductylopius coccus (Cochineal) and Calotropis procera. Invasive alien species (IAS) is becoming increasingly problematic in Ethiopia and is the second most important factor that affects environment and biodiversity in global perspective (GEF, 2003, UNEP 2010).

Parthenium hysterophorus and *Prosopis juliflora* are causing significant damage to crop and rangeland species leading to changes in vegetation composition. *Eichhornia crassipes* known commonly as Water hyacinth has been causing an enormous problem in lakes, water reservoirs and irrigation canals. Other equally important invasive species include the parasitic weeds such as *Striga*, *Orobanche* and *Cuscuta species*, and *Lantana camara*, a perennial widespread shrub. the parasitic weeds such as *Striga*, *Orobanche* and *Cuscuta species* ((EARO, 2016). There are newly emerging invasive alien species around the country which are becoming very serious source of concern including *Calothropis procera* and *Mimosa invisa* (MoLF, 2017).

These invasive alien plant species pose the biggest threat to biodiversity after habitat destruction and cause a serious threat to agriculture, livelihoods and human health in many parts of the country. Because of their unique characteristics they do not need special environmental requirement for seed germination, to have rapid seedling growth and produce seeds for longer period as long as environmental condition permit. These alien species outcompete, infect or transmit diseases, compete, hybridize with the native ones or attack them and these leads to sound effects on social instability and economic hardship, placing constraints on sustainable development, economic growth, poverty alleviation and food security. These alien species invasions are causing substantial impacts on livelihoods among farming and fishing communities with negative impacts on the Ethiopian Economy. The estimated costs of Invasive Alien Species on crops and livestock production on the economy of Ethiopia is reported to be about \$44 million annually.

Among the natural and crater lakes in Ethiopia; Lake Tana, Lake Abaya, Baro River and the reservoir of the Koka Dam, water bodies are facing critical challenges due to large scale invasion by Water Hyacinth. Since it surfaced in Ethiopia, water hyacinth has been posing social, economic and environmental challenges. First and foremost, by creating dense and impenetrable mats, water hyacinth

makes access to water bodies? difficult. This in turn affects various economic activities on water bodies related to fisheries, irrigation, navigation or transport, hydroelectric programmes and tourism. In 2011, the Regional Environmental Bureau named water hyacinth as the most dangerous weed affecting Lake Tana. In 2014, researchers from Ethiopia found out that about one-third of the lake's shoreline, around 128km, was invaded by water hyacinth. The challenge is daunting. Ecological, benthic and littoral diversity is reduced, while population of vectors of human and animal diseases such as bilharzia and malaria are increased with water hyacinth invasions. Invasion of water hyacinth also affect biodiversity in which dense mats of the weed covering the water surface lead to deoxygenation of the water, thus, affecting all aquatic organisms.

It is known that a dense cover of water hyacinth enhances evapotranspiration and has the potential to reduce water volume. The ecosystems of these water bodies are affected in the same ways as well, especially through eutrophication and lethal gas production through decay. Unless controlled, water hyacinth can cover entire lakes and ponds, dramatically affecting water flow, while blocking sunlight from reaching native aquatic plants, causing them to die. The decay processes deplete dissolved oxygen in the water, often killing fish. Water hyacinth invasion also resulted in rotting, posing health risks through water quality degradation, increased siltation and potential for flooding.

Even though there have been efforts by government and local community in terms of watershed management using different watershed management interventions, still large amount of nutrient which enhance growth and development of water hyacinth has been entering to lakes and other water bodies in Ethiopia. This is further aggravated by lack of buffer zone around water bodies which would play significant role in retaining nutrients from entering the water bodies.

Lake Tana which is the source of Blue Nile River with regional and international importance is a clear case for a dedicated and coordinated effort in the management of Invasive Alien Species. Different studies and surveys by different institutions shows that water hyacinth invasion continues on the lake and there is a potential danger that this weed could gradually colonize all downstream water resources development schemes including the multipurpose Ethiopian Renaissance Dam which is under construction. As the member of the riparian states of the Nile, Ethiopia is working towards achieving shared vision with the objective to sustainable socioeconomic development based on sound environmental management principles guided by scientifically sound Risk Analysis approach and methodologies through the equitable utilization of, and benefit from the common Nile Basin water resources. However, water hyacinth, if not managed and controlled, would be one of the development challenges towards achieving not only Ethiopian vision but other downstream countries? as well.

Koka Lake located in the Awash Basin which provides water for its cascading dams, is a source of water for horticultural production and large-scale sugar farms has been invaded by water hyacinth. Lake Ziway which provides different services including floriculture production in the rift valley lakes basin is also victim of the weed. The challenge of water hyacinth is even worse in Abaya Lake in Southern States, Nationalities and Peoples Region because the lake is invaded by large population of

crocodile which makes water hyacinth control highly difficult. Surveys conducted so far also show that the Baro River which is a tributary to White Nile has also been invaded by water Hyacinth. Hence, the problem of water hyacinth is not limited to one region or an issue of single water body in Ethiopia, but it has now become a national challenge which calls for strategic and coordinated efforts. The techniques and capacity built will be adapted to support other potential areas where the issue of Invasive Alien Species need to be executed through the Directorate at the Environmental Protection Authority of Ethiopia.

Living Modified Organisms

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Research in agricultural biotechnology was started decades ago by the Ethiopian Agricultural Research Institute (EIAR) and other universities. Production of disease free, best and genetically uniform quality planting material in short time through plant tissue culture was the priority research area in the early 2000s. Ultimately, more than 60 mass propagation protocols for high value crops have been developed. Gradually, molecular studies in plant, microbial and animal breeding was started and currently there are more than hundred research activities under plant, microbial and animal biotechnology research programs in EIAR and many more at Ethiopian Biotechnology Institute (EBTI).

Ethiopia is currently collaborating with other countries in the Africa region and international organisations in agriculture biotechnology. Activities include confined or contained research trials of Genetically Modified (GM) crops. The first GM crop in Ethiopia was Bt-cotton in 2016 with funding from Ministry of Science and Technology (MOST). This was to address critical cotton production problem in the country as the result of cotton boll worm (insect pest) and the high demand for cotton due to flourishing textile industrial parks in the country.

In Ethiopia, based on the national interest of enhancing cotton production, Bt-cotton project was developed and funded by the Government. The Bt-cotton hybrid seeds were obtained from an Indian company, JK AgriGenetics (JKCH 1947 and JKCH 1050) were evaluated under confined conditions in 7 major cotton growing areas of Ethiopia in comparison with local or adapted varieties (non-GM) and Sudanese GM variety in 2016 and 2017. The permission to conduct confined research was issued by the then Ministry of Environment, Forest and Climate Change (MEFCC) now Environmental Protection Authority based on the amended proclamation in 2015.

The second GM crop developed in Ethiopia is Enset, *Ensete Ventricosum*, which is highly affected by bacterial (*Xanthomonas*) wilt and no effective solution has been found to handle the disease through classical research. This bacterial wilt disease is impacting negatively on more than 20 million people

who depend on Enset as a staple food. This study is ongoing at the laboratory stage , is yet to go for confined field trial and commercial in collaboration with International Institute of Tropical Agriculture (IITA).

The third LMO is an insect resistant and drought tolerant maize (WEMA/TELA[1]¹) project, which is under confined field trial on permission for research by EPA. The Water Efficient Maize for Africa (WEMA) project is ongoing with activities on environmental and food, feed safety.

Through the ongoing research, the EPA continues to build capacity in biosafety in order to provide a regulatory response based on sound science evidence before release to the environment. It was within this context that Ethiopia ratified the Cartagena Protocol on Biosafety in 2003 and the Council of Ministers approved the biosafety Proclamation in 2009 (Number 655) to support the regulation and management of Genetically Modified Organisms. The regulation was amended in 2015 with the proclamation number 896 to align its content and scope to new developments in modern biotechnology and biosafety. This revision constituted an important landmark towards the establishment an enabling environment for safe and responsible application of modern biotechnology in Ethiopia.

To support implementation of the protocol, Environmental protection Authority has developed five directives namely:

- ? The content of an application for undertaking deliberate release of modified organisms;
- ? Risk assessment parameters for modified organisms;
- ? Management of risks from any transaction involving modified organisms;
- ? Determine the requirements for transport and storage of modified organisms;
- ? Establish major contents of an application for the special permit to engage in the transactions of modified organisms for research or teaching.

In addition, EPA established the National Biosafety Advisory committee with 13 members represented by concerned institutions including Ministry of Health, Ethiopian Biodiversity Institute, Universities and Consumer associations to mention few of them. To ensure that all activities conducted complies with the Biosafety (Amended proclamation) Proclamation and its Directives, EPA has approved directives on Institutional biosafety Committee. The Committee has the role to initially review

applications before submission to EPA and undertake monitoring and inspection for compliance of research involving modified organisms in line with the existing regulatory provisions. The Commission has also developed public awareness guideline.

Per the current situation analysis and ongoing developments, the proposed project provides an opportune time to harmonise and consolidate efforts based on risk analysis and scientific evidence to support the management of IAS and decision making. The interventions will build institutional capacity to manage new introductions of biological organisms guided by environmental safeguard and safety principles in the sustainable use of Biological Diversity.

Ethiopia is a signatory to the Convention on Biological Diversity and the Cartagena protocol on biosafety and is intending to implement its provisions including capacity-building, infrastructure and awareness-raising at all levels in the management of Biological introductions as an approach anchored on the Risk Analysis principle of risk assessment, risk management and risk communication. The key innovation in the proposed project is to develop and implement a science-based biosecurity approach to the management of biological introductions anchored on the risk analysis through a coordinated and multi sector-based approach. Biosecurity measures grounded on a risk analysis-based approach, coordinated and multi sectoral efforts and a safety-first principle could help in addressing the challenges Ethiopia is facing with biological invasions or introductions to its ecosystems.

Ethiopia is seeking GEF Funding to address the issues raised.

Barriers to the implementation of a coordinated National Biosecurity Framework includes the following

Barriers: The issues described above are 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 include:

Fragmented policy, regulatory and institutional frameworks: implementation of Biosecurity measures in Ethiopia is currently fragmented and sectoral. The policy and regulatory measures are vested in 3 major sectoral agencies (Environmental Protection Authority, Ministry of Agriculture and Ministry of Health). Environmental Protection Authority has the mandate to implement environmental policy of the country and is in charge implementing the proposed biosecurity project. What is lacking is the need for

strengthened inter institutional coordination and focus beyond sectoral matters as biosecurity measures are cross cutting.

The 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 - laws, decrees; and biosafety - 1 laws, 6 directives.

There are no provisions in the Constitution that are directed at food safety or animal and plant health. However, some of the human rights provisions can be construed as incorporating the basic tenets of *Biosecurity*. The right to a "clean and healthy environment" is one of the rights that Ethiopian citizens are accorded as part of their fundamental and inalienable human rights (art. 44). What constitutes a clean and healthy environment is not explained in the Constitution. But a healthy environment requires protection of flora and fauna from organisms, chemicals, pests and invasive species. A clean and healthy environment cannot be ensured where minimum requirements of plant and animal health are absent. Thus, the protection of the environment against harmful substances or practices stems from the construction of these constitutional provisions. Whilst there are constitutional provisions that could be directed to address biosecurity issues in the area of food/plant and animal safety, the current policy and regulatory environments which is highlighted as a key barrier does not have the needed risk analysis-based policy and regulatory instruments with support human rights-based approaches in handling the identified barrier.

A corresponding duty is imposed on the government to refrain from negatively affecting the health and development rights of the people (art. 92) and to promote those rights by issuing relevant protection schemes. All actors (state agents and non-state actors alike) shall respect the constitutional safeguards that are in place to ensure the balance between economic development and environmental protection (art. 43). The Constitution also provides for the improvement of the livelihood of the people of Ethiopia. Ethiopians also enjoy a right to be consulted on the adoption of policies and the implementation of projects affecting their communities. Prior informed consent of those communities is a pre-condition to the implementation of such projects.

Ethiopian citizens also have a right to be protected from undue displacement from areas where they live. In the event that this is compulsory (for instance, in case of health emergencies), people are entitled to monetary or non- monetary compensation, including relocation with adequate state assistance.

The absence of constitutional provisions which are t specific to food safety or the protection of animal and plant health have been seen as challenge in mainstreaming biosecurity in relevant sectors. However, the existing constitutional provision lay down the basic conceptual framework for the setting of *Biosecurity* norms in the sectors of human health, environment and plant and animal health.

Policy coverage of Biosecurity in Ethiopia Environment

In addition to incorporation of environmental issues in the Constitution, the framework of environmental protection in Ethiopia involves the formulation of an overarching environmental policy. The policy outlines principles to be followed in order to ensure the respect for environmental values, taking into

account the economic, social and cultural circumstances of the country. The policy provisions relevant for Biosecurity in Ethiopia are discussed below.

The Environment Policy of Ethiopia (EPE) was approved by the Council of Ministers in 1997. The overall EPE goal is "to improve and enhance the health and quality of life of all Ethiopians and to promote social and economic development through the sound management and use of natural, human made and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs".

In the EPE goal, there are features pertinent to the enhancement of human health and the protection of animals and plants from pests and diseases. The policy targets as an ultimate goal the protection of the health and quality of life of the people. Though this goal does not provide for a list of the activities identified as harmful to human health, it can be inferred from the specific policy provisions that some elements of Biosecurity are instrumental to achieving the goal.

Principles of intra- and intergenerational equity are echoed in the policy in the sense that Ethiopian nationals have the right to utilize available natural resources, while at the same time they have the duty to conserve them for the use of future generations. Conservation of biodiversity and ecosystems appears in the policy. The policy also prohibits causing harmful and irreversible consequences to the natural and cultural heritage of the country.

The EPE contains sectoral and cross-sectoral elements that are of significance to Biosecurity. Under the sectoral policies, the most relevant aspects are those dealing with genetic, species and ecosystem biodiversity; human settlements, urban environments and environmental health; control of hazardous materials; and cultural and natural heritage. At the cross- sectoral level, EPE tries to link thematic issues like environment and population, community participation in decision-making, tenure and access rights to land and natural resources, and the importance of environmental impact assessment (EIA) and community participation in decision-making. EIA has a particular significance to ensure that the Ethiopian people and environment are safeguarded from alien elements that negatively affect the food system, ecosystems or any component of the environment. Owing to the importance of the EIA tool to a Biosecurity approach is a basic need.

The EPE envisages measures to develop and disseminate sustainable technologies to enhance agricultural production. This section of the policy can be the basis for regulating products of modern biotechnology under the draft National Biosafety Framework, particularly as regards the intentional release of such products into the environment.

There is a policy provision stating that ecosystems should be safeguarded from possible biological contamination through quarantine legislation. The possibility that some animals or plants may be infected with diseases and pests is also articulated in the policy for future action.

The EPE urges actions for the restriction of exotic species from biodiversity hotspot areas, thereby limiting the spread of some potentially invasive plants. Though the country does not have a stand-alone policy or specific legislation on invasive alien species, this policy element can be used as a basis for future actions. The possible adverse effects of invasive alien species on biodiversity are also recognized under the water resources conservation section of the EPE. Its objective is to ensure that any proposed introduction of

exotic species into water ecosystems is subject to detailed ecological studies and EIA. It also recognizes that natural ecosystems, particularly wetlands and upstream forests, are fundamental to rendering ecosystem services and hence deserve conservation. As with invasive alien species, despite this policy statement there is no law in place governing conservation and utilization of fisheries resources.

The policy goals laid down in the EPE seem to reflect the government's commitment to conserve natural resources and protect the environment. However, it is clear that this commitment has to be substantiated through detailed and enforceable rules. The EPE has a mechanism for its periodic revision, although no initiative has been taken in that respect after the adoption of the policy.

In spite of the policy foundation, the quarantine laws of the country are far from meeting international standards. The problems emanating from the movement into and out of the country of organisms that can be categorized as plant pests and animal diseases remain without an adequate legislative response.

The policy environment in Ethiopia is currently fragmented and weak; the critical information required by the different stakeholders is not available; and the implementation of prevention and control programmes is slow or inadequate and capacity is lacking.

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 policy direction on the management of invasive alien species; limited surveillance at the border posts; lack of measures for the detection of IAS; and the absence of provisions for contingency and emergency planning, early detection and rapid response, eradication, and sustainable management of IAS. The regulatory framework relating to food safety is vested in Ministry of Health. 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 safe 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. The Ministry of Agriculture and the Environmental protection authority have 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. Environmental Protection Authority 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 consider all stages of the IAS management hierarchy from prevention to restoration. This situation is paralleled in the Ministry of Health and the Water Resources Commission 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. Forest sector under the then commission of Environment, Forest and Climate Change 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).

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 Ethiopia 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 in the ongoing Ethiopian Biosafety Framework Project and earlier executed UNEP-GEF Invasive Alien Species Project for Africa during which 3 trainer of trainers' workshops were conducted resulting in the development of training manuals, guidelines and 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 designated for LMO Detection and testing activities on IAS. The ongoing National Biosafety Framework Project is being supported to procure and donate laboratory equipment to the then Ethiopian Environment and Forest Research Institute for LMO detection, diagnostics and monitoring. Amongst the equipment procured, is a Real-Time PCR which is essential in carrying out testing of COVID-19. Furthermore, COVID-19 outbreak in Ethiopia 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 Ethiopia especially as Ethiopia is a major destination or transport hub. The risks posed also have impact on shared biological resources in the region. Successful management initiatives have been undertaken in agriculture (e.g., biological control for water hyacinth), 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 Ethiopia). 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 Ethiopia 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 Ethiopia 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 Ethiopia 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 Ethiopia 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 less work has been done with regards to the assessment of the potential socio-economic impacts of LMO introductions. The precursors to a knowledge management system have been produced under the Ethiopia Biosafety Project but there is not yet an easy to access one stop shop through which to obtain relevant information.

During the execution of the national biosafety project and internal work on invasive alien species, information gained suggest a small and progressive increase in the awareness in the general public on Biosafety. There has also been an increased implementation of officially mandated biosecurity measures and improved management strategies that were influenced by Cartagena Protocol on Biosafety outputs. Behaviour change concerning GMOs revealed an increased acceptance of GMOs as being potentially useful if introduced under a strict regulatory regime. As recommendation, a thorough orientation of key stakeholders on GMO through training is recommended; with the modules covering biosafety, risks and benefits of modern biotechnology, risk analysis of GMOs, and public awareness, consultation and participation. Furthermore, it is strongly recommended that a survey of this kind is undertaken at the beginning of the 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. A national biosecurity communication plan and strategy should be developed and implemented on a large scale. Hence, there is need for further support to carry out more awareness raising activities within the Ethiopia Biosecurity project in order to create a wider outreach and more impact.

The envisaged project interventions will provide outputs and eventual outcomes that will ultimately contribute to the conservation and sustainable use of Biological Diversity by strengthening coordination and implementation of National Biosafety Frameworks in the safe use, transport and handling of Living Modified Organisms through a risk analysis approach.

2) The baseline scenario and any associated baseline projects

The policy, legal and institutional scenarios on biosecurity currently which presents the baseline are highlighted below

Policy & Legal scenarios

The policy legal frameworks for the management of IAS and LMOs in Ethiopia is currently scattered across several agencies with different mandates.

The management of IAS and LMOs in Ethiopia, is a cross-sectoral issue and reflected in different sectoral and cross-sectoral legal instruments. Some of the major instruments that have incorporated IAS and LMO issues in explicit, implied and inferred manner are presented as follow.

Constitution

Constitution of the Federal Democratic Republic of Ethiopia, Proclamation No. 1/1995, Art. 44 states that all persons have the right to a clean and healthy environment, and the government has duty to ensure that all Ethiopians live in clean and healthy environment. This constitutional provision has an implication for the need to prevent and control any impact of IAS, LMOs and all biological introductions on environment.

The Environmental Policy of Ethiopia

The Environmental Policy of Ethiopia (EPE) which was issued in 1997 is the national framework policy on the environment-development issues. It provides guiding principles and key policy direction to all priority sectors that has significant interface with environment. The overall goal of the policy is to

improve and enhance the quality of life of all Ethiopians and to promote sustainable, social and economic development through the sound management and use of natural, human-made and cultural resources, and the environment as a whole; so as to meet the needs of the present generation without compromising the ability of future generation to meet their own needs.

The EPE contains ten sectoral and ten cross-sectoral policy elements. The IAS issues have been explicitly articulated in the following policy sections: Forest, Woodland and Tree Resources; Genetic Species and Ecosystem Biodiversity; and Water Resources Conservation. The policy section on Environmental Impact Assessment (EIA), Environmental Education and Awareness, and Tenure and Access Rights to Land and Natural Resources have implication to the IAS prevention and management and LMOs. However, IAS prevention, management and eradication are not clearly articulated in the environmental policy of Ethiopia, the IAS issue has largely remained to being narrowly perceived simply as another pest and/or weed problem. The management of LMOs are further highlighted through the Biosafety Proclamation and the Biotechnology Policy of Ethiopia.

National Policy on Biodiversity Conservation and Research

The National Policy on Biodiversity and Research was issued in 1998. The policy generally emphasizes on conservation, development and sustainable utilization of biodiversity and sovereign right over its genetic resources. The policy directives states the need to enact legislation to protect; conserve and sustainably utilize the biological resources in Ethiopia, movement exchange of genetic resources to be governed by the laws and regulations, to reduce the pressure on and avoid degradation of the biological resource have implication to the IAS prevention and management. Even though, IAS is the major threat to biodiversity conservation and sustainable utilization, IAS is not mentioned explicitly in this policy document. However, this policy has an implication to the need to prevent and control any impact of IAS on biodiversity as IAS is the major threat to conservation and sustainable utilization of biodiversity. The Policy also makes provisions as one of the anchors of the Biosafety Proclamation.

The National Agricultural Research Policy

The National Agricultural Research Policy (NARP) was drafted in October 1994. The major policy objectives to be pursued are ensuring that the various research programs are demand driven, problem-oriented, integrated and complementary, that they alleviate major agricultural constraints, and develop conservation-oriented and sustainable technologies. A number of detailed policy guidelines were formulated to help attain these objectives. There are two policy elements in the guidelines, which specifically deal with environmental protection. These are conducting research to develop/select

technologies that help to prevent the loss and degradation of agricultural and natural resources and ensuring generation/selection of appropriate technologies targeted at addressing major constraints that could arise in the different agro-ecologies and farming systems.

Policy and Strategy on Forest Development, Conservation and Utilization

The Policy and Strategy on Forest Development, Conservation and Utilization was approved in 2007. The general policy objective is to meet public demand in forest products and foster the contribution of forests in enhancing the economy of the country through appropriately conserving and developing forest resources. One of its specific objectives is on establishing the foundation wherein forest resources deliver all-embracing services to the country in a sustainable manner, through the prevention of threats as well as the conservation and development of forest resources have an implication to IAS control and management. The policy document has inferred provisions relevant to invasive alien species control and LMOs. Under the subtitle "Protecting Forest Resources from Threats", it was stated that remedial actions will be implemented to avert natural or anthropogenic threats on forests placed under any form of ownership to keep forests from devastation.

Water Resources Management Policy

The Water Resources Management Policy (WRMP) was issued in 1999. Its overall goals are to enhance and promote efforts towards an efficient, equitable, and optimum utilization of the available water resource, and contribute to the country's socioeconomic development on sustainable basis. The policy measure of WRMP regarding environmental sustainability includes the application of EIA in water resource development projects and that the policy encourages effective consideration of environmental sustainability in all water resource management activities. However, the WRMP does not explicitly refer to any measures to address threat from the IAS.

The Rural Land Administration and Land Use (Proclamation No 456/1997 and 456/2005)

The Rural Land Administration and Land Use (Proclamation No 456/1997 and 456/2005) by the Federal Ministry of Agriculture (the then MoARD) asserts a rural land administration that promotes the conservation and management of natural resources. But how this might translate to protect the

natural resources from the probable effects of IAS has not been clearly explained. The proclamation on the other hand puts rural land use restrictions by prohibiting free-grazing and excluding areas such as water banks of streams and rivers from use for farming and free grazing except for development of riparian trees, perennial reeds and forage production. Most Regional States have Environmental Conservation initiatives.

Ethiopian National Biodiversity Strategy and Action Plan

The Ethiopian National Biodiversity Strategy and Action Plan (NBSAP) also address IAS (EBI, 2015) under Target 6. The NBSAP is an overarching document to the 1998 policy direction which recognizes IAS and had aimed to reduce areas invaded by invasive species by about 75% until 2020. Although this target is apparently far from substantial achievement given the increasing alarming situation of IAS in the country, an ex-post assessment of the impact of the various intervention measures taken as a result of the above strategy is worth a consideration to measure its success. It has no provision on LMOs.

Weed Science Research Strategy

The Weed Science Research Strategy (WSRS) was issued in July 2000. The general objective of the strategy is to develop and disseminate weed management technologies, create awareness especially about newly introduced noxious weed species including IAS and LMOs in case they exhibit weediness, and enhance coordination and networking. The specific objectives for short, medium- and long-term IAS management is explicitly addressed as a major component through wide range of planned activities on biology, ecology and integrated management. Further, it is indicated the research approach will be multi-disciplinary, agro-ecologically based, demand driven, gender sensitive and participatory.

Other national policies and strategies

Other national policies and strategies such as Biotechnology policy (2000) and Plant Protection Research Strategy (2000) consider sustainable use of natural resources by minimizing pollution and degradation of resources and keeping pests below economic threshold with emphasis on immediate benefits of the technological interventions.

There was an effort to develop draft National IAS Strategies and Action Plan (NISSAP); by GoE and UNEP/GEF project lead by the EIAR in 2006-2008 but it was not approved and implemented.

In certain cases, there has been specific strategies developed for the purpose of controlling or managing the IAS as is the case of, the Ethiopian Prosopis Strategy (MoLF, 2017) and the National Water Hyacinth Strategy (MoWIE, 2019). Along with the Ethiopian Prosopis Strategy initiative for the control or management of Prosopis, other initiatives of national IAS management guidelines were also prepared that are highlighted above. However, reports show that threats of invasive plants in Ethiopia have been less studied, and some appear to be off the limit to control showing the insufficient institutional capacity and limited focus in the research, monitoring and control of IAS supported by appropriate policy. Ethiopia is also a signatory to various international conventions such as Convention on Biological Diversity (CBD), United Nations Convention to Combating Desertification (UNCCD) and International Plant Protection Convention (IPPC) which has some relevance to IAS prevention, management, control and eradication.

The policies and strategies in most instances are not specifically dealing with IAS but are generally intended to ensure a safer and sustainable natural resource management; moreover, there has not been a standalone clear national policy document and binding legal framework dedicated to IAS management in Ethiopia.

Institutional Scenario

IAS prevention, control and management involves several stakeholders, such as federal institutions, regional state institutions, city administrative, non-governmental organizations and professional societies, private sectors, international partners, and local communities. The duties and responsibilities of key stakeholders are defined through legal mandate articulated in the respective establishment proclamations. However, mandates are not necessary always clear and explicit regarding the IAS in the existing related policies, strategies and programs. LMOs are managed through the Biosafety Proclamation.

Stakeholder analysis was made to identify the major stakeholders from Government institutions, non-governmental institutions and international agencies. A brief summary of the institutional baselines is presented below:

House of Peoples Representative (Standing Committee of Agriculture, Pastoralist and Environmental Protection Affairs)

The House of Peoples Representatives is one of the two legislative bodies in the Federal Democratic Republic of Ethiopia which has the power to approve and ratify legislations (policies, proclamations, etc.) and control and follow-up the performances of the executive wing and judiciaries. It has different standing committees which are responsible for follow-up of specific sectors. Standing Committee of Agriculture, Pastoralist and Environmental Protection Affairs is one of these committees which is responsible for following-up on environmental issues involving Biological introductions including LMOs and IAS.

Environmental Protection Authority(EPA)

The EPA. The powers and responsibilities of the EPA include:

- ? preparing, reviewing and updating the preparation of environmental policies, strategies and laws and upon approval of applications, monitoring and enforcement of permits;
- ? establishing a system for environmental impact assessment of public and private projects, as well as social and economic development policies, strategies, laws and programs; and
- ? undertaking in consultation with competent agencies to formulate environmental safety polices and laws in relation to biosafety and invasive alien species.

The Proclamation also has provisions that treat the conditions under which sectoral environmental units and regional environmental offices are to be established. The EPA is an entity with regulatory functions and has established institutional frameworks at Directorate level to coordinate IAS and Biosafety activities. The EPA has the responsibility of administering Environmental Impact Assessment ? which is an instrument verifying the likely environmental consequences of development projects as well as strategic government documents. This role put the commission at a strategic place to assess and manage potential risks related to introduction of biological organisms including LMOs and IAS in the country. In addition, Ethiopian Biodiversity Institute (EBI), Ethiopian Environment, & Forest Research Institute (EEFRI) and Ethiopian Wildlife Conservation Authority (EWCA), which are dealing with IAS are accountable to Environmental Protection Authority.

Ethiopian Biodiversity Institute (EBI)

The Institute was established as the Institute of Biodiversity Conservation and Research (IBCR) in 1998 by Proclamation No. 120/1998 and amended in 2004 by Proclamation No. 381/2004. The Institute was re-established as the Ethiopian Biodiversity Institute (EBI) in 2013 by Regulation No.291/2013. Currently, the institute is accountable to Ministry of Agriculture

The Institute has initiated various policy and law, surveyed genetic diversity, undertaken both in-situ and ex-situ conservation, conducted conservation, sustainable use and access and benefit sharing research, studied community knowledge, and issued permits on import or export of biological samples of plant, animal and microbial genetic resources. The Institute has, among others, the following powers and duties that are pertinent to IAS management:

- ? Enrich the country's biodiversity resource through encouraging the traditional system of exchange of species by Ethiopian communities, and as appropriate, through the re-introduction of species from international sources and repatriating germplasm of Ethiopian origin from elsewhere in the world;
- ? issue directives on, and give import or export permit for, the introduction of biodiversity specimens into or out of the country;
- ? control and follow up the negative impacts of invasive alien species on the country's biodiversity
- ? undertake research relevant to ensure the conservation and sustainable utilization of biodiversity and the sharing of benefits arising from their utilization and monitor the impact of processes and category of activities that have or are likely to have adverse impact on biodiversity and devise the appropriate methods for their conservation and sustainable use.

The institute has an explicit IAS role. The institute conserves germplasm that is collected from areas threatened, by many factors including through invasion by IAS. It also undertakes biological monitoring, which is related to early warning and intervention. According to Regulation No. 291/2013, the Institute is mandated to grant or deny permits for the importation of specimens or samples of species.

The then Ethiopian Environment and Forest Research Institute (EEFRI) (reformed as the forest development)

The Ethiopian Environment and Forest Research Institute was established by Regulation No. of 327/2014 of the Council of Ministers of FDRE on December 26/2014, EEFRI is an autonomous nationally mandated government Research institute whose mission is to adapt relevant local and exotic technologies, conduct prudent research projects, and disseminate technologies, skills and policy briefs: and also coordinate research projects that are carried out by higher learning and other research institutions and serve as a national repository where scientific data, reports, thesis, dissertations, and research publications in the areas of climate change, environment and forestry are stored, processed and used. EEFRI conducts research on IAS related to forest protection, environmental and ecosystem management. It also hosts the national LMO Detection Laboratory which supports testing and monitoring of LMOs in Ethiopia.

Ethiopian Wildlife Conservation Authority

Ethiopian Wildlife and Conservation Authority (EWCA) was established through Proclamation No. 575/ 2008, EWCA has a responsibility to establish, administer and develop wildlife conservation areas (wildlife conservation area is an area designated for the conservation of wildlife, and includes national wildlife conservation parks, wildlife sanctuaries, wildlife reserves and wildlife-controlled hunting areas).

The EWCA fosters broad-based participation in the development, protection, rational utilization and management of wildlife. EWCA is also responsible for the issuance of permits for hunting wildlife, and for the establishment of facilities in national parks, game reserves or wildlife conservation areas that are under its jurisdiction. EWCA is also responsible for implementing policies, laws and regulations pertaining to wildlife conservation protected areas and it has a role in mitigating IAS in protected area through mobilizing local communities, which are potentially under threat from IAS. Currently authority is accountable to Ministry of Tourism.

Ministry of Agriculture

It was established as the Ministry of Agriculture and Rural Development (MoARD) by Proclamation No.383/2004 and re-established as Ministry of Agriculture (MoA) in 2019. The Ministry has powers

related to the issue of plant invasive species and development of modern biotechnology products for the food and agriculture sectors of the country. Its functions include among others;

- ? monitoring events affecting agricultural development and to set up an early-warning system;
- ? conducting quarantine controls on plants, seeds, animals and animal products brought into or taken out of the country including pest risk analysis and management; and
- ? taking the necessary measures to prevent outbreaks of animal and plant disease and migratory pests.

Ethiopian Institute of Agricultural Research (EIAR)

The establishment of the former IAR dates back to the late 1940s with a mandate to coordinate and undertake agricultural research. The IAR was changed to EIAR and was established by Proclamation No. 79/1997. The institution was restructured as a semi-autonomous entity through Proclamation No. 382/2004 to coordinate research activities in agriculture and to build research capacity and establish a research system that responds to the development needs.

EIAR has responsibilities that align to IAS management through its mandate to formulate agricultural research strategies and undertake or cause the undertaking of agricultural research activities based on the Agricultural Research Policy and Strategy. Moreover, EIAR undertakes plant protection and weed management research in Ethiopia and had an experience in undertaking research on IAS and assists the drafting of policies, laws/ regulations and strategies for control of IAS. Its role as the National Executing Agency for the earlier GEF Project RBIPMA (Removing of Barriers to Invasive Plant Management in Africa) has considerably strengthened EIAR's IAS-related capacity. Through its Biotechnology directorate, the Institute undertake confined and contained laboratory research on LMOs too.

Ministry of Water, Irrigation and Energy

The Ministry of Water Resource is mandated, among others, to undertake studies pertaining to the utilization of the waters of trans-boundary rivers and upon approval, follow up the implementation of same and prepare plans that help to properly utilize water resources. The Ministry of Water Resources

has an inferred IAS role in its mandates, particularly on IAS issues that relates to water bodies and movements of IAS facilitated by water by water.

Plan and Development Commission (Reformed as Plan and Development Ministry)

Plan and Development EPA is responsible and oversees both federal and sectoral development plans in a given fiscal year. The commission is identified as a key player to assist and ensure inclusion and mainstreaming of LMOs and IAS issues in the sectoral and coordinated management plans, assess related costs and identify key interventions with expert advice from EPA and other related agencies.

Regional States

Regional States have the power to formulate and execute economic, social and development policies, strategies and plan of actions within their own regions. In accordance with the laws of the Federal Government, regions have the right to administer the natural resources of the region and have established various implementing organs that are also relevant to the management of IAS and LMO issues. These institutions are mainly designated as agricultural and/ or environmental bureaus and mandated to. conduct quarantine control on plants, seeds, animals and animal products brought into or taken out of the regions and to monitor and enforce permit conditions on LMOs in consultation with the EPA. Their mandates are to

- ? ensure that laws, regulations and directives issued in relations to the protection, conservation and utilization of water, forest, soil fisheries and wildlife are respected in the regions;
- ? prevent and control disasters caused by migrating and common plant pests and animal diseases by means of traditional and modern mechanisms
- ? supervise the implementation of directives issued to control damage caused by the depletion of natural resources and the prevention of water, soil and air pollution;
- ? follow-up on directives issued to control damage to environment caused by degradation of natural resources and air pollution.
- ? developing systems that aid in the evaluation of environmental impact and to follow up and to monitor their implementation.

The Bureaus of Agriculture and environment are relevant organs for the follow up and implementation of a future national IAS strategy and Biosafety issues at the grass root levels through the conservation of biodiversity in their regional states and domestic quarantine control. In addition, the bureaus are coordinating the efforts of farmers to manage IAS. Some of the Regional States have enacted laws/decrees pertaining to IAS in their Regional Land Use Policies, which states ?? land holders are obliged to protect their landholdings from Striga and Parthenium.?

City Administrations

Like any other parts of the country, cities have challenges with IAS and must manage movements of LMOs through potential releases in the food and related markets. Addis Ababa and Dire-Dawa city administrations are identified as key stakeholders in prevention and control of IAS by mobilizing the residents of the cities.

Local Communities

Local communities are responsible for various activities related to not only control and prevention of IAS existing in their localities but also in control of the re-emergence and restoration of areas cleared from the IAS.

There have been several interventions by both the UN and other development agencies and Governments to support biosafety capacity building and interventions on management of Invasive Alien Species at national levels. The current baseline scenario depicts fragmented efforts to address the management of the introduction of biological organisms especially Invasive Alien Species and Living Modified Organisms without a science based and risk analysis approach to support decision making. There are current efforts by Government through budgetary and other external interventions to address the situation including the Government led Water Hyacinth project, the UNEP-GEF Biosafety Project, the Water Efficient Maize for Africa (WEMA/Tela Project)[2]² project by AATF and the African Network of Biosafety Expertise (ABNE) support on policy and regulatory environment reviews to support decision making on Biosafety. To support the process, there is an ongoing Government effort on policy and regulatory review and reforms to strengthen the national biosecurity response to the management of biological introductions in Ethiopia.

Some of the projects which are either contributed or are currently contribution which can be constituted as the baseline scenario are listed below

- i. The UNEP-GEF Global Umbrella Project on "Development of National Biosafety Frameworks" ? Ethiopia developed its National Biosafety Framework in 2007.
- ii. GEF ID: 4078 - Implementation of Cartagena Protocol on Biosafety through Effective Implementation of National Biosafety Framework ? ongoing ? The key results currently are the Biosafety Proclamation with six directives, designated laboratory for LMO Detection, ongoing actions to support Decision making in Biosafety
- iii. Support by ABNE/NEPAD "Institutional and capacity building support to the creation of functional biosafety systems in Ethiopia has been supported through training of regulators in the basics of biosafety science, policy and regulation, GM crop risk assessment and management, and biosafety communication and awareness raising (see <https://www.nepad.org/nepad-oncontinent/african-biosafety-network-of-expertise-abne-ethiopia>)
- iv. The UNEP-GEF Biosafety Clearing House Project ? Support to Parties in information sharing and experience in using the Biosafety Clearing House to support national biosafety systems
- v. GEF ID: 2140 - Removing Barriers to Invasive Plant Management in Africa (a regional project with pilot case studies in Ethiopia, Ghana, Uganda and Zambia (see <https://www.thegef.org/project/removing-barriers-invasive-plant-management-africa>). The project developed draft national IAS management guidelines that includes: National IAS Strategies and Action Plan (NISSAP); Cost Recovery Mechanism Procedures for IAS Management; National IAS Communication Strategy; Risk Assessment, Early Detection and Rapid Response Procedures for IAS Management; Generalized Training Modules and Guideline for Integrating IAS Issues into Curricula of Learning Institutions. The proposed project will review, update and finalize these guidelines for national approval in line with current science and technology developments guided by a biosecurity approach.

The proposed project will also contribute to ongoing work on the COMESA biotechnology/ biosafety regional policy. It will create a platform for assessment and testing of the process and lessons learnt in both the development and implementation of the national biosafety framework and the interventions on invasive alien species in Ethiopia.

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project;

The national systems for the management of biological introductions are at varying levels in terms of LMOs and invasive Alien Species. The current scenario depicts a fragmented approach with laws and institutional measures that need to be operationalized. The proposed alternative scenario will be anchored on a risk analysis-based approach with supportive systems for testing, treatments/management of IAS, commodity audits, handling and pre-/post-approval monitoring and enforcement measures for LMOs and coordinated decision-making systems. This approach can act as a catalyst for Ethiopia to focus on a systems approach to the management of biological introductions based on scientific risk assessment/management and risk communication through clearly defined communication and outreach strategies.

The systemic and institutional barriers to mainstreaming IAS prevention, control and management and LMO management will be removed at the federal, regional and local levels, backed by incentives for community-based natural resource management to make sustainable management decisions on 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. Through pilot scale studies on four regional states in Ethiopia, stakeholder capacity development and local level inclusiveness will equip the end users in management actions to the threat posed by IAS 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 the impacts of IAS on water bodies, improve 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 a major contribution to the implementation of activities under the NBSAP geared towards ensuring biosecurity in the management of biological introductions including IAS and LMOs.

Project Components

Impact- Sustainable conservation and Safe use of biological diversity, through risk analysis-based management practices.

Intermediate State: Strengthened institutional, human and regulatory biosecurity capacities to support the management of IAS and LMOs in Ethiopia

Project Objectives:

To develop and implement a national biosecurity framework for safe and credible identification, assessment, monitoring, enforcement, and management system for biological invasions/introductions in Ethiopia.

The proposed project will focus on sets of actions to develop interventions and responses to the key threats identified and these will include mainly policy, regulatory, institutional capacity and information sharing measures to address the management of IAS and LMOs through a coordinated risk analysis and biosecurity approach. The principal aim of actions will be to ensure the use of best of scientific knowledge and actions in the monitoring, testing and management of biological invasions and introductions to Ethiopia. The key intervention tools developed will be tested through selected case studies on IAS and field trials on LMOs to gain knowledge and capture data to fine tune the policy and regulatory instruments developed. The project will also develop measures to strengthen the thematic and regulatory processes to support pre- and post-approval management of LMOs through interventions including strengthened risk assessment and risk management systems, handling and transport of LMOs, inspection procedures and transboundary procedures including transit measures and port management of Living Modified Organisms with technically sound Standard Operating Procedures and guidelines. In the area of IAS, the project will focus on generation and update of baseline information on IAS; creation of a dedicated and coordinated institutional environment for the management of IAS; prevention and control of reemergence of IAS; and dedication of resources for information exchange and knowledge management through formal and informal education, curricula development, development of data bases through a dedicated national clearing house or website

The proposed project is conceptualized and summarized below under components, outcomes.

The proposed project has four components:

PROJECT COMPONENT 1 ? Policy, regulatory and technical Frameworks on Biosecurity

Outcome 1: Policy and Regulatory instruments on Biosecurity established

The project will focus on the review of the existing policy and regulatory environment for IAS and LMOs. Consultative actions will be undertaken to develop a standard national biosecurity policy with a supportive Strategy and action plans which are anchored on risk analysis, consolidation and coordination of sectoral policies and regulatory responses on the management of IAS and LMOs. Measures will be put in place to review and update the current Biosafety Proclamation with biosecurity directives focused on biosafety and biosecurity measures on IAS. Laboratory Biosecurity measures will also be updated in line with international best practices. These tools will be tested through pilot scale activities to fine tune the envisaged responses on policy and regulatory actions to be undertaken.

The expected outputs of this component are:

1.1 Policy on Biosecurity, strategy and Action plans on IAS and LMOs developed

1.2 Measures to operationalize the Biosafety Proclamation through updated biosecurity directives focused on biosafety and biosecurity measures on IAS

PROJECT COMPONENT II - Institutional Capacity Building for the management and control of IAS and the implementation of the CPB

Outcome 2: Fully operational institutional frameworks for the management of LMOs and IAS including an updated information system established

Though there are some inventories of IAS in Ethiopia, the information is scattered among different institutions at the federal and regional levels. Actions will be taken to review the existing data, access research information and generate maps on IAS in Ethiopia. In addition, black and white lists of IAS will be developed. Where the locations of such IAS are same as ongoing or planned field trials or multi locational trials of LMOs this will be documented and periodically updated to assist researchers and end users in planning remedial actions on IAS and risk management interventions on LMOs.

Administrative systems for handling of LMOs and IAS will be finalised and where actions are similar, these will be coordinated and harmonised. Decision making systems to support treatments on IAS and environmental releases of LMOs will be updated and finalised for national acceptance and use. The designated national laboratory for LMOs will be strengthened and legally backed to support national testing on LMOs. In addition, other laboratories will be designated and resourced to support laboratory testing and related actions in the management of IAS especially through field activities at the regional level. The operational manuals on Risk Analysis, emergency responses, decision making systems to be developed will be tested through selected pilot studies to be decided during the Project Preparation phase. The potential pilot sites will include Lake Hara Dembel, Koka reservoir and Afar and Oromia regions. An institutional capacity building and training strategy on Biosecurity will be developed and tested through trainer of trainer workshops targeted at specific stakeholders including Environmental Agency Officials and inspectors, Port and Border officials, regulatory agency officials, Researchers, Policy makers, Civil Society, importers and exporters and handling staff of Ethiopian Airways.

Ethiopia airport is a major transit port in Africa, and it is key to equip handling staff to understand the movement of biological materials with a biosecurity focus. Human and institutional capacity building is a crucial component of the project. National biosecurity policy and regulatory systems should consider the cross-cutting nature of modern biotechnology, issues of IAS complex and interconnected issues which require adequate scientific, economic, social and environmental considerations. The key and common capacity needs will be identified and grouped during the Project Preparation phase guided by the identified threats and barriers. The capacity programme will also support 4 MSc study programme (two on biosafety and two on IAS).

The expected outputs of this component are:

2.1 Updated Inventory and Map of IAS developed

- 2.2 Administrative system for handling LMOs and IAS established
- 2.3 Identified laboratories to handle LMO and IAS detection upgraded
- 2.4 Operational manuals for handling including detection, risk assessment and management, emergency responses, Decision making systems for IAS and LMOs tested through selected pilot studies
- 2.5 A capacity building and training strategy on Biosecurity developed for identified stakeholders involved in the management of IAS and LMOs including Trainer of Trainers workshops for Port entry officials, Regulatory agency officials, Scientists, Policy makers, Civil society and importers/exporters
- 2.6 Four staff of Biosafety and IAS Directorate trained at MSc level. ??

PROJECT COMPONENT III: A National biosecurity Knowledge and Information Management System

Outcome 3 - A National biosecurity Knowledge Management System is established to inform effective IAS prevention, control, monitoring and management, in partnership with key stakeholders.

The project will review existing national information systems and clearing houses for biodiversity management in Ethiopia through participatory and consultative processes. Guided by the SCBD guidance and decision on harmonized clearing houses, the EPA will develop a National Biosecurity Information System (NBIS) to serve as an information and knowledge exchange hub with nodes to the national BCH, the ABS-CH and the CHM and relevant websites on Biodiversity including management of IAS. Forums will be created to assist in information gathering and identification of new IAS and planned interventions will be disseminated through same routes. Relevant databases and national lists on IAS will be made available. Decision making pathways and decisions made will be shared through the same system. To support the planned interventions, a national biosecurity communication and awareness raising strategy and plans will be developed and implemented through sensitization of key institutions with supportive tools including manual, guidelines, operating procedures, forums among others.

The expected outputs of the project component are:

- 3.1 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.
- 3.2 The national biosecurity communication and awareness raising plan developed and implemented through sensitisation for key institutions (manuals, guidelines and operating procedures)

COMPONENT IV ? PROJECT MONITORING AND EVALUATION

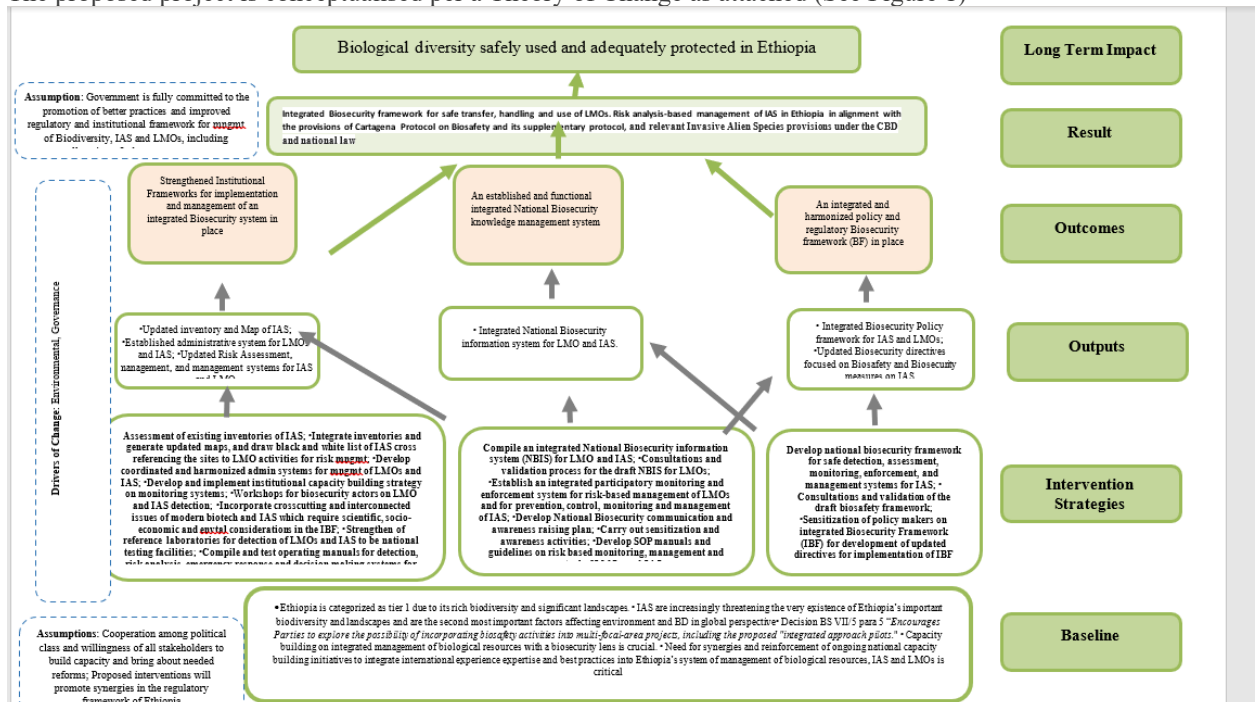
Outcome 4 - Effective project coordination and delivery meeting agreed measurable outputs and indicators

This component is aimed at ensuring that the project is implemented in line with the intended objectives and outcomes. Variances will be captured and explained. A Project Monitoring and Evaluation Framework will be developed and used for internal monitoring and evaluation activities. To ensure efficient implementation in the early phases the project will ensure that implementing teams are capacitated on soft skills and Monitoring and Evaluation principles. M&E will be conducted during the review and planning meetings at national and joint country levels, through reviewing of progress reports against the work plans, steering committee meetings and the national missions. Gender specific data will also be collected as part of the M & E process. Additionally, there are two scheduled evaluation and review activities - midterm review and end of project evaluation.

The expected Outputs of the component are:

- 4.1 A comprehensive project monitoring and evaluation (M&E) framework developed and implemented drawing on best practices and lessons learnt
- 4.2 Mid-Term/Terminal Evaluation

The proposed project is conceptualised per a Theory of Change as attached (See Figure 1)



5) Alignment with GEF focal area and/or Impact Program strategies;

Project activities relates to the GEF-7 biodiversity focal area strategy BD-2 ? 6 - Address direct drivers to protect habitats and species through the Prevention, Control and Management of Invasive Alien Species and BD-3 ? 8 - Further development of biodiversity policy and institutional frameworks through 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 Aichi Targets 9, 13 and 14 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 contribute substantially to strategic goals B and C of the Aichi Targets.

The project contributes to the implementation of the BS strategy 2011-2020 with a focused thematic and cooperative measures to support implementation of the Cartagena Protocol on Biosafety.

The proposed project fits into the GEF 7 Biodiversity Focal Area as defined in the Biodiversity Strategy. The project will also contribute to Aichi Targets 13 and 14 through elaboration of biosafety measures that ensure the diversity of cultivated plants and farmed, and domesticated animals and wild relatives?/ landraces and the integrity of land races is maintained through management practices to contain and ensure material and genetic confinement. In addition, the Cartagena Protocol on Biosafety is an environmental safeguards instrument and is set up to ensure Parties elaborate interventions with scientifically sound risk analysis and detection processes that restore and safeguard ecosystem services. The project, through its components, also fits directly into the capacity building interventions outlined in the [?Framework and Action Plan for Capacity Building for Effective Implementation of the Cartagena Protocol on Biosafety \(2011 - 2020\)?](#) and is envisaged to also fit into the Implementation Plan under the Cartagena Protocol on Biosafety for 2021 ? 2030 which is in preparation.

The proposed project will assist Ethiopia to implement the provisions of the Cartagena Protocol on Biosafety, including capacity-building related to risk assessment and risk management and pre- and post-approval monitoring and enforcement measures on the safe transfer, handling and use of living modified organisms. In line with the GEF 7 strategy on Biosafety, the project will have both a thematic and a coordinated approach to build on a common set of targets and opportunities to implement the Cartagena Protocol on Biosafety and requirements for the management of Invasive Alien Species.

6) incremental/additional cost reasoning and expected contributions from the baseline,

The project's **incremental approach** can be summarised as follows: The project is planned to deliver interventions that focuses on importance of safeguarding biological diversity through biosecurity approach

guided by a coordinated risk analysis and multi sectoral approach. In the planned delivery biosecurity approach will be mainstreamed into key policy, regulatory and institutional frameworks and across key sectors to support the management of IAS and handling of LMOs. The Ethiopian Government has set up a Biosafety and IAS Directorate to manage all biological introductions through Biosecurity. However, despite this strong commitment, the integration of IAS and LMO management priorities has not formally started and systemic and institutional barriers remain to achieving the required changes, despite the urgency of biological invasions and the socio-economic costs to Ethiopia. **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 envisaged alternative scenario with support from the GEF**, systemic and institutional barriers to mainstreaming IAS prevention, control and management and LMO management will be removed at the federal, regional and local levels, backed by incentives for community-based natural resource management to make sustainable land, water 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, loss of water bodies and sustainably conserve globally significant biodiversity, and protect and improve ecosystem function; thereby strengthening the national economy and local livelihoods, and generating global environmental benefits. Through the envisaged pilots, stakeholder capacity development and local level integrated management actions will reduce the threat posed by IAS and LMOs and help to ensure that interventions affecting land use and watershed management 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 Ethiopian economy.

7) 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

approach will ensure that limited capacity in risk-based management is maximally utilised, notably using 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 water resources including wetlands, mangroves, lakes and water bodies. The management systems adopted through this project will build on approaches to managing IAS in the earlier GEF Regional Project on IAS and the national biosafety framework project/ The incorporation of biosafety under the biosecurity umbrella; the development of coordination and implementation mechanisms that take into account the greater importance of Biological resources to Ethiopia as a Vavilov Center and its 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 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 Ethiopia. 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.

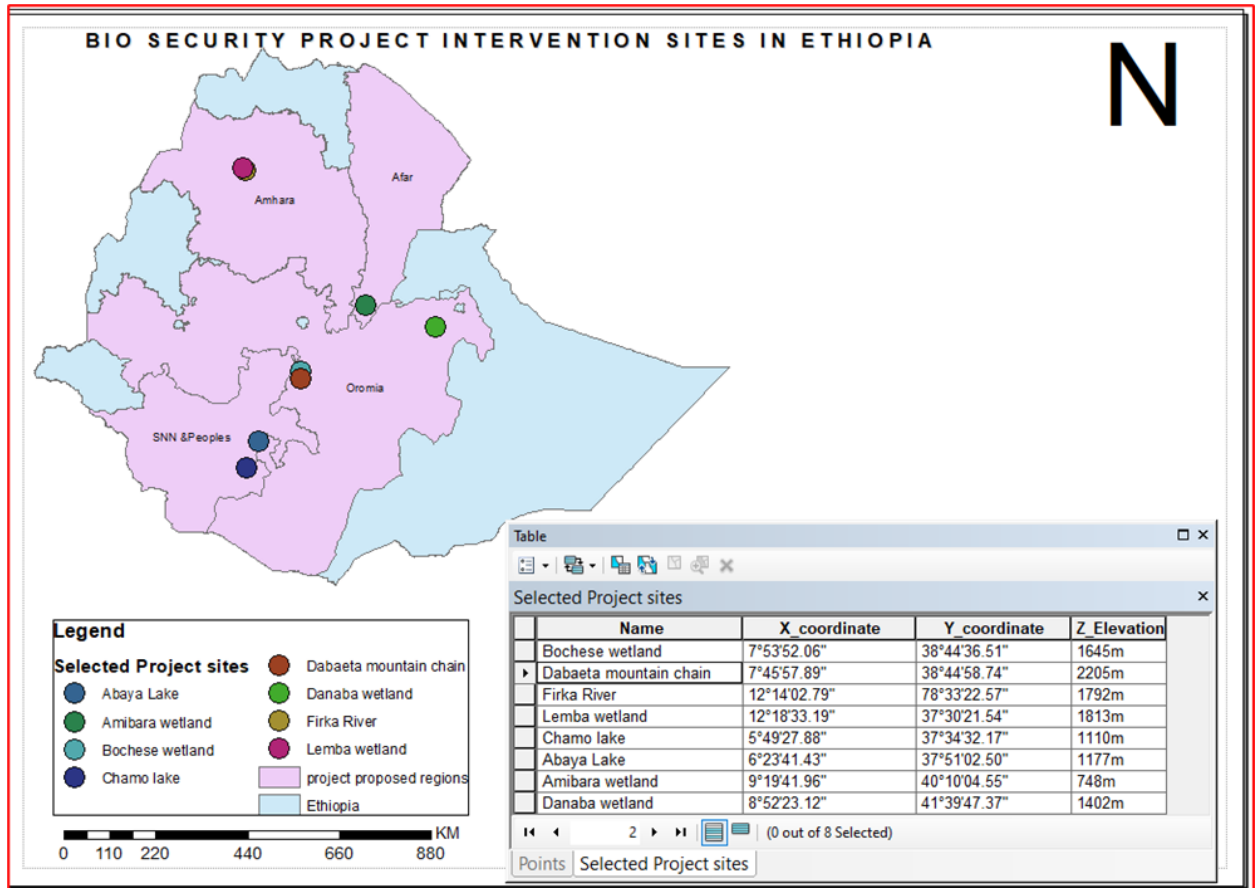
[1] <https://www.cimmyt.org/projects/tela-maize-project/>

[2] <https://www.aatf-africa.org/wp-content/uploads/2021/02/TELA-Project-FAQ.pdf>

1b. Project Map and Coordinates

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

So far there are no maps for IAS and confined and continued LMOs experiments were undertaken in different research centers and on the farmlands of the investors (specially for Cotton experiment done in 7 locations in the country).[1] The GPS coordinates of Ethiopia are 9.1450° N and 40.4897° E.



[1]The project will operate in at least four regions (Amahara, Oromia, Afar and Southern Nations, Nationalities, and Peoples [SNNP]). Areas of operation will be further reviewed during the PPG stage

The potential areas for pilot site studies will be confirmed during the Project Preparation Phase. The intervention areas and focus will be guided by areas that can address the potential threats and maximize available resources on existing and potential biosecurity resources (institutional, financial and human resources). The policy, regulatory and institutional frameworks will be guided by the identified

biosafety and biosecurity issues identified in Ethiopia with emphasis on risk analysis, emergency responses, monitoring, inspection, testing to support decision making on IAS and LMOs guided by science-based tools (see Annex A ? Map of Project Coverage area)

2. Stakeholders

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

Indigenous Peoples and Local Communities No

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 analysis

The key stakeholders and their potential roles and interests are as captured in the tables below

-----	High power:	High power: High interest
-----	Low interest	

<p>></p> <p>POWER</p> <p>---</p> <p>></p>	<p>1. Ethiopian Custom Authority</p>	<p>1. House of Peoples Representative (Standing Committee of Agriculture, Pastoralist and Environmental Protection Affairs)</p> <p>2. Environmental protection Authority. Ethiopian Biodiversity Institute</p> <p>4. Forest Development</p> <p>5. Ministry of Agriculture</p> <p>6. Ethiopian Institute of Agricultural Research</p> <p>7. Ministry of Water, Irrigation and Energy</p> <p>8. Ethiopian Wildlife Conservation Authority</p> <p>9. Local Communities</p> <p>10. City Administrations</p> <p>11. Regional States</p> <p>12. Plan and Development Commission</p>
	<p>Low power:</p> <p>Low interest</p>	<p>Low power: High interest</p>

	<p>1. Ministry of Mining and Petroleum</p> <p>2. Investment Agency</p> <p>3. Ministry of Health</p> <p>4. Ethiopian Electric Power Authority</p> <p>5. Plan and Development Commission</p> <p>6. Ministry of Finance</p> <p>7. Ethiopian Geo-Spatial Institute</p> <p>8. Ministry of Transport</p> <p>9. Ministry of Culture and Tourism</p> <p>10. Ethiopian Roads Authority</p>	<p>1. Ministry of Trade and Industry</p> <p>2. Ministry of Innovation and Technology</p> <p>3. Ministry of Science and Higher Education</p> <p>4. Ministry of Education</p> <p>5. Higher Learning Institutions</p> <p>6. Policy Study Institute</p> <p>7. Mass Media</p> <p>8. Non-Governmental Organizations</p> <p>9. Professional Societies</p> <p>10. The Private Sector</p> <p>11. International partners</p> <p>12. Local NGOs and Civil Societies</p> <p>13. Ministry of Labour and Social Affairs</p> <p>14. Ministry of Women, Children and Youth</p>
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----- > **INTEREST** --- >

The key stakeholder roles and responsibilities are as summarised below

Stakeholders	Type of involvement
Decision makers/policy makers:	<p>Will provide support during development and execution through</p> <ul style="list-style-type: none"> ? the development of Policy and regulatory instruments ? Participation as Members of National Steering Committee ? Supporting consultations and meetings on key issues at federal, regional and community levels. ? the provision of resource persons in programmes on awareness raising and policy analysis analysis/review.
Scientists/ technical experts, researchers and technicians from public and private sectors including academic institutions	<p>Will provide support during development and execution through</p> <ul style="list-style-type: none"> ? the development of technical guidelines/manuals, training modules and knowledge documents ? Consultations and workshops for training of trainers and awareness ? the development of outreach materials for different target groups ? Participation as Members of Technical Advisory Panels <p>The contribution of expert support in the execution of the project</p>
Legal experts and economists	<p>Will provide support during development and execution through</p> <ul style="list-style-type: none"> ? Consultations on documents related to legal considerations and socio-economic assessment. <p>Preparation and review of policy and regulatory instruments</p>

<p>Regulatory Agency officials including Customs, Plant Quarantine, Environment Inspectors, Animal and Food Safety experts</p>	<p>Will provide support during development and execution through</p> <p>? Participation in training workshops for post-release monitoring and enforcement at border controls in relation to Biosafety and in the management of IAS.</p> <p>Contribute to project preparation and provide experts on regulatory issues including customs support, border monitoring and share experience on port handling of biological products</p>
<p>Interest groups (women & youth), teachers, students, mass media and extension workers, civil society, indigenous and local communities</p>	<p>Will provide support during development and execution through</p> <p> </p> <p>? Participation in awareness raising meetings ?Participation, review and development of outreach materials designed for the different target groups.</p> <p> </p> <p>Assistance in local based treatments and management of IAS during project implementation (Civil society, indigenous and local communities)</p>

Consultation with civil society group and local communities during the project design was meant to ensure their participation during project preparation and implementation. Though limited, Local communities were identified as high-power interest groups as they have been assisting in the management of IAS in the Lake Tana area through manual removal of IAS which is a hinderance to their fishing and related farming activities. In addition, the proposed objective of the project was presented and the envisaged participation, interest and support from Civil Society and Local communities in project preparation and implementation including site-based outreach activities were captured and reflected in pages 29-30, 34 and 37 of the PIF (highlighted in green). There were no consultations with indigenous peoples who are mainly pastoralists and hunter gathers in Ethiopia (<https://www.iwgia.org/en/ethiopia.html#:~:text=The%20Indigenous%20Peoples%20of%20Ethiopia,of%20the%20country's%20total%20landmass>). Extensive and dedicated consultative discussions will be undertaken in the proposed selected pilot sites regions focused on identification and engagement of Civil Society, local communities and indigenous peoples in project preparation and implementation during the PPG Phase

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).

Sustainable development goals are designed to end poverty, hunger, AIDS, and discrimination against women and girls. Goal 5 focuses on gender equality where Ethiopia has given attention to its implementation. The Constitution of Federal Democratic Republic of Ethiopia also sets out gender issues under Article 7 which focuses on Gender Reference in which the provision of the constitution set out that the masculine gender shall also apply to the feminine gender and in the same constitution Article 35 considers the Rights of women under sub article 6 to ensure that women have the right to full consultation in the formulation of national development policies, the designing and execution of projects, and particularly in the case of projects affecting the interests of women. The National Ethiopian Women's Policy that was enacted in 1993 has also mapped out the problems of Ethiopian women in all field of development and identified the patriarchal system as the root cause that exposes women to political, economic and social discrimination which is reinforced by traditional practices that give credence to cultural/religious norms and values over women's human rights.

The project in design will take into consideration the involvement, use, knowledge and management of Biological invasions and novel introductions and related safety concerns by undertaking socio economic assessment, stakeholder and gender analysis during the project preparation phase. To ensure participation and involvement of women and youth, an approach will be taken that takes into consideration time constraints, knowledge and socio-cultural impediments to their full participation. This approach will guide the selection and representation during the finalization of the Biosecurity Policy and the updated Biosecurity regulatory instruments to ensure women, youth, civil society and private sector are represented on envisaged statutory bodies as per the law through affirmative action.

This same approach will guide the setting up, selection and participation in meetings and training workshops. As envisaged, the project will set up and organize separate sector/thematic based meetings for different end users to ensure that that women, youth and local communities are fully informed of the activities to date, to obtain their input, and to collaboratively work together to develop a strategy for their long-term inclusion and participation in the biosecurity regulatory measures in Ethiopia.

The proposed project recognizes the importance of involving women in setting up the Policy, Regulatory and Institutional frameworks because women play a critical role in assessing genetic resources both at the community level, the marketplace and trade across borders with neighbouring countries. Women in the Ethiopia depend heavily on the use of natural resources therefore ensuring gender equity will benefit all including women and men in the balanced allocation of resources, involvement and decision-making will result in greater incomes and overall well-being for all persons ? women, men, youth and local communities will support efforts on conservation and sustainable use of biological resources.

Achieving gender equity requires an integrated approach geared towards behavioral and procedural changes at several levels in the biosecurity regulatory process namely at the regulatory, administrative, technical and the outreach levels. In response to this, the project will incorporate the following elements:

i) Analysis of livelihoods, gender and vulnerable groups will inform the project design, through assessments of women engagements in handling biotechnology related activities, needs and aspirations, to enable collection of gender specific data. Because gender relations, aspirations, and opportunities can vary greatly, the analysis will begin with a closer look at the social set up that define the roles, burdens, access to and control of resources for men, women, youth and local communities. This will ensure a gender sensitive project design from the start, and thus set up an implementation process that considers the needs and priorities of both women and men. The analysis itself will need to be organized in a way that allows varying approaches and availability to meet the needs and participation of women and men.

ii) Gender-balanced management: Behaviour change and gender-balanced management within community-based organizations (CBOs) is key to opening spaces that empower women. In the case of regulatory officials and end users of technology, women and men will be trained and tools provided on the national biosafety systems guided by needs captured during the gender analysis.

Women will be represented in regulatory mandates as per the law and the guidelines developed not only at the policy level but also at the technical and training levels.

Trainers will be taught how to be aware of, responsive to and advocate for gender issues in their training context and community and equipped to counter negative behaviour.

iii) Technical and financial capacity building: Targeted, gender-balanced capacity building, budgeting and technical assistance packages will be refined based on the results of the stocktaking analysis. The timing and structure of workshops will take care not to overburden participants, particularly women, who tend to shoulder more of the household and caregiving responsibilities. In addition to the core training activities, specialized technical assistance may be provided in support of handling of modern biotechnology products and the required obligation of biosafety measures in the country especially where in relation to in country use, transit and transboundary movement of LMOs and its impact on biodiversity as the safe use of genetic material is of supreme value to the livelihoods of women and their families. This can include direct support to women's organizations. Women have shown significant interest in tools that help build consumer confidence and acceptability of their products.

Gender-disaggregated performance indicators: Monitoring and evaluation will include gender-specific indicators (e.g. management/regulatory agency positions held by women and men) and indicators of the presumed result of greater gender equity (e.g. increased family income, improved household wellbeing, more efficient businesses, and improved Biosecurity measures). Results will be disaggregated to demonstrate distribution of results across the different genders, biosecurity expertise, opportunities in decision making (through the Technical Committees/Advisory Panels and the Expert Technical Groups), socio-economic and local communities.

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.

As a key stakeholder, the Government of Ethiopia engages private sector in development activities including ensuring their role in the area of proposed project. To ensure the participation of private sector engagement in Biodiversity conservation and sustainable utilisation, the Government designed different awareness creation platforms including workshops, training and meetings. Most of the time private sector are engaged through contribution of resources including finance and logistics for planned development activities by the Government. Similarly, private sector is involved in the in environmental management and control related activities. For example, there was a good attempt and practice in Oromia which is one of the proposed areas where the proposed project will be implemented, the Ministry of Water and Energy of Ethiopia engaged different stakeholder groups including private sector (floriculture, horticultural farm owners, hotels and lodges) around Lake Hara Dembel in water hyacinth management and control. The management and control of water hyacinth was done by dividing the area of water covered by water hyacinth. The divided area was assigned to different stakeholder groups on hectare basis so that each stakeholder groups had assigned responsibility of clearing water hyacinth areas (in ha) assigned to them. The assignment of the area to each stakeholder groups including private sector was done through formal letter written by Ministry of Water and Energy to concerned stakeholder groups. The same approach was used in the Tana Lake in Amahara region of Ethiopia where the assigned private sector groups contributed money for the purchase of machines used to remove water hyacinth from the lake in addition to other related water hyacinth removal activities. This approach will be further reviewed during PPG and utilized during project execution.

During the Project Preparation stage, additional country specific data will be captured on Private sector roles and engagement and updated as applicable. Private sectors as indicated above are playing significant role in terms of supporting the management of IAS through resource contribution (logistics and finance). Farmers participate would also participate on the edition from their own farm and communal areas and water bodies. Private sector groups and cooperatives are currently providing machinery and training in the manual management of invasive species. All the current field trials currently are supported with introgressed events from the private sector and are also working with the scientists in the field sites as they are likely recipients of the technology. Private Sector engagement will be further reviewed and additional specific inputs for the private sector included as applicable.

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)

Assumptions:

The following assumptions are made:

- ? The executing partners will be implementing activities guided by the threats and barriers identified
- ? Partners will submit requested data including identified challenges, lessons learnt and best practices, sectoral policy, regulatory and institutional needs.
- ? Adequate resources will be allocated (technical and institutional) to support project delivery.

Identified Issues

Risk	Rating	Mitigation measure
a) Slow and bureaucratic policy, administrative and regulatory responses to Biosecurity issues	High	Cooperation between government structures, institutions and special awareness programs for targeted and relevant authorities will be organized at the inception of the project, with follow ups to strengthen the political support for project implementation. Efforts will be made to ensure biosecurity is placed on a higher level in the agenda of governments and national assemblies. Designated Stakeholder institutions will be strengthened to do continuous outreach, lobby and network as a means of getting political leverage.
b) Inadequate mechanisms for institutional coordination in the management of IAS and LMOs	Medium	Regular coordination meetings for relevant ministries and agencies will be held, defining clear procedures and responsibilities for all the key stakeholders identified. Institutional capacity building will be placed on a high priority level throughout the planned project activities. The steering committee and the information sharing activities will be used to consciously support coordination and management of biosecurity. Where feasible, concerted efforts will be put in place to develop guidance and easy to read materials to support the coordination mechanism. Entry points will also be created for key non-governmental stakeholders including private sector, NGOs, farmers and women groups to be represented in the steering committees as part of the coordination mechanism

<p>c) Low institutional capacity to manage handling of LMOs and management of IAS</p>	<p>Medium</p>	<p>Capacity building activities, coupled with strengthening of existing facilities, will equip designated regulatory agencies to effectively execute their mandate. A high priority will be placed on building a critical mass of resource persons through the Trainer of Trainers approach, mentoring and training in 'soft skills' as focal points who will contribute to the enhancement of public awareness through intensification of the contribution of national experts in this process. Through the planned initiatives efforts will also be made to get 'buy-in' by the different stakeholders in the management of biological resources in Ethiopia through coordination of similar interventions, lobbying and periodic briefs.</p>
<p>d) Due to climate change impacts, public perception towards handling of LMOs and management of IAS</p>	<p>Low</p>	<p>Potential use and import of LMOs may increase under increased temperature and other climate change related results due to tolerance to abiotic stresses. Invasive Alien Species may thrive due to adaptation to climate related stresses.</p> <p>Ethiopia frequently experiences extreme events like droughts and floods, in addition to rainfall variability and increasing temperature which contribute to adverse impacts to livelihoods. Primary environmental problems are soil erosion, deforestation, recurrent droughts, desertification, land degradation, and loss of biodiversity and wildlife.[1] Food security will be affected by land and infrastructure degradation due to erosion/landslides, an increase in livestock and crop diseases due to temperature increase, direct crop failure due to floods and heavy rains. Water availability will be affected by possible periods of drought and invasiveness of introduced or alien species in water bodies.</p> <p>Due to the effects on food security and food production, potential use and import of LMOs that are better adapted (or perceived to be) or tolerant may increase. During PPG, the potential of climate change scenarios on Ethiopia's response will be integrated into capacity building interventions and into the design of strategic action plans and policies to ensure that such changes to public attitude to and queries related to uptake of Biosecurity considerations are anticipated and proactively managed. Safeguard measures to be</p>

<p>e) An outbreak of diseases (Covid-19)</p>	<p>Low/Medium</p>	<p>Ethiopia has 469704 cases, 441,083 recoveries and 7,492 deaths as of 31st March 2022[2]. Although Ethiopia seemingly escaped the full impact of the pandemic as compared to total and active cases of other countries, the global economic slowdown has had a serious impact on the economy of Ethiopia in all sectors.</p> <p>Under such conditions, the government is expected to focus public resources on rebuilding the economy. This might affect the co-financing of the project and the ability of the project to deliver on the GEBs. However, biosafety and the set-up of stringent biosecurity conditions will also be priorities post-COVID to mitigate the recurrence of such pandemic and diseases. During PPG and project implementation the importance of having a strong biosecurity regime will be communicated as part of the green recovery programme of country and building back better. Potential impacts on the commitment of co-finance and partners will be assessed in detail during the PPG phase to develop adequate risk mitigation actions. The outbreak of Covid-19 has already affected work nationally and regionally. Travel restrictions have been in place. Should the situation continue, or should similar situations take place, the risk will be mitigated by trying to carry out relevant activities via alternative working methods (e.g. videoconferences, telecommuting, recourse to national human resources in the countries, etc.). Any mitigation measure will have to be discussed between the implementing and the executing partners/agencies.</p> <p>The risk is only partly under project control. Nationally and regionally, the current Pandemic of Covid-19 is already affecting work and the way people implement projects. Travel restrictions have been in place. Biosecurity considerations which are at the base of Biosafety capacity building and implementation will be fully triggered in a phased approach both to ensure human and environmental safety to project implementation measures and execution of activities guided by the technical principles of ensuring genetic and material confinement and management measures in project delivery. Standard Project Operational Procedures will be developed as applicable. COVID-19 situation also led to new ways of meetings and doing reviews via online resources e.g., google docs</p>
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[1] https://climateknowledgeportal.worldbank.org/sites/default/files/2020-06/15463-WB_Ethiopia%20Country%20Profile-WEB_v2.pdf

[2] <https://www.worldometers.info/coronavirus/country/ethiopia/>

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.

The proposed project will be executed by the Environmental Protection Authority in collaboration with designated national entities, regional and local bodies. Project oversight and supervision will be provided by UNEP in its role as the GEF Implementing Agency whilst EPA will be the Lead Executing Agency. EPA will explore potential support and liaison with the UNEP Liaison Office in Addis Ababa. The Project Secretariat will be hosted at the EPA under the Directorate on Biosafety and IAS Regulation. The Project Steering Committee will provide supervisory oversight with technical advice and support from expert advisory groups (the National Biosafety Advisory Committee and National Invasive Alien Species Management Committee). These committees may be translated into National Technical Advisory Groups under the Biosecurity Framework as part of institutional capacity building.

The proposed project will coordinate and take lessons from the following projects

- i. GEF ID: 4078 - Implementation of Cartagena Protocol on Biosafety through Effective Implementation of National Biosafety Framework ? ongoing ? The key results currently are the Biosafety Proclamation with six directives, designated laboratory for LMO Detection, ongoing actions to support Decision making in Biosafety
- ii. Support by ABNE/NEPAD ?Institutional and capacity building support to the creation of functional biosafety systems in Ethiopia has been supported through training of regulators in the basics of biosafety science, policy and regulation, GM crop risk assessment and management, and biosafety communication and awareness raising (see <https://www.nepad.org/nepad-oncontinent/african-biosafety-network-of-expertise-abne-ethiopia>)
- iii. The UNEP-GEF Biosafety Clearing House Project ? Support to Parties in information sharing and experience in using the Biosafety Clearing House to support national biosafety systems
- iv. Ongoing periodic and case specific Government interventions on management of Water Hyacinth support by the Government of Ethiopia.

The ongoing WEMA/TELA Maize Project - <https://www.aatf-africa.org/wp-content/uploads/2021/02/TELA-Project-FAQ.pdf>

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 BIO STRATEGY ACTION PLAN (NBSAP) X
- CBD NATIONAL REPORT X
- CARTAGENA PROTOCOL NATIONAL REPORT X
- NAGOYA PROTOCOL NATIONAL REPORT
- UNFCCC NATIONAL COMMUNICATIONS (NC)
- UNFCCC BIENNIAL UPDATE REPORT (BUR)
- UNFCCC NATIONAL DETERMINED CONTRIBUTION
- UNFCCC TECHNOLOGY NEEDS ASSESSMENT
- UNCCD REPORTING
- ASGM NATIONAL ACTION PLAN (ASGM NAP)
- MINAMATA INITIAL ASSESSMENT (MIA)
- STOCKHOLM NATIONAL IMPLEMENTATION PLAN (NIP)
- STOCKHOLM NATIONAL IMPLEMENTATION PLAN UPDATE
- NATIONAL ADAPTATION PROGRAMME OF ACTION UPDATE
- OTHERS X ? NATIONAL BIOSAFETY FRAMEWORKS

National Biodiversity Strategy and Action Plans and National Biosafety Reports

The proposed project is consistent with the Ethiopian National Biodiversity Strategy and Action Plan v2 especially as it relates to Target 2 on 'review and update of existing biodiversity laws and regulations to meet set mandates in relation to sustainable use of biodiversity?', Target 6 on 'management of Invasive Alien species through reduction of coverage area, employment of new and innovative tools and technologies to assist in the management of direct drivers and threats to habitat loss?' and Target 16 on 'development and use of coordinated and consolidated approaches in management and sharing of Biodiversity Information to support decision making?.'

National Biosafety Reports

Ethiopia's Third and Fourth National Reports identifies gaps in capacity building to support the implementation of the Cartagena Protocols on Biosafety. Key areas of intervention include thematic issues on Risk Assessment and Risk Management, Handling, Transport and Identification of LMOs, Socio-economic considerations, strengthened policy and regulatory frameworks on LMOs, actions on Liability and Redress, transit and contained use of LMOs and resource mobilization for Biosafety. The proposed project is envisaged to provide key interventions and tools to address some of the gaps identified as a direct response to the status of implementation of the Cartagena Protocol on Biosafety. The proposed National Biodiversity Information System will be a national hub for knowledge

exchange and information sharing on decisions and tools to support the different stakeholders in the national biosecurity response measures.

The National Biosafety Frameworks

The NBF constitute a biotechnology/biosafety policy, legal, administrative and technical instruments developed to ensure an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health. The implementation of the National Biosafety Frameworks is in line with the National Biodiversity Strategy and Action plans (NBSAPs)

The implementation of the NBF in the Ethiopia is in line with the National Biotechnology Policy, the Biosafety Proclamation and related five Directives and Target 2 of the National Biodiversity Strategy and Action Plan (NBSAP). The planned risk analysis-based approach relates to a targeted attempt to implement measures to respond to the Environmental Impact Proclamation through biosecurity interventions to support management decisions on IAS and LMOs. The proposed implementation project is focused on capacity building to update the national biosafety framework and also address identified and national specific issues as a follow up to the GEF project on 'removing barriers to the management of IAS in Africa' focusing on risk analysis, coordinated and cross sectoral approaches in the monitoring, testing, emergency responses, public engagement and decision making on the management of IAS and the handling of LMOs as different but related in thematic issues of management. The proposed project is also consistent in that it is providing resources including Botanical files and crop biology of plants of global environmental importance to support decisions on biodiversity including biological monitoring of new and novel species .

Regional Biotechnology and Biosafety Activities

At the regional level, the project is also in line with the COMESA Biotechnology and Biosafety Implementation Plan which seeks to develop regional harmonized approaches and scientific tools to support the implementation of National Biosafety Frameworks and decision making. The COMESA Regional Biotechnology and Biosafety Policy Implementation Plan is designed to translate the COMESA Policy on Biotechnology and Biosafety into an effective, region-wide implementation program. The overall goal of the plan is to support the Member States to realize their aspirations of becoming active participants in the global biotechnology enterprise through commercial planting of GM crops, trade in products of GM technology and involvement in dealings with emergency food aid with GM content. The plan will involve the enhancing of awareness and outreach activities in a continuous and progressive manner. A regional biosafety risk assessment mechanism is also envisaged in the plan. This will rely on the establishment and efficient functioning of a COMESA Biotechnology and Biosafety Panel of Experts and a COMESA Biosafety Risk Assessment and Management Desk. The plan will also see to the capacity building for biosafety regulation and biotechnology research and product development/ testing at Member States level. In addition, the project will build on the training capacity in biosafety and expertise gained through support by ABNE/NEPAD on Biosafety in confined field trials, Risk Assessment and Risk Management.

The project is well aligned with the African Union Biosafety Strategy and the Model law on Biosafety.

See ? www.cbd.int

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.

Learning and Knowledge Management: The project will identify, analyze, document, and share biosecurity information and lessons learnt, and disseminate results from the project beyond the project intervention zone through a number of existing information sharing networks, including online based forums, newsletters, national biodiversity Information Center and the Central Portals of the Clearing House Mechanism of the SCBD. The project will establish a knowledge management hub and work on its sustainability beyond the project lifespan. Identification and analyzing lessons learnt will be an ongoing process. Deliverables will be shared quarterly as applicable or at least twice a year. Publications and thematic reports will be developed and disseminated in the participating countries and at regional level. The project shall use the UNEP reporting format for categorizing, documenting and sharing of lessons learnt. In every annual review and planning meeting; information sharing will be promoted. To enable effective management of information, an Information Hub will be established during the project implementation period. The project will lobby for building of information management tasks into existing regional institutions/ structures e.g. the EAC, COMESA, ABNE/NEPAD, IUCN or any other such institution. This will promote continuity beyond the project lifespan. In addition, relevant information will be posted on all Biodiversity Clearing House portals at national and regional levels, and the CBD BCH portal. UNEP has an existing platform through the library of its project management database ANUBIS (A New UNEP Biosafety Information System) for Biodiversity and Land Degradation projects and related initiatives to learn from each other, share experiences and expertise, and tools and methodologies to support biosafety decision making. ANUBIS also allows the projects to assess project outputs and reports in a user-friendly form. In addition, UNEP has created an annual forum, funded by the Biosafety Technical Fund, for the projects to physically meet at regional/sub regional levels to learn and share experiences on project management, including best practices and challenges, in addition to training on emerging issues in biosafety. The project will also have access to both the SCBD and UNEP YouTube channels to access media files and share materials for the benefit of the projects in the Biosafety Portfolio. Existing mechanisms and training will be offered for the project to assess and share information on the Biosafety Clearing House in line with obligations of Article 20 of the Cartagena Protocol on Biosafety and the ongoing BCH III Project.

The project will have access and contribute stories and news to the UNEP Biosafety website <https://www.unenvironment.org/explore-topics/biosafety> which is a forum set up to enable projects access information, publication, events and knowledge materials on Biosafety among the project partners.

At the national level, the knowledge management will help to build and maintain supportive and useful knowledge, attitudes, skills and practices via a number of workshops and trainings with participation of various stakeholders, including governmental sector, media, parliament, researchers, academia, farmers, women, the youth and local and Indigenous Communities. Manuals and guidelines will be developed and published and made available for all the relevant stakeholders. The national BCH and CHM websites will be updated periodically with new /relevant information and made accessible via the internet, mobile telephony, social media - Facebook, Twitter and YouTube. Communication sites will be used to disseminate information. Special publications, brochures, leaflets, posters, calendars on best practices on biosafety, etc. will be provided and disseminated through the relevant actors and stakeholders. On-line forums and webinars to discuss and share information will be used to facilitate inter-country and sub-regional communication and networking.

Furthermore, outreach materials used by the participating countries will be shared and or developed, targeted at different stakeholders, including Extension workers, Parliamentarians, Media, Women, Youth and Local communities, among others, as will be identified in the stocktaking process under Component Substantial time and efforts will be devoted to ensuring involvement of the public in meeting the national obligations on Biosafety. The National Biosafety Frameworks will be extensively reviewed, and key entry points identified and used for training on public participation in the decision-making processes. Procedural manuals and tools including gender considerations will be translated into easy and user-friendly modules to assist the public on biosafety measures. The national BCH will be updated, and a website created to serve as both an information repository and platform for the public to follow and input into the national decision-making processes on biosafety. In addition, experiences in the mainstreaming of biosafety into educational curricula at various levels will be shared, lesson learnt will be incorporated by those countries that are yet to mainstream biosafety into national development processes.

In addition:

? the project will participate, as relevant and appropriate, in UNEP/GEF sponsored networks, organized for Senior Personnel working on projects that share common characteristics; and

? the project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned.

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*

PIF	CEO Endorsement/Approval	MTR	TE
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.

The project is envisaged to have low social and environmental risks as per the attached Safeguards Risk Identification Form approved by the UNEP Safeguards team. However, as a safeguard measure, project will undertake extensive stakeholder engagement with local farmers, indigenous people and local communities and the private sector to ensure there is rapid response, alerting and adaptation in case risks including climate risks come up. A strategic Environmental Assessment will be carried out during the roll-out of the policy. In addition, the project will be guided in addressing climate risks through mitigation interventions as per the national policy and strategy 2013 of disaster risk management of the country. The climate related risk will be addressed using Ethiopia's Climate Resilient and Green Economy strategy 2011 experiences gained in the area of Climate mitigation and adaptation.

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
SRIF-Ethiopia Biosecurity PIF_am	

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

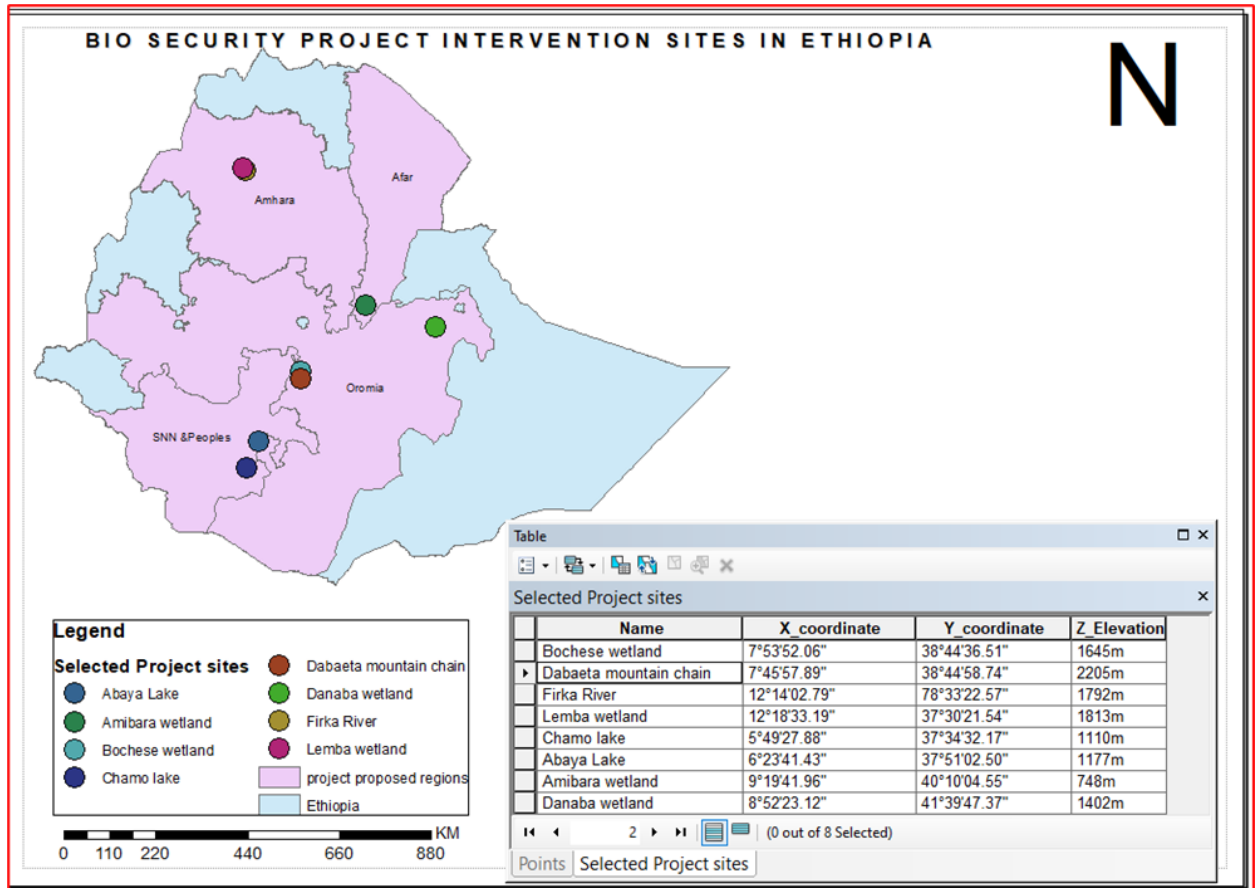
A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Mr. Kasahun Wakoya Nikusa	Head of Administration & GEF Operational Focal Point	Environment Forest, Climate Change Commission	7/21/2021
Mr. Kasahun Wakoya Nikusa	Head of Administration & GEF Operational Focal Point	Environmental Protection Authority of Ethiopia	6/13/2022

ANNEX A: Project Map and Geographic Coordinates

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

So far there is no maps for IAS and confined and continued LMOs experiments were undertaken in different research centers and on the farmlands of the investors (specially for Cotton experiment done in 7 locations in the country).[1]



The GPS coordinates of Ethiopia are 9.1450° N and 40.4897° E.

[1]The project will operate in at least four regions (Amahara, Oromia, Afar and Southern Nations, Nationalities, and Peoples [SNNP]). Areas of operation will be further reviewed during the PPG stage