Concept Note

Climate Resilient Fishery Initiative for Livelihood Improvement

Ministry of Finance and Economic Affairs | Republic of the Gambia

1 February 2018
Concept Note

The Green Climate Fund (GCF) is seeking high-quality projects or programmes.

The Accredited Entity is encouraged to submit a concept note, in consultation with the National Designated Authority, to present a project or programme idea and receive early feedback and recommendation.

Project/Programme Title: Climate Resilient Fishery Initiative for Livelihood Improvement

Country(ies): Republic of The Gambia

National Designated Authority(ies) (NDA): Ministry of Finance and Economic Affairs

Food and Agriculture Organization of the United Nations (FAO)

Accredited Entity(ies) (AE): FAO The Gambia Office Tel: +(220)4498034,4497547
Email:FAO-GM@fao.org

Date of first submission/version number: [2018-01-11] [V.1]

Date of current submission/version number: [YYYY-MM-DD] [V.0]
## A. Project / Programme Information (max. 1 page)

<table>
<thead>
<tr>
<th>A.1. Project or programme</th>
<th>A.2. Public or private sector</th>
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<tr>
<td>☒ Project</td>
<td>☒ Public sector</td>
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<td>☐ Programme</td>
<td>☐ Private sector</td>
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<thead>
<tr>
<th>A.3. Is the CN submitted in response to an RFP?</th>
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<tr>
<td>☐ Yes</td>
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<tr>
<td>☒ No</td>
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If yes, specify the RFP: _______________________

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<th>A.4. Confidentiality</th>
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<tr>
<td>☐ Confidential</td>
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<td>☒ Not confidential</td>
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### A.5. Indicate the result areas for the project/programme

- **Mitigation:** Reduced emissions from:
  - ☐ Energy access and power generation
  - ☒ Low emission transport
  - ☐ Buildings, cities and industries and appliances
  - ☐ Forestry and land use

- **Adaptation:** Increased resilience of:
  - ☒ Most vulnerable people and communities
  - ☒ Health and well-being, and food and water security
  - ☒ Infrastructure and built environment
  - ☒ Ecosystem and ecosystem services

### A.6. Estimated mitigation impact (tCO2eq over lifespan)

821 GgCO2e in 2025 and 880 GgCO2 in 2030

### A.7. Estimated adaptation impact (number of direct beneficiaries and % of population)

Direct beneficiaries: 30,000 people. 300,000 people as indirect beneficiaries.

### A.8. Indicative total project cost (GCF + co-finance)

Amount: USD $17,245,978

### A.9. Indicative GCF funding requested

Amount: USD $15,310,000

### A.10. Mark the type of financial instrument requested for the GCF funding

- ☒ Grant
- ☐ Reimbursable grant
- ☐ Guarantees
- ☐ Equity
- ☐ Subordinated loan
- ☐ Senior Loan
- ☐ Other: specify___________________

### A.11. Estimated duration of project/ programme:

- a) disbursement period: tbc
- b) repayment period, if applicable: 6 years

### A.13. Is funding from the Project Preparation Facility requested?

- ☒ Yes
- ☐ No

Other support received ☒ If so, by who: _______________________

### A.14. ESS category

- ☒ A or I-1
- ☐ B or I-2 tbc
- ☒ C or I-3

### A.15. Is the CN aligned with your accreditation standard?

- ☒ Yes
- ☐ No

### A.16. Has the CN been shared with the NDA?

- ☒ Yes
- ☑ tbc
- ☐ No

### A.17. AMA signed (if submitted by AE)

- ☒ Yes
- ☐ No

If no, specify the status of AMA negotiations and expected date of signing: _______________________

### A.18. Is the CN included in the Entity Work Programme?

- ☒ Yes
- ☐ No

### A.19. Project/Programme rationale, objectives and approach of programme/project (max 100 words)

Climate change will severely burden The Gambia’s fishery sector, which plays a significant role in local livelihoods and national economy. Expected climate change impacts that will affect fisheries include sea level rise, changes in seasonal rainfall patterns and rising water temperature. This project aims to increase the resilience of this sector through adaptive measures including climate-proofed infrastructure, habitat and ecosystem services restoration and capacity development. The national designated authority is the Ministry of Finance and Economic Affairs, the executing entity is Department of Fisheries, and the accredited entity is the Food and Agriculture

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1. Concept notes (or sections of) not marked as confidential may be published in accordance with the Information Disclosure Policy ([Decision B.12/35](#)) and the Review of the Initial Proposal Approval Process ([Decision B.17/18](#)).

2. See [here](#) for access to project preparation support request template and guidelines.

3. Refer to the Fund’s environmental and social safeguards ([Decision B.07/02](#)).
Climate change and climate variation is expected to place a major burden on national development as the productive base of the economy depends on climate-sensitive activities such as crop production, livestock rearing, fisheries, energy, and water resources. These climate sensitive sectors have already started to experience some of the adverse effects of climate change and variability characterized by decreasing rainfall, higher temperatures, increased frequency of droughts and flooding. A one metre rise in sea level is expected to inundate about 8.7% of the Gambia’s total land area, including over 61% of current mangrove area and over one-third of swampland. Also at risk of inundation is the whole of Barra and over 50% of Banjul including Banjul Port, the country’s only deep-water seaport. Groundwater in western Gambia is at risk of increased salinization, while coastal aquifers may become reduced, which would affect fresh water supplies and peri-urban agriculture. The impact of sea level rise and coastal erosion on tourism and the artisanal fisheries sector is unquantified, but likely significant. The artisanal (or small scale) sub-sector is considered to have a greater contribution to livelihoods and the economy, compared to the industrial and aquaculture sub-sectors. The fisheries sector contributes about 12% to GDP and employs about 36,000 people. It is the major supplier of animal protein for the population with per capita fish consumption of about 23kg and it plays a pivotal role in poverty reduction and food security.

Changes in seasonal rainfall patterns combined with sea level rise and global warming could also change the mangrove forest conditions, in turn affecting the fishery sector. Mangroves are very important ecosystems for the artisanal coastal fisheries sector, serving as spawning grounds and nurseries for juvenile fish species. It is estimated that 51% of the fish caught in the artisanal fisheries benefit from the food chain related to mangroves, whereas practically the entire shrimp production depends on the mangrove habitat. A drop in mean annual run-off could also result in a complete change in the hydrological and salinity balance of the River Gambia’s estuary, in turn affecting fish species abundance, composition and distribution. Higher salinity at the mouth of the estuary, caused by reduced rainfall and freshwater sources and enhanced by sea level rise, may impede the entry of larvae and juveniles of many marine species (e.g. shrimp *Penaeus notialis*) into the estuary to complete their early lifecycle processes. Temperature increases will also destroy marine and riverine ecosystems, increase toxicity in fish stocks, and have a deleterious impact on human health.

Project Development Objective

The overall Developmental Objective of this project is to conserve and protect fisheries resources and their habitat through sustainable mitigation and adaptation measures thereby enhancing climate resilience of fishing communities. It will contribute to The Gambia’s climate change stabilization initiatives and by extension to the realization of the country’s Climate Change Policy objectives. The project also builds off the First and Second National Communications and the National Adaptation Programme of Action by promoting adaptation measures within the fishery sector. The project will also contribute to promoting economic development and significantly improving the livelihoods of beneficiaries along the value chain; youth and women in particular. The project will thereby contribute to employment opportunities for the youths and women of this country and in the process discourage illegal migration. The project aims to promote strategies that would reduce post-harvest losses and CO₂ emissions as well as protecting the mangrove cover.

For effective and efficient attainment of its Developmental Objective, the project is anchored on four interlinked components.

*Component 1*: Climate Proofing Fishery Infrastructure along coastal communities.

*Component 2*: Restoration of fisheries habitat and promotion of climate resilient production techniques.

*Component 3*: Enhancing capacity of fisher folk on climate change risk management.

*Component 4*: Project coordination and implementation.

The project will be implemented within fourteen (14) communities along the Coast of The Gambia and it is estimated that 30,000 people will benefit, who are directly and indirectly dependent on artisanal fisheries and their related activities of fishing, fish processing and post-harvest operations. The project will also target women and youth as vulnerable populations. Fishing is generally carried out by men, and women dominate activities in the post-
Barriers to be Addressed

Barriers include the limited knowledge among national and local administrations on climate change risks, adaptation needs and options and the majority of fisher folk (90%) have low literacy levels. There is limited or unreliable data collection and processing mechanisms to monitor climate change on fishery ecosystems especially in the estuary, due to inadequate capacity skills and human resources to conduct ecological research. District and Village Development Committees will act as key intermediaries among the national, regional and local levels. By scaling up achievements of the NAPA, this project support authorities to routinely include climate risks and climate issues into planning processes. This project will also increase analytical skills and capabilities of stakeholders to analyse/model weather, communicate, and disseminate information to all actors.

Market Overview

The Gambian fisheries sector has significant potentials to increase its contribution to national socio-economic development. It is a dynamic sector with a diversity of value chain actors operating a variety of small and micro-enterprise business activities that support their livelihoods and income sources. The country also offers great potential for increased aquaculture development. Artisanal fish catch, apart from being processed (dried and/or smoked) is transported fresh to the city, town and village level markets within the coastal and rural areas. Some of the processed fishery products (smoked or dried) are marketed within the country while others are exported to neighbouring West African countries where demand for fish is very high. The artisanal fish catch of high value fish species (shrimps, sole fish, sea breams, lobsters and cephalopods) are purchased by industrial fish processing companies for factory processing and export abroad, mainly to European Union countries. According to records of licensed vessels, over 95% of industrial fishing vessels in the marine waters of the Gambia are foreign vessels operating under contractual arrangements with Gambian companies. The fact that The Gambia does not have a port dedicated to industrial fishing operations, is used to justify the landing and processing of fish caught in Gambian waters outside The Gambia, leading to loss of foreign exchange, employment and the availability of fish for local consumption.

B.2. Project / Programme description (max. 3 pages)

Project Components

As indicated in B1, the main climate change impacts of sea level rise, temperature increase and increase salinity of the estuary will affect coastal fisheries infrastructure, damage mangroves and result in potential changes in the viability of fish species. Hence, the main interventions of the project will target climate proofing existing infrastructure, supporting mangrove plantation and health for fish habitat restauration and promoting alternative and sustainable climate resilient livelihoods activities such as aquaculture.

Component 1: Climate Proofing Small-Scale fishery infrastructure

- With high sea levels, existing fishing facilities like jetties and fish storage centers built on the coastal fringes slightly above the mean high tide line will be subjected to more frequent tidal and storm inundation.
- This component will target interventions to improve facilities and infrastructure within fish landing sites to become more climate resilient. In fact, climate change was not factored in during the design and construction of current infrastructures, making them very vulnerable to climate change. The component will specifically address issues of; beach stabilization works, construction of haul-out ramps for small boats, construction of breakwaters and rebuilding or relocating existing fisheries facilities. Upgrading of landing sites provides the opportunity to incorporate adaptation to climate change and raises developer awareness of climate change impacts and adaptive design options. The requested GCF proceeds will only go toward the additional cost of climate proofing based on climate resilient engineering standards.
- An evaluation of the Gambian Community Fisheries Centres (CFC) indicated that cold storage facilities and cold chambers are operating at limited capacity. Replacing these with solar-powered equipment will reduce emissions considerably and lessen the monetary burden on CFCs. The income generate from this activity will be placed in a community revolving fund to ensure the sustainability of the project components beyond the implementation period, to upscale specific project activities tested in the project and for community activities. The calculations of savings based on the projected capacity of solar panels and the requirements of the facility to operate, as well as the operation and maintenance costs will be estimated in the funding proposal stage. More information on the management of the cold storage facilities and allocation to community activities will be elaborated in the funding proposal stage.

Component 2: Restoration of fishery habitat and promotion of climate resilient production techniques

- Inland fisheries, particularly important for small-scale fishers in The Gambia and an integral part of many rural livelihood systems will be severely impacted by changing water levels and flooding events, while the coastal marine fisheries dependent on sensitive ecosystems will be impacted by rising water temperature that affects ecosystem functions. Climate adaptation measures are needed to protect the destruction of marine habitats...
caused by sea level rise, increase sea level temperature and change in seasonal rainfall patterns, indicated in section B1, and the demersal resources that are dependent on these habitats. It is prudent for this project to emphasize the need for the sustainable exploitation of the pelagic resources in order to sustain a satisfactory level of fish landings, and to maintain the economic viability of the industry. The activities include:

- Component 2 will support activities that are related to restoration of habitat loss along the coastal settlements through mangrove planting and introduction of saline resilient species. Along the coast, mangrove habitats, important for spawning, feeding and breeding of fish and shrimp, have been degraded due to sea level rise. Moreover, mangroves are expected to respond to rising sea level by retreating shoreward, changing the topography of the shoreline plays and therefore impacting the marine habitat. As development co-benefits, mangroves are a great source of timber for buildings and for furniture and some species can also be used for food and medicinal purposes. Project sites that will benefit from mangrove planting can also be used to promote small-scale aquaculture.

- Component 2 encourages aquaculture as an adaptation option in light of the impacts climate change is likely to have on fisheries, as explained in section 1, to assist in diversifying livelihoods, enhance optimal exploitation of fish resources, and reduce the demand and supply disequilibria. Indeed, it is likely that aquaculture, in view of its resilience and adaptability and its cultivation of a wide array of species/species groups will be able to respond positively to climate change impacts. A related thorough analysis will be carried out through the climate assessment. In The Gambia, inland aquaculture is developing and is likely to remain so in the near future. However, considering the potential increased climate change impacts on fresh water availability and quality it is difficult to predict the expansion of fresh water aquaculture in the midterm. Inland water aquaculture in existing water bodies such as reservoirs and rivers can be introduced primarily through cage culture. The development of aquaculture activities, including oyster farms, should be in accordance/compliance with the potential carrying capacities of the water bodies and continual monitoring of environment variables in relation to nutrient loading, externally and internally. Sea level rise also has the potential to flood coastal land areas, mangrove and sea grass regions which may supply seed stock for aquaculture species. In order to minimize risks and negative externalities associated with aquaculture, there is need to invest in small scale water storage infrastructure, such as on-farm ponds and small scale irrigation systems. Climate resilient aquaculture measures will be put in place to develop integrated systems, improve feeding, reduce losses from disease in aquaculture and limit postharvest and production losses. The feasibility study will analyse in depth the aquaculture model in a changing climate of The Gambia and the different other options available.

- Component 2 promotes adapting FAO’s newly introduced fuelwood efficient smoking kilns, FTT-Thiaroye, as a climate resilient post-production technique. The FTT-Thiaroye is an innovative and multivalent technique that has the potential to make tremendous impact on the fisheries supply chain. The FTT technology make dried and smoked products that meet food safety requirements, international standards and has been endorsed by competent authority as a certified product at the national, regional or international levels. This activity aims at sustainably supporting aquaculture post production by allowing for drying and smoking operations regardless of weather conditions, reducing post-harvest losses (which at times exceed 50%) and provide the possibility to process by-products, such as soap and oil. The use of the FTT-Thiaroye also have important mitigation co-benefits by reducing mangroves deforestation. In fact, current fish smoking techniques and equipment consume large quantities of firewood, which adds to depletion of forest resources and degradation to the environment and contribute to emission of greenhouse gases (CO2). Moreover, increasingly scarce supplies and high cost of firewood, leaves women fish smokers indiscriminately using other inappropriate alternative fuels such as cartons in fish smoking operations. These practices introduce toxic substances on to smoked products in defiance of food safety requirements with medium to long-term health implications.

Component 3: Enhancing capacity of fisher folks and institutions on climate change and risk management

- This component will support interventions related to capacity building and awareness creation on climate change impacts within the fisheries sector and in particular in promoting aquaculture as alternative livelihood. Capacity building activities include workshops, training modules, and methods of reducing fish waste. This component will, moreover, support local authorities to monitor climate change on fishery ecosystems, especially in the estuary, and to routinely include climate risks and climate issues into planning processes, increase analytical skills and capabilities of stakeholders to analyse/model weather, communicate, and disseminate information to all actors and support the development of technological programs to aid in data collection.

- This will support services such as early warning systems, scaled up from successful NAPA projects, that will be adapted to improve preparedness, operational efficiencies, and the application of best and cost effective adaptation options for viability of operations. Trainings will also include access micro credits access to further sustain their activities after the life of the project. The project will support fisher folk organizations that require strengthening and motivation around production, enterprise development and management of the local affairs of the community. District and Village Development Committees will also be targeted and strengthened, and the National Artisanal Safety at Sea Coordination Committee (NASSCC), originally created to discuss safety at sea matters between national responsible institutions and teams of head fishermen, will also be revitalized.

Component 4: Project coordination and implementation
This component is geared toward facilitating project coordination and implementation arrangements. The Department of Fisheries under the ministry of Fisheries Water Resources and National Assembly Matters will coordinate and implement the project in close collaboration with the Ministry of Environment Climate Change and Natural Resources which is responsible for policy issues related to climate. This will be done in collaboration with the National Environment Agency (NEA) which has the responsibility to manage coastal zone, rivers and wetlands. Other stakeholders would be local communities and community groups, fishing associations, small-scale fishers and others with an interest or involvement with coastal fisheries, as well as relevant Non-Governmental Organizations (NGOs) and Civil Society Organisations (CSOs).

Project Rationale
The Theory of Change defines the linkages between how project inputs, activities, outputs, outcomes will bring about impact and the intended paradigm shift. Figure 1 illustrates the pathway of change this projects is meant to follow. The inputs to the project will allow for a set of activities to take place, which in turn will produce the outputs and outcomes, defined as the four components to this project. These four components, brought together, will increase resilience in a variety of areas, culminating in the increased resilience of fishing communities against climate change consequences, the overall objective of this project. For example, the combination of human, financial, and technical inputs will allow for the installation of FTT kilns, thereby giving communities access to low emissions processing methods, and allowing for climate resilient fishery production. This then will increase health, well-being, income generation, food security and resilience of communities, contributing to the overall paradigm shift. Only when all of these components are brought together and properly interlinked can the environmental, economic, and social environment be created and aligned to allow for a successful paradigm shift.

Figure 1: The Project’s ‘theory of change’/Logic Model

All stakeholders, especially the main target (youth and women) and relevant staff of the Ministry of environment, climate change, and natural resources will participate, directly or through their representatives, in the planning and delivery of all activities. It will be made sure that fishermen (beneficiaries) feel they are the owners and managers of supported activities, rather than passive recipients. Memorandum of understandings (MoUs) clearly defining each party’s inputs will be drafted to avoid mishandling and carefree attitude of a deep-rooted culture of dependency.

Project Implementation
The leadership guidance for the implementation of this project will be entrusted to a Project Steering Committee (PSC) chaired by the Department of Fisheries (DoF). This will comprise senior officers such as the National Project Coordinator, FAO Representative, and other relevant government agencies. The PSC will be supplemented with the establishment of a Project Coordination Unit, including a Project Coordinator, Fisheries specialist, M&E Officer, and Procurement Officer etc. The PSC will review the project reports, hold periodic meetings, and make decisions to ensure the project stays on track and responds effectively to changing circumstances. The execution of the project will be guided by the procedures and guidelines under the custody of the project coordination unit. The Department of Fisheries (DoF), under the Ministry of Fisheries Water Resources and National Assembly Matters as the line Ministry for the development of fisheries and aquaculture in The Gambia, will coordinate and execute the project. The FAO Representative in The Gambia in collaboration with DoF will assign a Project Coordinator (PC) who will be responsible for the overall coordination and liaise with FAO Representative in The Gambia or his/her designated officer for all project matters. The PC and relevant support staff will form the Project Management Unit. All communications will be channelled through the Project Coordinator who will also be reporting to the Project Steering Committee and the implementing agency. The FAO Representative in The Gambia will act a supervisory role in implementation of activities.

Risks and Mitigation
The following risks are anticipated during the implementation of the project. The potential impact, probability of encountering the risk and possible mitigation methods are provided for each anticipated risk.

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<th>Risk</th>
<th>Impact</th>
<th>Probability</th>
<th>Mitigation</th>
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<tbody>
<tr>
<td>✔ Inadequate human resources to implement the GCF</td>
<td>High</td>
<td>Medium</td>
<td>✓ International consultants (TCDC) will be recruited to support project implementation; ✓ FAO staff at country level RAF and Headquarters will provide a close follow-up through adequate technical backstopping</td>
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<tr>
<td>✔ Changes in development priorities of the Government of The Gambia (GOTG)</td>
<td>Medium</td>
<td>Low</td>
<td>✓ Ensuring the GCF is aligned with government priorities</td>
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<tr>
<td>✔ High illiteracy level among communities in the rural areas, which will affect knowledge acquisition and retention</td>
<td>Medium</td>
<td>High</td>
<td>✓ Mass literacy sessions will be organised for some fisher folks in the form of capacity development.</td>
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<td>✔ Conflicts between project stakeholders</td>
<td>Medium</td>
<td>Low</td>
<td>✓ Clarification / specification of roles of each stakeholder group (category) during inception workshop; ✓ Partnership agreements will be established where necessary.</td>
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<tr>
<td>✔ Inflation which can affect project costs if implementation is delayed</td>
<td>High</td>
<td>Medium</td>
<td>✓ Implementing sound strategies for financial and program management</td>
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<tr>
<td>✔ Inability to prepare adequately for extreme climate events</td>
<td>High</td>
<td>Medium</td>
<td>✓ Developing effective partnerships with donor agencies</td>
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B.3. Expected project results aligned with the GCF investment criteria (max. 3 pages)

**Climate Impact Potential**

This project will address all four results areas associated with increased resilience.

1. **Increased resilience of vulnerable people and communities**

   The project will increase the resilience of 30,000 male and female and, indirectly, 300,000 male and female in The Gambia by promoting the adoption of adaptive climate-resilient options in light of the predicted impacts climate change will have on fisheries and by the promotion of capacity building.

2. **Increased resilience of health and well-being, food and water security**

   The introduction of fuelwood efficient smoking kilns will improve health by enabling women fish-smokers to shift from the current toxic smoking techniques and reduce the burden of women to collect firewood. The protection of the natural habit of fish resources and the introduction of alternative climate resilient livelihoods, such as aquaculture, will avoid fish stock decrease, enhance optimal exploitation of fish resources, and reduce the demand and supply disequilibria and thus improving food security.

3. **Increased resilience of infrastructure and built environment**

   Component 1 will target small-scale climate proofed infrastructure. Interventions will be made to make fish landing site facilities and small-scale infrastructure more climate resilient, and to upgrade and construct new facilities with adaptive designs. It will specifically address issues of; beach stabilization works, construction of haul-out ramps for small boats and construction of breakwaters. Investing in fixed and mobile cold storage facilities (e.g. with solar panels), modern retail sales outlets, fisheries incubation services, and fish processing facilities will enable the strengthening of commercial services to sell to both artisanal and industrial operators and support other commercial activities in different sectors, leading to significant growth potential in poultry, beef, fruit and vegetable businesses. The small savings generated will be deposited in a maintenance fund account which the beneficiaries will use for maintenance purposes of the facilities. This will ensure sustainability and durability of the facilities.
4. Increased resilience of ecosystems and ecosystem services

Component 2 will ensure sustainable exploitation of the fisheries resources to maintain a coherent set of critical habitats necessary for the dynamic functioning of ecological processes essential to the regeneration of natural resources and conservation of biodiversity. Marine and mangrove habitats, along with their ecosystem services will be restored.

Mitigation co-benefits include the expected emissions reduction of 32% of the high baseline in 2025 and 2030 (821 GgCO2e in 2025 and 880 GgCO2 in 2030). Reductions of the low baseline are expected to be 31% (471 GgCO2e) in 2025 and 30% (473 GgCO2e) in 2030. The 2016 Frame Survey recorded a total of 1,230 head fishermen throughout the country; the Atlantic Coast and Lower River South Bank constituted the highest proportion of the total number of fishermen (≈41% and ≈21% respectively) and the Upper River North Bank had the lowest proportion of head fishermen (8%).

Paradigm Shift

**Potential for scaling up and replication:** Climate-resilient infrastructure development (component 1), adaptation of solar power in building designs (component 1), and promotion of FTT kilns (component 2) are activities that can be scaled-up and adapted in communities throughout The Gambia, leading to large changes within the energy sector and great social, economic, and environmental co-benefits, including greater GHG emission reductions. The FTT kilns have caused a revolution in fish smoking in other West African nations, where kiln adaptation significantly improved the lives of women by avoiding contamination of fish flesh with toxic compounds, reduce smoke production, and produce export-worthy products. Health complaints also ceased completely, time spent processing fish reduced, and monthly net revenues increased. Similar benefits are expected to be seen across The Gambia. The use of the FTT-Thiaroye means less deforestation and better protection of mangroves, resulting in a positive impact on natural resources.

Aquaculture development projects (component 2) will also be scaled up and, combined with the kiln technology, will greatly enhance the marketing potential of fish and fishery products. Value-added fishery products are crucial determinants of the benefits that can be gained from the resource, as market destination based on value greatly determines product price. This project will also scale up on the achievements of NAPA, which successfully piloted and demonstrated the use of climate change early warning systems at a smaller scale. Building off the success of the NAPA pilot, this project will enhance warning systems and reduce vulnerabilities of not only fishermen but all communities. The project will also provide detailed knowledge on the flow of fishery products, particularly coastal pelagic fish, to design management measures in line with effective exploitation of resources. Good fisheries management practices for small pelagic fish will start at critical sites, such as MPAs, and then will be replicated across other areas.

**Potential for knowledge and learning**

This project creates knowledge and learning potential at both the local and national levels. On the local level, this project will build capacities of fisher folk organizations and improve organization structure to ensure management practice implementation, monitoring and response, and to enhance the participatory process for fishery value chain actors. Along with providing in-depth and reliable knowledge on the effect of climate change on ecosystems for decision-making to fisher folk organization members, this project will train fishermen with data collection, by exploring the possibilities of developing fisheries apps for use on smart phones and tablets supplied to extension workers, enabling real time data input into a fisheries database systems. Information collected will increase the analytical skills and capabilities of stakeholders to analyse, model and package weather, climate and hydrological information, increasing the effectiveness and efficiency of crucial monitoring, forecasting and warning institutions. This will allow The Gambia to overcome barriers in reliable data collection and processing to monitor fishery ecosystem health, climate information dissemination, and the sending of early warning messages to end users. Through encouraging collaboration and joint capacity building of various CBOs and stakeholders, a culture of exchanging, sharing and capitalizing on experiences will be developed and carry on after project completion.

On the national level, this project calls for the collaboration between the EE Department of Fisheries under the ministry of Fisheries Water Resources and National Assembly Matters with the Ministry of Environment Climate Change and the National Environment Agency. A greater integration of climate related issues across governmental bodies will create a platform from which climate change can be integrated into policies of all sectors. The revitalization of NASSCC will also include a new structure that will incorporate Agriculture, Livestock, Health, environment, Forestry, Wildlife and Biodiversity, Media, Women and Youth Groups. Creating a unified multi-sector committee will allow for comprehensive regulatory frameworks and policies to be systematically implemented, scaled-up, and replicated.

**Contribution to the creation of an enabling environment**

Outcomes from this project will be sustained past project completion by the social and market environment this project will create. In order for climate change policies to be efficient and sustainable, increased awareness of climate and climate change impacts on fisheries is required. Attitudes and approaches toward fisheries management and development are in flux as there is growing recognition that conventional fisheries management has failed to prevent overexploitation of major fisheries and new approaches are required. Component 3 addresses this issue by raising awareness to climate change issues among stakeholders. Only after stakeholders become educated on climate change issues and adaptation measures can climate change be integrated into fisheries planning with risk evaluation and risk criteria, critical fishery habitats be restored and protected, and strategies on seasonal and ‘resting periods’ be developed. The collaboration this project calls between government bodies and stakeholder organizations will also
create a unified approach toward climate change issues that will continue beyond the project timeline. In addition the strengthening of community based organizations and the District and Village Development Committees, which acts as key intermediaries among the national, regional and local levels, will lead to greater coherence among stakeholders and allow members to better capitalize on new market opportunities.

In terms of market transformation, this project will support the development of small scale and commercial aquaculture markets and attract different stakeholders involved in the value chain. Aquaculture development will promote fishery products with increased value and thus will open access to additional international markets, especially within Europe where historically more financial returns have been generated, thus attracting private sector engagement. This project is necessary to reverse The Gambia’s dwindling export market. New market development brings with it major employment opportunities along the entire fishery production chain and will further empower women, given their significant role in the fish processing value chain. Promoting aquaculture will reduce stress on natural fish stocks and adopting TNN kilns will reduce stress on mangroves, allowing for traditionally over-fished species to recover. This combination of project components will provide The Gambia with healthy fish stocks that can continued to be sustainably exploited and sold in a larger international markets after project completion.

**Contribution to the regulatory framework and policies**

Through capacity enhancement and stakeholder involvement and consultation, stronger institutional and legal environment for fishery initiatives and fisheries research programs in academic and technical institutions will be developed. With increased stakeholder involvement resulting from capacity enhancement, there will be greater integration of climate change into fishery management strategies and greater attention will be given to the use of ecosystem indicators that relate to environmental health and climate change. Key stakeholders play an important role in policy review and this bottom-up approach will lead to the strengthening of institutional and legal environments for fisheries initiatives taking into consideration climate Component 4 specifically focuses on enhancing the coordination between government bodies, local communities, fishing association, non-government organizations, and civil society organizations to ensure the implementation of policies resulting from this project. This project also encompasses the goals of several national policies, such as the National Climate Change Policy and INDC, among others, and builds off progress made by other international projects, promoting greater strengthening and unification of national regulatory frameworks and policies.

**Innovation**

Innovations come in the form of new fish production methods through aquaculture and fish processing techniques through the FTT kiln. Component 2 of the project will support the creation of 3 oyster farms of 5-10 hectares and the upgrading of the aquaculture sector, leading to a shift in harvesting activities from wild resources towards integrated aquaculture systems. This shift in practices has environmental benefits, by protecting already fully exploited/over-exploited oyster stocks and reducing damage to the mangroves ecosystem, and commercial benefits, as oysters harvested from the wild tend to be smaller and less homogeneous than cultured oysters. Coupled with the increased and improved fish processing capabilities with the kiln, the creation of an aquaculture market and an enabling environment that this project will also cultivate, the development of oyster aquaculture is likely to generate significant employment, particularly for poor women from marginalized communities.

**Sustainable Development**

This project will provide direct employment to over 4000 fisher folks, and will benefit all those involved in the production and distribution cycle. In addition to the direct adaptation outcomes, this project also creates environmental, social and economic co-benefits and gender-sensitive development impact.

**Environmental Co-benefits**

Infrastructure climate proofing will lead to replacement of traditional sources of energy with renewable sources, reducing GHG emissions and pollution. Cold rooms will lead to reduced food waste, with surplus supplies being able to be safely stored for leaner periods. Resilient and efficient smoking facilities, resulting from Component 2, will improve air quality, reduce smoke related health complication, and limit exploitation of mangrove forests. Component 2 will promote marine protected areas to conserve and protect important habitats such as spawning and coral reef areas, and will provide opportunities in ecotourism, sports fishing, and aquaculture.

**Social Co-benefits**

Social benefits include community training, education, and capacity development. This will lead to greater overall understanding of climate change issues and adaptation methods, creating a sense of ownership and empowerment among communities. Strengthening of community and fishery organizations, as well as other stakeholder groups, will allow for consistent and effective policy and management development, communication and implementation, as well as ensuring community participation and support. The needs of women and youth, the most vulnerable populations, are addressed with project components increasing livelihood generating activities and participation in community organizations, while reducing health risks. Efficient smoking techniques will decrease women’s burden to collect firewood and will give them more time to spend on other activities.

**Economic Co-benefits**

Aquaculture will allow for increased fish production and productivity, bridging the gap between fish demand and supply
Aquaculture activities create large number of jobs and provide alternative livelihood, further reducing pressure on marine resources. Embracing aquaculture and the FTT kilns, new opportunities for exporting and benefiting from fishery products will emerge, providing foreign currency for sustained economic growth. The kilns will also reduce time women spend processing fish, giving them time for alternative income activities. Women will also be trained to integrate horticulture and aquaculture into their gardening activities, expanding their economic streams. Increased cold storage will reduce financial losses vendors experience when over-production from one season cannot be stored and sold in unproductive months.

Gender-sensitive development impact
The project acknowledges that women capacities are strongly enhanced for employment in capture fisheries and aquaculture. Gender issues will be strongly addressed as the project adopts a gender-sensitive approach. The project will also promote sustainable aquaculture practices and farming technologies that can contribute to reduce pressure on the natural resource base.

Needs of Recipients
Fishing communities along the coast in the Gambia are subject not only to sea-level rise, but also flooding and resulting saltwater intrusion. Storms and other severe climate events also impact fisher folk safety at sea, coastal livelihoods, and fish production. Communities highly dependent on fisheries for livelihoods occupy low-lying lands and are exposed to climate change impacts associated with riverine and coastal zones. Fishing facilities are most vulnerable in coastal communities and vary widely in degree of development from minimal, such as in Sanyang, Bato Kunku and Kartong where there are few storage lockers and a covered area for working, to extensively developed, such as in Gunjur and Tanji Landing Sites where there are small complexes with cold storage, offices, and retail areas. The economic situation of the country, especially the burgeoning debt situation (120% of GDP), and as a result, debt service has somewhat crowded out government spending on critical sectors such as fisheries. The Government budget allocated to Fisheries Department is not sufficient to address the needs of the fisheries sector in a climate change context. It is slow to pursue the fisheries management innovation and changes required for both artisanal and industrial sectors, which include:

- Enhancing the institutional and technical capacity of the Fisheries Department and communities in disaster risk reduction and climate change adaptation
- Conducting training at all appropriate levels in climate-proofing Fisheries and aquaculture
- Strengthening productivity and production of the Fisheries Department fisher folks and stakeholders in fish processing
- Improving women’s working conditions at all landing sites through upgrading facilities and provisioning appropriate training and equipment.

Country Ownership
This project is building on results of previous funded fisheries projects such as Gambia Artisanal Fisheries Development Project (GAFDP). The project will ensure that the benefits of previous projects are sustained and will cover not only the climate proofing of fisheries facilities and infrastructure but will also develop sustainable management of fisheries resources and provide training for fisheries actors, enhancing policy coordination and implementation. Ongoing policies and actions this project will build on include:

National Development Plan– Emphasizes effective and efficient monitoring, control and surveillance system to safeguard fisheries and marine resources and promotes fishermen training to enable them to adopt responsible fishing practices

First and Second National Communications and the National Adaptation Programme of Action – Lays out appropriate measures to adapt to negative impacts of climate change in the fisheries sector

National Climate Change Policy – Promotes sustainable adaptive management of fisheries resources through strengthening the resilience of the resource base through sustainable management of fisheries, including adapting appropriate fishing methods to reduce by-catch and harm to endangered mammalian species. The overall goal of the National Climate Change Policy is, by 2025, to achieve the mainstreaming of climate change into national planning, budgeting, decision-making, and programme implementation, through effective institutional mechanisms, coordinated financial resources, and enhanced human resources capacity.

GOTG medium term plan (MTP) for fisheries sector – Recommends review of fisheries legislation and preparation of a fisheries policy that promotes resources management and conservation

Intended National Determined Contributions (INDC) – Includes adaptation policy goals to increase infrastructure resilience, improve disaster preparedness, incorporate climate change into agriculture practices and sectoral policies, enhance the resilience of coastal zones and communities, and promote ecosystem restoration.

These policies contribute toward the realization of the Vision 2020 goals of a well-educated, trained, skilled, healthy, self-reliant and enterprising population, while guaranteeing a well-balanced ecosystem and a decent standard of living for everyone under a system of government based on the consent of the citizenry. This project is aligned with the above
policies’ objectives and goals by promoting, through the fishery sector, effective management of ecosystems and biodiversity, increased resilience to climate change impacts, and sustainable low-carbon socio-economic development.

This project will also build off past and current projects funded by international organizations including:

- JICA funded CFC management restructuring project – Working with committees in Tanji and Gunjur (areas where JICA has previously provided ice plants)
- USAID Project – Established several Landing Site Co-Management Committees (LACOMs) and Tanbi Cockle and Oyster Fishery Management Committees within co-management projects
- GoWAMER and WADAF-ADEPA Projects – Providing technical assistance to variety of communities
- UNDP Project – Supporting training of youths and women in aquaculture technique and entrepreneurship
- Wetland International and GEF-UNDP Projects – Supporting mangrove related activities
- GEF-UNEP/UNDP Projects – Supporting initiatives in climate resilient efforts focused on adaptation and mitigation
- World Bank Project-West Africa Regional Fisheries Program (WARFP) – focusing on Brufut landing site development
- FAO, WB, Afdb African Package for Climate-Resilient Ocean Economies – Addressing climate change priorities by investing in fields of fisheries and aquaculture, carbon sequestration, safety at sea, coastal protection, transport/trade, waste, tourism, hydromet systems/early warning systems, and ocean energy.

The implementation of some climate change related projects and the NAPA and NAMA processes have enabled the country to build capacities within established ministries and agencies that will aid in the implementation of this project. These include the Ministry of Environment, Climate Change, Natural Resources in joint with the National Disaster Management Agency, the Department of Water Resources (DWR) under the Ministry of Fisheries, Water Resources and National Assembly Matters, the National Environment Agency (NEA), the Agriculture and Natural Resources (ANR) Working Group and the National Climate Committee (NCC).

**Efficiency and Effectiveness**

**Environmental impact assessment**

There will be no habitat destruction as a result from construction works on the land based structures, aquaculture structures will be designed in such a way to minimize environment impact and there will only be vegetation clearing in areas deemed strictly necessary. Sewage and solid waste will be dispose of in proper waste disposal structures. Fishers will be encouraged to reuse deteriorated fish as baits and fish waste will be used as compost for agricultural purposes. This project encourages the reuse of waste generated from fish as compost to reduce environmental damages and health risks and to provide alternative income source.

**Economic Analysis**

Quantitative economic analysis and feasibility assessments will be conducted for activities involving climate proofed infrastructure, aquaculture schemes, and improved FTT processing facilities. The project will embrace easily available and adoptable simple technologies, and through stakeholder and community consultations will also incorporate local traditional technologies. The project will build on current initiatives therefore enabling economies of scale.

**Sensitivity analysis**

Specific attention will be paid to relevant aspects of gender during the formulation of data collection instruments and project implementation based on guidance from relevant instruments (e.g. SSF Guidelines and the VGGT). A gender review of all documents will be part of the clearance process. The indicators will be disaggregated by gender.

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### C. Indicative financing / Cost information (max. 3 pages)

#### C.1. Financing by components (max ½ page)

Please provide an estimate of the total cost per component and disaggregate by source of financing.

<table>
<thead>
<tr>
<th>Component</th>
<th>Indicative cost (USD)</th>
<th>GCF financing</th>
<th>Co-financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component 1: Climate proofing fishery infrastructure along coastal communities</td>
<td>3,736,356</td>
<td>3,736,356</td>
<td>GCF grant</td>
</tr>
</tbody>
</table>
**Component 2:** Restoration of fisheries habitat and promotion of climate-resilient production techniques  
$7,345,903$  
GCF grant

**Component 3:** Enhancing capacity of fisher folks on climate change risk management  
$2,833,624$  
GCF grant

**Component 4:** Project coordination and implementation  
$1,393,050$  
GCF grant  
$1,937,045$  
Ministry of Finance

**Indicative total cost (USD)**  
$17,245,978$  
$15,310,000$  
grant  
$1,937,045$

### C.2. Justification of GCF funding request (max 1 page)

**Explanation why the Project/ Programme requires GCF funding, i.e. explaining why this is not financed by the public and/ or private sector(s) of the country.**

**Civil society and private sector**

As recognised in the National Climate Change Policy (NCCP), there is substantial interest from NGOs in The Gambia to engage the government and work with the private sector to implement projects and finance capacity development, which has yet to be mobilized and harmonized in the country’s efforts to respond to climate change. However, The Gambia is a heavily taxed economy constrained by inadequate budget, dependence on donor funding, limited resources and over-stretched by ambitious development plans. The Government’s climate change priority action plan for 2012–2015 and the National Climate Change Policy 2016, require in excess of an estimated US$1.35 billion in climate financing by 2030. At the moment, available climate financing targets adaptation and resilience, while mitigation will need more financial resources in both the medium and the long run. The climate change financing represents approximately 12% of the country’s Gross Domestic Product (GDP) per annum over the next fifteen years (GDP at market prices as of 2013). Of this financing, adaptation costs will account for approximately 10% and mitigation costs for 2% of the annual GDP. In order to address financial constraints, remove financial barriers and bridge financial gaps, the government continuously draws down on public sources and public investments supplemented by donor funding, which has been shrinking. This has compelled the government to work harder to initiate innovative financing mechanisms with potential to leverage private sector investment and provide incentives to support mitigation projects.

**Describe alternative funding options for the same activities being proposed in the Concept Note, including an analysis of the barriers for the potential beneficiaries to access to finance and the constraints of public and private sources of funding.**

Recently (March 2017) UNDP/GEF funded commencement of work to provide short term protection to the Senegambia frontage, once again on an ad hoc basis with inadequate consideration of the wider implications for coastal zone management and the potential for more sustainable methods to achieve future coastal resilience.

In a country classified as Least Developed Country (LDC) where more than 48 percent of the population live below the UN-established poverty line (US$ 1.25 per day), the average rate of youth (18–30 years) unemployment nears 38 percent (and can reach 67.6 percent in some regions) and the average female unemployment is close to 45 percent, such threats to the fisheries sector will lead to damaging social consequences. There is a massive financial burden for the government to not only cover losses due to climate change events, but also implement climate change adaptation and mitigation policies. The Government is requesting 100% of GCF assistance fund in the form of grants that will be administered through the Ministry of Finance according to work plans. The Government will facilitate GCF and those acting on its behalf, providing access to project sites as well as to any public information/documentation deemed necessary for the execution of the project. It will also provide any other pertinent information when requested by experts. The Government will also make available office space and facilities for use by the consultants for the project activities and appropriate venue for the training sessions and meetings. Necessary steps will be taken to ensure a smooth implementation of the project, including supporting the field work, facilitating missions by FAO and other experts...
and preparing workshops. Consultant clearances, duty exemption and custom clearance of imported equipment and tax-free local purchase of project equipment and supplies will also be ensured by the Government.

C.3. Sustainability and replicability of the project (exit strategy) (max. 1 page)

The involvement and participation of beneficiaries and stakeholders in the project design stages provide a sense of ownership at the local community levels and ensure projects sustainability and continuity. Stakeholder suggestions, such as providing trainings on fisheries resources and environmental management, renewing management contracts to clearly define the roles of each party and strengthening private public partnerships to ensure project sustainability, were adapted into project design. The capacity building and training activities that will be delivered during project implementation for all stakeholders and beneficiaries will contribute to enhancing the sustainability of project gains beyond implementation. Periodic participatory monitoring and evaluation of the project will provide for timely corrective measures or redirection of planned intervention activities, and increase chances for better uptake and sustainability. Addressing the felt needs of beneficiaries and the resulting benefits in terms of material, skills and knowledge gains, and the use of national expertise, will ensure that the lessons learned, documents produced and the activities implemented during the project remains in the possession of beneficiaries and the appropriate partner institutions for sustained use.

Project implementation will involve the adoption and application of climate sensitive technologies and best practices which, in light of capacities, skill and knowledge imparted and given their positive impact on climate change will result in increased sustainability of initiatives and interventions. Improved capacities of beneficiaries including fisher folk producer associations and their members will impact on their abilities to manage their own affairs in an equitable, transparent and effective way and contribute to consolidating and sustaining gains at end of project implementation and beyond. The program will have a monitoring and evaluation (M&E) system to ensure that activities, progress, as well as risks and outputs are continuously monitored, and reported on. A monitoring and evaluation protocol will be designed for continuous assessment of progress of project implementation to ensure that the project objectives are being fully achieved. Toward this end, the Fisheries Department will leverage the expertise of FAO, together with Department of Planning (under the Ministry of Agriculture), the lead agency for M&E functions in the agriculture and natural resources policy. However, the Fisheries Department will also take an active part in collecting and analysing data for M&E purposes, to ensure quality and timely information. In this regard, the Director of Fisheries will designate Fisheries Department staff responsible for the M&E functions of the Department.

Increased production and productivity with climate resilient handling, processing and storage resulting from this project ensures continuity in supplies to the market and builds the necessary trust in local supply of produce and products and hence, safeguard against dependence on importation. These, in turn, will encourage demand and supply driven production and create opportunities for increased employment and income generation, thereby enhancing the sustainability of enterprises and incomes.

C.4 Engagement among the NDA, AE, and/or other relevant stakeholders in the country (max ½ page)

The project has been developed as a result of close consultations with relevant national authorities in the countries on their needs and priorities. The project responds to some of the immediate adaptation needs identified as national priorities in the NAPA by government officials, NGOs/CBOs, local communities and other stakeholders. Local stakeholders, partners, and government bodies will be updated and again consulted with as the project continues to develop. The NDA of this project, the Ministry of Finance and Economic Affairs, is behind this project and supports its development and implementation. The executive entity is the Department of Fisheries under the Ministry of Fisheries and the use of national expertise, will ensure that the lessons learned, documents produced and the activities implemented during the project remains in the possession of beneficiaries and the appropriate partner institutions for sustained use.

Close consultations with FAO, as the AE, continue to take place as the project further develops. The Gambia has a close working relationship with FAO since the FAO Country Representation in the Gambia was established in 1978. FAO Country Representation achievements in The Gambia have since 2005 have been evidenced by the 41 Technical Cooperation Projects (TCPs), 5 FAO Trust Fund projects, 5 OSRO funded Projects and Special Programme for Food Security (SPFS) and 22 Tele-food Mini Projects. FAO has demonstrated comparative advantage and leadership in supporting government in defining national policy and strategies for agricultural and natural resources development, food and nutrition security, and for mobilizing resources to support the implementation of programmes and projects. The Gambia belongs to the West Africa Team under the Regional Office for Africa (RAF) and can thus tap from the knowledge base of its experts as well as of the technical officers at FAO headquarters. This GCF project also recognizes and supports other FAO-led projects in The Gambia, including the Canary Current Large Marine Ecosystem Project, EAF-Nansen Project, the Ocean Initiative, and other activities as a member of the Fishery committee for the Eastern Central Atlantic (CECAF).

D. Supporting documents submitted (OPTIONAL)
☐ Map indicating the location of the project/programme
☒ Diagram of the theory of change
☐ Financial Model
☐ Pre-feasibility Study
☐ Evaluation Report of previous project

Self-awareness check boxes

Are you aware that the full Funding Proposal and Annexes will require these documents? Yes ☐ No ☒

• Feasibility Study
• Environmental and social impact assessment or environmental and social management framework
• Stakeholder consultations at national and project level implementation including with indigenous people if relevant
• Gender assessment and action plan
• Operations and maintenance plan if relevant
• Loan or grant operation manual as appropriate
• Co-financing commitment letters

Are you aware that a funding proposal from an accredited entity without a signed AMA will be reviewed but not sent to the Board for consideration? Yes ☒ No ☐