



SOMALIA SUSTAINABLE FISHERIES DEVELOPMENT

BADMAAL PROJECT

TERMS OF REFERENCE

Feasibility Studies and Design of Infrastructure and Safeguards Instruments for (Barawe, Marka, Elhuur, Hobyo, Ceelmacan, Madhawa and Calanley) and Development of Business Plans/management Options

With a vast marine area including particularly productive oceanic ecosystems, Somalia's marine fisheries could make important contributions to the national economy, local livelihoods especially for women and youth, food supply and export earnings.

Due to a strong seasonal upwelling just off its Indian Ocean coast, Somali waters are seasonally productive and home to various fish and shellfish species, including valuable pelagic tuna resources. Conversely, the narrow continental shelf limits shallow-water habitat and therefore the abundance of demersal species. Both the seasonally abundant offshore pelagic and the more limited nearshore demersal fish species are accessible to small-scale fishers as well as to large industrial vessels.

The limited information on fish value chains indicate that many are relatively simple – either sold immediately as fresh fillets or whole fish at the markets/landing sites, dried for sale at distant domestic or Kenyan markets, or in the case of lobster frozen for export to regional markets. There are some cold store facilities, but many are small private operations for fish export and energy generation, and costs are high by international standards. There are a few processing facilities for frozen fish fillets exported as well as small-scale canning plants to regional markets.

The main challenge in Somalia relates to no stock assessment for demersal fish and crustacean resources, no implementation of management measures and minimizing fish losses and waste along value chains, these are key considerations in the contribution of fisheries to the national economy as well as for investment by the private sector.

In Somalia, expert “guesstimates” of fish loss and waste range from 30 to 50%. A recent National Fish Loss and Waste Assessment done by La talin and MEP has provided a snapshot of evidence to quantify the extent and impact of FLW across Somalia's fisheries value chains. FAO study in five Federal Member States (FMSs) and Banadir Regional administration (BRA) described several fish value chains centered around major urban areas but did not provide details on the fish loss and waste. A better understanding of the magnitude and the factors contributing to the losses will inform project activities focused on enabling fisheries management, improving value chains and on infrastructure which relies on these value chains, while providing a baseline to measure the impact of improved fish value chains for the project Results Framework. In addition, reduced losses may contribute to improved food security, food quality, income of coastal communities as well as further investments by the private sector.

1.0 Project Description

The Federal Government of Somalia (FGS), its FMSs and BRA through their Ministries of Fisheries and with support from the World Bank (WB), is currently preparing an investment in the fisheries sector, i.e. the Somali Sustainable Fisheries Development Project (SSFDP). The project aims to improve the capacity of targeted communities and authorities to benefit from and effectively manage selected fisheries, including value chains, for the governments, private sector investors and coastal communities.

The project includes two major components.

- **Component 1** will support climate resilient fisheries infrastructures and related value chains, and fishing community capacity building in the five FMS as well as in the BRA.
- **Component 2** will support the development of fisheries governance and management, with the necessary capacity reinforcement of the national institutions.

Under Component 1 *Sub-component 1.1 Climate-resilient fisheries infrastructure* activities are proposed to consist of: 1) feasibility studies of proposed infrastructure options; 2) design of agreed feasible infrastructure that accounts for climate change as well as the needs of men, women and youth; 3) development Safeguards Instruments for the chosen infrastructure; and 4) the conceiving of appropriate business models (PPPs, etc.) along with the development of business plans/manuals for operating and maintaining the infrastructure. Possible infrastructure includes cold stores, ice-production facilities, storage facilities, jetties, markets as well as processing facilities to lay the foundation for private sector investment. These activities will begin in the fishing communities of (Barawe, Marka, Elhuur, Hoby, Ceelmacan, Madhawa (Bajuni Islands) and Calanley) where infrastructure options have already been identified.

Fisheries sector context

Somali has the longest coastline in Africa (3,330 kilometers or km) and a large and productive Economic Exclusive Zone of the coastal regions are affected by the southwest monsoon winds that occur between June and September governing the fishing seasons in the Somali basin. In this period, coastal fishing of the small-scale fishery is limited due to the absence of harbors to beach landings with surf conditions. Activities of the larger industrial fisheries vessels operating in the region are also limited during this period due to strong winds and currents.

Somali fisheries target large pelagic species include tropical tuna and tuna-like species, which are seasonally present in coastal waters, small pelagic fish along the northeast and Indian Ocean coasts, many demersal fish species especially in coral reef regions, shark and spiny lobster in various parts of the coast but primarily along the northeast Indian Ocean coast of Puntland as well as in the coral ecosystem in the Southeast Bajuni Islands. Main commercial demersal fish are emperors, groupers, snappers, and grunts which are primarily for domestic consumption and reported to be decreasing due to intensive fishing. Export fisheries include the high valued spiny lobster, shark for fins, dried meat, and oil. Marine fisheries are either industrial scale such as the licensed tuna long liners or small-scale such as handliners or gillnetting for tuna and other fish species, as well as diving and tangle netting for spiny lobster. Fish is either brought to the beach landing sites or sold offshore to visiting Yemeni or other vessel-based buyers.

The recent FAO survey of value chains in five FMSs and the BRA identified three major groups of value chains linked to the above fisheries: lobster, large pelagic (tunas) and shark (fins, dried meat, and oil), all three are primarily for export. There are value chains for demersal fish which are primarily sold domestically but some of the catch is exported to neighbouring countries.

During the preparation of the Badmaal project, a first identification and assessment of locations for investment was undertaken by the WB in coordination with the MFBE and the FMS Ministries. In addition, the FMS Ministries with support of the project conducted field visits in Barawe, Marka, Elhuur, Hobyo, Ceelmacan, Madhawa and Calanley (Kismayo) in the month of December 2024. The assessment and field visits concluded that all locations were in need of infrastructure investment, that is well planned to learn from past experiences to avoid failure as initiatives that have been tried in the same locations.

Feasibility studies and designs will be conducted for seven fishing community sites across Somalia to address critical infrastructure needs in the fishing industry.

1. Calanley site in Kismayo District in Jubaland state, faces several key priority needs to revitalize its fisheries sector. The existing fish market requires comprehensive renovation to improve sanitation, functionality, and vendor capacity. There is an urgent need for modern infrastructure, including a jetty landing facility and a fish processing center to enhance operational efficiency and meet market standards. Chill storage and ice-making facilities are essential to reduce post-harvest losses and improve fish quality. Additionally, establishing a workshop for boat and engine repairs will support local fishing operations. Access to clean water, solid waste management systems dedicated centres for women's empowerment are crucial for promoting inclusivity and sustainability in the fisheries sector. Training programs focused on modern fishing techniques and capacity building for cooperatives are necessary to enhance productivity and market access.
2. In Barawe, initiatives proposed include constructing a solar-powered chill storage and ice making system, a boat repair workshop, and fish drying racks to enhance the local fishing industry.
3. Marka focuses on expanding chill storage and ice making, improving drainage for sanitation standards at the fish market, and establishing a boat repair workshop.
4. Ceel Macaan, Madhawa and Elhuur, in Hirshabelle, Jubaland and Galmudug respectively, need chill storage, ice production and processing facilities to improve market access.
5. Hobyo, also in Galmudug, requires investments in chill storage, ice making and processing and renewable energy systems

Overall, these studies aim to enhance fish handling, reduce waste, support fish catch and effort data collection, community management of landing sites and initiate the process of community fisheries management to promote economic growth in these communities. **2.0**

2.0 Objectives of the Assignment

The primary objective of this assignment is to conduct a comprehensive analysis of the current fisheries production, trade dynamics, and value chains within the selected fishing community sites across Somalia. This involves identifying specific infrastructure needs that are essential for reducing post-harvest losses and improving market access for local fishers and fishmongers. The fish resources that are the basis for future fish production are to be estimated from all available sources and confirmed by community consultation to include species mix, seasonality and changes over recent time. The assignment aims to design infrastructure solutions appropriate to the current and forecast levels of fish catch by species, such as cold/ chill-storage, ice making, wholesale and/or retail markets, processing facilities, and landing sites, while ensuring compliance with environmental and social safeguards to promote sustainable practices. Additionally, the project will develop detailed business plans and options for community or hybrid systems of management of the proposed infrastructure, equipping the fishing communities with the necessary tools and guidelines to enhance their

operations and market competitiveness. By addressing these objectives, the assignment seeks to provide for future benefit from fishing in these communities, ultimately contributing to economic growth and food security.

3.0 Scope of Work

To achieve this, a series of critical tasks make up the scope of work:

TASK 1 – Feasibility studies

- Undertake a comprehensive SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis of the Barawe, Marka, Elhuur, Hoby, Ceelmacan, Madhawa and Calanley communities to establish population profiles and their dependence on fisheries, number of fishermen and active boats to include fishing gear and methods, seasonality of production by species and estimated total annual landings of all species. Assess the current patterns of trade in fish, the persons and organisations involved, their methods of operation, costs of activity, quantity and species types traded, seasonality of activity, locations of final markets, percentage of fish loss or wastage and estimated profitability. Identify constraints in post-harvest handling and marketing. Based on these analyses propose the scope of the investments needed to alleviate current problems, capacities of ice making and chill storage, space requirements for fish landing site market infrastructure, required power supplies and locations that avoid any form of relocation in the communities. Identify potential options and location jetty construction in Kismayo and Ceelmacan locations and propose the necessary studies with terms of reference to determine viability.
- Present completed feasibility studies to include resulting scope of investments justified by the analyses to MFBE/FMS and Community, proposed methods of management and maintenance and obtain agreement to proceed to phase 2 designs.

TASK 2 - Infrastructure Design:

- Design of each component of the phase 1 agreed infrastructure with specifications as required to complete dossier for tender under World Bank guidelines. All designs to be to standards for eventual export of fish species in compliance with international hygiene regulations
- Develop and integrate comprehensive waste management and stormwater drainage systems into the site design to ensure safe collection, treatment, and disposal of fish waste and wastewater. The design should consider hygiene, environmental protection, and climate resilience, and must comply with applicable national standards and World Bank EHS Guidelines.
- Present draft designs and costing to MFBE/FMS on agreement complete tender dossier and later to the community in the respected areas.

Task 3. Energy system

- Evaluate the fishery's location to identify optimal electricity solutions, including connections to existing mini-grids and stand-alone power generation options with Independent Power Producers (IPP)
- Assess land availability for solar PV installations and provide a preliminary design for the electric system
- Characterize cold chain operations, focusing on ice production and chill storage needs:
 - Assess volume storage needed and the frequency of landings.

- Assess if fish is coming alive, at ambient temperature or pre-chilled
- Conduct a comprehensive cumulative maximum load analysis to assess equipment capacities and operational hours.
- Define the required number of hours or days of autonomy in order to set a minimum for battery bank to be provided.
- Outline the minimum contractual period for effective operation of the electricity supply and cold chain facilities, targeting 3 to 5 years
- Specify the necessary human resource capabilities for operation and maintenance, and capacity building needed.
- Outline the minimum contractual period for effective operation of the electricity supply and cold chain facilities, targeting 3 to 5 years, and specify the necessary human resource capabilities for implementation.

TASK 4: Social and Environmental Safeguards Instruments:

- Develop a consolidated Environmental and Social Management Plan (ESMP) for all proposed fish landing and market sites, incorporating GBV/SEA/SH mitigation measures in line with the Badmaal SEA/SH Action Plan to address E&S risks identified during the screenings prepared by the PMU.
- Ensure that all proposed technologies align with local needs and capacities. Emphasize the integration of waste management, cold chain systems, and stormwater drainage systems into the site design to facilitate the safe and environmentally sound handling of fish waste and wastewater, in compliance with environmental safeguards. All technologies must be realistic and relevant to the community and its location, promoting sustainable practices and enhancing the overall functionality of the fisheries.

TASK 5 - Development and Business Plans/Management Options:

- Prepare an adequate and realistic business model based on clear and realistic hypotheses (e.g. quantity of products, services provided, electricity needs, water needs, etc.). This should include an agreed (with the project and the beneficiary community) cost-effective business concept for the infrastructure that respond to the needs of the community. including financial projections, operational strategies, required investments, and expected outcomes. Consider the integration of value chain development, market access, as well as employment and income generation opportunities for men, women and youth in the fishing communities.
- Identify and analyze various options for management and operation of the proposed infrastructure that is discussed and agreed with the project and the communities. Include standard operating procedures, performance indicators, and guidelines for adaptive management
- Prepare business plans for the selected business models,
- Develop management option strategy for the sites, financial viability and maintenance of the proposed infrastructure projects and the monitoring, and evaluation, of the business models.
- Ensure close collaboration and consultation with relevant stakeholders, including fishing communities, government agencies, civil society organizations, and regional authorities, throughout the process.
- Present the findings, recommendations, and deliverables to the project implementing agency and stakeholders through structured workshops and presentations.

Deliverables

The firm is expected to provide the following deliverables:

- Seven feasibility study reports of fisheries infrastructure for Barawe, Marka, Elhuur, Hoby, Ceelmacan, Madhawa and Calanley.
- Presentations and workshops to share the findings, recommendations, and deliverables with the project implementing agency and relevant stakeholders
- Detailed design including cost estimates and specifications of each selected infrastructure to tender dossier stage.
- A comprehensive, consolidated Environmental and Social Management Plans (ESMP), covering all proposed fish landing and market sites, addressing identified E&S risks and incorporating GBV/SEA/SH mitigation measures in line with the Badmaal SEA/SH Action Plan
- Agreed management Options and Business models and plans for each designed providing guidelines for the management, financial viability and operation of fisheries infrastructure.

1. Deliverables, Timeline and Reporting

The assignment is expected to require around **8 months**, to be initiated as soon as the contract is signed. An indicative schedule for delivery of the expected outputs described in previous sections is:

Deliverable	Timing / Deadline
Submission of inception report	4 weeks from contract signing
Submission of one draft feasibility studies for each site i.e Barawe, Marka, Elhuur, Hoby, Ceelmacan, madhawa and Calanley, including recommendations based on environmental, financial and social factors.	10 weeks after approval of the inception report
Workshop/meeting report with relevant stakeholders to present results and gain feedback for final selection of infrastructure.	4 weeks after approval feasibility study.
Detailed engineering designs, cost estimates, and financial analysis for the proposed infrastructure projects in Barawe, Marka, Elhuur, Hoby, Ceelmacan, madhawa and Calanley. Share a consolidated Environmental and Social Management Plans ESMP for all proposed fish landing and market sites, incorporated GBV/SEA/SH mitigation measures in line with the Badmaal SEA/SH Action Plan, Share Business plans for the selected business models, including financial projections, operational strategies, and potential impacts on livelihoods and sustainability. Share management option for the proposed infrastructure projects and business models, providing clear guidance outlining various sustainable fisheries practices, value chain development opportunities, and market dynamics.	10 weeks after confirmation of selected infrastructure.
Presentations and workshops to share the findings, recommendations, and deliverables with the project implementing agency and relevant stakeholders Barawe, Marka, Elhuur, Hoby, Ceelmacan, madhawa and Calanley)	3 weeks after approval of the draft report

Submission of final report, with final considerations and final, agreed list of priority interventions	3 weeks after completion of the stakeholder's workshop.
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8. Qualification and Expertise

- Core business of the firm and at least 10 years in infrastructural development Engineering such as Civil Engineering, Structural Engineering, Marine works for fisheries or marine infrastructure etc.).
- The firm should have the capability to analyze data, conduct market assessments, evaluate financial feasibility, and assess social and environmental impacts.
- The firm should have expertise in fisheries, knowledge of fishing methods and fishing boat operations, identification of fish species and processing requirements, experience of specification of fisheries infrastructure to international hygiene standards
- The firm should have a proven track record of successfully delivering feasibility studies and the design of infrastructure in the fisheries sector or related fields to include renewable energy specifications for remote communities
- Experience in working on projects with similar objectives, such as sustainable fisheries development or climate resilience, is highly desirable.
- Familiarity with the Somali fisheries sector and understanding of the local context, including environmental and social dynamics, regulatory frameworks, and cultural considerations, will be advantageous. The firm should have experience working in Somalia or other similar contexts.

The team should possess the following expertise:

A. Fisheries expert

- Minimum of master's or Ph.D. in a relevant discipline
- At least 10 years of professional experience in fisheries and Value Chain experience in developing countries, and at least 8 years of proven experience specifically in small-scale fisheries related enterprise development
- Prior experience in sector-level planning and/or evaluation will be preferred
- Excellent organizational, research, writing and communication skills
- Fluent English. Somali fluency would be a plus
- Hands-on and action-oriented approach
- Extra credit for work in Somalia

B. Infrastructure engineer

- Master's degree in civil engineering or architecture
- At least 8 years of international experience on civil and structural engineering, marine works architecture with proven previous experience on construction/ rehabilitation and structural development of marine and onshore structures for fisheries and port installations.
- Expertise in energy efficiency material and equipment and climate change mitigation/adaptation solutions
- Experience in fisheries or agricultural infrastructure is preferred
- Proven ability to manage projects
- Proficiency in English

C. Environmental Specialist

- Master's degree in environmental sciences, Ecology, Natural Resources Management, or a related field.

- Minimum of five years of professional experience in conducting environmental impact assessments (EIAs), developing Environmental and Social Management Plans (ESMPs) and engaging with stakeholders regarding environmental issues.
- Working on projects financed by international donor agencies (preferably the World Bank).
- Familiarity with climate change impacts and mitigation strategies.
- Excellent analytical and problem-solving skills.
- Strong communication skills for effective reporting and stakeholder engagement.
- Fluent in English and Somali, and good knowledge of Somali culture

D. Social Development Specialist

- Master's degree in social sciences, Development Studies, Sociology, or a related field.
- Minimum of five years of professional experience in conducting social impact assessments (SIAs) and developing Gender Action Plans (GAPs) and other social safeguard instruments.
- Working on projects financed by international donor agencies (preferably the World Bank).
- Familiarity with social risk management frameworks and strategies.
- Excellent analytical and communication skills.
- Ability to work collaboratively with diverse stakeholders.
- Language Proficiency:
- Fluent in English and Somali, with a deep understanding of local social dynamics.

E. Quantity Surveyor.

- Degree in Quantity Surveying or equivalent and be registered with and accredited to a recognized professional body.
- A minimum of 10 years practical post-qualification experience in quantity surveying for building projects.
- At least 7 years of recent experience in the preparation of bills of quantities for building projects and quantity survey work. Should be familiar with the latest quantity surveying computer applications. Must have held similar position in at least two previous assignments of similar nature. Fluent in English. Previous work experience in Somalia and fluency in Somali will be an added advantage.

F. Energy Specialist

- Bachelor's degree in Energy Management, Electrical Engineering, Renewable Energy, or a related field. A master's degree or relevant certifications (e.g., Certified Energy Manager) is preferred.
- Minimum of 5 years of experience in energy systems analysis, renewable energy project development, or energy efficiency consulting, with a proven track record in similar projects.
- Strong understanding of energy supply options, including grid connectivity, captive power generation, and solar PV systems. Familiarity with energy modeling software and load analysis tools is essential.
- Must have held similar position in at least two previous assignments of similar nature. Fluent in English. Previous work experience in Somalia and fluency in Somali will be an added advantage.