Food and Agriculture Organization
of the United Nations

CAPACITY BUILDING FOR THE MANAGEMENT OF SMALL-PELAGIC FISHERIES IN ERITREA

June 2020

SDGs:

Countries:	Eritrea
Project Codes:	TCP/ERI/3606
FAO Contribution	USD 352 000
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Contact Info:	FAO Representation in Eritrea FAO-ER@fao.org

Implementing Partners

Ministry of Marine Resources (MMR); Ministry of Local Government (MoLG).

Beneficiaries

Technical personnel from the Marine Resources Regulatory Services Department (MRRSD) of the MMR; technical personnel from the Fisheries, Habitat Research and Information Units of the Marine and Coastal Management/Research Department of the MMR; small-scale fishers; coastal communities and consumers from the Southern Red Sea and Northern Red Sea Zobas (Regions).

Country Programming Framework (CPF) Outputs

Improved institutional and technical capacity of national institutions staff and farmers to improve production and productivity of crops, livestock and fisheries (Country Priority 1 and Outcome 6).

Background

Eritrea's agriculture, forestry and fisheries sectors account for 17 percent of the country's annual gross domestic product (GDP), but the fisheries sub-sector only contributes 18 percent of this value, or 3 percent of the national total. Annual per capita fish consumption is low in Eritrea, with an estimated annual per capita fish consumption of 0.4 kilograms, compared to an African-wide average of 9.8 kilograms. In fact, low dietary diversity and access to protein-rich foods among certain segments of the population continues to be a problem, especially among the rural, coastal and more isolated communities, many of whom work in or depend on small-scale fisheries. In addition, fish food consumption remains skewed towards urban populations.

From having the second lowest Human Development Index (HDI) out of the 188 countries assessed in 2015 to experiencing high levels of inter-annual variability in market, export and exchange rate activities, Eritrea has an underdeveloped private investment context from which productivity gains and economic diversification could otherwise prosper. The small-pelagic fisheries sector, for instance, has the potential to yield cost-effective investments at scale while actively contributing to poverty reduction and food security and nutrition.

With 2 500 kilometers of coastline, including the Dahlak Archipelago where small-pelagic fish varieties are found, Eritrea's potential in developing its fisheries sector has been halted by a complex, post-independence socioeconomic context. Recent declines in output, employment and income in the small-scale fisheries sector were not due to overfishing or unsustainable natural resource practices. Instead, this is part of broader programmatic and institutional challenges in national sustainable development plans. The Government of Eritrea has therefore published its Interim Poverty Reduction Strategy Paper, identifying three priorities for the fisheries sector.

- Increase the profitability of artisanal fisheries by strengthening rural cooperatives and linking them to high-value export markets;
- Boost export earnings by creating suitable investment climates for investors; and
- Strengthen resource management practices to ensure environmental sustainability.

In response to this, the Ecosystem Approach to Fisheries (EAF), upon which the project is based, took into account the importance of marine ecosystems and how Eritrean societies and economic activities interact with them, thus allowing for an integrated approach to fisheries within ecologically meaningful boundaries. The FAO Technical Guidelines for Responsible Fisheries have addressed specific EAF implementation modalities, aiming to translate economic, social and ecological policy goals into operational objectives, indicators and performance measures, as the project aimed to do. Moreover, previous research has identified a list of sector-specific constraints, as listed below, ranging from the programmatic and legislative to the technical and investment-related in the context of the Eritrean fisheries sector.

- Low institutional capacity;
- Shortage of technical expertise;
- Inadequate infrastructure;
- Limited market opportunities;
- Understaffed cooperatives;
- Limited investment capital;
- Need for renewed fishing craft and gear;
- Isolated fish landing sites and markets; and
- Fuel shortages and fuel price inflation.

The project responded to the first two constraints, on low institutional capacities and lacking technical expertise, given their foundational relevance to national fisheries management planning. Given FAO's past engagements with Eritrea's fisheries authorities on supporting institutional, managerial and marketing capabilities for marine products, including for the development and management of industrial fisheries, the EAF approach responded to the sector's constraints and to the country priority on supporting vulnerable smallholder households in improving their food and nutrition security and livelihood opportunities by 2021.

Impact

In light of the technical, programmatic and institutional support provided, the project worked together with Eritrean national and Zoba-level (regional) authorities to guarantee a profitable, cost-effective, inclusive and environmentally sustainable small-scale fisheries sector by developing an EAF-based Small-pelagic Fisheries Management Plan.

As such, a more articulated small-pelagic fisheries sector will improve access to higher income-generating opportunities, strengthen rural cooperatives along food systems and link them to high-value export markets, promote a more suitable investment and institutional enabling environment and ensure enhanced resource management practices. This holistic management plan is expected to facilitate higher production and incomes within ecologically meaningful boundaries for fishers, fish processors and traders, while responding to the socioeconomic needs of fishing and coastal communities.

Achievement of results

The EAF-based approach underpinned all project activities, allowing it to work holistically towards promoting income-generating opportunities for small-scale fisheries, improving food and nutrition security among the poorest populations throughout coastal communities, enhancing the availability of food and nutritional value, fostering decent rural employment opportunities in the fisheries and aquaculture sectors, prioritizing women in trade and processing tasks and developing energy efficient and ecologically sustainable catch and processing methods. In doing so, the EAF-based Small-pelagic Fisheries Management Plan remained mindful of supporting policies that prevent overfishing or interference with marine ecosystems.

Given the project's prioritization of strengthening institutional capacities and improving specialized technical expertise, it aptly responded to key constraints from which all other programmatic, budgetary, regulatory and technical needs and opportunities in the small-pelagic fisheries industry stem. This technical assistance was made possible by the active engagement of a full-time technical adviser assisting in needs assessments.

Given its role in overseeing the Zoba tier of governance, the Ministry of Local Government (MoLG) was actively engaged with the development of the EAF-based Small-pelagic Fisheries Management Plan, ensuring that this decentralized approach could lead to improved planning, implementation and monitoring and evaluation capacities at the local and regional levels. The empowerment of local governance structures allowed for local stakeholder participation in the preparation of the management plan, from which a more robust extension and advisory support service can emerge.

As such, FAO's work alongside MMR and MoLG personnel allowed for a streamlined and participatory process when developing, planning and implementing the draft fisheries management plans and applying new data collection protocols. These joint efforts facilitated the meaningful participation and manifestation of ideas and concerns from local fishing and coastal communities in need of enhanced market access and wider connectivity to regional and national fisheries trading networks. Stakeholders and benefited communities have already shown commitment to applying the recommendations from the fisheries management plans and implementing the data collection systems and protocols introduced.

In light of the project's potential for more informed, structured and articulated fisheries management plans between national and Zoba-level marine authorities – with particular emphasis on the Northern Red Sea and Southern Red Sea Zobas – Eritrean consumers also stand to benefit from increased and sustainable supplies of fish as a protein-rich food in local markets. Overall, the project adopted a systems approach to understanding the sector's priorities: renewed infrastructure and fishing gear, enhanced access to markets and information, strengthened cooperatives, diversified investment streams, shortened supply chains and responsiveness to price increases of key inputs.

Implementation of work plan

The Government of Eritrea, in partnership with the International Fund for Agricultural Development (IFAD), the Global Environment Facility (GEF) and other development partners, was in the process of finalizing the design of a seven-year programme entitled, *Fisheries Resources Management Programme (FReMP)*, which was expected to complement the toolsets, resources and technical networks of this FAO technical cooperation programme (TCP) on capacity-building and small-pelagic fisheries management. The initial delays in implementation and eventual cancellation of the FReMP programme prompted FAO to reorient the scope of the TCP, after it had already been delayed by several months. In this respect, the project was ultimately limited to the activities and results that could be financed with FAO's funding contribution alone, including the cancellation of the research, stock-tacking assessments and knowledge transfer activities with the College of Marine Sciences and Technology (COMSAT). Nonetheless, it did engage in Letters of Agreement (LoA) with the University of Balamand and the Fisheries and Aquaculture Economic Research (NISEA) to deliver similar activities. The project experienced further delays after the contract of the EAF Process Coordinator and Fishery Management Specialist, in charge of developing the EAF-based Small-pelagic Fisheries Management Plan, was terminated. Consequently, a qualified replacement was difficult to recruit on short notice.

In light of this, the project's original start date of 20 January 2017 was postponed to 1 September 2017, and the new end date was delayed by a full year to 31 August 2019. The project later received a further extension to 31 December 2019; nonetheless, all project activities officially concluded on 31 January 2020.

Follow-up for government attention

Since the project expected to have its activities complemented and supported by the FReMP programme for at least four years after the TCP's closure, the MMR is invited to assess the need for any future technical assistance and funding, including from the MMR's budget, that of the national government and/or from potential external resource partners.

Moreover, the MMR is encouraged to continue validating the data collected, ensuring it complies at the national and Zoba levels with the protocols and methods agreed upon with FAO and other external expertise. To this end, the MMR is also encouraged to continue monitoring the data collection procedures through the socio-economic survey system developed, especially in light of the MMR's data collection system's implementation and monitoring plans involving all technical officers concerned.

Similarly, the MMR and other relevant national and local authorities are invited to continue working towards the official approval of the EAF-based Small-pelagic Fisheries Management Plan in order to begin its implementation. In this respect, the MMR is reminded of the implementation plan that was approved by the Fishery Task Force and pertinent stakeholders, which may prove timely moving forward.

Finally, as part of the MMR's continuing support to stakeholders and beneficiaries, a baseline report for the EAF-based Small-pelagic Fisheries Management Plan should be developed.

SUSTAINABILITY

1. Capacity development

The technical assistance provided guided national and Zoba-level MMR personnel through the EAF-based planning process for a holistic, multi-annual small-pelagic fisheries management plan. These activities were accompanied by specialized technical assistance on improved data collection protocols, which were essential build blocks to the evidence-based components of the EAF-based National Small-pelagic Fisheries Management Plan.

A notable capacity development milestone with direct impact at the local and community levels came from the development and publishing of the *Pocket Guide to Important Coastal Fishery Species of Eritrea*. This booklet provided local fishers, extension workers, marine scientists, government fisheries personnel and the broader interested public with a user-friendly tool to easily identify over 200 species commonly found around Eritrea's coastal areas. This comprehensive tool allows fishers and marketers to identify the species caught and understand their market value, using color-coded grouping of species based on simple morphological characteristics as well as symbols for common sizes, ecological preferences and catch methods.

2. Gender equality

The project encouraged the MMR to facilitate a wide participation of male and female technical officers in all workshops and planning, consultation and validation processes. This was made possible by the MMR's integration of gender equality and women's empowerment priorities into its fisheries development initiatives.

Moreover, the community-level beneficiaries were small-scale fishers working on boats, canoes and on foot, a majority of whom are women and youth. In addition, the EAF-based Small-pelagic Fisheries Management Plan ensured that the participatory processes and data collection protocols carried out reflected the gender-specific needs of small-scale fishers and coastal communities. In doing so, the fisheries management plan recognized the potential of, and need for, decent employment opportunities for women in the fisheries trade and processing sub-sectors.

3. Environmental sustainability

The use of EAF modalities directly contributed to the government's national objective of having ecological sustainability measures and socioeconomic development initiatives working side by side. In this respect, the project ensured that the EAF-based National Small-pelagic Fisheries Management Plan accurately reflected the need to conserve and sustainably use marine resources for sustainable development, as well as to develop energy-efficient catch and processing methods without disturbing marine ecosystems. These efforts complemented the MMR's ongoing work on marine resource conservation and sustainability, biodiversity protection and climate change adaptation.

The project's symbiotic relationship between economic diversification, productivity gains, increased competitiveness, natural resource governance and biodiversity conservation supported a broader programmatic articulation between poverty reduction, food and nutrition security and climate change adaptation. In doing so, the project reflected a sound application of the Principles for Responsible Investments in Agriculture and Food Systems (RAI), especially by enabling more diverse and sustainable public and private investments.

4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

In response to historically embedded challenges in the Eritrean fisheries sector in terms of participation, coordination and missed opportunities for shared prosperity, the project provided technical assistance and programmatic management guidance to a fisheries sector that could reduce poverty, create gainful employment and dynamize small-pelagic fisheries. In working to this end, the project contributed to the progressive realization to the Right to Food by establishing strong links between sound economic policies that strengthen markets and international competitiveness and inclusive, non-discriminatory development initiatives. Likewise, environmentally conscious and socially responsible programmatic, budgetary, and technical plans and dissemination of lessons learned featured widely throughout the project's activities.

Furthermore, the project recognized the importance of having robust statistics and data collection and interpretation protocols that ensured the access to resources, services and assets that are central to ensuring livelihood diversification and food and nutrition security for all. In this respect, the training of MMR personnel on sample-based fisheries data collection promoted a participatory approach to information gathering, management, analysis, interpretation and dissemination, thus recognizing the importance of programme indicators and sector-specific benchmarks that reflect the needs of all.

5. Technological sustainability

From providing small-scale fishers with a tool to identify the marine species caught and their market worth to advising them on the most cost-effective and ecological catch methods and gear to use, the *Pocket Guide to Important Coastal Fishery Species of Eritrea* is relevant to the changing local contexts and market priorities. Given its detailed information on over 200 popular and marketable species specific to Eritrea's coastal regions, this practical tool feeds into the broader EAF-based Small-pelagic Fisheries Management Plan and its efforts to promote relevant, appropriate and flexible solutions to bottlenecks at the national, regional and community levels.

The project's delivery of sector-specific capacity building tools to MMR personnel and other associated institutions, including at the Zoba-level, also ensured that this knowledge transfer reached the more isolated small-scale fisheries and coastal communities, including communities from different ethnic backgrounds who have seen their traditional knowledge complemented by these tools. This technical expertise and best practices have been well received and duly understood by national and Zoba-level MMR authorities. As such, the suggested approaches and sector-specific prescriptions from the EAF-based Small-pelagic Fisheries Management Plan can be scaled up and replicated based on the toolsets and lessons learned shared and, as such, will enable stakeholders and beneficiaries to have unprecedented reference frameworks and benchmarks from which to develop complementary development initiatives.

6. Economic sustainability

In light of the Eritrean government's recently updated Fisheries Proclamation, which laid out the government's vision for governance and management of fisheries, the project's EAF-based Small-pelagic Fisheries Management Plan responds to the Proclamation's call for multi-annual fisheries management plans that establish parameters to govern catch limits within biological sustainable limits. It likewise lays out rules and guidance measures for the socioeconomic and environmentally sustainable use of marine aquatic resources, thereby contributing to the government's Interim Poverty Reduction Strategy Paper.

Documents and outreach products

- *Fishery Management Plan based on the EAF*. M. Nader, S. El-Indary and M. Abou Dagher. Institute of Environment - University of Balamand. Lebanon. n.p. 37 pp.
- *Pocket Guide to Important Coastal Fishery Species of Eritrea*. A Tesfamichael, E. Mostarda and P. N. Psomadakis. Rome. 2019. 130 pp. https://bit.ly/2XrWgLs
- *Report on Socio-economic Data Collection of the Artisanal Fisheries in Eritrea*. Fisheries and Aquaculture Economic Research (NISEA). Salerno. n.p. 33 pp.

Achievement of results - Logical framework

Expected Impact	The basis is established for a sustainable increase in fish production & in the incomes for small-scale fishers, fish processors and traders in Eritrea	
Outcome	MMR have developed an EAF-based management plan for small-pelagic fisheries and have an increased capacity to implement it	
	Indicator	1. A national management plan for marine small-pelagic fisheries is developed and implemented, based on the best available scientific advice and the Ecosystem Approach to Fisheries (EAF) management (Output 1). 2. The MMR is equipped with the capacity to implement EAF management plans for small-pelagic fisheries (Output 1). 3. Number of MMR personnel trained in sample-based fisheries data collection (Output 2).
	Baseline	1. No baseline present (indicator concerns a new product to be developed). 2. No baseline present (indicator concerns a new product to be developed). 3. 10
	End Target	1. A small-pelagic fisheries management plan is developed and implemented by the project's completion. 2. The EAF-based management implementation experience is documented across relevant departments of the MMR. 3. 20
	Comments and follow-up action to be taken	All stakeholders and beneficiaries involved throughout the project are expected to receive follow-up support from the MMR for the preparation of an appropriate and timely EAF-based Small-pelagic Fisheries Management Plan baseline report. As such, periodic monitoring and follow-up capacity needs assessments have begun, and are taking place in parallel to the activities that shall lead to the Plan's official approval and adoption. As part of the data collection trainings, the MMR is expected to move forward with the expansion of the data collection system, for which the Zoba-level technical officers shall be prepared to test and review their respective systems.
Output 1	A Small Pelagic Fisheries Management Plan is developed by MMR based on the Ecosystem Approach to Fisheries management	
	Indicators	Target / Achieved
	– A management plan for marine small-pelagic fisheries is developed and implemented, based on the best available scientific advice and the Ecosystem Approach to Fisheries (EAF) management. – The MMR is equipped with the capacity to implement EAF management plans for small-pelagic fisheries.	– A small-pelagic fisheries management plan developed and implemented by the project's completion. – Documented experience of EAF management implementation across relevant departments of the MMR. Achieved: Yes
Baseline	No baseline present (indicator concerns a new product to be developed). No baseline present (indicator concerns a new product to be developed).	
Comments		
Activity 1.1	National Ecosystem Approach to Fisheries capacity-building Workshop	
	Achieved	Yes
	Comments	The workshop, geared to MMR personnel, focused on the EAF modalities to equip participants with the core foundations of integrating the EAF into fisheries management plans. The workshop also served to appoint a national EAF taskforce.
Activity 1.2	Preparation of EAF baseline report	
	Achieved	Yes
	Comments	The technical assistance provided to prepare this baseline report was based on the participatory identification of common goals and objectives for the broader fisheries sector and in response to the most pressing socioeconomic priorities along coastal communities.
Activity 1.3	Zoba-level workshops for review of Zoba-level EAF Baseline Reports, identification and prioritizing of main issues and risk analyses	
	Achieved	Yes
	Comments	MMR representatives for the Zoba Northern Red Sea and Zoba Southern Red Sea coastal regions developed documents and baseline reports based on stock-taking exercises for their respective constituencies. Each Zoba held a regional workshop to review and validate the reports, the priotization of main issues and the risk analyses alongside key stakeholders (as per Activity 1.6). However, a number of follow-up Zoba-level workshops were delayed given the overall project's delayed timeline, by which time the originally hired FAO consultants to support these activities were no longer with the Organization and new recruitment processes had to take place.

Activity 1.4	National Workshop for the review of EAF-baseline reports and risk assessment results and to agree on elements for a national plan		
	Achieved	Yes	
	Comments	Following a period of consultations and data review processes, national and Zoba-level MMR personnel convened at this national workshop to review and synthesize the individual Zoba-level EAF Baseline Reports and risk assessment results. They likewise identified key driving elements for the national EAF-based Small-pelagic Fisheries Management Plan.	
Activity 1.5	National Small-pelagic Fishery Management Plan Development Workshop		
	Achieved	Yes	
	Comments	This national workshop served to discuss and agree on the key elements of a small-pelagic fisheries management system, including on operational objectives, indicators and performance and management metrics. Consequently, the drafting of this EAF-based Small-pelagic Fisheries Management Plan began after the conclusion of the workshop.	
Activity 1.6	Zoba-level workshops for validation of a national management plan and to prepare for implementation plan		
	Achieved	Yes	
	Comments	These final regional consultations on the proposed national EAF-based Small-pelagic Fisheries Management Plan led to its validation and agreement on an implementation timeline.	
Output 2	MMR is equipped with, and trained in, the necessary data collection protocols and data management tools		
	Indicators	Target	Achieved
	MMR staff are trained in sample-based fisheries data collection.	20	Yes
Baseline	10		
Comments			
Activity 2.1	MMR staff members trained in sample based statistics		
	Achieved	Yes	
	Comments	The training featured statistics collection methods specific to the fisheries sector, from which 15 MMR and Development of Fishery Department technical officers with data collection responsibilities participated.	
Activity 2.2	Design of data collection system		
	Achieved	Yes	
	Comments	The feasibility of using tablets for data collection and their suitability to transmit data to the necessary databases was assessed, followed by a redesign of certain standardized and ad hoc data collection forms to better reflect and adjust to the information being collected on small-pelagic fisheries.	
Activity 2.3	Zoba officers trained in collection of data		
	Achieved	Yes	
	Comments	The training courses prioritized the strengthening of capacities of Zoba-level data collectors, processors and enumerators.	
Activity 2.4	New data collection system tested for 12 months		
	Achieved	Yes	
	Comments	As part of the testing of this new data collection system, a mid-term evaluation was carried out, with adjustments as needed.	
Activity 2.5	Testing support and data collection review		
	Achieved	Yes	
	Comments	The project's international statistics adviser supported this data collection testing and review process, following the 12-month testing period of the new data collection system (as per Activity 2.4).	
Activity 2.6	National workshop		
	Achieved	No	
	Comments	A national workshop was planned to take place to present and discuss the results of the pilot data collection system, but it was ultimately not carried out given that the technical support services (TSS) initially envisioned for this activity from the Statistics Division in FAO headquarters was no longer available given the project's delayed timeline.	

Partnerships and Outreach
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