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# CO-MANAGEMENT ASSOCIATIONS IN THE SOMALI REGION

A GUIDE FOR GOVERNMENT AND CHANGE AGENTS

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## FISHERIES COOPERATIVE MANAGEMENT

Cooperative management (co-management) is a partnership between the government and local resource users to provide an effective governance structure for fisheries management. Around the world, co-management strategies have successfully developed more sustainable, equitable, and effective fisheries-management systems. Fisheries co-management is particularly well-suited to areas that have low government capacity for central regulation or enforcement coupled with remote fishing communities. Their decentralized clan-based culture, lack of longterm fisheries data, and existing fishing cooperatives make Somali communities good candidates for fisheries co-management. More importantly, there is an appetite for co-management within the government, local fishing communities, and change agents. Secure Fisheries works with local stakeholders within fishing communities and local, regional, and federal governments to facilitate information-sharing and support suitable and inclusive co-management systems.

*Around the world, co-management strategies have successfully developed more sustainable, equitable, and effective fisheries-management systems.*

Co-management can be broadly separated into three phases: pre-implementation, implementation, and post-implementation. Pre-implementation involves conducting participatory assessments, hosting community workshops, and building capacity to create a strong foundation for co-management. During implementation, the co-management association becomes established and active, developing and implementing bylaws and fisheries management plans. The post-implementation phase can be initiated once the co-management association is self-sustaining and regular communication between resource users and government and a self-funding mechanism are in place. This guide outlines how Secure Fisheries has successfully established fisheries co-management in the Somali region. Using best practices, we have divided our process into three phases:

**PRE-IMPLEMENTATION:** Year 1

**IMPLEMENTATION:** Years 2–4

**POST-IMPLEMENTATION:** Year 5

The exact timing of each phase will be highly context-dependent; after three to five years, successful implementation of fisheries co-management results in a sustainable, locally-run Co-management Association and the exit of the funder and change agents. The process may also be shorter once co-management associations have been more widely established throughout a region.

## PRE-IMPLEMENTATION PHASE - YEAR 1

### Identifying Communities

#### *Guidelines for Change Agents*

During this stage, change agents should conduct research and informational interviews to assess the most appropriate community or communities for co-management. Useful information includes community demographics, locally important fish stocks, modalities of existing fisheries governance, levels of equity and inclusion, and which other change agents are operating in the community. Most importantly, this stage should assess whether there is an appetite for co-management within the community. Local motivation, leadership, and buy-in are critical to the success of co-management.

**SECURE FISHERIES REFERENCE DOCUMENTS:** Needs Assessment Questionnaire; KII Questionnaire (see Appendix),

#### *Secure Fisheries' Activities*

Secure Fisheries conducted extensive research to identify communities to pilot co-management. The initial desk research included an analysis of the size, accessibility, and geographic ranges of important fisheries for a few selected coastal fishing towns and interviews with local officials. Secure Fisheries' field manager then conducted needs assessments. The needs assessments involved focus groups with fishing cooperative members and local women's groups and key informant interviews with government officials. Following the needs assessments, Secure Fisheries determined that Bander Beyla, Puntland, best met the criteria for implementation of a pilot program. Secure Fisheries later identified Zeila, Somaliland, as the second co-management location.

**SUGGESTED OUTPUTS:** Completed needs assessments

**SECURE FISHERIES REFERENCE DOCUMENT:** The Potential for Fisheries Co-Management in the Somali Region, [Project Badweyn: Somali Coastal Development Opportunities report](#), (see Appendix)

#### *Key Takeaways and Lessons Learned*

- It is critical that initial research be conducted by a Somali.
- Power dynamics between the change agent and recipient communities should be taken into account as they may skew responses.

- Key informant interviews can help supplement focus groups and vet information being received.
- Managing expectations during the initial phase is critical, especially where physical infrastructure is needed.
- Needs assessments should include open discussion of current management practices, community challenges, and the relationship between community members and government.
- During the first meetings with the community, an overview should be provided to them that includes the expected time frame for co-management and the ancillary activities.

### Resource and Conflict Assessments

#### *Guidelines for Change Agents*

Initial participatory research and assessments are key to understanding local context and deciding first steps for co-management. During this phase, change agents should assess local stakeholders and understand their direct or indirect roles in the fisheries sector. It is critical to work with the community to define fishing grounds and map resources. This exercise provides important information and helps define the physical scope of the co-management association. A conflict assessment should also be conducted at this stage to identify tensions between resource users. These assessments may not be necessary when scaling up co-management to neighboring communities. Change agents can also provide lessons learned from other areas to help inform the community of the advantages and disadvantages of co-management.

#### *Secure Fisheries' Activities*

After co-management sites were selected, Secure Fisheries hosted several workshops and skills training courses. One of the most useful exercises during this phase was oceanographic or ecosystem assessments. Community members participated in a two-day workshop during which they mapped the boundaries of their fishing areas, locations of important fisheries, and where they encounter foreign vessels. Other critical assessments included stakeholder mapping and conflict assessments. Stakeholder mapping was conducted by Secure Fisheries' field staff to understand roles in the fisheries sector and determine who should be involved in the co-management process. The conflict assessment was conducted through focus group discussions and key informant interviews to identify historical, existing, and potential sources of conflict that occur in the local fishery. We found that conflicts over price-setting and taking in the lobster fishery and the presence of foreign vessels in nearshore waters were prominent.

**SUGGESTED OUTPUTS:** Conflict assessments; ecosystem maps; stakeholder assessments

**SECURE FISHERIES REFERENCE DOCUMENTS:** Conflict Assessment Template; Participatory Oceanographic Mapping Procedure (see Appendix)

### *Key Takeaways and Lessons Learned*

- Active community participation is key to obtaining accurate information.
- Make sure ecosystem maps developed in the workshop are clear and legible.
- Include note-takers at each table to capture conversation.
- Have a facilitator to oversee the input of the participants during mapping and guide them to come up with a mapping output.
- Aggregate information on conflict assessments is useful, but case studies can provide more context.
- Have maps to initiate discussion.
- Community involvement in program planning is crucial and requires additional attention and activities since projects need to be valued by the affected community to ensure they are meaningful and sustainable.

## Skills Trainings

### *Guidelines for Change Agents*

Training should be tailored to local needs while laying the foundation for effective co-management governance. Some training subjects, like business administration and environmental education, are foundational to co-management and fisheries management, while others can fill critical gaps in fisheries sector capacity and provide immediate livelihood benefits. Training sessions with more immediate and tangible benefits, such as net-making and boat repair, can also strengthen community buy-in and participation in co-management.

### *Secure Fisheries' Activities*

Secure Fisheries' co-management consultant, Dr. Robert Pomeroy, emphasized the importance of including tangible training in the initial stages of co-management. Practical training is critical to successful fisheries management and livelihoods and builds trust by providing immediate benefits to the community.

Training events were also tailored to the needs of resource users in each location. Both Bander Beyla and Zeila participated in training sessions on fish hygiene and sanitation and environmental education. In Zeila, three fisheries-sector workers received extensive training in boat repair. In Bander Beyla, community members learned how to make fishing nets. Both the boat-building and net-making training sessions were well received and participants are using the skills for extra income and are teaching other community members these skills.

Community trainings to date include:

- Net-making
- Hygiene and sanitation
- Boat repair
- Environmental education
- Business administration

### *Key Takeaways and Lessons Learned*

- Practical training sessions can have quick and positive impacts on local livelihoods.
- Train-the-trainers components help magnify the impact of the training for the rest of the community.
- It is critical that training opportunities reach vulnerable and marginalized individuals within the community.
- Training should be designed in line with the fishers' working hours and be flexible so that participants can take part without worrying about their tasks.
- Make sure that all of the different stakeholders of the fishing community have been represented in the training/workshop conducted, including youth, women, and other vulnerable groups.
- An assessment of which training topics are needed will help ensure that training sessions are effective and fulfill local business needs.

## Co-management Education and Outreach

### *Guidelines for Change Agents*

The change agent, community stakeholders, wider coastal community, and government stakeholders should all have a consistent understanding of fisheries co-management. This process should be tailored to each community and stakeholder group, but it often involves conducting training, disseminating research, and developing communication materials.

### *Secure Fisheries' Activities*

The pre-implementation stage of co-management also involved training the Secure Fisheries team and Somali government officials in fisheries co-management. Secure Fisheries hired fisheries co-management expert Dr. Robert Pomeroy as a consultant to instruct the team on fisheries co-management. Secure Fisheries introduced fisheries co-management at the 2019 Somalia Fisheries Forum through written materials, a panel discussion for forum participants, and a facilitated dialogue for high-level representatives of the federal and regional Ministries of Fisheries and Marine Resources (MFMR). The forum was followed by co-management workshops with government officials in Hargeisa and Puntland that were tailored to their ministries, and a workshop in Nairobi that convened Directors General from federal and regional ministries.

Community outreach is also vital during pre-implementation to correct any misconceptions about the co-management process. Secure Fisheries developed educational posters about the potential benefits of co-management to the community.

Government trainings to date include:

- Introductory workshop for federal and state Ministers of Fisheries at the Somalia Fisheries Forum
- Somaliland Ministry of Livestock and Fisheries Development co-management training
- Puntland Ministry of Fisheries and Marine Resources co-management training
- Co-management training for the Director General from each Federal Member State's Ministry of Fisheries and Marine Resources

**SECURE FISHERIES REFERENCE DOCUMENTS:** Somalia Fisheries Co-management: Government Workshop Report; Fisheries Co-management Training Presentation for the Somaliland Ministry of Livestock and Fisheries Development; Co-management Benefits Poster—Somali; Co-management Benefits Poster—English (see Appendix)

### *Key Takeaways and Lessons Learned*

- Case studies of successful co-management associations from other locations can be very useful at this stage by showing what has and has not worked for other coastal communities.
- The broader fishing community may not immediately understand or experience the benefits of co-management, and thus it is important for change agents to provide sufficient training and ensure buy-in to avoid tensions or exacerbate inequity.

## IMPLEMENTATION PHASE YEARS 2-4

### Power-Sharing Agreement

#### *Guidelines for Change Agents*

Co-management is defined as a partnership between resource users and government to more effectively manage resources. Trust and transparency between resource users and government are therefore essential to a working co-management association. A power-sharing agreement formally establishes the co-management association by outlining the scope and priorities of the co-management association and the roles of each party.

Power-sharing relationships in a co-management agreement range from minimal resource-user input to government delegating decision-making authority to resource users. These classifications include instructive, consultative, cooperative, advisory, and informative models of co-management. Co-management associations should be adaptive, and the type of power-sharing relationship can change as the co-management association matures.

#### *Secure Fisheries' Activities*

In the early stages of discussion, Secure Fisheries outlined for our stakeholders each type of co-management association and facilitated discussion around the model that would be most successful for each community. Secure Fisheries later facilitated power-sharing agreements in both Bander Beyla and Zeila which formally established each co-management association and determined the functions and roles of each of the involved parties. Each power-sharing agreement followed a general template but included different priorities, stakeholders, and roles based on the context we had gleaned from preliminary consultations. Each agreement was signed by a mixture of government representatives, community members, and Secure Fisheries staff.

**SUGGESTED OUTPUT:** Signed power-sharing agreement

**SECURE FISHERIES REFERENCE DOCUMENT:** Power-Sharing Agreement Template (see Appendix)

### *Key Takeaways and Lessons Learned*

- A power-sharing agreement is established through a consultative process between the fishing communities and the government.
- A power-sharing template can help guide the process, but the agreement should be tailored to the specific co-management association.

- All elements of the power-sharing agreement may not be covered in one meeting. It's important to discuss big-picture priorities for the co-management association.
- Achieving a power-sharing agreement should not be seen as the end but as part of the co-management process.
- The process of achieving a power-sharing agreement and reaching consensus requires effort and time.

## Conflict Resolution

### *Guidelines for Change Agents*

Co-management decreases resource conflict by providing institutional infrastructure in which issues can be resolved. A conflict management mechanism facilitates the resolution of conflicts through a structured resolution process tailored to the community, encouraging peaceful, problem-focused solutions. A board of representatives from the co-management association provides a platform for peaceful discussion and resolution of conflicts and disputes between co-management stakeholders. The structured process helps opposing parties express differences and solve problems in a collaborative way, focusing on the problem (not the people) and creating awareness of interdependence among stakeholders.

### *Secure Fisheries' Planned Activities*

Now that co-management associations have been established, Secure Fisheries is working with members to develop conflict management mechanisms tailored to each community.

**SUGGESTED OUTPUTS:** Conflict committee bylaws

## Fisheries Management Plans

### *Guidelines for Change Agents*

Co-management should not be confused with fisheries management. Co-management is a governing structure through which resource management is conducted. Fisheries management includes the plan and modalities for managing fisheries.

Co-management associations have been particularly useful in areas with low capacity for fisheries management. A useful form of fisheries management that has frequently been used in co-management associations is an Ecosystem Approach to Fisheries Management (EAFM). EAFM is a holistic approach to managing fisheries than can overcome incomplete data on fish stocks by incorporating local knowledge, monitoring, and adaptation to develop sustainable management measures.

### *Secure Fisheries' Planned Activities*

Bander Beyla and Zeila have yet to establish management measures, but they have taken important steps towards implementing sustainable fisheries management. Both communities participated in environmental education courses and provided important local knowledge through the ecosystem assessment workshop. They are also beginning to collect data on catch and effort for some of the most important fish stocks, including lobsters. In Bander Beyla, for example, the co-management association manages masks and fins that fishers check out and then the fishers report catch data upon returning the gear. By combining gear management with voluntary data collection, the community contributes to a growing body of knowledge about the fishery resource while strengthening the role of the co-management association in their day-to-day experiences. Eventually, this body of data will be shared with state MFMRs and inform business ventures and investment opportunities.

**SUGGESTED OUTPUTS:** Community-level fisheries catch database; fisheries management plans

## Participatory Monitoring and Evaluation

### *Guidelines for Change Agents*

Monitoring and evaluation are critical for ensuring that the community benefits from the co-management process. Participatory monitoring and evaluation (PM&E) collects impact and assessment information directly from stakeholders while involving them in the process of deciding what metrics should be monitored and evaluated. PM&E has several advantages including building capacity, developing leadership, empowering the community, and ensuring accuracy of results. The methodology used may vary based on the community, but at a minimum it should include a goal-setting workshop, check-ins, and an assessment workshop. Examples of data collection techniques include the use of diaries, voice recordings, or verbal check-ins.

### *Secure Fisheries' Planned Activities*

Secure Fisheries is launching a PM&E project to engage community members in developing and tracking goals that are meaningful to them. Members of the co-management units in the Bander Beyla and Zeila fishing communities will be involved, and some members may volunteer for more detailed follow-ups. Participants develop 6-month and 12-month goals. The goals should be feasibly attainable by the participants themselves. Tracking will be done quarterly by Secure Fisheries and the project will wrap up after one year with an assessment workshop.

**PLANNED DELIVERABLES:** Participatory M&E outcomes report

## POST-IMPLEMENTATION PHASE - YEAR 5

### When to Phase Out

The co-management process not only results in more effective fisheries management, but also community organization, problem-solving, and empowerment. Organization, problem-solving, and empowerment pave the way for community ownership over co-management and must be embedded throughout the process. It is also critical to have an active channel of communication between the government and the community that can be maintained without a change agent. While the change agent may provide initial funding, the co-management association must transition to a sustainable self-funding system, such as licensing fees.

## GUIDING PRINCIPLES

### Equity and Inclusion

Equity is a critical principle for successful co-management. Secure Fisheries incorporated questions around equity into its needs assessments, interviewing fishers and local women's associations to understand the unique needs and challenges of women in these communities. The program works with government and community leaders to determine which community members will most benefit from Secure Fisheries-facilitated training. Secure Fisheries also works with government and community leaders to ensure that marginalized groups like women and youth are also involved in trainings and workshops and as members of the co-management associations.

### Decolonization

Secure Fisheries is a program of the One Earth Future Foundation, which is headquartered in the US. In the Somali region, OEF has offices in Mogadishu, Garowe, and Hargeisa. Half of Secure Fisheries' staff is located in the US and the other half is located in the Somali region. Secure Fisheries acknowledges the history of US imperialism and Western colonization in the Somali region. We are aware of the power imbalances between our staff and beneficiaries. We seek to ensure that our work will support decolonization rather than perpetuating colonial power structures and relationships. The co-management associations are led by local community members and government stakeholders, and Secure Fisheries provides external support to further their goals and address the needs of Somali beneficiaries. Decolonization is a process and we seek to learn more about how our actions can be modified to support decolonization.

### Local Ownership

In order for co-management to be successful, it must be locally led. According to Dr. Robert Pomeroy, two of the most important outcomes of co-management are community empowerment and organization. These outcomes have not only improved fisheries management and sustainability, but have led to community members being comfortable bringing concerns to government, advocating for their communities, and proactively solving problems. It is vital for local needs and knowledge to be central to the co-management process.

## APPENDICES *Click Each Item to Go Directly to the Section*

- THE POTENTIAL FOR FISHERIES CO-MANAGEMENT IN THE SOMALI REGION
  - FISHERIES CO-MANAGEMENT CASE STUDIES - SOMALI
  - FISHERIES CO-MANAGEMENT CASE STUDIES - ENGLISH
  - PROJECT BADWEYN: SOMALI COASTAL DEVELOPMENT OPPORTUNITIES
  - FISHERIES CO-MANAGEMENT TIMELINE
  - SOMALIA FISHERIES CO-MANAGEMENT: GOVERNMENT WORKSHOP REPORT
  - POWER-SHARING AGREEMENT TEMPLATE
  - CO-MANAGEMENT BENEFITS POSTER-SOMALI
  - CO-MANAGEMENT BENEFITS POSTER-ENGLISH
- 

### AVAILABLE UPON REQUEST

- NEEDS ASSESSMENT QUESTIONNAIRE
- KII QUESTIONNAIRE
- PARTICIPATORY OCEANOGRAPHIC MAPPING PROCEDURE
- CONFLICT ASSESSMENT TEMPLATE

## ONE EARTH FUTURE

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## SECURE FISHERIES

[securefisheries.org](http://securefisheries.org)  


Secure Fisheries is a program of One Earth Future. Secure Fisheries works with local, regional, and international stakeholders to strengthen fisheries governance, combat illegal fishing, and promote sustainability in fragile and post-conflict regions as a pathway towards greater peace and stability.

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SECURE FISHERIES

Advancing Sustainable Fisheries

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# THE POTENTIAL FOR FISHERIES CO-MANAGEMENT IN THE SOMALI REGION

by Paige M. Roberts, Laura C. Burroughs, Ahmed-Yasin Osman Moge

This report outlines the basic principles of cooperative management (co-management) and explores how it has been successfully implemented in four African fishing communities with the goal of identifying strategies that may be equally beneficial in the Somali region. It describes case studies in Kenya, Tanzania, Mozambique, and Liberia, examining the benefits and challenges of co-management implementation and useful lessons for the Somali region. The case studies were presented at the Somalia Fisheries Forum 2019 and audience feedback is incorporated here as a starting point for discussions of what co-management might look like in the Somali region. Co-management offers tools to fill in gaps in fisheries management in the Somali region and promote long-term livelihood security.

## I. SOMALI FISHERIES

Small-scale fisheries in the Somali region are of growing interest to the government and the international community for their potential to provide local livelihood security. This nascent but important sector uses artisanal methods to fish for tuna, sharks, reef fishes, lobsters, and others that are sold locally or regionally. Though fishing is vital to livelihoods on the Somali coast, it has only recently been recognized as an area that could provide long-term economic benefit to the region. Now, federal and member-state governments are acknowledging the possibilities of the sector and are making strides toward managing marine resources by rewriting their fisheries laws and supporting local-level management.

These local management efforts are in early stages, but they are important steps toward building a long-lasting fishing sector for the region. For one, local management may be able to address some of the challenges that have plagued the Somali region. Second, foreign fishing has been a continuous source of conflict in nearshore waters. Whether this fishing is legal or illegal, communities feel helpless to protect their fishing grounds and the government does not currently have the capacity to assist them. Building fisheries management systems that include a governing body, regulations, and thorough plans to address these issues on a local level is simpler and less costly than developing one system that will work for the entire diverse region.

Additionally, lack of fisheries data makes it impossible to develop a full understanding of the health of fisheries resources, which is needed to determine how to maximize the benefits of the fisheries for local communities in both the short and long term. While a region-wide data collection system is ideal, collecting local data can provide valuable information about the specific fisheries on which communities depend, building an understanding of how, where, and how much to successfully fish. By implementing local management, Somalis can take ownership over their resources. If enough communities become involved, fisheries management for the entire Somali region will improve and fishers everywhere will benefit. This report explores one approach to managing fisheries at a local scale that combines local community and government participation. This participatory approach, termed cooperative management (co-management), is benefitting many fishing communities across the globe and may be a useful approach in the Somali region.

*By implementing local management, Somalis can take ownership over their resources. If enough communities become involved, fisheries management for the entire Somali region will improve and fishers everywhere will benefit.*

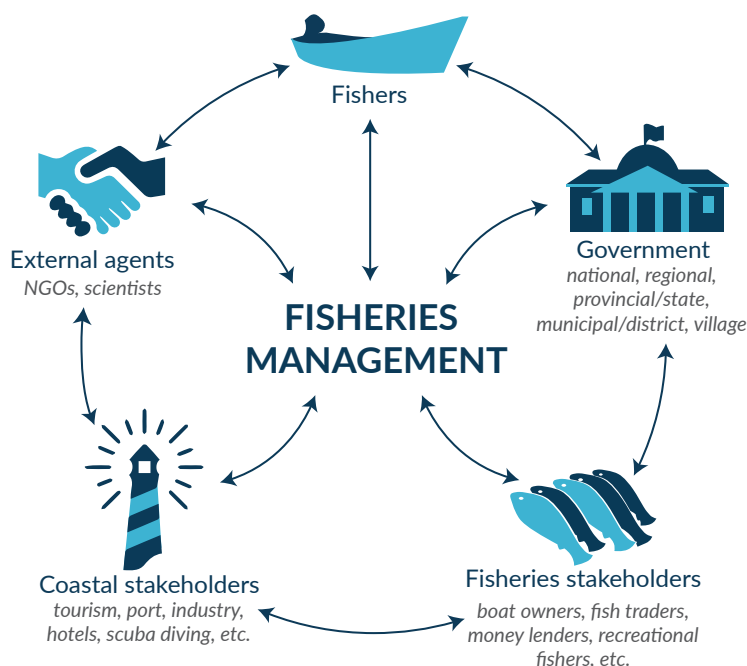
## II. WHAT IS FISHERIES CO-MANAGEMENT?

Co-management is a governance structure that establishes a partnership between resource users and government to manage resources. The co-management strategy relies on participation by multi-sector stakeholders to develop a local community plan for fisheries management to ensure long-term livelihood security. Community user groups, all levels of government, the fishing industry, non-governmental organizations (NGOs), international donor organizations, and academic institutions cooperate to create an organization and framework for localized fisheries management that serves all parties impacted by management measures.<sup>1</sup> Co-management is an appealing strategy for addressing fisheries management challenges for governments with low institutional capacity that nevertheless are highly motivated to support fishing communities and economies.

Co-management requires a participatory approach that is tailored to meet the needs of the community and stakeholders. Stakeholders are represented by any person or group that is interested in or affected by fishing. Primary stakeholders are those directly impacted by co-management activities, and thus those who have the highest level of participation in the process.<sup>2</sup> Primary stakeholders usually include fishers, boat owners, boat crew members, traders, processors, and others directly involved in the fishing sector. Local government can also be a primary stakeholder. Secondary stakeholders are more peripheral: people or groups that have an interest in fisheries management but do not necessarily depend on it for their livelihoods.<sup>3</sup> Secondary stakeholders generally include local, regional, and national governments, community members, NGOs, international donor organizations, scientists, and private-sector actors. Consultation with all stakeholders is important, but the primary stakeholders are most directly involved in making decisions.

The overall governance structure, the level of engagement by stakeholders, and the co-management modality can vary depending on the cultural and political context of a location, leading to different types and formats of co-management.<sup>4</sup>

Government involvement can range from maintaining centralized control to relinquishing control to the community. The flow of information from the community to the government and vice versa determines the class of co-management. As quoted from Pomeroy and Rivera-Guieb, co-management can be classified as:



- **INSTRUCTIVE:** There is only minimal exchange of information between government and fishers. This type of co-management regime is only different from centralized management in the sense that the mechanisms exist for dialogue with users, but the process itself tends to be government informing fishers on the decisions they plan to make.
- **CONSULTATIVE:** Mechanisms exist for government to consult with fishers but all decisions are taken by government.
- **COOPERATIVE:** This type of co-management is where government and fishers cooperate together as equal partners in decision-making.
- **ADVISORY:** Fishers advise government of decisions to be taken and government endorses these decisions.
- **INFORMATIVE:** Government has delegated authority to make decisions to fisher groups who are responsible for informing government of these decisions.<sup>5</sup>

To facilitate communication between the community and the government, a co-management organization is created to represent the interests of the community and stakeholders as a unified voice in communication with the government. They often create bylaws that are approved by a high-level government to be the foundational documents for local management functions, outlining the mission and goals of co-management for a specific community. Bylaws may include a monitoring and evaluation framework, financial plans, and resource management plans.

Depending on the needs of the community, the functions of the co-management organization may include:<sup>6</sup>

- Setting fishing areas and boundaries, including creating protected areas.
- Collecting catch data.
- Conflict mitigation.
- Enforcement and compliance monitoring.
- Issuing permits or licenses.
- Creating gear restrictions.
- Collecting fees.

Co-management has been implemented in fishing communities around the world with great success. In many cases, more transparent, participatory systems lead to a greater sense of ownership over resources by the community. This empowerment leads to greater compliance with regulations and use of community enforcement that removes some responsibility from the government.<sup>7</sup> Especially when regulations and conservation areas are included, co-management can improve catch and overall health of the local ecosystem.<sup>8</sup>

While successful co-management systems benefit many communities, they may not be the right management approach for every community. The cultural context at the local and national level is a critical factor to consider prior to and during co-management implementation. The process should be community-driven, with buy-in and leadership established by resource users at the outset. Co-management implementation is a time-consuming process that can interfere with everyday activities of

community members. For a co-management unit to be self-sustaining, the process usually requires a three- to five-year commitment with frequent active participation by all involved. In some cases, the cost of time resulting in income loss for participation is higher than the rewards of implementing a management system requiring a high level of community participation. There may also be resistance by stakeholders to shifting power, and secondary stakeholders lacking a complete understanding of primary stakeholders' needs may undermine existing traditional community-management mechanisms.<sup>9</sup> Some of these pitfalls can be avoided through the participatory process, but others may not be remedied, and ultimately, the disadvantages may outweigh the benefits in some communities.

Co-management has not yet been implemented in Somali coastal communities, but it is worth assessing whether it could be a successful approach in the region, especially in areas where there is not yet a management system in place. This document provides examples of successful co-management systems in locations that are similar to Somali coastal communities. By examining strategies that have worked in other places, new co-management implementation efforts can be well-informed and have a greater chance of succeeding.

*Co-management has been implemented in fishing communities around the world with great success. In many cases, more transparent, participatory systems lead to a greater sense of ownership over resources by the community.*



Community meeting in Tanzania. Photo: H. Holmes/RTB.

### III. CASE STUDIES

We selected case studies from Kenya, Tanzania, Mozambique, and Liberia based on their size, their proximity to the Somali region, the availability of detailed information about the co-management process, and the challenges and advantages. These case studies describe who is involved, the activities necessary to develop a successful system, the benefits of implementing co-management, and the challenges faced during the process. By examining these case studies, Somali coastal communities may be able to avoid pitfalls and build on others' strategies to effectively manage their fisheries and reduce conflict through local resource governance.

At a national level, each case-study country has a colonial history like the Somali region, with civil strife that impacted coastal livelihoods at some point. Each country has transitioned out of conflict to be led by a central government, but the capacity for national-level enforcement of fisheries regulations remains fairly low, leading to frequent illegal, unreported, and unregulated (IUU) fishing by domestic and foreign fishers. In the cases of Liberia and Mozambique, resource competition is extreme enough to cause conflict between local and foreign fishers, a situation also present in Somali waters. Co-management helps alleviate this conflict through delineation of fishing boundaries and localized enforcement. In addition, prior corruption leading to mistrust of the central government makes current authorities ineffective at the community level. Co-management was introduced in each of these countries to counteract some of that mistrust by involving the community in decision-making rather than imposing strictly top-down mandates.

*By examining these case studies, Somali coastal communities may be able to avoid pitfalls and build on others' strategies to effectively manage their fisheries and reduce conflict through local resource governance.*

At the community and resource levels, the case-study locations resemble much of the coastal Somali region. In each case study, fishing is central to livelihood security, and the primary fishing activities are small-scale traditional and artisanal. Prior to co-management, fisheries were managed through open access with few, if any, restrictions. As a result, the nearshore marine environments that include sensitive areas like coral reefs were subject to overexploitation, and declining fish stocks led governments to take action by supporting local management rather than national-scale legislation.

Though government support is vital to co-management success, in places with nascent fisheries management systems there are economic barriers to expanding the

fisheries sector. Few government resources are devoted to managing small-scale fisheries in the case-study locations. Instead, funding for local management comes from members of the international donor community who are consulted as stakeholders throughout the process. An additional financial obstacle is the lack of cold-chain capacity to produce high-quality fish products, precluding trade in lucrative export markets. Though the scale varies by location, the communities analyzed here are limited by the lack of cold-chain capacity, except in Mozambique, where exporting shrimp is a major economic driver.

While each case study shares many similarities with Somali coastal communities, an exact analog in another country is, of course, impossible to find. The differences among the communities presented here and Somali coastal communities are important to note when evaluating the potential efficacy of co-management in the Somali region. These differences mean that certain strategies that may work in the case-study locations may not be applicable in Somali coastal communities.

Nationally, each case-study country enjoys more peace and security than the Somali region. The persistent violence and insecurity in some areas of the Somali coast make co-management implementation incredibly challenging. Kenya, Mozambique, and, to some extent, Tanzania have better infrastructure than the Somali region, facilitating greater stakeholder access to coastal communities. This infrastructure, combined with a longer history of fishing and the presence of inland fisheries, translates to higher consumption of fish in the case-study countries, especially beyond the coastal communities. Lower levels of fish consumption in the Somali region translated to fisheries management not being a government priority until recently. Now, growing attention is being paid to the potential of fisheries for income, food security, and national profits, with the federal government lending greater attention and resources to fisheries management efforts.

In some ways, the small-scale nature of Somali fisheries is beneficial for the implementation of co-management. Mozambique and Liberia have the added resource-sharing complication of having a domestic industrial fleet that competes with small-scale fishers. Because there is no domestic industrial fleet in the Somali region, there is one less stakeholder to consider in the co-management process. There is also little tourism in the Somali region at present, especially when compared to Kenya, where tourism is vital to coastal employment. While tourism should be considered in planning for the future, its current absence also simplifies Somali co-management efforts.

In the following case studies, a color coding system is used to highlight characteristics that are:

Unique to a particular case study

Featured in all case studies

Featured in a subset of case studies

Co-management in

## MKUNGUNI | KENYA

### National Context

Though fisheries in Kenya had traditionally been managed locally, the national government took over fisheries management in 1989 after Kenya's independence. This newly centralized system had little input from local fishers and stakeholders and resulted in major fisheries declines and near-collapses because of environmental damage, fishing conflicts, and the use of illegal and destructive gear. As a reaction to the negative results of the national system, the Kenyan government instituted a system of co-management in 2006 called Beach Management Units (BMUs).<sup>10</sup> National legislation established these local management mechanisms on the Indian Ocean coast and empowered them to create their own federally approved bylaws, including boundaries and protections for their fishing areas. The BMUs govern fishing, but often go a step further toward conservation by establishing community-based no-take marine reserves. Though they are not always successful at increasing fish biomass (and therefore, catch), the ability to establish these protections is a useful tool for the local fisheries managers. When they are complied with, the no-take reserves yield positive results for the marine ecology and thus for the fishers.<sup>11</sup> Though the initial reaction of fishers to this co-management approach was skepticism, over time that diminished. Most fishers saw the BMUs as having no negative effect on their livelihood, and some said they were beneficial.<sup>12</sup>



### Case Study Profile

Much of the information in this case study is based on the co-management 5-year plan for the Mkunguni BMU developed by Coastal Oceans Research and Development-Indian Ocean (CORDIO) East Africa, the State Department of Fisheries, and the United Nations Development Programme (UNDP).<sup>13</sup> Mkunguni is a fishing village on the coast of Kenya, approximately 88 km south of Mombasa, Kenya's largest coastal city. The BMU represents five villages which together have 11,000 households primarily comprised of members of the Digo tribe, one of the Bantu groups in Kenya. They are historically traders, farmers, and fishers. The ocean near shore supports coral reefs, seagrasses, mangroves, and other important habitats that hold a high diversity of fishes, including the commercially important rabbitfish that breeds near Mkunguni. The Mkunguni BMU manages about 150 fishers who are considered either "dominant locals" or "resident migrants." These fishers use a variety of gear including traps, nets, and lines to catch demersal fishes, pelagic fishes, and invertebrates. The BMU has implemented some management measures regarding restrictions on gear and fishing areas to conserve the important fisheries and livelihoods in the area.

#### Lessons Learned

Though high levels of community involvement give local people more ownership over the resources, the government must remain involved and supportive of community activities to avoid shifting the full cost and capacity of enforcement onto the community.

#### Key Differences from Somalia

- Inland fisheries
- Greater peace and stability
- Higher fish consumption
- Better fishing infrastructure
- Active tourism industry
- No tradition of locals having rights to control fishing access
- Well-established government institutions

#### Key Similarities to Somalia

- Colonial history
- High levels of government corruption and lack of trust
- Local people depend on fishing for their livelihoods
- Little national-level enforcement capacity
- High levels of illegal fishing
- Open-access fisheries before co-management implementation
- Low centralized national authority capacity
- Little financial support for fishing from the government. Funding is dependent on donors
- Main catch and marine habitats are similar for both countries
- Low cold chain capacity
- Artisanal fishing is the main activity, especially gillnetting
- Traditional fishing vessels that do not go far offshore
- No parity between local and national regulations/laws

Unique to this case study  
 Featured in all case studies  
 Featured in a subset of case studies

## KENYA CASE STUDY

Co-management Type: **ADVISORY**

GOVERNANCE STRUCTURE



Structure

Elected executive committee  
*Assembly/committee*  
 Sub-committees



Funding

Registration/permit fees  
 Tourism fees  
 Donor funding



Management Functions

Set fishing areas/boundaries  
*(either exclusive or collaborative areas)*  
 Enforcement/compliance monitoring  
 Ban gear  
 Restrict access to certain people  
 Collect fees for tourism  
 Establish bylaws  
 Establish management plan

Monitoring and evaluation  
 Promote sustainability  
 Business management  
 Issue permits/licenses  
*Protect areas*  
*Education*



Legal Framework & Foundational Documents

Local bylaws/rules  
 Monitoring and evaluation framework  
 Financing plans

Co-management plan  
 National registration  
*Fisher membership requirement*

STAKEHOLDERS

Primary



Fishers  
 Boat owners  
 Boat crew

*Boat builders & repairers*  
*Net menders*  
*Tour operators*



Traders  
 Processors

Secondary



*National government agencies*  
 County/district government  
 Local/village government  
 Community members  
*Local tribes/tribal chiefs*



*NGOs/IGOs*  
 Private sector  
 Scientists

CHANGE AGENT ACTIVITIES



Scientific surveys conducted  
*pre-establishment*

Marine resource survey  
 (reef field survey)  
 Socioeconomic survey  
 Traditional management assessment



Community organizing activities  
*during establishment*

Co-management organization meetings  
 Involvement of surrounding communities  
*Full community meetings*



Environmental education & capacity building activities  
*during & post-establishment*

Training on management/creating management plans  
 Survey results presented to community  
*Training on conservation*  
*Training on health and safety*  
*Training on data collection*

CO-MANAGEMENT IMPLEMENTATION



Benefits

*Greater community influence over resource use*  
 Reduced illegal fishing  
 Improved infrastructure and capacity  
*Increased fish biomass (with protected areas)*



Challenges

Poor compliance  
*Enforcement challenges*  
*Lack of funding*  
*Increased fishing effort (instead of effective management)*

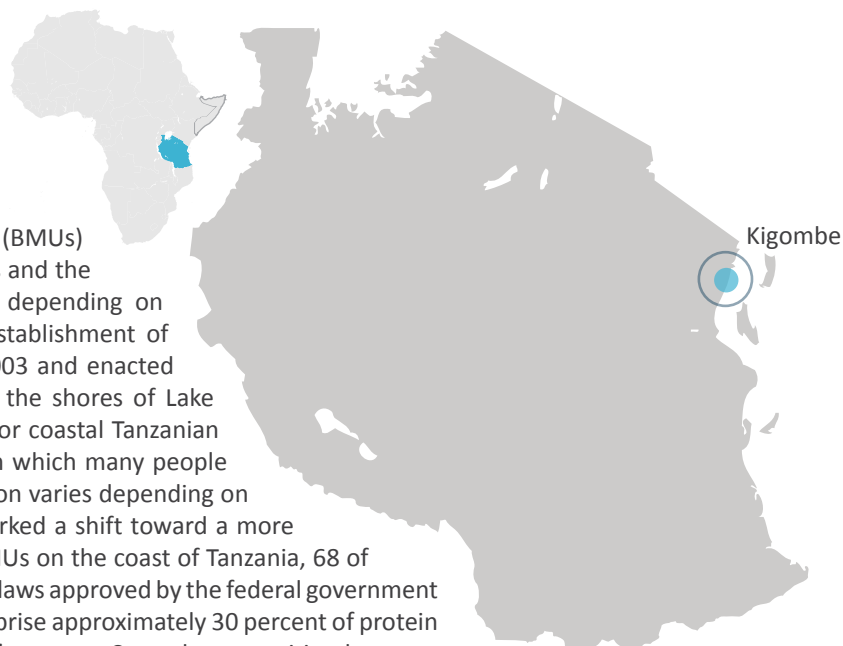
*Lack of institutional memory after training*  
 High turnover of leadership

Co-management in

# KIGOMBE | TANZANIA

## National Context

Tanzania implemented local beach management units (BMUs) in the early 2000s as a reaction to declining fish stocks and the resulting livelihood security issues for communities depending on fisheries. The central government encouraged the establishment of BMUs after they amended Fisheries Act No. 22 of 2003 and enacted the Fisheries Regulations of 2009.<sup>14</sup> BMUs began on the shores of Lake Victoria, but were quickly promoted as a useful tool for coastal Tanzanian villages to manage the rich coral reef environment on which many people depend. Though the degree of community participation varies depending on location, the implementation of these legislations marked a shift toward a more collaborative system. There are approximately 179 BMUs on the coast of Tanzania, 68 of which have management plans and 39 of which have bylaws approved by the federal government that fit within national fisheries regulations.<sup>15</sup> Fish comprise approximately 30 percent of protein consumption in Tanzania and 10 percent of the country's exports. Coastal communities, however, depend on the marine environment for the majority of their livelihood options.<sup>16</sup>



## Case Study Profile

Kigombe is an example of a successful implementation of co-management that was facilitated by external actors, specifically non-governmental organizations working in the Tanga region of northern coastal Tanzania. Kigombe village is home to about 4,000 people. There are around 100 licensed fishers and 80 boats. The waters of this region contain productive ecosystems including coral reefs, seagrass beds, and mangroves that support a wide variety of species. As a result, the main source of income for Kigombe men is fishing for finfish, and for women, gleaning the reef for shellfish, octopus, and sea cucumbers, and more recently, farming seaweed. Though the environment is conducive to productive fisheries, degradation of these habitats from dynamite fishing, clearing of mangrove forests, and bottom trawling over seagrass beds led to declines in catch, alerting the community to the need for more robust fisheries management than was being provided by the central government.<sup>17</sup>

### Lessons Learned

Making an effort to include the women in the fishing sector in co-management activities improves community participation which in turn leads to increased adherence to conservation and management regulations. But community members must be careful to communicate well with the government and focus on high-priority issues in order to ensure success.<sup>18</sup>

## Key Differences from Somalia

- Inland fisheries
- Greater peace and stability
- Environmental damage/overfishing driving shift to local management
- Women involved directly in fishing activities like gleaning, and seaweed farming
- Before independence, the government was not involved in local matters
- Dynamite fishing common

## Key Similarities to Somalia

- Colonial history
- High levels of government corruption and lack of trust
- Local people depend on fishing for their livelihoods
- Little national-level enforcement capacity
- High levels of illegal fishing
- Low centralized national authority capacity
- Little financial support for fishing from the government. Funding is dependent on donors
- Main catch and marine habitats are similar for both countries
- Low cold chain capacity
- Artisanal fishing is the main activity, especially gillnetting
- Northern coastal communities are primarily Muslim
- Prior socialist system
- Few conservation areas or ongoing efforts
- Little tourism

Unique to this case study  
 Featured in all case studies  
 Featured in a subset of case studies

## TANZANIA CASE STUDY

Co-management Type: **CONSULTATIVE**

GOVERNANCE  
STRUCTURE



Structure

Assembly



Legal Framework & Foundational Documents

Local bylaws  
 Monitoring and evaluation framework  
 Financing plans



Funding

Catch Revenue  
 Taxes on catch  
 Fisher fees  
 Vessel fees

National registration  
 Resource management plan  
 Collaborative management areas with neighbors



Management Functions

Set fishing areas/boundaries (either exclusive or collaborative areas)  
 Catch data collection  
 Conflict mitigation  
 Enforcement/compliance monitoring  
 Collect fees for tourism  
 Contribute to national legislation/policies  
 Establish bylaws

Establish management plan  
 Monitoring and evaluation  
 Impose penalties

STAKEHOLDERS



Primary

Fishers  
 Gleaners  
 Seaweed farmers



District government



Secondary

National government agencies  
 County/district government  
 Local/village government



NGOs/IGOs  
 Other external co-management organizations

CHANGE AGENT  
ACTIVITIES



Scientific surveys conducted  
*pre-establishment*

Marine resource survey  
 Socioeconomic survey  
 Traditional management assessment  
 Fishing profile/baseline



Community organizing activities  
*during establishment*

Involvement of surrounding communities  
 Meetings with local government



Environmental education & capacity building activities  
*during & post-establishment*

Training on management/creating management plans  
 Survey results presented to community

CO-MANAGEMENT  
IMPLEMENTATION



Benefits

Greater community influence over resource use  
 Increased compliance  
 Reduced illegal fishing  
 Improved infrastructure and capacity  
 Increased data collection  
 More inclusive system, especially of women  
 Increased government accountability



Challenges

Lack of trust between community and government  
 Officials do not involve locals enough  
 Poor communication among involved groups (co-management organizations, government, etc.)

Funding provided, but little community engagement  
 Unrealistic expectations of government



Co-management in

## KWIRIKWIDGE | MOZAMBIQUE

### National Context

Before Mozambique's independence in 1975, its fisheries were governed by traditional community chiefs and were restricted to community members. In some coastal communities, informal and multi-stakeholder co-management of fisheries were already present.<sup>19</sup> After independence, more formal governance structures were introduced by the federal government, including for fisheries management. This led to challenges within the communities and tensions with respected traditions. In 1996 the Institute for the Development of Small-Scale (Artisanal) Fisheries (IDPPE) introduced co-management in Mozambique with the establishment of community committees on resource management and co-management units that were officially incorporated into national law in 2003.<sup>20</sup>

Mozambique established 73 co-management committees between 1997 and 2005, with five committees in the Angoche district comprised of 52 men and one woman.<sup>21</sup> The units are described as mostly top-down or instructive units.<sup>22</sup> From the central government's perspective, the units decreased the burden of enforcement, while local fishers sought involvement in order to mitigate conflict between themselves and immigrant fishers and industrial prawn fishers.<sup>23</sup> Poverty and overfishing were also motivations for local fishers to become more engaged.<sup>24</sup>



### Case Study Profile

Kwirikwidge is located in northern Mozambique in the Angoche district of Nampala province. Around 600 fishers and 100 owners of boats or gear live in the village. Most of the fishers living in Kwirikwidge originally came from neighboring villages. The religion is predominantly Muslim (53 percent), and traditional or spiritual beliefs play a strong role in the community and in fisheries management. The main language is Emakhuwa. Local leadership consists of a chief, religious leaders, and direct counselors, with the traditional chief enforcing law and order. Traditional authorities are highly respected and influential—more so than formal authorities.<sup>25</sup> Kwirikwidge is home to coral reefs, and its artisanal fishers catch primarily anchovies, sardines, prawns, and goatfish. Beach seines comprise 70 percent of artisanal fishing methods. Almost all catch is commercially sold, mostly in the city of Angoche; only 5 percent is for subsistence.<sup>26</sup>

#### Lessons Learned

Fishers are consulted in fisheries management and notable decisions have been made to their benefit, but decision-making is concentrated between boat and gear owners and government. While this process has amplified the voices of fishers, this decision-making structure may be perceived as elitist and may be less effective at influencing the behavior of resource users.<sup>27 28</sup>

#### Key Differences from Somalia

- Inland fisheries
- Greater peace and stability
- Higher fish consumption
- Better fishing infrastructure
- Environmental damage/overfishing driving shift to local management
- Migrant fishing population
- Language differences between government and locals
- Large export market

#### Key Similarities to Somalia

- Colonial history
- High levels of government corruption and lack of trust
- Local people depend on fishing for their livelihoods
- Little national-level enforcement capacity
- High levels of illegal fishing
- Open-access fisheries before co-management implementation
- Little financial support for fishing from the government. Funding is dependent on donors
- Main catch and marine habitats are similar for both countries
- Coastal communities are primarily Muslim
- Prior socialist system
- Resource management tied to religious/traditional beliefs
- Conflict/tension between artisanal domestic and foreign fishers
- Strong role of traditional authorities
- Recent civil war
- Low literacy and education levels, especially among women

Unique to this case study  
 Featured in all case studies  
 Featured in a subset of case studies

## MOZAMBIQUE CASE STUDY

Co-management Type: **CONSULTATIVE**

GOVERNANCE STRUCTURE



Structure

Elected executive committee  
 Assembly



Funding

Donor funding  
 Registration/permit/license fees  
 Fines for illegal activities  
 Fees for external fishers



Management Functions

Set fishing areas/boundaries (either exclusive or collaborative areas)  
 Catch data collection  
 Conflict mitigation  
 Ban gear  
 Restrict access to certain people  
 Contribute to national legislation/policies  
 Promote sustainability  
 Issue permits/licenses  
 Set fishing times of day and/or seasons



Legal Framework & Foundational Documents

STAKEHOLDERS

Primary



Boat owners  
 Gear owners



Traders  
 Processors  
 Traditional community leader



National government agencies

Secondary



NGOs/IGOs  
 Private sector  
 Scientists  
 Community members  
 Immigrants/seasonal/external fishers

CHANGE AGENT ACTIVITIES



Scientific surveys conducted  
*pre-establishment*

Traditional management assessment



Community organizing activities  
*during establishment*

Co-management organization meetings  
 Involvement of surrounding communities



Environmental education & capacity building activities  
*during & post-establishment*

Technical assistance

CO-MANAGEMENT IMPLEMENTATION



Benefits

Greater community influence over resource use  
 Increased compliance  
 Financial benefits (access to credit, bargaining power)



Challenges

Lack of trust between community and government  
 Officials do not involve locals enough  
 Only benefits active members

Co-management in

## ROBERTSPORT | LIBERIA

### National Context

In Liberia, rampant depletion of resources and a violent civil war left the government unable to adequately manage the nation's fisheries. Traditionally, Liberia's fisheries have been open-access and unregulated.<sup>29</sup> In the early 2000s, the national government became interested in moving toward a more decentralized system of sharing power with local communities to manage fisheries. In 2009 the World Bank developed the West Africa Regional Fisheries Program (WARFP), which introduced co-management and territorial use rights for fisheries (TURFs) to improve fisheries management and enforcement.<sup>30</sup> Co-management was piloted in Robertsport and subsequently spread to other communities.<sup>31</sup>



### Case Study Profile

Robertsport is the capital of Grand Cape Mount County and has a population of about 7,000. The coast is a sandy shoreline with coastal rivers that create estuaries and lagoons that are important spawning habitats for fish. Its fisheries sector is comprised of artisanal and industrial (primarily shrimp) fisheries. Artisanal fishers fish in canoes using hook and line, gillnet, and purse seine methods. Though the gear and fishing methods are similar to those in East Africa, the target species are different as no coral reefs exist off Robertsport. As the capital, Robertsport is considered government property, meaning that the fisheries are open-access for all fishers, but they must register with the Sea Chief. While conflict between fishers exists in Liberia, conflict levels are still relatively low in Robertsport and the surrounding communities.

#### Lessons Learned

The Robertsport case study displays the utility of community participation in effective co-management and the limitations of community enforcement. While the community was empowered to participate through elections, it was not effective at enforcement for more serious infractions that impinged on the livelihoods of other locals. It is important for community members whose livelihoods are impacted by new regulations to be accommodated and compensated and for enforcement to be supported by national institutions.

#### Key Differences from Somalia

- Inland fisheries
- Higher fish consumption
- Women involved directly in fishing activities like fishing
- Migrant fishing population
- Industrial fisheries are also present
- Large role of private sector in fisheries

#### Key Similarities to Somalia

- Colonial history
- High levels of government corruption and lack of trust
- Local people depend on fishing for their livelihoods
- Little national-level enforcement capacity
- High levels of illegal fishing
- Open-access fisheries before co-management implementation
- Low centralized national authority capacity
- Traditional fishing vessels that do not go far offshore
- Resource management tied to religious/traditional beliefs
- Conflict/tension between artisanal, domestic, and foreign fishers
- Strong role of traditional authorities
- Recent civil war
- Majority of secondary activities are done by women (processing, marketing, etc.)
- Tuna fishery dominated by foreign fishers

Unique to this case study  
 Featured in all case studies  
 Featured in a subset of case studies

## LIBERIA CASE STUDY

Co-management Type: **COOPERATIVE**

GOVERNANCE  
STRUCTURE



Structure

Elected executive committee  
 Assembly  
 Sub-committees



Funding

Donor funding  
 Co-management unit membership fees



Management Functions

Catch data collection  
 Conflict mitigation  
 Enforcement/compliance monitoring  
 Business management  
 Advocate for fisherfolk



Legal Framework & Foundational Documents

Local bylaws  
 Monitoring and evaluation framework  
 Financing plans  
 Co-management plan framework

STAKEHOLDERS



Primary

Fishers  
 Boat owners  
 Boat crew



Traders  
 Processors  
 Fish transporters



National government agencies



Secondary

NGOs/IGOs  
 Private sector  
 Scientists  
 Immigrants/seasonal/external fishers

CHANGE AGENT  
ACTIVITIES



Scientific surveys conducted  
*pre-establishment*

Marine resource survey  
 Socioeconomic survey  
 Fishing profile/baseline



Community organizing activities  
*during establishment*

Co-management organization meetings  
 Full community meetings



Environmental education & capacity building activities  
*during & post-establishment*

Training on management/creating management plans

CO-MANAGEMENT  
IMPLEMENTATION



Benefits

Greater community influence over resource use  
 Increased compliance  
 Financial benefits (access to credit, bargaining power)



Challenges

Lack of trust between community and government  
 Poor compliance  
 Poor communication among involved groups (co-management organizations, government, etc.)

## IV. POTENTIAL FOR CO-MANAGEMENT SUCCESS IN THE SOMALI REGION

The examples of co-management from Kenya, Tanzania, Mozambique, and Liberia offer insight into the process and lessons for other communities in need of local management. Stakeholder participation is critical for co-management to succeed, but who the stakeholders are and their most effective level of participation may vary among cultures, countries, and even coastal towns in the same country. Using the case studies as references allows communities in the Somali region to understand the process and adapt it to their own needs.

To begin this conversation in the Somali region, co-management was a topic of discussion during the Somalia Fisheries Forum in Garowe in April 2019. Two sessions of the forum brought together local fishers and representatives from fishing businesses, governments, NGOs, and international donor organizations to discuss the potential for co-management in the Somali region. The results of those discussions are presented here. Participants received background information on the co-management process and the case studies above. They were then asked to discuss existing local management systems and the co-management strategies that they believe will work best in the Somali context.

*Existing fishing cooperatives, traditional systems and clan culture, plus the expressed interest of the Federal Government of Somalia all provide a promising baseline for co-management in the Somali region.*

While Somali federal legislation does not yet include co-management, the Federal Government of Somalia (FGS) recognizes the utility of it and has therefore included it as a goal in their fisheries management plan for 2020–2023. This is the first step in showing support for co-management efforts that are beginning in coastal communities. The FGS is creating an enabling environment for co-management efforts and is actively working to incorporate the principles of co-management into its activities. This top-down approach is similar to that of Kenya and Tanzania, but has the advantage of being preemptive rather than reactionary. Somali officials hope that by commencing the co-management process before local resources have been fully depleted, they will enable sustainable growth of the fishing sector that will support livelihoods into the future.

There is an additional baseline for co-management through traditional systems and existing cooperatives. Somali clan culture may be conducive to co-management because of its local focus and community network. As in Kenya, where local tribes and chiefs are important secondary stakeholders,



*Fishermen prepare to go out to sea in the village of Eyl , Puntland,.  
Photo: Karel Prinsloo/FAO.*

clans and clan leaders can leverage the respect and trust they have in the community to improve participation in the co-management process. Clans and clan elders also hold valuable traditional knowledge that is vital to developing a co-management system that fits into the community.

Previously organized fishing cooperatives may play a similar role where they are active. Originally put into practice on the Somali coast in the 1980s, fishing cooperatives have persisted through the civil war and have been founded in more places recently because of their efficacy at supporting fishers' interests. Cooperatives are organized bodies that negotiate fish prices with buyers, resolve conflicts, facilitate training, and develop markets for Somali fish. As a group with existing membership, respect, leadership in the community, and goals similar to those of the co-management organizations in the case studies, a cooperative is a useful vehicle for gaining community participation. The cooperative can also function as a conduit for communication between the government and the community. For example, in Puntland and Southwest State, the regional ministries of fisheries empowered cooperatives to restructure and create their own bylaws with assistance from the ministry. This is likely in part because of a demonstrated communication gap between communities and governments. According to Secure Fisheries' conversations in coastal Puntland and Somaliland, cooperative members infrequently spoke with government officials except to report illegal, unreported, and unregulated (IUU) fishing. Because of low enforcement capacity, the government could rarely follow up on reports of IUU fishing. A structured co-management system closes that gap in communication and offers the community its own recourse to deal with IUU fishing on a small scale, removing some of the burden from the government while empowering the community. However, it is important to ensure that cooperatives have full representation from resource users. Cooperatives primarily focus on economic support, so their aims may need to be adjusted to incorporate resource governance. Alternatively, co-management units can be established alongside cooperatives.

Funding of co-management initiatives is a challenge in the Somali region. Engaging with international donor groups is a viable option that has worked in Kenya, Mozambique, and Tanzania. Donors are secondary stakeholders who offer funding and often expertise during the implementation process. In all of the case-study locations, other funding comes from fisher registration fees, which is also an option in Somali communities. Additionally, fines for IUU fishing can help supplement the other more consistent funding sources.

As in Tanzania, Mozambique, and Liberia, lack of trust in the government is a potential challenge to creating a functional co-management system. The Somali political landscape is complex. Each region has its own Ministry of Fisheries, and local mayors have a high level of influence depending on the region in which their town is located. In most places, government officials tasked with being included in the co-management process will need to gain the trust and confidence of the community to have full involvement in co-management. Government officials will need to show a willingness to cede some power to the local leaders to prove they are fully invested in the process.

## V. CONCLUSION

With strong local motivation, government support, and tools and funding provided by external organizations, Somali communities are poised to take ownership over their marine resources and implement effective local management measures. The first step is to continue the conversation started at the Somalia Fisheries Forum 2019 and build connections among government officials and local communities. External organizations can help spur this process on by holding community meetings and building a participatory culture that will enable all stakeholders to be heard by officials. At the same time, the Somali regional and federal governments can consider incorporating co-management into their laws as the case-study countries have, institutionalizing a system to delegate power to manage fisheries and control marine resources to those most impacted by management measures. Using the principles of co-management as a guide, the Somali region can be on track to maintain healthy fisheries.



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- 31 Personal Communication, Robert Pomeroy, 1/16/2019.

## ONE EARTH FUTURE

[oneearthfuture.org](http://oneearthfuture.org)



One Earth Future (OEF) is a self-funded, private operating foundation seeking to create a more peaceful world through collaborative, data-driven initiatives. OEF focuses on enhancing maritime cooperation, creating sustainable jobs in fragile economies, and research which actively contributes to thought leadership on global issues. As an operating foundation, OEF provides strategic, financial, and administrative support allowing its programs to focus deeply on complex problems and to create constructive alternatives to violent conflict.

## SECURE FISHERIES

[securefisheries.org](http://securefisheries.org)





Secure Fisheries is a program of One Earth Future. Secure Fisheries works with local, regional, and international stakeholders to strengthen fisheries governance, combat illegal fishing, and promote sustainability in fragile and post-conflict regions as a pathway towards greater peace and stability.

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## CONTACT US

 303.533.1715

 [info@oneearthfuture.org](mailto:info@oneearthfuture.org)

 525 Zang St. Broomfield, CO 80021

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SECURE FISHERIES

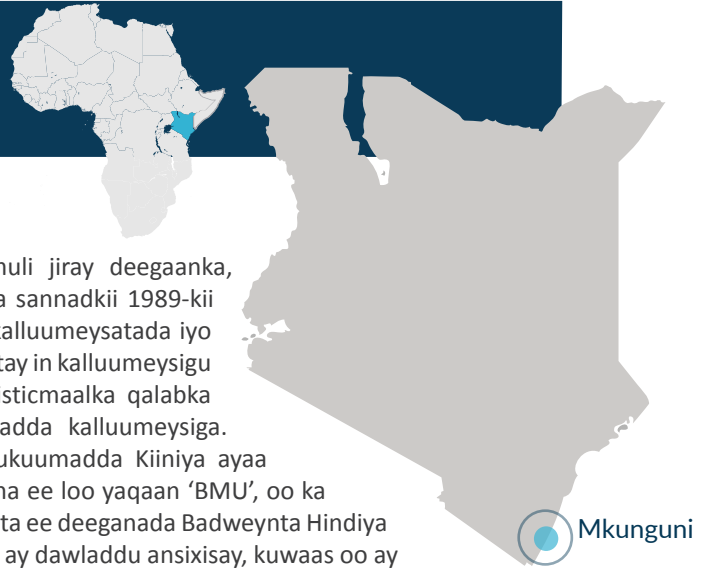
Advancing Sustainable Fisheries

*a program of One Earth Future*

one earth  
FUTURE

*Peace Through Governance*





## XAALADA QARANKA

In kasta oo kalluumaysiga Kiiniya sida caadiga ah laga maamuli jiray deegaanka, xukuumadda qaranka ayaa la wareegtay maamulka kalluumaysiga sannadkii 1989-kii kadib markii ay xornimada qaateen. Nidaamka dhexda ah ayaa kalluumaysatada iyo daneeyayaasha maxalliga ah ka heli jiray tallooyin yar waxayna keentay in kalluumaysigu si weyn hoos ugu dhaco kuna dhawaado burbur sababtoo ah isticmaalka qalabka sharci-darrada iyo burburka, waxyeellada deegaanka, iyo colaadda kalluumaysiga. Iyadoo jawaab u ah natiijooyinka xun ee nidaamka qaranka, xukuumadda Kiiniya ayaa dejisay nidaam maamul-wadaag ah. Cutubyada Maareynta Xeebaha ee loo yaqaan 'BMU', oo ka dhashay sharci la dejiyay 2006-dii ayaa aasaasay hababkan maareynta ee deeganada Badweynta Hindiya waxayna awood u siisay inay abuuraan shuruucdooda gaarka ah ee ay dawladdu ansixisay, kuwaas oo ay ku jiraan xuduudaha iyo ilaalinta aaggaga kalluumaysigooda. BMU-yadu waxay xukumaan kalluumaysiga, laakiin badanaa waxay qaadaan tallaabooyinka dheeraadka ah ee ilaalinta iyagoo abuuraya kaydka badda ee aan la qaadan karin. In kasta oo aanay had iyo jeer ku guulaysan kordhinta xaddiga kalluunka (oo ay soo qabtaan), haddana awooda lagu abuurayo ilaalintaan ayaa ah qalab muhiim ah oo loogu talagalay maamulayaasha kalluumaysiga deegaanka. Marka la raaco, kaydka aan la qaadan karin waxay keenaysaa natiijooyinka wax ku oolka ah ee bay'ada badda natiija ahaana waxa ka faa'idi doona kalluumaysatada. In kasta oo aragtidi kowaad ee ay kalluumaysatadu ka qabeen habkan maamul-wadaagu uu ahaa mid shaki ku jiro, haddana wakhti kadib shakigii hoos ayuu u dhacay. Kalluumaysatada badankoodu waxay arkeen in BMU-yada aanay saameyn xun ku lahayn noloshooda, qaarna waxay sheegeen inay faa'iido u leedahay.

## MACLUMAADKA DARAASAD XAALADEEDA

Badi macluumaadka ku jira dukumintigan waxay ku saleysan yihiin qorshaha shanta sanno ee Mukunguni BMU ee ay diyaarisay Sahaminta iyo Horumarinta Xeebaha Badaha - Badweynta Hindiya (CORDIO) Bariga Afrika, Waaxda Dowlada ee Kalluumaysiga, iyo Barnaamijka Horumarinta ee Qaramada Midoobay (UNDP). Mukunguni waa tuulo kalluumaysi oo ku taal xeebta Kiiniya, qiyaastii 88 kiiloomitir ayay koonfur ka xigtaa magaalada Mumbaasa, oo ah magaalo xeebeedka ugu wayn Kiiniya. BMU waxay matashaa shan tuulo oo wadar ahaan ka kooban 11,000 qoys, kuwaas oo caadiyan ah qabiilka Digo, mid kamid ah kooxaha Bantuuga ee Kiiniya. Taariikh ahaan waa dad ganacsato, beeralay iyo kalluumaysato ah. Badda u dhow xeebtu waxay taageertaa bay'ada badda, cowska badda, geedaha mangaruufka, iyo noolayaasha kale ee muhiimka ah ee haya kalluumada kala duwan, oo ay ku jiraan kalluunka ganacsiga u muhiimka ah ee kalluun-bakayle ee ku dhaqan Mukunguni. Mukunguni BMU waxay maamushaa ilaa 150 kalluumeyste kuwaas oo loo tixgeliyo inay yihiin "maxali joogto ah" ama "muhaajir degane ah." Waxay isticmaalaan qalab kala duwan oo kalluumaysi ah sida dabinnada, shabakadaha, iyo laymanka lagu qabto kalluumada dusha sare ee badda jooga, kalluumada badhtanka badda jooga, iyo xayawanad kale ee yaryar. BMU waxay fulisay tallaabooyinka maareynta ee la xidhiidha xakamaynta qalabka iyo xayiraadda aaggaga kalluumaysiga si loo ilaaliyo kalluumaysiga iyo quuto-daruuriga muhiimka ah ee degaanka.

### CASHARADA LA BARTAY

Inkastoo heerarka sare ee ka qaybgalka bulshadu ay dadka deegaanka siiyaan mulkiyada badan ee khayraadka, haddana xukuumaddu waa in ay sii wadaa ka qeyb qaadashada iyo taageerida waxqabadyada bulshada si looga fogaado in kharashka iyo awooda fulinta buuxda ay ugu wareegto bulshada.

### Waxyaabaha Ay Kaga Duwan Tahay Soomaaliya

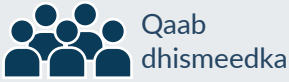
- [Suuq dalxiis oo shaqeeya](#)
- [Nabadgelyo iyo xasilooni sare](#)
- [Isticmaal kalluun oo sareysa](#)
- [Kaabayaal kalluumaysi oo wanaagsan](#)
- [Ma jiraan dhaqan ama dad deegaan oo xuquuq u leh inay kaantaroolaan helida kalluumaysiga](#)
- [Hay'ado dawladeed oo si wanaagsan oo la sameeyay](#)
- [Akvakultur](#)
- [Kalluumaysiga jasiiradaha](#)

### Waxyaabaha Ay Iska Matalaan Soomaaliya

- [Taariikh gumeysi](#)
- [Heerar sare ee musuqmaasuq dawladeed iyo kalsooni la'aan](#)
- [Quuto-daruuga dadka deegaanku waxay ku tiirsan tahay kalluumaysiga](#)
- [Awood fulin heer qaran oo yar](#)
- [Heerar sare oo ah kalluumaysiga sharci-darrada ah](#)
- [Kalluumaysi furan kahor intii aan la fulin hirgelinta maamul-wadaaga](#)
- [Awood qaranka dhexe oo hooseeysa](#)
- [Taageero dhaqaale oo yar oo loogu talagalay kalluumaysiga oo ay dawladdu bixiso. Maalgelintu waxay ku tiirsan tahay deeq-bixiyayaasha](#)
- [Qabashada caadiga ah iyo noolayaasha baddu waa isaga mid labada dal](#)
- [Awooda gudbinta alaabta oo qabow oo hooseeya](#)
- [Kalluumaysiga yaryar, gaar ahaan shabaga afargeeska ah ayaa ah qaabka kalluumaysiga ee ugu badan.](#)
- [Doomaha kalluumaysiga ee caadiga ah ee aan tegin meelo fog](#)
- [Ma jiro wax ay isaga mid yihiin xeerarka deegaanka ah iyo kuwa qaranka](#)

Nooca maamul-wadaaga: La talin

QAAB DHISMEEDKA  
DAWLADDA



Qaab dhismeedka



Maalgelinta



Hawlaha Maareynta

Guddi fulin oo la doortay

**Koox la iskusoo ururiyay/ Golle**

Guddi-hoosaadyo

Khidmadaha diiwaangelinta/oggolaansho siinta/liisanka (rukhsada)

Khidmadaha dalxiiska

Maalgelinta deeq-bixiyeyaasha

Deji aagagga/xuduudaha kalluumaysiga (*meelo gaar ah ama kuwo iskaashi ah*)

Kormeerida hirgelinta/u hogaansanaanta

Qalab joojinta

Xakamee gelitaanka dadka qaarkood

Ururi khidmadaha dalxiiska

Samee xeer hoosaadyo

Samee qorshe maamul

Kormeerida iyo Qiimeynta

Dalacsii waarida

Maareynta Ganacsiga

Soo saar oggolaansho siinta/liisamada

**Ilaali meelaha**

**Waxbarasho**



Qaab-dhismeedka Sharciga & Dukumintiyada Aasaasiga ah

Xeer hoosaadyada deegaanka

Qaab-dhismeedka kormeerka iyo qiimeynta

Qorshayaasha maalgelinta

Qorshaha maamul-wadaaga

Diiwaangelinta qaranka

**Shuruuda xubnimada kalluumeystaha**

DANEYAYAASHA



Koobaad

Kalluumeysatada

Mulkiilayaasha doomaha

Shaqaalaha doomaha

**Dhisayaasha & dayactirayaasha doomaha**

**Dayactirayaasha shabagyada**

**Hawl wadeenada dalxiiska**



Ganacsatada

Diyaariyayaasha



Labaad

**Hay'adaha Dawlada Qaranka**

Dawlada gobolka/degmada

Dawlada deegaanka/tuulada

Xubnaha Bulshada

**Qabaa'ilka deegaanka/madaxda qabiilka**



**NGO-yada/IGO-yada**

Waaxda gaarka loo leeyahay

Seynisyahanada

WAXQABADYADA  
ISBEDDELKA



Sahano seynis ah oo la sameeyo

*ka hor aasaasida*

Sahanka kheyraadka badda (sahanka badda hoosteeda)

Sahanka dhaqaalaha bulshada

Qiimaynta maamul dhaqameedka



Hawlaha abaabulida bulshada

*inta lagu jiro aasaasida*

Kulanada maamul-wadaaga ururka

Ka qaybqaadashiinta bulshooyinka ku ag xeeran

**Shirarka bulshada dhamaanteed**



Waxbarashada deegaanka iyo hawlaha dhisida awooda

*inta lagu jiro iyo kadib*

Tababar ku saabsan maareynta/abuurida qorshayaasha maareynta

Natiijooyinka sahanka oo loo soo bandhigo bulshada

**Tababar ku saabsan ilaalinta**

**Tababar ku saabsan caafimaadka iyo ammaanka**

**Tobabar ku saabsan ururinta xogta**

HIRGELINTA  
MAAMUL-WADAAGA



Faa'idooyinka

Saameyn ballaaran oo ay bulshadu ku yeelato isticmaalka khayraadka

Yaraanta kalluumeysiga sharci-darada ah

Horumarka kaabayaasha iyo awooda

**Korodhka tirada kalluunka (oo leh meelo la ilaaliyo)**



Caqabadaha

U hogaansanaan liidata

Caqabadaha sharci-fulinta

Maalgashi la'aan

Dedaalo kalluumeysi oo

kordhay *halkii ay yeelan lahayd maareyn wax ku ool ah*

Ilaabida ama garasho la'aanta waxyaabaha la bartay kadib toobarka

Ka tagista shaqada ee hoggaanka oo badan



## XAALADA QARANKA

Tansaaniya ayaa bilowday hirgelinta cutubyada maaraynta xeebaha (BMUs) si ay uga jawaab celiso hoos u dhaca kaydka kalluunka iyo arrimaha ammniga quuto-daruuriga ee bulshooyinka ku tiirsan kalluumeysiga. Dawladda dhexe ayaa bilowday inay dhiirrigeliso dhismaha BMU kadib markii ay wax ka bedeshay Xeerka Kalluumeysiga 22-kii Bishii Noofambar 2003 kadibna soo saartay Sharciyada Kalluumeysiga ee 2009. Inkastoo heerka ka qaybgalka bulshadu uu ku xiran yahay goobta, haddana hirgelinta sharciyadani waxay muujiyeen isbeddel aad ugu dhisan nidaam wada shaqeyn ah. Waxa jira qiyaastii 179 BMU oo ku yaal xeebta Tansaaniya, kuwaas oo 68 kamid ahi ay leeyihiin qorshayaal maareyn halka 39 kamid ahna ay leeyihiin sharci-hoosaado ay ansixisay xukuumadda federaalka kuna habboon sharciyada kalluumeysiga ee qaranka. BMU-yadu waxay ka bilaabmeen xeebaha Harada Fiktooriya, laakiin si dhakhso ah ayaa looga dhigay qalab muhiim ah oo loogu talagalay oo ay tuulooyinku xeebaha Tansaaniya ku maareeyaan bay'ada hodanka ah ee ay dad badani ku tiirsan yihiin. Kalluunka qiyaastii waa 30% kamid ah isticmaalka booratiinka ee Tansaaniya, iyo 10% kamid ah waxyaabaha laga dhoofiyo dalka. Si kastaba ha ahaatee, bulshooyinka xeebaha waxay ku tiirsan yihiin bay'ada baddaha inta ugu badan marka la eego xulashooyinka quuto-daruurigooda.

## MACLUMAADKA DARAASAD XAALADEEDA

Kigombe waxay tusaale fiican u tahay hirgalinta maamul-wadaaga ee ay fududeeyeen dad shisheeye, gaar ahaan ururada aan dawliga ahayn ee ka shaqeeya gobolka Tanga ee waqooyiga xeebta Tansaaniya. Tuulada Kigombe waxay hoy u tahay qiyaastii 4,000 oo qof. Waxa jira ku dhowaad 100 kalluumeysato oo liisan heysta iyo 80 doomood. Baddaha gobolkani waxay ka kooban yihiin deegano noole oo dabiici ah oo waxsoo saar leh oo ay kamid yihiin bay'ada badda, cowska badda, iyo geedaha maangaruufka kuwaas oo taageera noolayaal kala duwan. Natiijo ahaan, isha dakhliga ragga Kigombe ee ugu weyni waa kalluumeysiga kalluunka fin, haweenkana waa ururinta kalluun qolfoole, farammugo, qajaar badeed, iyo dhawaanahan dhirta badda hoosteeda. In kasta oo deegaanku uu ku habboon yahay kalluumeysiga wax soo saarka leh, haddana yaraanshaha noolayaashan ee ka timaada kalluumeysiga qaraxa, baabiinta kaymaha mangaruufka, shabag ku ugaadhsashada korka cowska badda waxay sababaan hoos u dhaca qabashada [kalluunka], taas oo daareensiinaysa bulshada baahida loo qabo maareyn kalluumeysi oo ka badan tan ay bixinaysay dawladda dhexe.

### CASHARADA LA BARTAY

Samaynta dedaalka haweenka loogu darayo qaybta kalluumeysiga ee hawlaha maamul-wadaaga ayaa waxay hagaajinaysaa ka qaybqaadashada bulshada taas oo natiijo ahaan keenaysa raacida xeerarka ilaalinta iyo maareynta. Laakiin xubnaha bulshadu waa inay ka taxadaraan inay si fiican ula xiriiraan xukuumadda isla markaana diiradda saaraan arrimaha ugu muhiimsan si loo xaqiijiyo guusha.

### Waxyaabaha Ay Kaga Duwan Tahay Soomaaliya

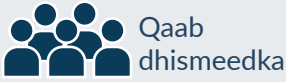
- Kalluumeysiga jasiiradaha
- Nabadgelyo iyo xasilooni sare
- Dhibaatada deegaanka /kalluumeysiga xad-dhaafka ah oo maareynta u wareejinaysa gudaha
- Dumarku si toos ah ayay ugu lug leeyihiin hawlaha kalluumeysiga sida ururinta iyo beerida dhirta badda hoosteeda
- Ka hor intaanay madax-bannaanida qaadan, xukuumaddu ma aysan ku lug lahayn arrimaha degaanka
- Kalluumeysiga qaraxa la adeegsanayo ayaa caadi ahaa

### Waxyaabaha Ay Iska Matalaan Soomaaliya

- Taariikh gumeysi
- Heerar sare ee musuqmaasuq dowladeed iyo kalsooni la'aan
- Quuto-daruuriga dadka deegaanku waxay ku tiirsan tahay kalluumeysiga
- Awood fulin heer qaran oo yar
- Heerar sare oo ah kalluumeysiga sharci-darrada ah
- Awood qaranka dhexe oo hooseysa
- Taageero dhaqaale oo yar oo loogu talagalay kalluumeysiga oo ay dawladdu bixiso. Maalgelintu waxay ku tiirsan tahay deeq-bixiyayaasha
- Qabashada caadiga ah iyo noolayaasha baddu waa isaga mid labada dal
- Awooda gudbinta alaabta oo qabow oo hooseeya
- Kalluumeysiga yaryar, gaar ahaan shabaga afargeeska ah ayaa ah qaabka kalluumeysiga ee ugu badan
- Bulshooyinka xeebaha badankoodu waa muslim
- Nidaam bulsheed ayaa hore u jiray
- Dhowr meelood oo keydin oo la ilaaliyo ama dedaalo socda
- Dalxiis yar

Nooca maamul-wadaaga: Soo jeedin

QAAB DHISMEEDKA  
DAWLADDA



Koox la iskusoo ururiyay



Dakhliga [kalluun] Qabashada  
Canshuuraha [kalluun] qabashada  
Khidmadaha kalluumeystaha  
Khidmadaha doonta



Hawlaha Maareynta

Deji aagagga/xuduudaha kalluumaysiga (meelo gaar ah ama kuwo iskaashi ah)  
Aruurinta xogta kalluumeysiga  
Dhaxdhaxaadinta khilaafaadka  
Kormeerida hirgelinta/u hogaansanaanta  
Ururi khidmadaha dalxiiska  
Wax ku biiri sharciyada/ siyaasadaha qaranka

Samee xeer hoosaadyo  
Samee qorshe maamul  
Kormeerida iyo Qiimeynta  
Soo rog ganaaxyo



Qaab-dhismeedka Sharciga & Dukumintiyada Aasaasiga ah

Xeer hoosaadyada deegaanka

Qaab-dhismeedka kormeerka iyo qiimeynta

Qorshayaasha maalgelinta  
Diiwaangelinta qaranka

Qorshaha maareynta khayraadka  
Meelaha maareynta iskaashiga ee deriskawith neighbors

DANEYAYAASHA



Koobaad

Kalluumeysatada  
Ururiyayaasha  
Beeraleyda dhirta bada hoosteeda



Dawladda Degmada



Labaad

Hay'adaha Dawlada Qaranka  
Dawlada gobolka/degmada  
Dawlada deegaanka/tuulada



NGO-yada/IGO-yada  
Ururada kale ee maamul-wadaaga ee dibada

WAXQABADYADA  
ISBEDDELKA



Sahano seynis ah oo la sameeyo  
ka hor aasaasida

Sahanka kheyraadka badda  
Sahanka dhaqaalaha bulshada  
Qiimaynta maamul dhaqameedka  
Tusmada/gundhiga kalluumeysiga



Hawlaha abaabulida bulshada  
inta lagu jiro aasaasida

Ka qaybqaadashiinta bulshooyinka ku ag xeeran  
Kulanada lala yeelanayo dawlada hoose



Waxbarashada deegaanka iyo hawlaha dhisida awooda  
inta lagu jiro iyo kadib aasaasida

Tababar ku saabsan maareynta/ abuurida qorshayaasha maareynta  
Natiijooyinka sahanka oo loo soo bandhigo bulshada

HIRGELINTA  
MAAMUL-WADAAGA



Faa'idooyinka

Saameyn ballaaran oo ay bulshadu ku yeelato isticmaalka khayraadka  
Korodhka u hogaansanaanta  
Yaraanta kalluumeysiga sharci-darada ah  
Horumarka kaabayaasha iyo awooda  
Korodhka xog ururinta  
Nidaam loo dhan yahay, gaar ahaan haweenka  
Korodhka la xisaabtanka dawlada



Caqabadaha

Kalsooni la'aanta u dhaxaysa bulshada iyo dawlada  
Masuuliyiintu kuma daraan dadka deegaanka inku filan  
Isgaadhsiin xumo u dhaxeysa kooxaha ku jira (ururka maamul-wadaaga, dawlada, iwm)

Maalgelin waa la bixiyay, laakiin ka qeybqaadashiinta bulshadu way yartay  
Rajooyin aan macquul ahayn oo lagu qabo dawlada

# MUSAAMBIKIYUU

DEGMADA KIWIRIKWIJ

## XAALADA QARANKA

Ka hor intaanay madax-bannaanida qaadan Mosaambikiyuu 1975-kii, kalluumeysigeedu waxa xukumi jiray hoggaamiye dhaqameedyada bulshada waxaanay ku xadidnayd xubnaha bulshada. Qaar ka mid ah bulshooyinka xeebaha, maareynta maamul-wadaaga iyo wada-lahaanshaha aan rasmiga ahayn ayaa horey u jiray. Kadib markii ay madaxbanaanida qaadatay, qaabab maamul dawladeed oo rasmi ah ayay soo bandhigtay xukuumadda federaalku, taas oo ay ku jirtay maareynta kalluumeysiga. Tani waxay keentay caqabado bulshada dhexdeeda ah iyo xiisadaha dhaqamada la qadariyo. Sannadkii 1996-kii Machadka Horumarinta Kalluumeysiga Yaryar (IDPPE) ayaa Mosaambikiyuu keenay maamul-wadaaga, iyaga oo abuuray guddiyada maareynta khayraadka ee bulshada iyo cutubyada maamul-wadaaga ee sida rasmiga ah loogu daray sharciga qaranka sannadkii 2003.

Mosaambikiyuu waxay sameysey 73 guddi oo maamul-wadaag intii u dhaxeysay 1997 iyo 2005, iyadoo shan guddi ay ka tirsanaayeen degmada Angoke kana koobnaayeen 52 nin iyo hal gabadh ah. Dumarka ayaa inta badan ka shaqeeya maaliyadda. Cutubyada waxa lagu sharaxaa badanaa kuwo dusha laga maamulo ama cutubyo ammar la siiyo. Marka la eego aragtida xukuumadda dhexe, cutubyada ayaa hoos u dhigay culeyska fulinta sharciga, iyada oo kalluumeysatada maxalliga ah ay dooneen in ay yareeyaan khilaafka ka dhaxeeya iyaga iyo kalluumeysatada ajaanibka ah iyo kalluumeysatada waaweyn. Saboolnimada iyo kalluumeysiga badan ayaa sidoo kale dhiirigalin u ahaa kalluumeysatada deegaanka.

## MACLUMAADKA DARAASAD XAALADEEDA

Kiwirikwij waxay ku taalaa woqooyiga Mosaambikiyuu gaar ahaan degmada Angoke ee gobolka Numbala. Qiyaastii 600 oo kalluumeyste iyo 100 mulkiilayaasha qalabka iyo doonyaha ah ayaa ku nool tuulada. Inta badan kalluumeysatada ku nool Kiwirikwij waxay ka yimaadaan tuullooyinka deriska ah. Diinta ugu badani waa Muslim (boqolkiiba 53) sidoo kale dhaqanada ama ruuxda ay aaminsan yihiin ayaa door weyn ka ciyaara bulshada iyo maareynta kalluumeysiga. Luuqada ugu weyn waa Emakhuwa. Hoggaanka deegaanku waxay ka kooban tahay Caaqil, hoggaan diineed, iyo la taliyayaal toos ah, hoggaanka dhaqanka ayaana fuliya sharciga iyo kala dambeynta. Masuuliyiin dhaqameedka aad ayaa loo ixtiraamaa waxaanay leeyihiin saameyn badan - mid ka badan ta maamulka rasmiga ah. Kiwirikwij waxay hoy u tahay bay'adaha badda kalluumeysateeda yaryarna waxay qabtaan, anjoofi, carabi buraasow, qooqab iyo gacooore. Shabagyada goobada ahi waa boqolkiiba 70 hababka kalluumeysiga yaryar. Ku dhowaad dhammaan waxa la soo qabto waa la iibiyaa, waxaana badi laga iibiyaa magaalada Angoke - keliya boqolkiiba 5 ayaa la qutaa.

## CASHARADA LA BARTAY

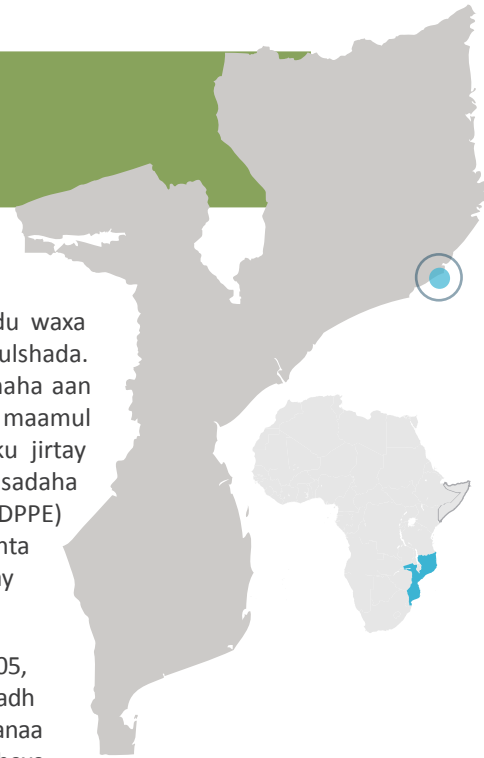
Kalluumeysatada ayaa lagala tashadaa maareynta kalluumeysiga, go'aano la taaban karo oo faa'ido u ahna waa la sameeyay, laakiin go'aan qaadashadu waxay ku kooban tahay mulkiilayaasha qalabka iyo doomaha iyo dawladda. Inkastoo hanaankani uu sare u qaaday codadka kalluumeysatada, qaab-dhismeedkan go'aan-qaadashadu waxa loo arki karaa mid u janjeedha dadka awooda leh waxaana laga yaabaa in uu waxtar yar ku yeesho saamaynta dhaqanka dadka isticmaala kheyraadka.

## Waxyaabaha Ay Kaga Duwan Tahay Soomaaliya

- Kalluumeysiga jasiiradaha
- Nabadgelyo iyo xasilooni sare
- Isticmaal kalluun oo sareysa
- Kaabayaal kalluumeysi oo wanaagsan
- Dhibaataada deegaanka /kalluumeysiga xad-dhaafka ah oo maareynta u wareejinaysa gudaha
- Dad kalluumeysato ah oo muhaajiriin ah
- Farqi luqadeed oo u dhexeeya dawlada iyo dadka deegaanka
- Suuq weyn oo dhoofineed

## Waxyaabaha Ay Iska Matalaan Soomaaliya

- Taariikh gumeysi
- Heerar sare ee musuqmaasuq dowladeed iyo kalsooni la'aan
- Quuto-daruuga dadka deegaanku waxay ku tiirsan tahay kalluumeysiga
- Awood fulin heer qaran oo yar
- Heerar sare oo ah kalluumeysiga sharci-darrada ah
- Kalluumeysi furan kahor intii aan la fulin hirgelinta maamul-wadaaga
- Taageero dhaqaale oo yar oo loogu talagalay kalluumeysiga oo ay dawladdu bixiso. Maalgelintu waxay ku tiirsan tahay deeq-bixiyayaasha
- Qabashada caadiga ah iyo noolayaasha baddu waa isaga mid labada dal
- Bulshooyinka xeebaha badankoodu waa muslim
- Nidaam bulsheed ayaa hore u jiray
- Maareynta khayraadka waxay ku xiran tahay diinta/aaminsanaanta dhaqanka
- Isku dhac/xiisado u dhexeeya kalluumeysatada ajaanibka ah ee yaryar
- Door adag oo ay leeyihiin maamul dhaqameedku
- Dagaalkii sokeeye oo dhawaan dhacay
- Heerar akhris-qoraal iyo tacliin oo hooseysa, gaar ahaan dumarka



Nooca maamul-wadaaga: Soo jeedin

QAAB DHISMEEDKA  
DAWLADDA



Qaab dhismeedka



Maalgelinta



Hawlaha Maareynta

Guddi fulin oo la doortay

Koox la iskusoo ururiyay

Maalgelinta deeq-bixiyayaasha

Khidmadaha diiwaangelinta/oggolaansho siinta/liisanka (rukhsada)

Ganaaxyada hawlaha sharci darada ah

Khidmadaha kalluumeysiga dibadda (ajanabiga, ka baxsan bulshada)

Deji aagagga/xuduudaha kalluumaysiga (meelo gaar ah ama kuwo iskaashi ah)

Aruurinta xogta kalluumeysiga

Dhaxdhaxaadinta khilaafaadka

Qalab joojinta

Xakamee gelitaanka dadka qaarkood

Wax ku biiri sharciyada/siyaasadaha qaranka

Dalacsii waarida

Soo saar oggolaansho siinta/liisamada

Samee waqtiyada kalluumeysiga maalinta iyo/ama xilliyada



Qaab-dhismeedka Sharciga & Dukumintiyada Aasaasiga ah

DANEYAYAASHA

Koobaad



Mulkiilayaasha doomaha

Miukiilayaasha qalabka



Ganacsatada Diyaariyayaasha

Hogaamiye dhaqameedka bulshada



Hay'adaha Dawlada Qaranka

Labaad



NGO-yada/IGO-yada

Waaxda gaarka loo leeyahay

Seynisyahanada

Xubnaha Bulshada

Kalluumeysatada qaxootiga/xilliyada/dibada

WAXQABADYADA  
ISBEDDELKA



Sahano seynis ah oo la sameeyo

ka hor aasaasida

Qiimaynta maamul dhaqameedka



Hawlaha abaabulida bulshada

inta lagu jiro aasaasida

Kulanada maamul-wadaaga ururka

Ka qaybqaadashiinta bulshooyinka ku ag xeeran



Waxbarashada deegaanka iyo hawlaha dhisida awooda

inta lagu jiro iyo kadib aasaasida

Kaalmo farsamo



Faa'idooyinka

Saameyn ballaaran oo ay bulshadu ku yeelato isticmaalka khayraadka

Korodhka u hogaansanaanta

Faa'idooyinka lacageed (helitaanka deynta, awoodda gorgortanka)



Caqabadaha

Kalsooni la'aanta u dhaxaysa bulshada iyo dawlada

Masuuliyiintu kumaaraan dadka deegaanka inku filan

Keliya waxa ka faa'ida xubnaha firfircoon

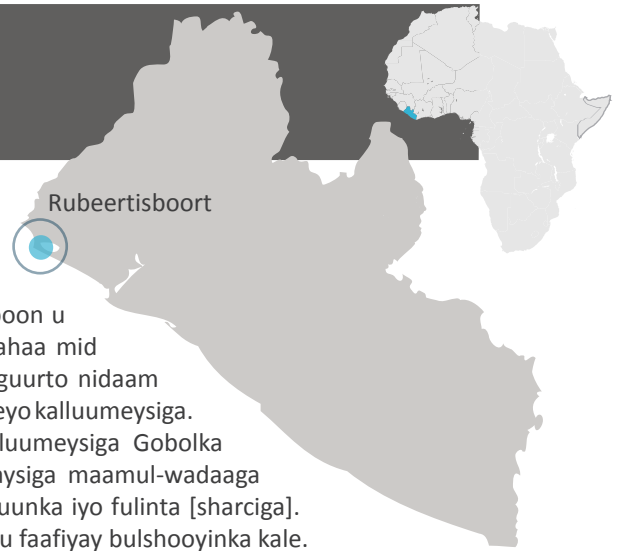
HIRGELINTA  
MAAMUL-WADAAGA

# LAYBEERIYA

## RUBEERTISBOORT

### XAALADA QARANKA

Dalka Laybeeriya, yaraan shaha xad dhaafka ah ee kheyraadka iyo dagaalo sokeeye oo ba'an ayaa sababay inay dowladu awoodi waydo inay si habboon u maasho kalluumeysiga dalka. Caadiyan, kalluumeysiga Laybeeriya ayaa ahaa mid furan oo aan la kormeerin. Xukuumadda qaranka ayaa doontay inay u guurto nidaam dowladeed oo awooda la qeybsanaya bulshooyinka degaanada si loo maareeyo kalluumeysiga. Sannadkii 2009-kii Baanka Adduunka ayaa sameeyay Barnaamijka Kalluumeysiga Gobolka Galbeedka Afrika (WARFP). Barnaamijka ayaa soo bandhigay kalluumeysiga maamul-wadaaga iyo isticmaalka xuquuqda dhulka (TURFs) si loo hagaajiyo maareynta kalluunka iyo fulinta [sharciga]. Maamul-wadaaga waxaa lagu tijaabiyey Robertsport waxaana kadibna lagu faafiyay bulshooyinka kale.



### MACLUMAADKA DARAASAD XAALADEEDA

Rubeertisboort waa caasimadda Ganda Kayb Town waxaana ku nool dad gaaraya ilaa 7,000 oo qof. Xeebtu xeeligeedu waa mid ciid leh oo leh wabiyada xeebta ee abuura marin biyoodyada iyo biyo fadhiisnada muhiimka u ah oo jawiga kalluunka. Waaxda kalluumeysiga ee Laybeeriya waxay ka kooban tahay kalluumeysiga balaadhan, kalluumeysiga xayawaan badeedka, iyo kalluumeysiga quuto-daruuriga. Kalluumeysatada yaryari waxay caadiyan ku kalluumeystaan huuri iyagoo isticmaalaya hababka jilaabka, shabagyada afargeeska ah iyo shabagyada goobada ah. In kastoo hababka iyo qalabka kalluumeysiga uu la mid yahay kuwa Bariga Afrika, haddana noocyada xayawaanka ee la bartilmaameedsado way ka duwanyihiin maadama aanay bay'ada baddu ka jirin Robertsport. Ka caasimad ahaan, Rubeertisboort waxaa loo tixgeliyaa hanti dawladeed, taasoo macnaheedu yahay in kalluumeysigu uu u furan yahay dhammaan kalluumeystada, laakiin waa inay iska diiwaan galiyaan Taliyaha Badda. Inkasta oo khilaafka u dhaxeeya kalluumeysatada uu ka jiro Laybeeriya haddana isku dhacu weli wuu hooseeyaa Rubeertisboort iyo bulshooyinka ku hareeraysanba.

### CASHARADA LA BARTAY

Daraasad xaaladeeda Rubeertisboort waxay muujinaysaa faa'idada ka qaybgalka bulshada ee maamul-wadaaga waxtarka leh iyo xaddidaadaha [sharci] fulinta bulshada. In kastoo bulshada lagu xoojiyay inay ka qeybgalaan doorashooyinka haddana may ahayn mid wax ku ool ah oo [sharciga] lagu fulinayo xad-gudubyada halista ah ee saameynaya quuto-daruuriga dadka kale ee deegaanka ah. Waxa muhiim u ah xubnaha bulshada ee ay noloshooda saameyn ku yeeshen xeerarka cusub in la qaabilo oo la magdhawo iyo fulinta ay taageeraan hay'adaha qaranku.

### Waxyaabaha Ay Iska Matalaan Soomaaliya

- Taariikh gumeysi
- Heerar sare ee musuqmaasuq dowladeed iyo kalsooni la'aan
- Quuto-daruuriga dadka deegaanku waxay ku tiirsan tahay kalluumeysiga
- Awood fulin heer qaran oo yar
- Heerar sare oo ah kalluumeysiga sharci-darrada ah
- Kalluumeysi furan kahor intii aan la fulin hirgelinta maamul-wadaaga
- Awood qaranka dhexe oo hooseeysa
- Doomaha kalluumeysiga ee caadiga ah ee aan tegin meelo fog
- Maareynta khayraadka waxay ku xiran tahay diinta/aaminsanaanta dhaqanka
- Isku dhac/xiisado u dhaxeeya kalluumeysatada ajaanibka ah ee yaryar
- Door adag oo ay leeyihiin maamul dhaqameedku
- Dagaalkii sokeeye oo dhawaan dhacay
- Inta badan hawlaha heerka labaad waxa sameeya dumarka (diyaarinta, suuq-geynta, iwm.)
- Kalluumeysiga tabadinta (Tuunada) waxa inta badan kalluumeysta kalluumeysatada ajanabiga ah

### Key Differences from Somalia

- Kalluumeysiga jasiiradaha
- Isticmaal kalluun oo sareysa
- Dumarku si toos ah ayay ugu lug leeyihiin hawlaha kalluumeysiga sida kalluumeysiga
- Kalluumeysiga qaraxa la adeegsanayo ayaa caadi ahaa
- Kalluumeysiga weyn ayaa sidoo kale jira
- Door weyn oo ay qaybta ganacsiga ee gaarka loo leeyahay ay ku leeyihiin kalluumeysiga

## Nooca maamul-wadaaga: Wadashaqeyn

QAAB DHISMEEDKA  
DAWLADDA



Qaab dhismeedka

Guddi fulin oo la doortay  
Koox la iskusoo ururiyay/  
Golle  
Guddi-hoosaadyo



Maalgelinta

Maalgelinta deeq-  
bixiyeyaasha  
Khidmadaha xubinnimada  
cutubyada maamul-wadaaga



Hawlaha Maareynta

Aruurinta xogta kalluumeysiga  
Dhaxdhaxaadinta khilaafaadka  
Kormeerida hirgelinta/u hogaansanaanta  
Maareynta Ganacsiga  
Udood xuquuqda kalluumeysatada



Qaab-dhismeedka Sharciga &  
Dukumintiyada Aasaasiga ah

Xeer hoosaadyada deegaanka  
Qaab-dhismeedka kormeerka  
iyo qiimeyntaframework  
Qorshayaasha maalgelinta  
Qorshaha maamul-wadaaga

DANEYAYAASHA

## Koobaad



Kalluumeysatada  
Mulkiilayaasha  
doomaha  
Shaqaalaha doomaha



Ganacsatada  
Diyaariyayaasha  
Gaadiidka kalluunka



Hay'adaha  
Dawlada  
Qaranka

## Labaad



NGO-yada/IGO-  
yada  
Waaxda gaarka loo  
leeyahay  
Seynisyahanada  
Kalluumeysatada  
qaxootiga/xilliyada/  
dibada

WAXQABADYADA  
ISBEDDELKA



Sahano seynis  
ah oo la  
sameeyo  
ka hor aasaasida

Sahanka kheyraadka badda  
Sahanka dhaqaalaha  
bulshada  
Tusmada/gundhiga  
kalluumeysiga



Hawlaha  
abaabulida  
bulshada  
inta lagu jiro aasaasida

Kulanada maamul-wadaaga ururka  
Shirarka bulshada dhamaanteed



Waxbarashada  
deegaanka iyo hawlaha  
dhisida awooda  
inta lagu jiro iyo kadib aasaasida

Tababar ku saabsan  
maareynta/abuurida  
qorshayaasha maareynta

HIRGELINTA  
MAAMUL-WADAAGA



Faa'idooyinka

Saameyn ballaaran oo ay bulshadu ku yeelato  
isticmaalka khayraadka  
Korodhka u hogaansanaanta  
Faa'idooyinka lacageed (helitaanka deynta, awoodda  
gorgortanka)

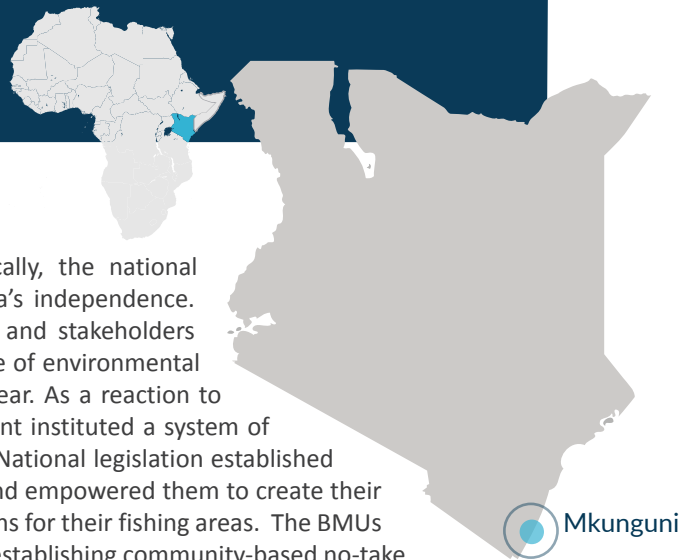


Caqabadaha

Kalsooni la'aanta u dhaxaysa bulshada iyo dawlada  
U hogaansanaan liidata  
Isgaadhsiin xumo u dhaxeysa kooxaha ku jira (ururka maamul-  
wadaaga, dawlada, iwm)



## KENYA MKUNGUNI



### NATIONAL CONTEXT

Though fisheries in Kenya had traditionally been managed locally, the national government took over fisheries management in 1989 after Kenya’s independence. This newly centralized system had little input from local fishers and stakeholders and resulted in major fisheries declines and near-collapses because of environmental damage, fishing conflicts, and the use of illegal and destructive gear. As a reaction to the negative results of the national system, the Kenyan government instituted a system of co-management in 2006 called beach management units (BMUs). National legislation established these local management mechanisms on the Indian Ocean coast and empowered them to create their own federally approved bylaws, including boundaries and protections for their fishing areas. The BMUs govern fishing, but often go a step further toward conservation by establishing community-based no-take marine reserves. Though they are not always successful at increasing fish biomass (and therefore, catch), the ability to establish these protections is a useful tool for the local fisheries managers. When they are complied with, the no-take reserves yield positive results for the marine ecology and thus for the fishers. Though the initial reaction of fishers to this co-management approach was skepticism, over time that diminished. Most fishers saw the BMUs as having no negative effect on their livelihood, and some said they were beneficial.

### CASE STUDY PROFILE

Much of the following information is based on the co-management five-year plan for Mkunguni BMU developed by CORDIO East Africa, State Department of Fisheries, and United Nations Development Programme (UNDP). Mkunguni is a fishing village on the coast of Kenya, approximately 55 miles south of Mombasa, Kenya’s largest coastal city. The BMU represents five villages which together have 11,000 households, primarily of the Digo tribe, one of the Bantu groups in Kenya. They are historically traders, farmers, and fishers. The ocean near shore supports coral reefs, seagrass, mangroves, and other important habitats that hold a high diversity of fishes, including the commercially important rabbitfish that breeds near Mkunguni. The Mkunguni BMU manages about 150 fishers that are considered either “dominant local” or “resident migrants.” They use a variety of fishing gear like traps, nets, and lines to catch demersal fishes, pelagic fishes, and invertebrates. The BMU has implemented some management measures regarding gear and fishing area restrictions to conserve the important fisheries and livelihoods in the area.

### LESSONS LEARNED

Though high levels of community involvement give local people more ownership over the resources, the government must remain involved and supportive of community activities to avoid shifting the full cost and capacity of enforcement onto the community.

#### Key Differences from Somalia

- Inland fisheries
- Greater peace and stability
- Higher fish consumption
- Better fishing infrastructure
- Active tourism industry
- No tradition of locals having rights to control fishing access
- Well-established government institutions

#### Key Similarities to Somalia

- Colonial history
- High levels of government corruption and lack of trust
- Local people depend on fishing for their livelihoods
- Little national-level enforcement capacity
- High levels of illegal fishing
- Open-access fisheries before co-management implementation
- Low centralized national authority capacity
- Little financial support for fishing from the government. Funding is dependent on donors
- Main catch and marine habitats are similar for both countries
- Low cold chain capacity
- Artisanal fishing, especially gillnets, are the main fishing activity
- Traditional fishing vessels that do not go far offshore
- No parity between local and national regulations/laws

Co-management Type: Advisory

GOVERNANCE  
STRUCTURE



Structure

Elected executive committee  
*Assembly/committee*  
Sub-committees



Legal Framework & Foundational Documents

Local bylaws/rules  
Monitoring & evaluation framework  
Financing plans  
Co-management plan  
National registration  
*Fisher membership requirement*



Funding

Registration/permit fees  
Tourism fees  
Donor funding



Management Functions

Set fishing areas/boundaries  
*(either exclusive or collaborative areas)*  
Enforcement/compliance monitoring  
Ban gear  
Restrict access to certain people  
Collect fees for tourism  
Establish bylaws  
Establish management plan  
Monitoring and Evaluation  
Promote sustainability  
Business management  
Issue permits/licenses  
*Protect areas*  
*Education*

STAKEHOLDERS

Primary



Fishers  
Boat Owners  
Boat Crew  
*Boat builders & repairers*  
*Net menders*  
*Tour operators*



Traders  
Processors

Secondary



*National Government Agencies*  
County/district Government  
Local/village Government  
Community members  
*Local tribes/tribal chiefs*



*NGOs/IGOs*  
Private Sector  
Scientists

CHANGE AGENT  
ACTIVITIES



Scientific surveys conducted  
*pre-establishment*

Marine resource survey  
(reef field survey)  
Socioeconomic survey  
Traditional management assessment



Community organizing activities  
*during establishment*

Co-management organization meetings  
Involvement of surrounding communities  
*Full community meetings*



Environmental education & capacity building activities  
*during & post-establishment*

Training on management/creating management plans  
Survey results presented to community  
*Training on conservation*  
*Training on health and safety*  
*Training on data collection*

CO-MANAGEMENT  
IMPLEMENTATION



Benefits

*Greater community influence over resource use*  
Reduced illegal fishing  
Improved infrastructure and capacity  
*Increased fish biomass (with protected areas)*

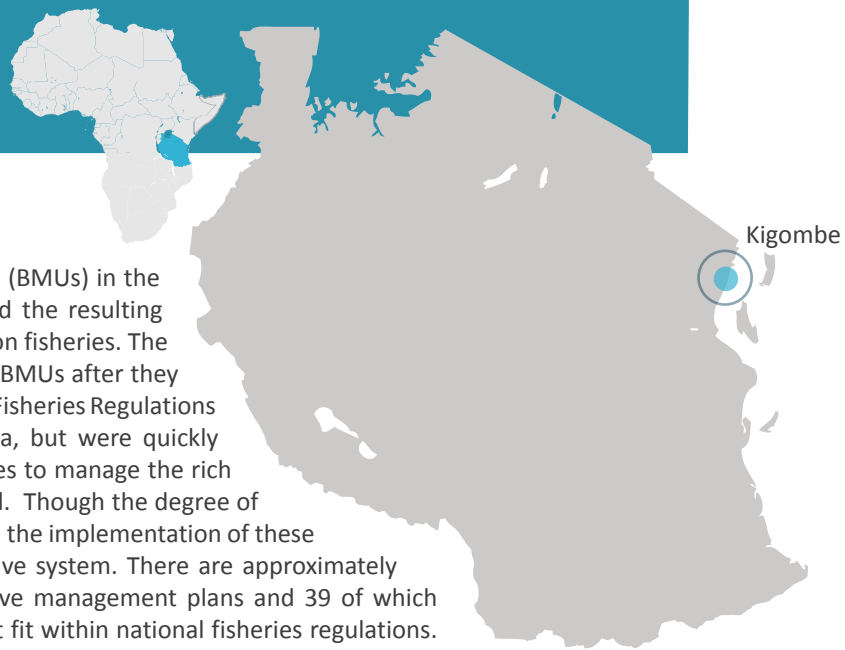


Challenges

Poor compliance  
*Enforcement challenges*  
*Lack of funding*  
*Increased fishing effort (instead of effective management)*  
*Lack of institutional memory after training*  
*High turnover of leadership*

# TANZANIA

## KIGOMBE



## NATIONAL CONTEXT

Tanzania implemented local beach management units (BMUs) in the early 2000s as a reaction to declining fish stocks and the resulting livelihood security issues for communities depending on fisheries. The central government encouraged the establishment of BMUs after they amended Fisheries Act No. 22 of 2003 and enacted the Fisheries Regulations of 2009. BMUs began on the shores of Lake Victoria, but were quickly promoted as a useful tool for coastal Tanzanian villages to manage the rich coral reef environment on which many people depend. Though the degree of community participation varies depending on location, the implementation of these legislations marked a shift toward a more collaborative system. There are approximately 179 BMUs on the coast of Tanzania, 68 of which have management plans and 39 of which have bylaws approved by the federal government that fit within national fisheries regulations. Fish comprise approximately 30 percent of protein consumption in Tanzania and 10 percent of the country's exports. Coastal communities, however, depend on the marine environment for the majority of their livelihood options.

## CASE STUDY PROFILE

Kigombe is an example of a successful implementation of co-management that was facilitated by external actors, specifically non-governmental organizations working in the Tanga region of northern coastal Tanzania. Kigombe village is home to about 4,000 people. There are around 100 licensed fishers and 80 boats. The waters of this region contain productive ecosystems including coral reefs, seagrass beds, and mangroves that support a wide variety of species. As a result, the main source of income for Kigombe men is fishing for finfish, and for women, gleaning the reef for shellfish, octopus, and sea cucumbers, and more recently, farming seaweed. Though the environment is conducive to productive fisheries, degradation of these habitats from dynamite fishing, clearing of mangrove forests, and bottom trawling over seagrass beds has led to declines in catch, alerting the community to the need for more robust fisheries management than was being provided by the central government.

## LESSONS LEARNED

Making an effort to include the women in the fishing sector in co-management activities improves community participation which in turn leads to increased adherence to conservation and management regulations. But community members must be careful to communicate well with the government and focus on high-priority issues in order to ensure success.

### Key Differences from Somalia

- Inland fisheries
- Greater peace and stability
- Environmental damage/overfishing driving shift to local management
- Women involved directly in fishing activities like gleaning, and seaweed farming
- Before independence, the government was not involved in local matters
- Dynamite fishing common

### Key Similarities to Somalia

- Colonial history
- High levels of government corruption and lack of trust
- Local people depend on fishing for their livelihoods
- Little national-level enforcement capacity
- High levels of illegal fishing
- Low centralized national authority capacity
- Little financial support for fishing from the government. Funding is dependent on donors
- Main catch and marine habitats are similar for both countries
- Low cold chain capacity
- Artisanal fishing, especially gillnets, are the main fishing activity
- Northern coastal communities are primarily Muslim
- Prior socialist system
- Few conservation areas or ongoing efforts
- Little tourism

Co-management Type: Consultative

GOVERNANCE  
STRUCTURE



Structure

Assembly



Funding

Catch Revenue  
Taxes on catch

Fisher fees  
Vessel fees



Management  
Functions

Set fishing areas/boundaries  
(either exclusive or collaborative areas)

Establish management plan

Catch Data Collection

Monitoring and Evaluation

Conflict mitigation

Impose penalties

Enforcement/compliance monitoring

Collect fees for tourism

Contribute to national legislation/policies

Establish bylaws



Legal Framework & Foundational Documents

Local bylaws

National registration

Monitoring and evaluation framework

Resource management plan

Financing plans

Collaborative management areas with neighbors

STAKEHOLDERS

Primary



Fishers

Gleaners

Seaweed farmers



District government

Secondary



National Government Agencies

County/district Government

Local/village Government



NGOs/IGOs

Other external co-management organizations

CHANGE AGENT  
ACTIVITIES



Scientific surveys conducted

pre-establishment

Marine resource survey

Socioeconomic survey

Traditional management assessment

Fishing profile/baseline



Community organizing activities

during establishment

Involvement of surrounding communities

Meetings with local government



Environmental education & capacity building activities

during & post-establishment

Training on management/creating management plans

Survey results presented to community

CO-MANAGEMENT  
IMPLEMENTATION



Benefits

Greater community influence over resource use

Increased compliance

Reduced illegal fishing

Improved infrastructure and capacity

Increased data collection

More inclusive system, especially of women

Increased government accountability



Challenges

Lack of trust between community and government

Officials do not involve locals enough

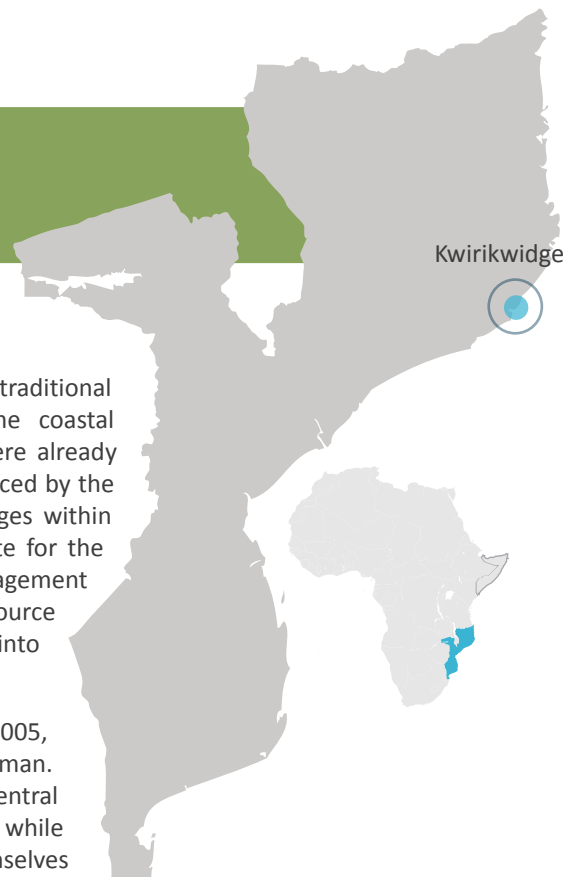
Poor communication among involved groups (co-management org, gov, etc.)

Funding given, but little community engagement

Unrealistic expectations of government

# MOZAMBIQUE

## KWIRIKWIDGE VILLAGE



### NATIONAL CONTEXT

Before Mozambique’s independence in 1975, its fisheries were governed by traditional community chiefs and were restricted to community members. In some coastal communities, informal and multi-stakeholder co-management of fisheries were already present. After independence, more formal governance structures were introduced by the federal government, including for fisheries management. This led to challenges within the communities and tensions with respected traditions. In 1996 the Institute for the Development of Small-Scale (Artisanal) Fisheries (IDPPE) introduced co-management in Mozambique with the establishment of community committees on resource management and co-management units that were officially incorporated into national law in 2003.

Mozambique established 73 co-management committees between 1997 and 2005, with five committees in the Angoche district comprised of 52 men and one woman. The units are described as mostly top-down or instructive units. From the central government’s perspective, the units decreased the burden of enforcement, while local fishers sought involvement in order to mitigate conflict between themselves and immigrant fishers and industrial prawn fishers. Poverty and overfishing were also motivations for local fishers to become more engaged.

### CASE STUDY PROFILE

Kwirikwidge is located in northern Mozambique in the Angoche district of Nampala province. Around 600 fishers and 100 owners of boats or gear live in the village. Most of the fishers living in Kwirikwidge originally came from neighboring villages. The religion is predominantly Muslim (53 percent), and traditional or spiritual beliefs play a strong role in the community and fisheries management. The main language is Emakhuwa. Local leadership consists of a chief, religious leaders, and direct counselors, with the traditional chief enforcing law and order. Traditional authorities are highly respected and influential—more so than formal authorities. Kwirikwidge is home to coral reefs, and its artisanal fishers catch primarily anchovies, sardines, prawns, and goatfish. Beach seines comprise 70 percent of artisanal fishing methods. Almost all catch is commercially sold, mostly in the city of Angoche; only 5 percent is for subsistence.

### LESSONS LEARNED

Fishers are consulted in fisheries management and notable decisions have been made to their benefit, but decision-making is concentrated between boat and gear owners and government. While this process has amplified the voices of fishers, this decision-making structure may be perceived as elitist and may be less effective at influencing the behavior of resource users.

#### Key Differences from Somalia

- Inland fisheries
- Greater peace and stability
- Higher fish consumption
- Better fishing infrastructure
- Environmental damage/overfishing driving shift to local management
- Migrant fishing population
- Language differences between government and locals
- Large export market

#### Key Similarities to Somalia

- Colonial history
- High levels of government corruption and lack of trust
- Local people depend on fishing for their livelihoods
- Little national-level enforcement capacity
- High levels of illegal fishing
- Open-access fisheries before co-management implementation
- Little financial support for fishing from the government. Funding is dependent on donors
- Main catch and marine habitats are similar for both countries
- Coastal communities are primarily Muslim
- Prior socialist system
- Resource management tied to religious/traditional beliefs
- Conflict/tension between artisanal domestic foreign fishers
- Strong role of traditional authorities
- Recent civil war
- Low literacy and education levels, especially among women

Co-management Type: Consultative

GOVERNANCE  
STRUCTURE



Structure

Elected executive committee  
Assembly



Funding

Donor funding  
Registration/permit/licence fees  
Fines for illegal activities  
Fees for external fishers



Management Functions

Set fishing areas/boundaries (either exclusive or collaborative areas)  
Catch Data Collection  
Conflict mitigation  
Ban gear  
Restrict access to certain people  
Contribute to national legislation/policies  
Promote sustainability  
Issue permits/licenses  
Set fishing times of day and/or seasons



Legal Framework & Foundational Documents

STAKEHOLDERS



Boat Owners  
Gear Owners



Traders  
Processors  
Traditional Community Leader



National Government Agencies



NGOs/IGOs  
Private Sector  
Scientists  
Community members  
Immigrants/seasonal/external fishers

CHANGE AGENT  
ACTIVITIES



Scientific surveys conducted  
*pre-establishment*

Traditional management assessment



Community organizing activities  
*during establishment*

Co-management organization meetings  
Involvement of surrounding communities



Environmental education & capacity building activities  
*during & post-establishment*

Technical assistance



Benefits

Greater community influence over resource use  
Increased compliance  
Financial benefits (access to credit, bargaining power)

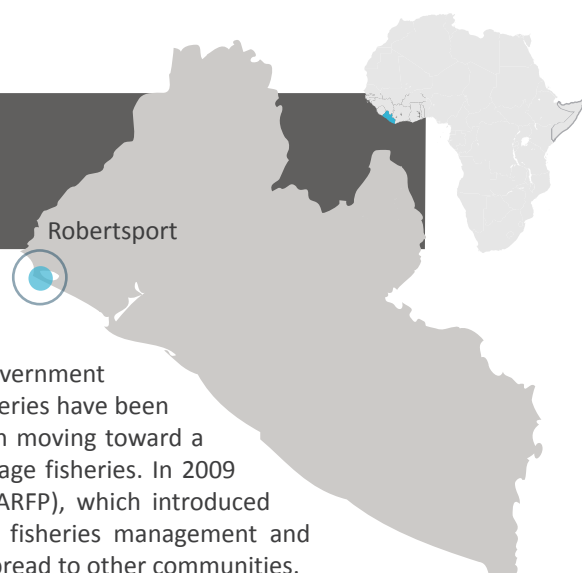


Challenges

Lack of trust between community and government  
Officials do not involve locals enough  
Only benefits active members

CO-MANAGEMENT  
IMPLEMENTATION

## LIBERIA ROBERTSPORT



### NATIONAL CONTEXT

In Liberia, rampant depletion of resources and a violent civil war left the government unable to adequately manage the nation's fisheries. Traditionally, Liberia's fisheries have been open-access and unregulated. The national government became interested in moving toward a more decentralized system of sharing power with local communities to manage fisheries. In 2009 the World Bank developed the West Africa Regional Fisheries Program (WARFP), which introduced co-management and territorial use rights for fisheries (TURFs) to improve fisheries management and enforcement. Co-management was piloted in RobertSPORT and subsequently spread to other communities.

### CASE STUDY PROFILE

RobertSPORT is the capital of Grand Cape Mount County and has a population of about 7,000. The coast is a sandy shoreline with coastal rivers that create estuaries and lagoons that are important spawning habitats for fish. Its fisheries sector is comprised of artisanal and industrial (primarily shrimp) fisheries. Artisanal fishers fish in canoes using hook and line, gillnet, and purse seine methods. Though the gear and fishing methods are similar to those in East Africa, the target species are different as no coral reefs exist off RobertSPORT. As the capital, RobertSPORT is considered government property, meaning that the fisheries are open-access for all fishers, but they must register with the Sea Chief. While conflict between fishers exists in Liberia, conflict levels are still relatively low in RobertSPORT and the surrounding communities.

### LESSONS LEARNED

The RobertSPORT case study displays the utility of community participation in effective co-management and the limitations of community enforcement. While the community was empowered to participate through elections, it was not effective at enforcement for more serious infractions that impinged on the livelihoods of other locals. It is important for community members whose livelihoods are impacted by new regulations to be accommodated and compensated and for enforcement to be supported by national institutions.

#### Key Differences from Somalia

- Inland fisheries
- Higher fish consumption
- Women involved directly in fishing activities like fishing
- Migrant fishing population
- Industrial fisheries are also present
- Large role of private sector in fisheries

#### Key Similarities to Somalia

- Colonial history
- High levels of government corruption and lack of trust
- Local people depend on fishing for their livelihoods
- Little national-level enforcement capacity
- High levels of illegal fishing
- Open-access fisheries before co-management implementation
- Low centralized national authority capacity
- Traditional fishing vessels that do not go far offshore
- Resource management tied to religious/traditional beliefs
- Conflict/tension between artisanal domestic foreign fishers
- Strong role of traditional authorities
- Recent civil war
- Majority of secondary activities are done by women (processing, marketing, etc.)
- Tuna fishery dominated by foreign fishers

Co-management Type: Cooperative

GOVERNANCE  
STRUCTURE



Structure

Elected executive committee  
Assembly  
Sub-committees



Funding

Donor funding  
Co-management unit membership fees



Management Functions

Catch Data Collection  
Conflict mitigation  
Enforcement/compliance monitoring  
Business management  
Advocate for fisherfolk



Legal Framework & Foundational Documents

Local bylaws  
Monitoring and evaluation framework  
Financing plans  
Co-management plan

STAKEHOLDERS



Primary

Fishers  
Boat Owners  
Boat Crew



Traders  
Processors  
Fish transporters



National Government Agencies



Secondary

NGOs/IGOs  
Private Sector  
Scientists  
Immigrants/seasonal/external fishers

CHANGE AGENT  
ACTIVITIES



Scientific surveys conducted  
*pre-establishment*

Marine resource survey  
Socioeconomic survey  
Fishing profile/baseline



Community organizing activities  
*during establishment*

Co-management organization meetings  
Full community meetings



Environmental education & capacity building activities  
*during & post-establishment*

Training on management/creating management plans

CO-MANAGEMENT  
IMPLEMENTATION



Benefits

Greater community influence over resource use  
Increased compliance  
Financial benefits (access to credit, bargaining power)



Challenges

Lack of trust between community and government  
Poor compliance  
Poor communication among involved groups (co-management org, gov, etc.)





PROJECT BADWEYN PAPER SERIES:

# SOMALI COASTAL DEVELOPMENT OPPORTUNITIES



**SECURE FISHERIES**

Advancing Sustainable Fisheries

*a program of One Earth Future*

PROJECT BADWEYN PAPER SERIES:

# SOMALI COASTAL DEVELOPMENT OPPORTUNITIES

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Ahmed-Yasin Osman Moge

Kaija J. Hurlburt

July 2018

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Cover Image: A Somali fisher carries a sailfish to Mogadishu's fish market. AU-UN IST Photo/Stuart Price  
All satellite images from Google Earth.

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## EXECUTIVE SUMMARY

Somali fisheries offer great potential for growth to improve coastal livelihood security. The Federal Government of Somalia, regional governments, and the international community have prioritized coastal industries, especially fisheries, in their planned development efforts. Previous and current efforts have been predominantly concentrated in the most populated coastal cities, but there are many opportunities to create projects in underserved areas that will improve local food and economic security while delivering long-term benefits and positive returns on investment. This report outlines a science-based method for identifying favorable locations for fishing-sector investments. We use local knowledge of fisheries and sector needs to describe an approach to developing fisheries while maintaining the health and resilience of the resources to ensure future economic security.

In this report, we use fisheries landing site data derived from satellite imagery and overlay current international development projects to identify locations where new developments could have a large impact. We focus on areas that, to date, have not received significant investment or development assistance but have access via a road. We chose six communities for further research on livelihoods and fisheries. We combined fish catch estimates, measures of their sustainability, and information on foreign fishing to create a fishing profile of each community.

Our research finds that Somali fishing communities need:

- improvements to civic infrastructure like roads;
- expansion of fishing infrastructure like freezers, ice makers, and processing facilities;
- better access to the ocean through jetties or docks;
- investment in skills like hygienic fish processing;
- a robust system for collecting, storing, and reporting catch data;
- integration of women's associations in trainings and decision-making;
- an expanded role for fishing cooperatives to build sector stability;
- markets for underutilized, sustainably fished products;
- systems to identify and report illegal fishing; and
- education and management measures to divert effort toward more sustainable fisheries.

*Looking out on Berbera harbor, Jean-Pierre Larroque*



Our case studies span multiple states in the Somali region and show that while the overarching needs of coastal communities are similar, there are different opportunities among locations based on the main catch in an area, regional differences in fisheries management and governance, and the local security situation. The case study locations and their primary opportunities for development are as follows.

### ***Bereda***

- A jetty or dock to serve local fishers and traders coming from nearby countries
- Education about the ban on lobster fishing in Puntland and why it is important to the future viability of the lobster fishery, and implementation of more sustainable fishing practices

### ***Hordio***

- Installation of sources of reliable and renewable energy for the community
- A market for sustainably caught sardines for human consumption or use in local farming as animal feed or fertilizer

### ***Bander Beyla***

- Implementation of a fish catch data collection system in conjunction with the fishing cooperative, women's association, and regional and federal government authorities
- Education around identifying and reporting illegal fishing

### ***Maydh***

- Improved fishing infrastructure and a paved road between Maydh and the regional capital, Erigabo
- Encouraging a shift in fishing practices to target more sustainable but still lucrative species like jacks and trevallies

### ***Hawaay***

- Investment in freezers and processing facilities coupled with facility maintenance trainings
- Education about hygienic fish processing including the salting and drying of fish

### ***Merca***

- Increased area security and improved civic infrastructure to allow efficient transportation of fish products to nearby Mogadishu

Overall, this new approach to identifying Somali coastal development opportunities can guide international donors and private investors in order to ensure that future projects increase the resilience of Somali communities while maximizing project impact.



## I. INTRODUCTION

The Somali coast has long been considered an area of opportunity for economic growth. Development plans from Somali federal and regional governments identify expanding the fisheries sector as a major goal with the potential to improve food and economic security in coastal communities. International aid groups have also turned their attention to fisheries as a growing sector with significant investment potential. Both the government and development groups concentrate their efforts in the most populated coastal areas. Our research highlights the potential to expand these efforts to other coastal communities that have similarly abundant fisheries resources and a fishing community but limited access to financial and development support.

Current efforts to develop domestic fisheries along the Somali coast concentrate predominantly on the most populated coastal cities like Berbera, Bosasso, and Mogadishu. These locations draw international attention and support for many reasons. First, higher population numbers mean investments will impact a greater number of recipients. Second, ease of access is favorable, in terms of infrastructure, including major roads and airports, and security options that enable donors and implementors to travel to and operate in these areas safely. Third, demand for fish is greater. International development projects often have constricted budgets and timelines, so executing efforts where access is easy and where positive impact will be large and most immediate is important for demonstrating return on investment.

However, our research identifies opportunities to expand efforts to underserved communities that stand to realize significant gains from increased donor attention and support for their fishing sectors. Distributing fishing efforts along the coast and strengthening the value chains in more remote areas can help fulfill market demand in the cities while avoiding depletion of local fish populations in the most heavily fished areas. This will also support a wider range of people throughout the country, including in more remote coastal areas.

In any location, lasting growth and the long-term success of developments hinge on balancing increased fishing-sector efficiency with management of the fisheries to ensure fish populations can withstand exploitation over the long term. Appropriate management measures depend on scientific assessments of the species caught most frequently by both domestic and foreign fleets. This information can orient new efforts toward abundant fisheries, reducing competition between local and foreign fishers.



Though data are currently insufficient for a comprehensive scientific assessment of the health of Somali fisheries, existing tools can inform decisions on where and how fisheries development should proceed. This report provides a framework for a science-based needs assessment and includes examples of its use in six localities. The approach recommended here is based on ecological principles and local knowledge that can inform development work to ensure projects benefit Somalis in both the short and long term; in the short term through directed and focused effort, and in the long term through ecosystem sustainability that supports healthy fish populations for reliable future exploitation.

Our approach uses publicly available data to identify locations with potential for growth in order to inform future development efforts and governance measures in underserved regions. The initial assessment is based on landing site sizes, recent development project locations, and reconstructed fish catch measurements in Somali waters. We then focus on six locations spanning Puntland, Somaliland, Hirshabelle, and South West Somalia as case studies assessing the benefits and drawbacks of establishing projects in these places. We use local knowledge from fishers, ministry officials, and international aid workers to give local context to our assessment results and guide our identification of development opportunities in each place.



*A Somali man pushes a barrow loaded with freshly caught fish from the Indian Ocean towards Mogadishu's fish market. AU-UN IST Photo/Stuart Price*

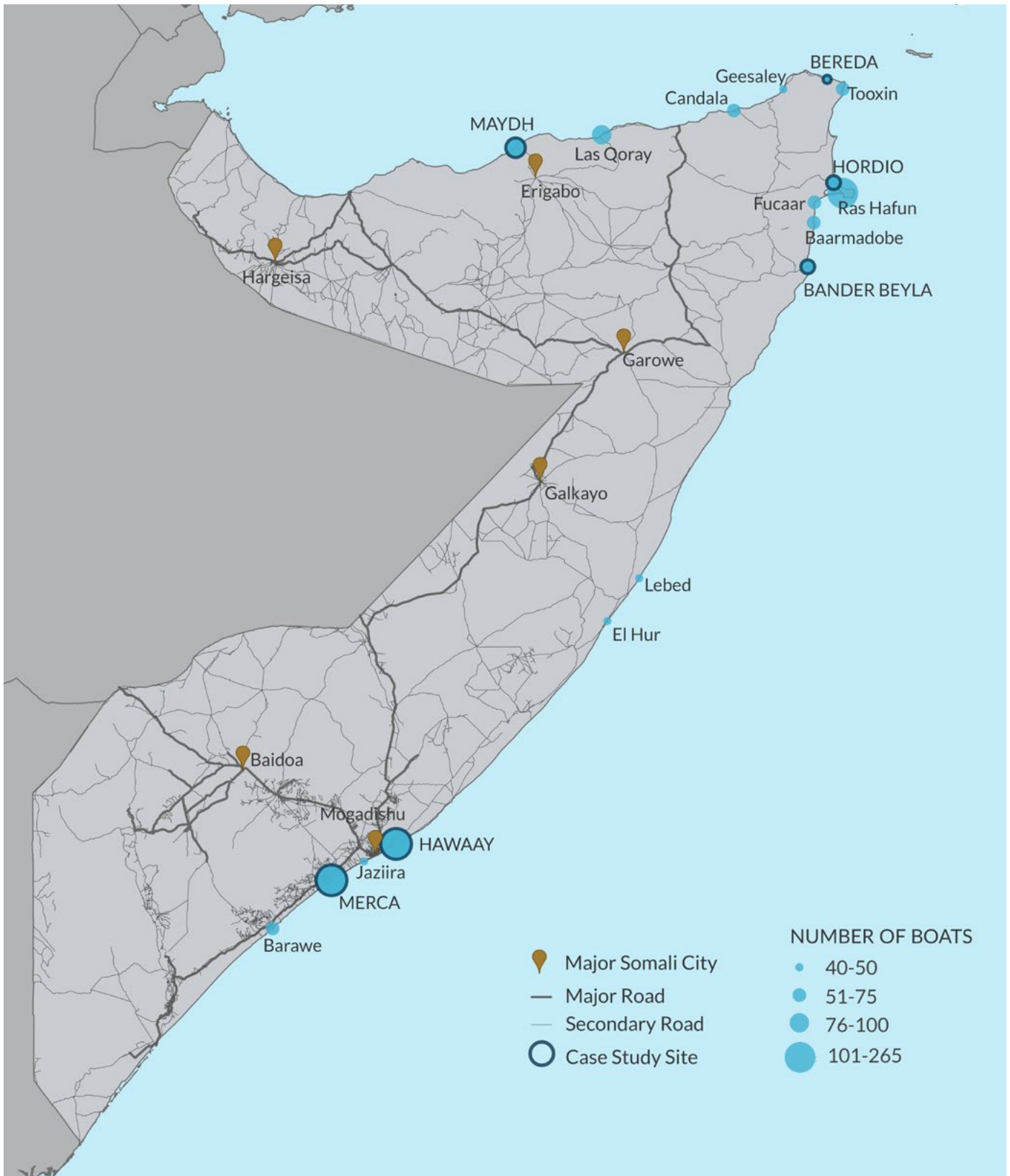
## Somali Development Plan Goals for the Fishing Sector

The Somali Federal Ministry of Fisheries and Marine Resources outlined the major needs of the Somali fishing sector in the *National Development Plan*<sup>1</sup> and the *Somali Fisheries Development Framework 2018–2020*.<sup>2</sup> These needs are

1. **INFRASTRUCTURE** for access to the fishery and quality assurance including landing facilities, ice makers, cold storage, processing facilities, training facilities, and transportation for seafood products;
2. improved **SKILLS** leading to increased employment, especially among youth, women, and internally displaced persons;
3. **FISHERIES GOVERNANCE** including fisheries laws, regulations, and institutions at the federal, regional, and local levels;
4. **ENFORCEMENT** capacity and frameworks to address illegal, unregulated, and unreported (IUU) fishing;
5. **DATA COLLECTION** and assessment of fish stock status and sustainability;
6. **MARKET** expansion efforts increasing Somali fish consumption and the exporting of fish internationally; and
7. **INVESTMENTS** by the private and public sectors.



**FIGURE 1: COMMUNITIES WITH DEVELOPMENT POTENTIAL**



Donors, investors, and government decision-makers must translate each of these seven needs into plans of action for specific fishing communities. But fully understanding how to best address those needs through project development or support on a local scale is challenging when knowledge of underserved communities and the fisheries on which they depend is lacking. This knowledge gap can create a vicious cycle of neglect. The lack of knowledge leads to a lack of projects in underserved communities, and the lack of projects perpetuates the lack of attention to investment and development. Conversely, community-level information can support effective fisheries governance measures and guide investments that maximize impact and return.

This report describes each of these needs in six fishing communities. This localized approach is intended to support decision-makers from the government and the development community as they assess the opportunities for future projects in the fishing sector. In our identification of locations for potential growth, we consider each category above, identify gaps, and highlight priorities at a local scale.

## Methodology

### Initial Assessment

Three main data sources informed our initial identification of underserved locations:

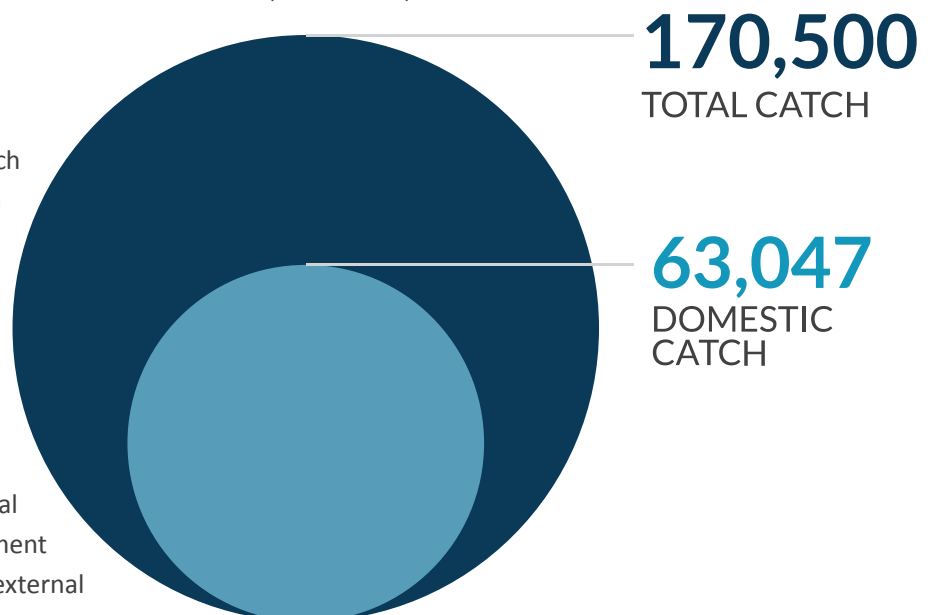
1. Landing sites derived from satellite imagery<sup>3</sup>
2. Current and recent development projects<sup>4</sup>
3. Primary and secondary roads<sup>5</sup>

Landing sites were limited to those with greater than 40 boats in order to focus on places where investments will affect the largest number of people and to eliminate sites that may be temporary or seasonal or that are not associated with a permanent settlement. This subset of sites was compared to the map of current development work. Because our goal is to identify new areas in need of assistance, landing sites that already have development projects were excluded from analysis. Though some towns may have more than one landing site, we grouped these by location (sites within 5 kilometers of each other) under the assumption that trainings, infrastructure projects, and governance efforts will be sufficient for the needs of the whole town.

This approach yielded a list of 17 towns for further analysis (Figure 1, blue circles). Each contains at least 40 boats, making them sizeable fishing communities according to satellite imagery. Our research did not discover any current development projects in these locations.<sup>6</sup>

Because this assessment is oriented toward development projects undertaken by international organizations, it is crucial that the towns where new development might be implemented are accessible by external

**FIGURE 2: TOTAL & DOMESTIC CATCH IN SOMALI WATERS (MT/YEAR)**



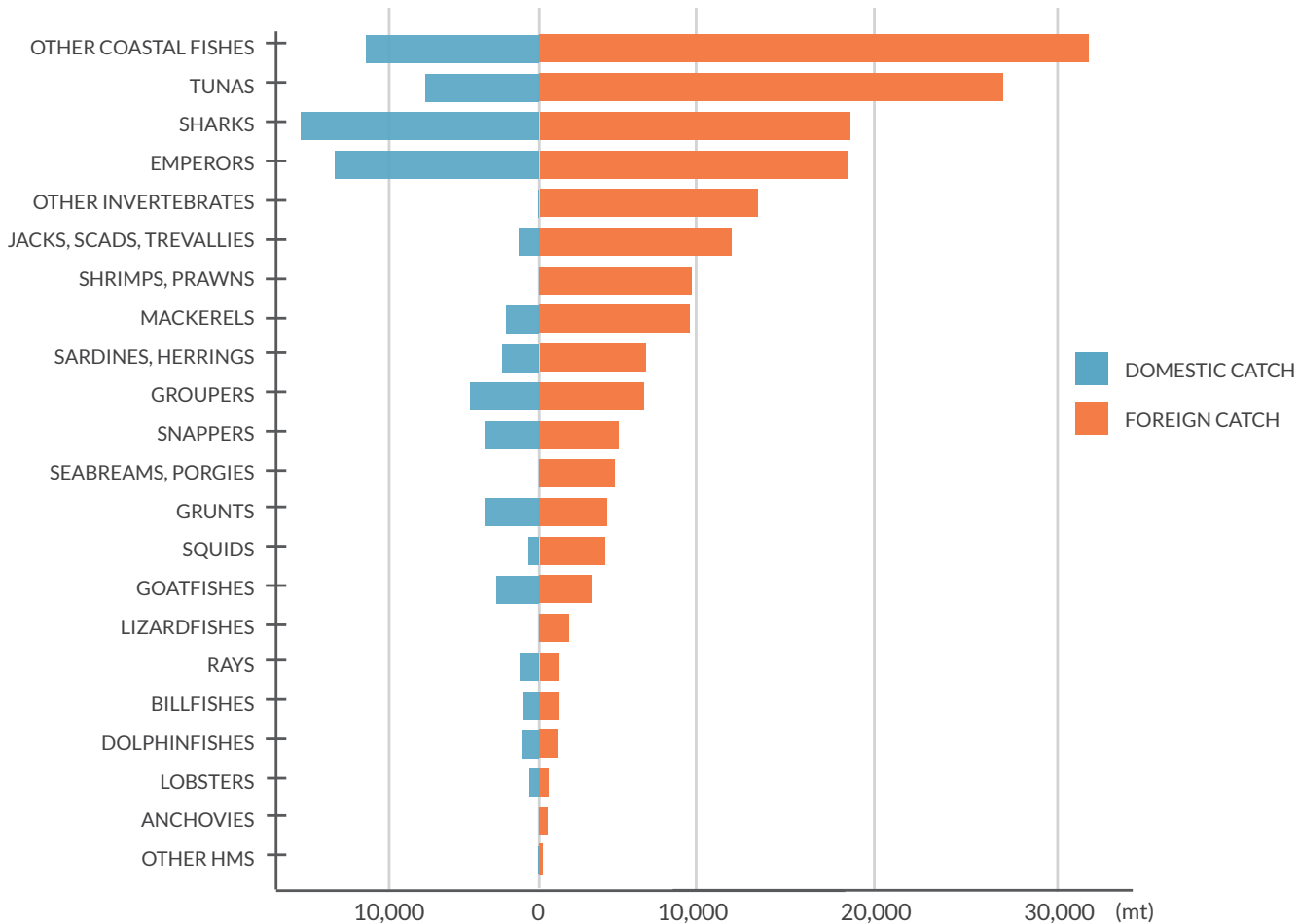
stakeholders arriving from other domestic or international locations. Five of these towns that host a large population of fishers (Tooxin, Ras Hafun, Fucaar, Baarmadobe, and Lebed) do not have adequate road access, which makes building infrastructure, collecting data, conducting trainings, and expanding markets difficult. More work on civic infrastructure like roads and airports is needed in these locations before significant work on fisheries can begin.

One important variable that we did not consider in our initial assessment is the security situation on the Somali coast. While security is vital to establishing a project in any location, we did not use it as a factor in our initial identification of sites because of its unpredictability. It is necessary to reassess the safety of a location continuously throughout a project, so using such a variable metric in our baseline analysis proved to not be worthwhile. Instead, we considered security in our identification of potential projects in the case study locations described below.

### Catch and Sustainability

There are no consistent catch data collection systems for Somali domestic fisheries. We therefore used the catch reconstruction by Secure Fisheries and the Sea Around Us project<sup>7</sup> to examine catch and fisheries sustainability in Somali waters. The Sea Around Us hosts downloadable catch data on its website<sup>8</sup> at a resolution of 0.5 × 0.5 degrees. These disaggregated data show the theoretical geographic distribution of catch (in metric tons, or mt) in Somali waters. It is important to note that though the numbers used and displayed throughout this report are the most accurate catch estimates available for Somali waters, they may not represent actual catch numbers. To account for this, we report the average of the most recent five years of data available (2010–2014) in order to generally show geographic catch distribution and species composition (Figure 3).

**FIGURE 3: FOREIGN AND DOMESTIC CATCH COMPOSITION**

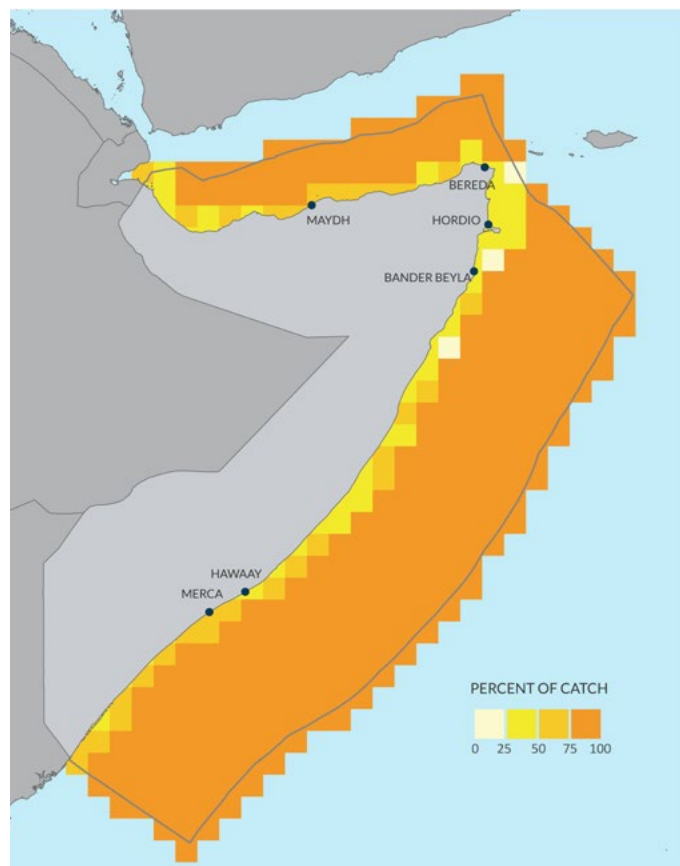


We further separated the gridded Sea Around Us data into each of the 20 fish species categories identified in *Securing Somali Fisheries*<sup>9</sup> as being the most commercially important. We assigned a sustainability designation to each category based on the sustainability analysis in *Securing Somali Fisheries*, assessed in 2014.

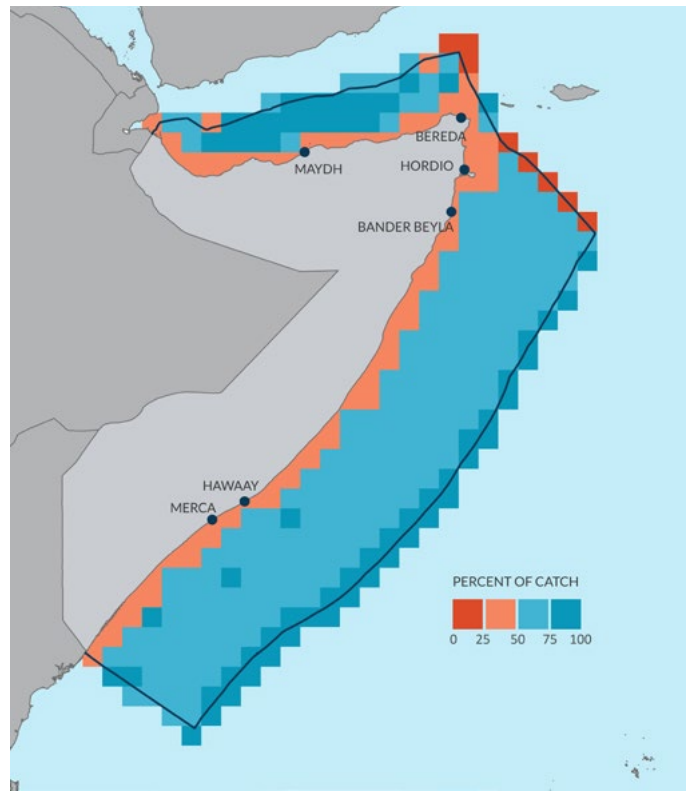
For each  $0.5 \times 0.5$ -degree cell within Somali territorial waters,<sup>10</sup> we determined the percent of total catch comprising sustainable species groups (Figure 4). We used the line delineating the claimed territorial waters from 1972 instead of the declared exclusive economic zone (EEZ) from 2014 because designating catch as foreign or domestic in the disputed areas of the EEZ is not possible. For data-deficient species groups, we assumed that half of the catch is sustainable and added that amount to the sustainable catch.

We also calculated the percentage of foreign and domestic fishing occurring in Somali waters (Figure 5), especially near the areas of interest for development. This is useful

**FIGURE 5: CATCH BY FOREIGN VESSELS**



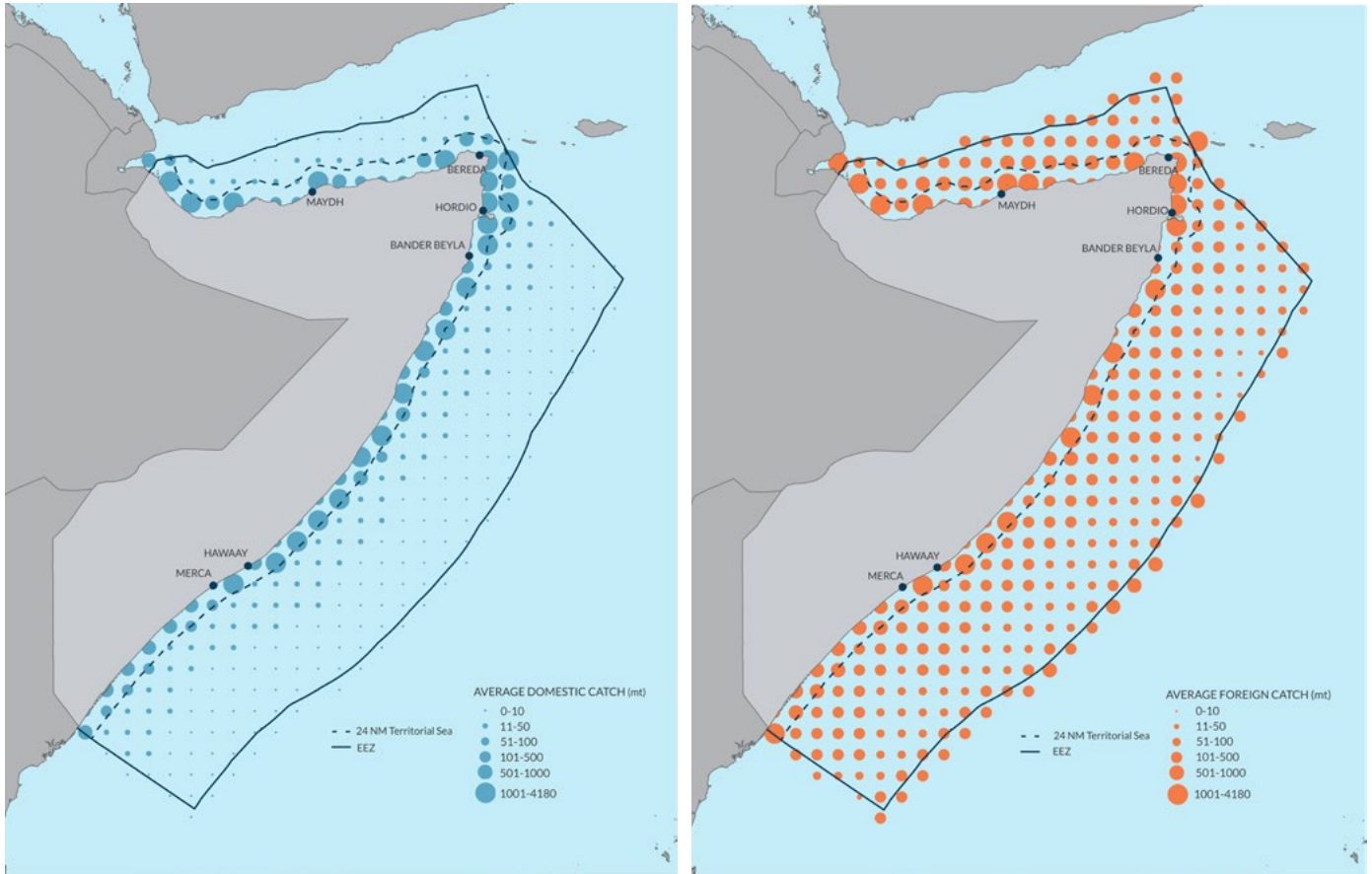
**FIGURE 4: PERCENT OF CATCH THAT IS SUSTAINABLE**



for determining where more attention and resources may be needed to support enforcement capacity and fisheries governance mechanisms in order to ensure local Somali needs and foreign fishing licensing revenues are prioritized. We used the same spatially disaggregated dataset to examine catch by domestic and foreign vessels (Figure 6).

Outside of 24 nautical miles (NM), the majority of fishing is by foreign vessels. Somali boats are generally small and better suited to fishing close to shore. Foreign vessels are generally larger and often target highly migratory species including tuna and billfishes (see Box I: Tunas in Somali Waters). As shown in the maps of domestic and foreign fishing (Figure 6), while Somalis do not fish far beyond the inshore fishing area, foreign vessels are fishing both outside and within that boundary. The waters within 24 NM are reserved for Somali fishers by federal law;<sup>11</sup> however, conflicting regional and federal laws, confusion over licensing jurisdiction, and lack of enforcement capacity mean foreign fishing is occurring near shore in direct competition with Somali fishers.

**FIGURE 6: SPATIAL DISTRIBUTION OF CATCH IN SOMALI WATERS**  
DOMESTIC CATCH FOREIGN CATCH



## Case Study Locations

Based on our analysis, we chose as case studies six sites that have both many fishers and road access to a town. The types of fishes caught vary among the six sites, as does the amount of foreign fishing. We chose towns of variable size in three regions and will explore in depth the existing fisheries and associated infrastructure, the challenges faced by fishers, and the potential for intervention by international donors, local investors, and Somali government agencies.

The six case study locations are

1. Bereda
2. Hordio
3. Bander Beyla
4. Maydh
5. Hawaay
6. Merca

For each location, we created a profile of the town and the status of its fisheries using the initial assessment and anecdotal information from fishers, ministry staff, and aid workers. We informally gathered information from these sources on the main species caught in order to gain an understanding of the fisheries that are central to the local

economies. The main species caught as reported by fishers are not always congruent with the highest catch estimates in the Sea Around Us data, and we do not have locally reported catch amounts. We expect these estimates to differ based on the assumptions of the Sea Around Us model, differences in local naming and knowledge of fish by species, and different scopes and means of collecting the information. We present the catch as reported by both sources and highlight the places where one or both indicate an opportunity for development. We use this information to identify projects that promote local long-term resilience. We present these case studies as examples of the type of science-based, locally supported rapid assessment that could be implemented for future planning of fishing-related projects.

## Major Challenges Across All Case Study Locations

### *Infrastructure*

There are significant challenges to undertaking an accurate needs assessment of these fishing locations and executing projects in any of them. Though roads into each town exist, road quality is often poor, indicating that attention to basic civic infrastructure needs to be prioritized. There have not been recent reliable censuses taken to understand the general population, and we therefore lack a breakdown of the number of people involved in the fishing sector. None of the locations have a jetty or dock, making landing fish difficult. These basic community needs require immediate attention to improve livelihoods across all economic sectors. Once infrastructure needs are addressed, the fishing sector can build the value chain for fish products.



*Boats anchored along Lido Beach, Mahad Omar Nor*

## BOX I: TUNAS IN SOMALI WATERS

By Ciera A. Villegas

Tunas are a significant part of both foreign and domestic catch in Somali waters. In the analysis presented in this report, we combined information about all tuna species into one category. However, there are many separate species of tuna in Somali waters, and they have different biological characteristics, roles in the ecosystem, and migration patterns. These differences matter for management and sustainability as well as business planning. Four species—yellowfin, skipjack, bigeye, and kawakawa—are of major commercial importance. These species vary in their economic and ecological sustainability, driven partly by how they reproduce and in what form they are eaten (canned, frozen, dried, or fresh).

### Highly Migratory Species

Highly migratory species (HMS) of tuna swim through the EEZs of multiple countries and beyond to the high seas. In the Indian Ocean, they are managed by the Indian Ocean Tuna Commission (IOTC), which collects data submitted voluntarily by tuna-fishing countries and performs scientific assessments of tuna stocks. In Somali waters, foreign vessels targeting HMS are primarily large industrial longline or purse seine vessels from Asia and Europe, or smaller gillnet vessels from neighboring countries such as Yemen and Iran. Asian and European fleets target yellowfin, skipjack, and bigeye tuna; Yemen targets yellowfin and kawakawa tuna; and Iran targets yellowfin and skipjack tuna. Domestic fishers typically catch the same species using small-scale fishing gear like handlines and gillnets.





Somalis seeking long-term fishing sector stability and investors and international donors seeking the best return on their investments should steer away from



unsustainably fished yellowfin tuna and instead target skipjack, bigeye, and kawakawa. By using fishing methods that target only the latter species and limit bycatch, Somalis can help fill the increasing international demand for sustainably caught fish.

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CATCH THESE, NOT THOSE				
	 <p><b>YELLOWFIN TUNA</b> (<i>Thunnus albacares</i>) UNSUSTAINABLY FISHED*</p>	 <p><b>SKIPJACK TUNA</b> (<i>Katsuwonus pelamis</i>) SUSTAINABLY FISHED*</p>	 <p><b>BIGEYE TUNA</b> (<i>Thunnus obesus</i>) SUSTAINABLY FISHED*</p>	 <p><b>KAWAKAWA TUNA</b> (<i>Euthynnus affinis</i>) SUSTAINABLY FISHED*</p>
<b>REPRODUCTION</b>	eggs are released every few days  eggs and larvae float for extended periods of time and can easily be scooped up by bigger fish	millions of eggs are simultaneously released almost daily  eggs float and larvae are sensitive to certain temperatures (15–30°C)	millions of eggs are simultaneously released almost daily	releases 0.21 million eggs at one time
<b>EATS THINGS LIKE</b>	crab larvae, squid, and other smaller fish	crab larvae, squid, and mollusks	shrimps, crabs, squid, and other fish	other fishes, shrimp, and squid
<b>EATEN BY</b>	big pelagic predators like sharks	larger tunas, billfishes, and sharks	larger tunas and billfish	marlins and sharks
<b>CAUGHT BY</b>	purse seines, longlines, and gillnets	purse seine, gillnet, and pole-and-line	longline, purse seine, and other artisanal gear (pole-and-line, handline, small longline, gillnet, trolling)	gillnets, handlines and trolling, and coastal purse seiners
<b>CONSUMPTION BY HUMANS</b>	fresh (especially in the Japanese sashimi market)  frozen and canned for markets in western Europe (especially Italy), the USA, and Japan	smoked and dried for katsuobushi production frozen and canned  Japan imported more frozen skipjack in 2017 compared to 2016	fresh in the sashimi market  frozen and canned	fresh, especially in sushi markets  frozen and canned  used in pet food
<b>SOMALI MARKET</b>	Processing infrastructure (i.e., freezers, canneries) is needed in order to obtain significant revenue from the export of yellowfin tuna products.  This fish is already unsustainably harvested and is heavily targeted by foreign fishing fleets.  Other sustainably fished tuna such as skipjack would be a better economic and ecological alternative.	Because skipjack produce so many young fish it is an attractive alternative for unsustainable stocks such as yellowfin tuna that produce fewer young.  The katsuobushi market could be a potential source of revenue for domestic fishers with little capacity to freeze and can tuna.	Because bigeye produce so many young fish it is an attractive alternative to its unsustainable counterpart, yellowfin tuna	Kawakawa produce significantly fewer young fish than skipjack and bigeye tuna; however, it is still an attractive alternative to its unsustainable counterpart, yellowfin tuna.





*Packing fish for transport in Berbera, Jean-Pierre Larroque*

Before new market expansion will be feasible, quality control of fish products must be improved. From landing the fish through export, fish must be kept cold to avoid spoilage and maintain quality. Storage freezers are important to this effort, as are ice makers and freezer trucks. Training on quality control techniques and hygienic processing is critical to ensuring high-value products make it to domestic or export markets.

### **Skills**

Skills development requires increased support in each of the case study locations. Attention by development groups is often on discrete projects with tangible, immediate results rather than long-term sustainability. For example, freezers have been installed in many coastal towns. While this is a helpful intervention and would be valuable to the communities in this study, those communities where freezers exist continue to need support for skills development to be able to take full advantage. Without education on how to properly store fish and how to maintain this valuable piece of equipment, a freezer may go unused or be inoperable after the aid group leaves.

Trainings have been implemented in many of the larger towns where development work is occurring.<sup>12</sup> These trainings attempt to improve efficiencies along the value chain beyond catching fish. Aid organizations teach processing methods that meet quality and cleanliness standards, thereby improving the value of fish products. They also train people in boatbuilding and gear repair to ensure investments in material items last for the long term. Where they happen, these trainings are frequently targeted to women and youth, enabling segments of the population to gain employment where few opportunities exist otherwise. Coupling infrastructure improvements and gear donations with training programs means the community can maximize the value of contributed materials.

### **Data Collection**

There are no fish catch data collection systems in place in our case study locations, and few exist anywhere in the Somali region. Catch data are needed to adequately understand and manage fishing activities and ensure healthy fish stocks that can support human needs over the long term. While some cooperatives and businesses may keep catch records, there is no centralized system or repository to inform the fish stock assessments and fishing regulations that are necessary to preserve local livelihoods dependent on fishing. Without data collection initiatives involving multiple stakeholders, it will be impossible to secure the future of domestic fisheries. The international community can advise on methods and provide materials for data collection, thereby empowering fishers, cooperatives, government officials, and academic institutions to create a data collection system to suit their local fisheries.

### **Women's Associations**

In many coastal towns, women's associations provide education and assistance with running fishing businesses. Coordinating trainings with established local associations has several benefits for the community and development goals. The local

organization can ensure trainings target the people most in need and offer the right skills. The associations could also be given the means to conduct trainings themselves, allowing them to disseminate the knowledge and skills widely and create institutional memory. It is valuable for external actors to connect with established associations because they retain vital cultural and market knowledge that enhances development outcomes. Furthermore, associations serve as collective and centralized structures for fisheries management and resource governance. Existing systems and networks can be expanded to further assist the fisheries sector. For example, using the existing network of associations to create and centralize a catch data collection system would improve the chance that the system would be accepted and successful. Involving the women's associations in fisheries work increases women's participation in decision-making and resource governance, ensuring outcomes benefit the whole community.

### *Resource Conflict and Sustainability*

In every fishing site along the Somali coast, the catch of vulnerable species, especially sharks (Figure 8), is concerningly high. As top predators that maintain the balance of the coastal ecosystem (see Box II: Sharks), sharks ensure the health of other fish populations. Decimating their populations destroys other fisheries in turn.<sup>13</sup> Somali fishers could improve the sustainability of their fleets by moving away from slow-growing species, like sharks, groupers, and snappers, to smaller species that reproduce more rapidly and are more sustainable, like sardines (see Box III: More Sustainable Alternatives) and coastal tunas (see Box I: Tunas in Somali Waters). Making this shift requires countering the lost revenue from lucrative shark-fin exports with alternative markets. Deterring fishers requires regulations on vulnerable species and enforcement coupled with education around why short-term changes will lead to long-term livelihood security.

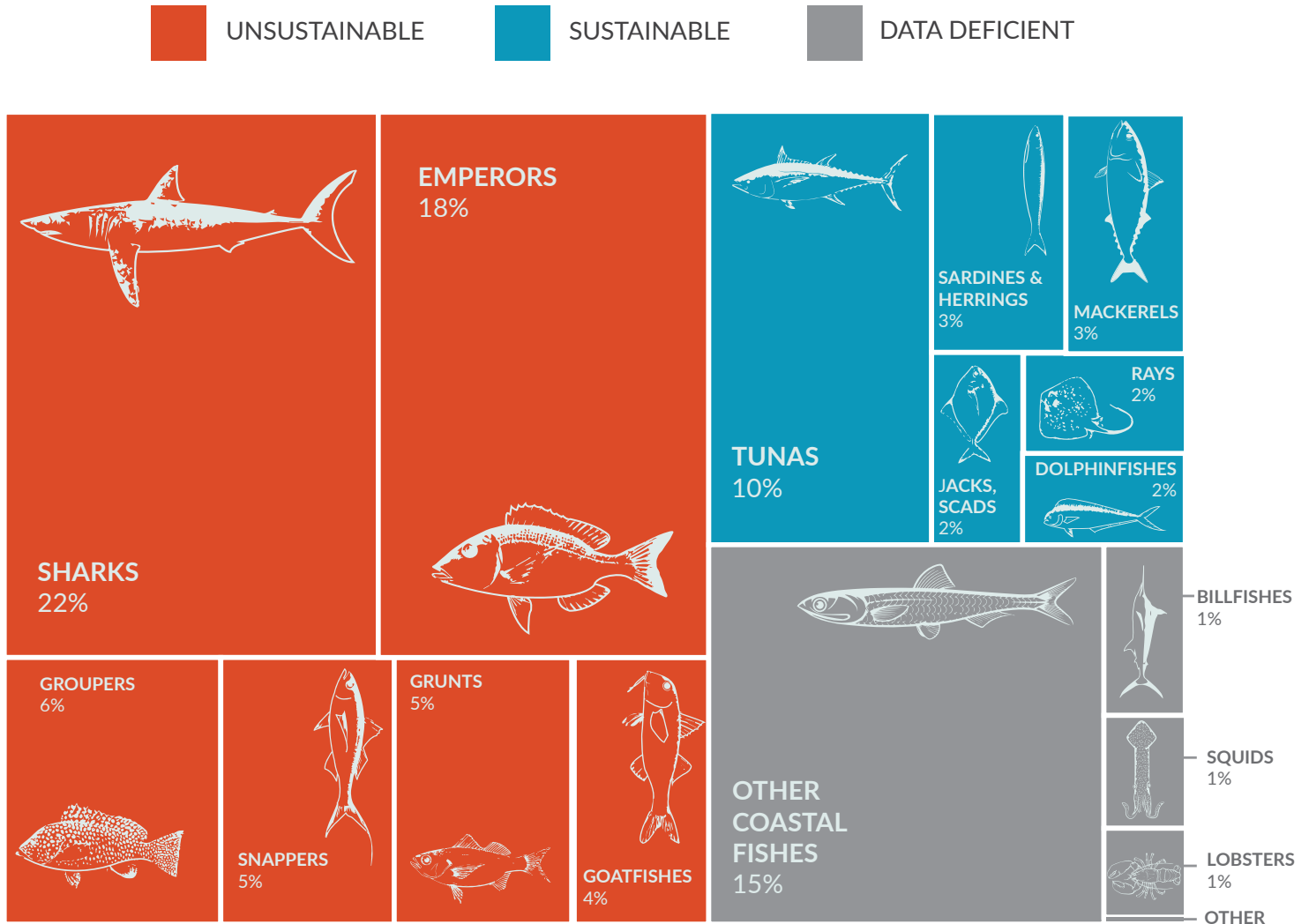
The sustainability of the resource supports the long-term survival of fishing businesses and is an important consideration for market expansion. Expanding a fishery if a resource is declining only ensures livelihood security until the fishery collapses entirely. Therefore, the case studies presented here focus on improvements that can be made to governing unsustainable resources while managing currently healthy resources to maintain their population levels.

We also focus on the need for improved enforcement to decrease the likelihood of conflict among fishers. Competition between foreign and domestic fishers for declining resources can lead to the increased occurrence and intensity of conflict between the fleets. As stocks decline, fishers must move farther from their normal fishing range. This could lead to more foreign fishing in Somali waters as foreign fleets range far from their home countries. Similarly, local fishers may have to leave their traditional fishing grounds in search of greater catch. Not only does this pit local fishers in competition against each other, it increases the chances that a Somali vessel will encounter a foreign one, increasing the likelihood of conflict.



*Women's associations play an important role in coastal towns. UN Photo / Ilyas Ahmed*

**FIGURE 7: SOMALI DOMESTIC CATCH COMPOSITION & SUSTAINABILITY**  
*Percent of total average catch per year*

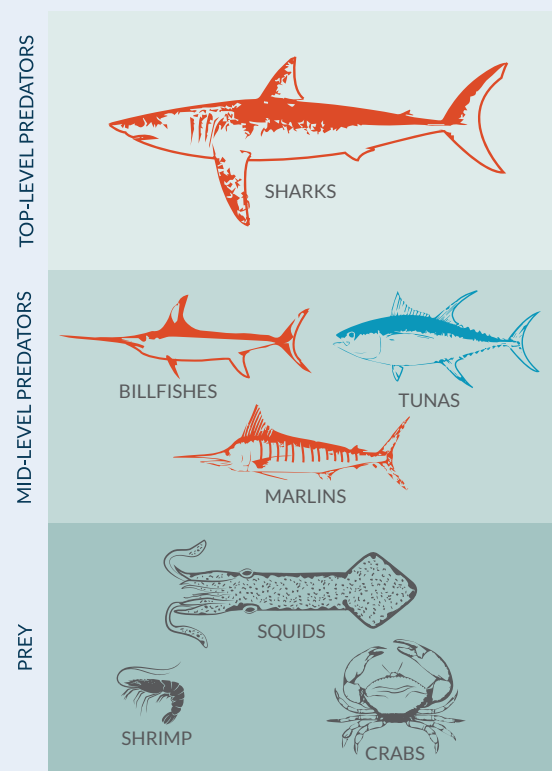


## BOX II: SHARKS

By Ciera A. Villegas

Since the 1980s and 1990s, shark fishing has increased to satisfy market demands for their fins, liver oil, and meat, resulting in global shark-population declines. Sharks are also snagged as bycatch on longlines and in purse seines that are targeting tunas, mackerels, and billfishes. Sharks are slow to reproduce compared to spawning fishes like anchovies, sardines, and herrings. While these fast-spawning species release huge numbers of young at once, most sharks in the Somali region give birth to only a few young at a time, and shark pups can develop in the womb for as long as 18 months. This reproductive strategy increases the survival rates of young sharks, but the slower process means rebuilding shark populations after overfishing takes time, if they can recover at all.

Sharks are important predators in coastal environments and reducing their populations can reshape entire ecosystems. Sharks feed on a wide variety of prey and travel large distances. Their mobility allows them to connect distant marine ecosystems to each other, and this connectivity can improve ocean health.



Shark caught by Somali fishers, at market, AU UN IST PHOTO / Ilyas A. Abukar

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Despite this vulnerability to overfishing, shark liver oil, dried shark fins, and shark meat are important local and export products. The globalized trade to meet demand in Asian markets for shark-fin soup, a traditional and usually expensive Chinese dish, is a major driver of shark fishing. Additionally, Somalis export shark meat to Kenya, where it is generally a cheap source of animal protein for human consumption. Nonetheless, Somalis can protect their livelihoods by preserving the long-term health of marine ecosystems and concentrating fishing efforts on other species. Education initiatives and investments around sustainable fishing practices can help redirect fishing efforts to other desirable but fast-spawning fishes like sardines, anchovies, herrings, and sustainably fished tuna.

## II. CASE STUDIES: PUNTLAND

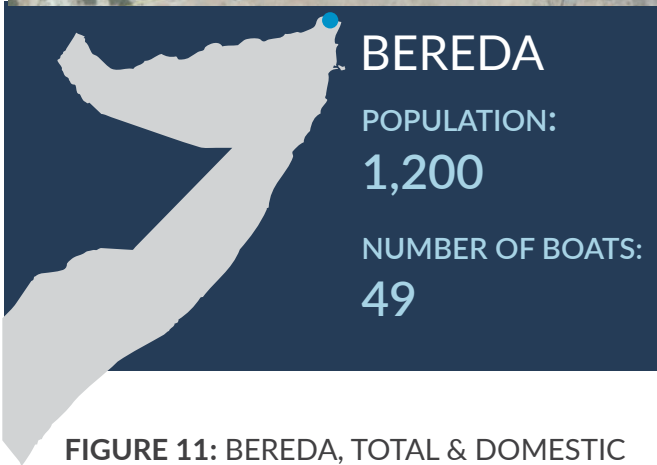
Three of our case studies cover locations in Puntland: Bereda, Hordio, and Bander Beyla. Puntland is a semi-autonomous region within Somalia. Its fisheries governing body is the Puntland Ministry of Fisheries. In 2004, the Puntland government enacted a fishing law based on the federal fishing law in place at the time, Fisheries Law No. 23 of 30 November 1985.<sup>14</sup>

Puntland's regulations are extensive and authorize the ministry to issue licenses to foreign and domestic fishers, though the fees for domestic fishers are small. These regional regulations are enforced by the ministry in conjunction with the Puntland Maritime Police Force (PMPF). One recent regulation directly affecting local fishers is a ban on lobster fishing that went into effect in September 2014 and is still in place. Fishers who are caught violating the laws are subject to fines or vessel confiscation.

At the local level, fishing cooperatives and women's associations exist in most towns to serve the fishing sector. Fishers, traders, processors, and others involved in the sector pay dues to be members of their local cooperative. They are managed by elected members and are responsible for supporting the fishers and advocating for their interests, collaborating with the ministry, and resolving disputes. Women's associations offer training, education, and advice on fishing and business to local people. The level of involvement in the community of these organizations varies among locations. These groups can be critical entry points through which outside organizations can build trust within communities.

Puntland fishing communities have faced myriad challenges in recent years. The tsunami in 2004 was devastating to many of the coastal communities, destroying infrastructure as well as fishing vessels and gear. Rebuilding has been slow in many places and most have not fully recovered.

A more insidious and persistent threat affecting fishing communities is the constant presence of foreign trawling vessels off the coast of Puntland.<sup>15</sup> They illegally fish close to shore, overlapping with domestic fishers in both range and target species. These vessels drag nets along the bottom, catching everything in their path. Bottom-trawling is a destructive fishing practice that damages fish habitats and catches sensitive species like turtles as bycatch. The highly visible practice has been a source of great contention in coastal communities and has bred resentment among locals toward foreign vessels and toward a government that is not effectively enforcing the law. Building regional enforcement capacity is a priority for the government and an area where international community support is valuable. Local efforts to identify and report active foreign vessels to the proper authorities could be implemented to maintain the sovereignty of the Somali domestic fishing territory inside 24 NM.



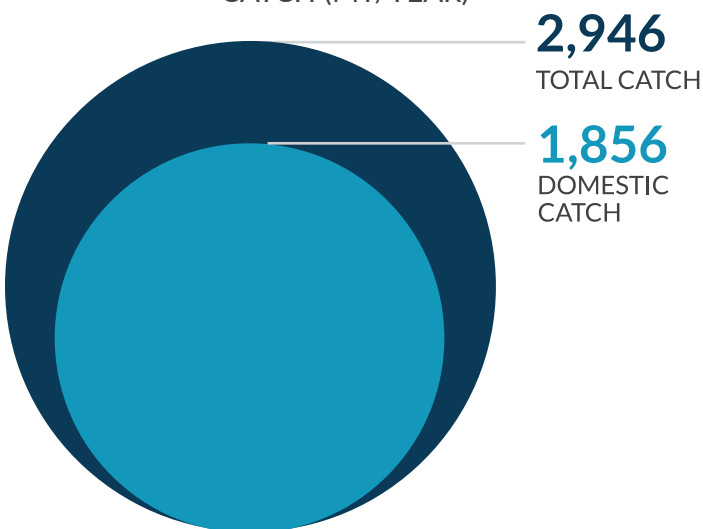
Bereda is a small town in the far northeast corner of Somalia in the Puntland region. The population is approximately 1,200. It is stable and there are no current security risks. It is accessible by boat or by car via a dirt road that is difficult to traverse.

Of the main species categories reportedly caught in Bereda, kingfish, skipjack, kawakawa, and sardines are sustainable. Data on lobster catch is not sufficient to assess their sustainability; however, in 2014 Puntland banned lobster fishing because the population was overexploited.

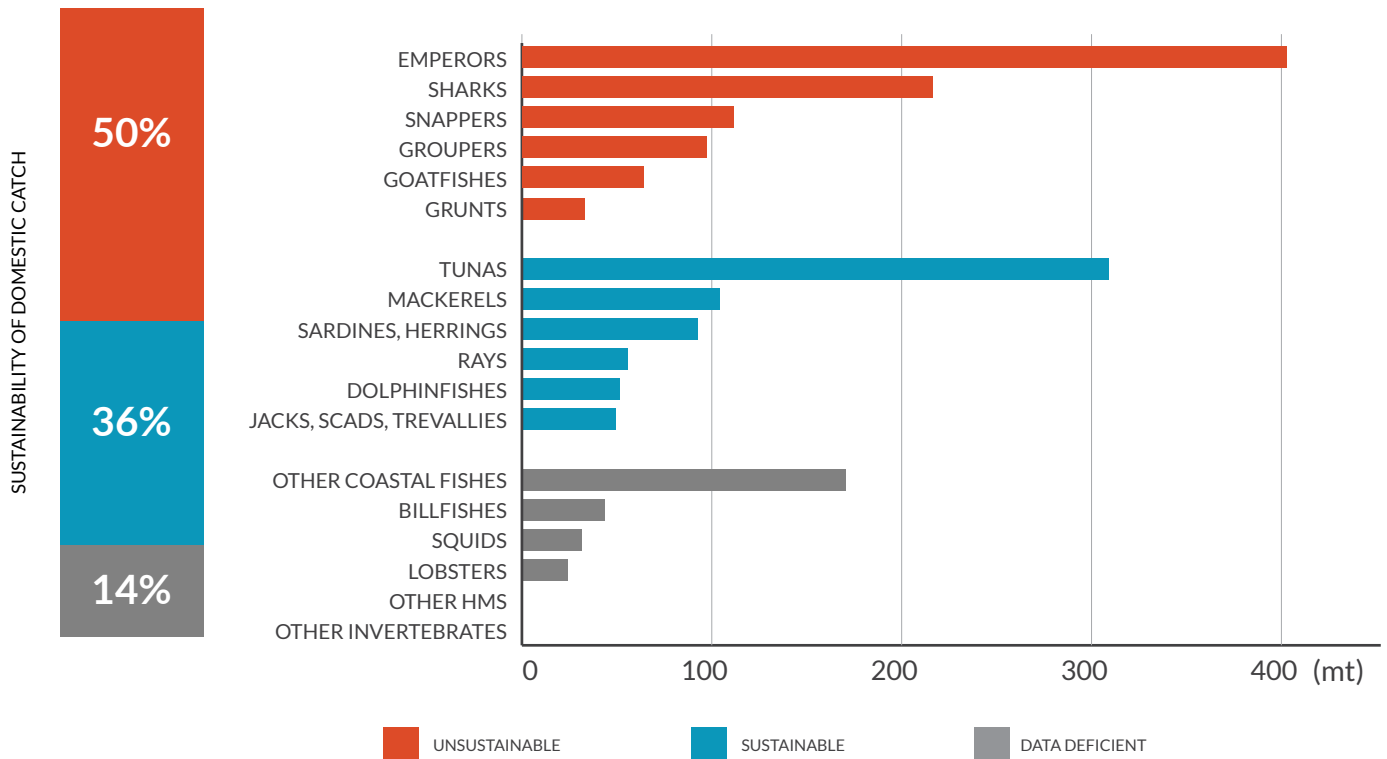
Foreign fishing is common in this part of Puntland. Our analysis shows that foreign fishing in the area is less than 40 percent. However, unlike offshore tuna vessels, foreign trawlers are active near Bereda and target the same reef fishes as the local fishers, including snapper, emperor, and grouper. Yemeni fishing vessels are also active here.

The Puntland fishing law provides the governance framework for foreign and domestic fisheries in Puntland. The Puntland government has made some regulations such as the ban on lobster fishing, however their intervention in domestic fishing is limited.

**FIGURE 11: BEREDA, TOTAL & DOMESTIC CATCH (MT/YEAR)**



**FIGURE 8: DOMESTIC CATCH SUSTAINABILITY & COMPOSITION IN BEREDA**  
*Data from The Sea Around Us*



### Infrastructure

Bereda has a beach landing site with no jetty or other infrastructure. There is one privately owned ice-making machine in Bereda.

### Fisheries Governance

Bereda’s fishers are regulated by the Puntland laws and regulations that apply to the region. There is a fisheries cooperative and a women’s organization in Bereda, but their activities are limited.

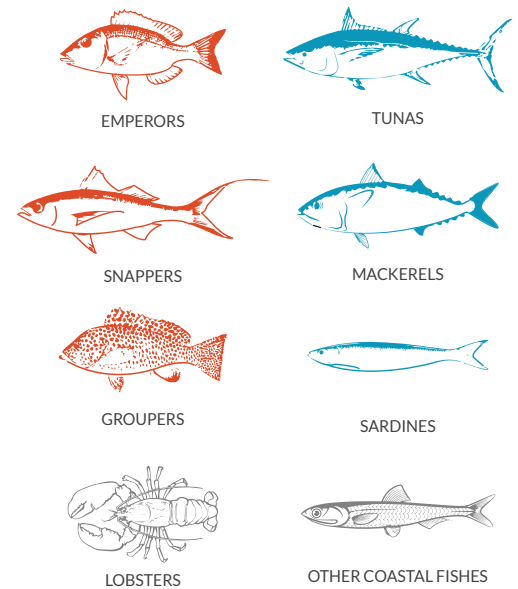
### Enforcement

There is no local enforcement system. Regional enforcement is carried out by the regional PMPF and the Ministry of Fisheries. However, according to our contacts, little attention is paid to local fishers’ activities.

### Market

The local market for fish from Bereda is in inland towns such as Kardo, Garowe, Galkayo, and other small towns nearby. Fish, especially shark, is exported to Yemen, the United Arab Emirates (UAE), and Kenya.

### BEREDA: MAIN CATCH Reported by Local Fishers



*Local fishers reported these fish as being the main species or types they catch. They did not report quantities.*

## Investments

There is one relevant private company in Bereda, the Bareeda Fishing Company. They own the ice-making machine and provide electricity to the town.

## Potential for Development

As a small town with limited capacity and resources, Bereda is in need of improved civic and fisheries infrastructure. Improving roads would allow easier access to nearby inland towns to sell fish. Building a jetty or dock would be useful for local fishers and for boats coming from across the Gulf of Aden to buy fish.

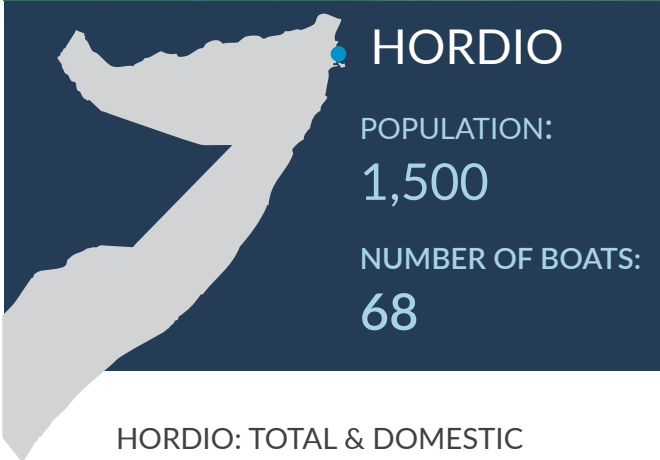
When the conflict in Yemen is resolved, Bereda's proximity to Yemen provides an opportunity to expand the market there, especially if infrastructure is improved. Somali fishers can easily take their catch to Yemen, or Yemeni boats can come and purchase catch from them to take back across the gulf. Because there is a functioning ice machine in Bereda, fishers can hygienically store the fish for such a journey. However, the ice machine is privately owned, so the cost of ice would need to be factored into the price they attain for their catch.

Enhancing the fisheries cooperative would be beneficial to the community. If there is a future market expansion, using cooperative power to set prices on fish and ice would likely mean better prices on both for the fishers. The cooperative could also be instrumental in engaging with the regional maritime police force to aid in enforcement of fishing regulations; they would be able to monitor their members and ensure they are fishing legally, and they could report foreign fishing to Puntland authorities.

Despite its low population, catch in the area near Bereda is one of the highest in the case studies. This is likely because there is a high concentration of domestic fishers in northeast Puntland, so it is possible that not all 1,856 mt of catch per year can be attributed to Bereda's fishers. While 43 percent of the catch in the Bereda area is of sustainable species, fishers report that sharks are their main export and that they are catching lobsters in direct opposition to the regional regulation. If they continue, these practices

will likely lead to a decline in fisheries health over time and therefore threaten the viability of the fishing industry. Education initiatives for fishers through the cooperative and the private company on targeting more sustainable species such as sardines, coastal tunas, and mackerels may be successful in changing these patterns and reorienting fishing efforts toward more sustainable practices. To that end, it is useful to provide appropriate gear for catching these species and to train fishers on its use and repair. Likewise, education about why the ban on lobster fishing is in place may foster an understanding of basic sustainability practices and how ignoring the regulation will affect their futures. Adhering to the ban in the short term and creating regulations like minimum length requirements for caught lobsters in the long term will mean the resource will be available well into the future.

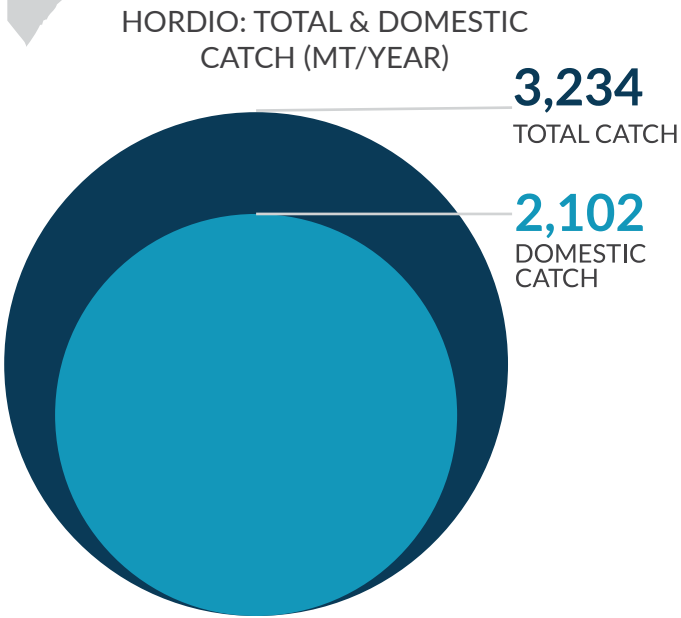




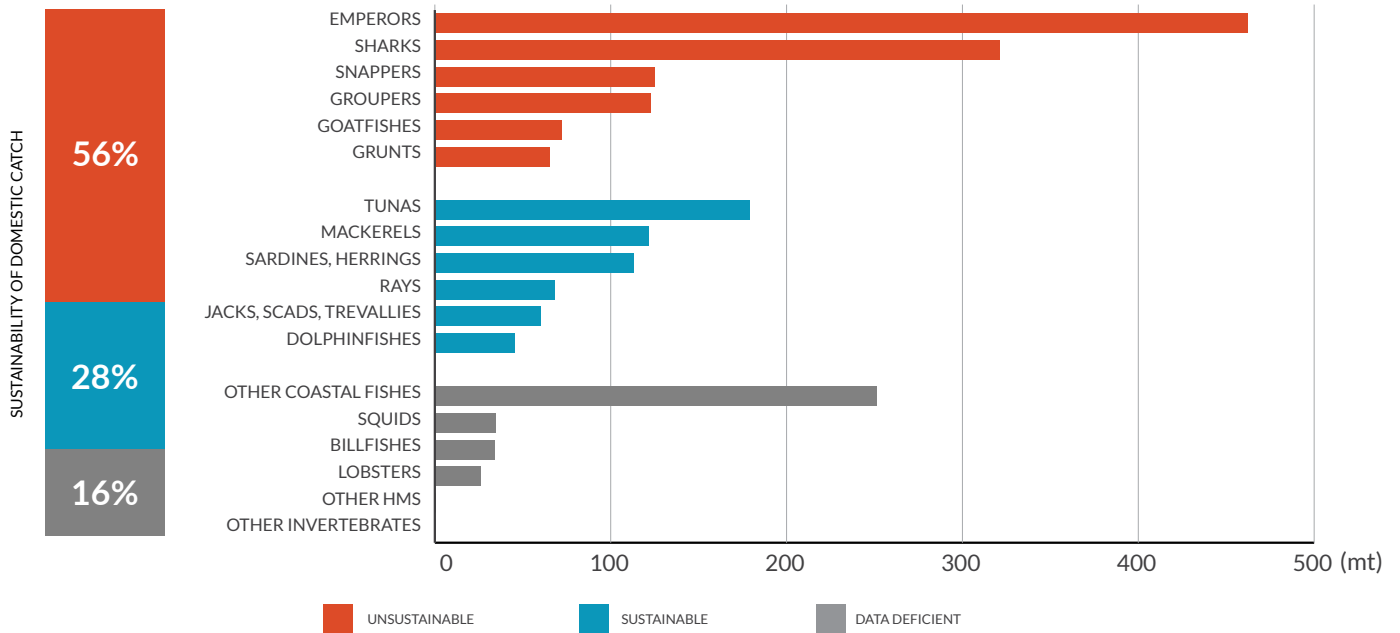
Hordio is located in northeastern Puntland just north of the Ras Hafun peninsula. The waters in this area and surrounding the peninsula are rich fishing grounds and are often targeted by foreign fishers, especially bottom-trawlers that have operated in that area for decades. There is a high concentration of domestic fishing in the area as well. Multiple large landing sites are present on the peninsula, but they do not have reliable access by road.

Hordio and the surrounding towns grew during the 1920s and 1930s when an Italian salt factory created widespread employment in the area. The salt factory shut down in the 1950s and is in total disrepair.<sup>16</sup> However, some of the infrastructure remains and is visible in satellite imagery. The tsunami in 2004 caused significant damage to many nearby towns. While it was affected, Hordio was partially protected by the peninsula and its location, sparing it from catastrophic damage.<sup>17</sup> Currently, Hordio has a population of approximately 1,500 and the security situation is stable.

The main catch is similar along northeastern Puntland, including the Ras Hafun peninsula and Bander Beyla (see page 25 for the Bander Beyla case study). The sustainable species that fishers report catching include mackerel, sardines, and tunas including skipjack and kawakawa. A large proportion of the catch in our analysis and reported by fishers is of unsustainable fish including shark, grouper, snapper, emperor, and lobster.



**FIGURE 9: DOMESTIC CATCH SUSTAINABILITY & COMPOSITION IN HORDIO**  
*Data from The Sea Around Us*



### Infrastructure

It is notable that Hordio does not have an electricity system. Businesses use generators for electricity, which is inefficient and costly. There is a cold storage unit built by the Food and Agriculture Organization of the United Nations (FAO) with a capacity of 3.5 tons, but without electricity, it is currently not operational. Only one poorly maintained road links Hordio to the rest of the country.

### Fisheries Governance

Hordio’s fishers are regulated by the Puntland laws and regulations. There is a fisheries cooperative and a women’s organization in Hordio, but their activities are limited.

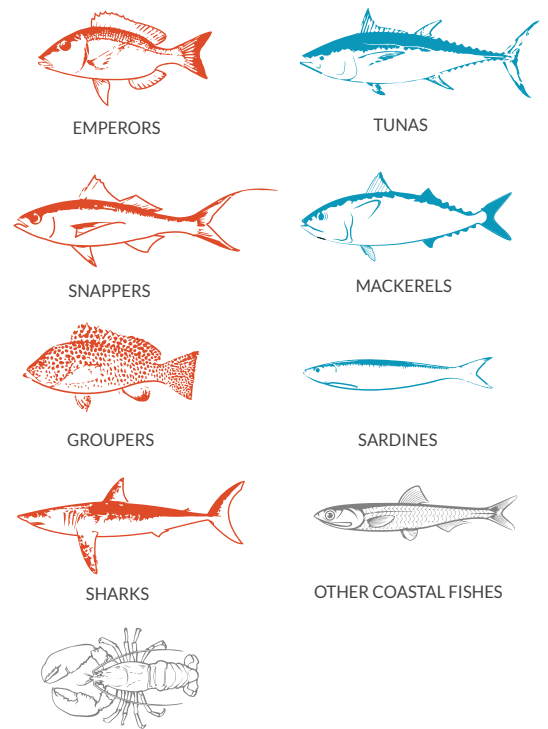
### Enforcement

There is no local enforcement system. Regional enforcement is carried out by the regional PMPF and the Ministry of Fisheries. However, according to our contacts, little attention is paid to local fishers’ activities.

### Market

As with other locations, the current fish market is both local and export-oriented. Domestically, fish is sent to the interior urban

### HORDIO: MAIN CATCH Reported by Local Fishers



*Local fishers reported these fish as being the main species or types they catch. They did not report quantities.*

settlements. Exported fish of all types is sent to regional markets such as Yemen. Lobster tail and shark fin are shipped to the UAE, and dried shark meat is sent to Kenya through Mombasa.

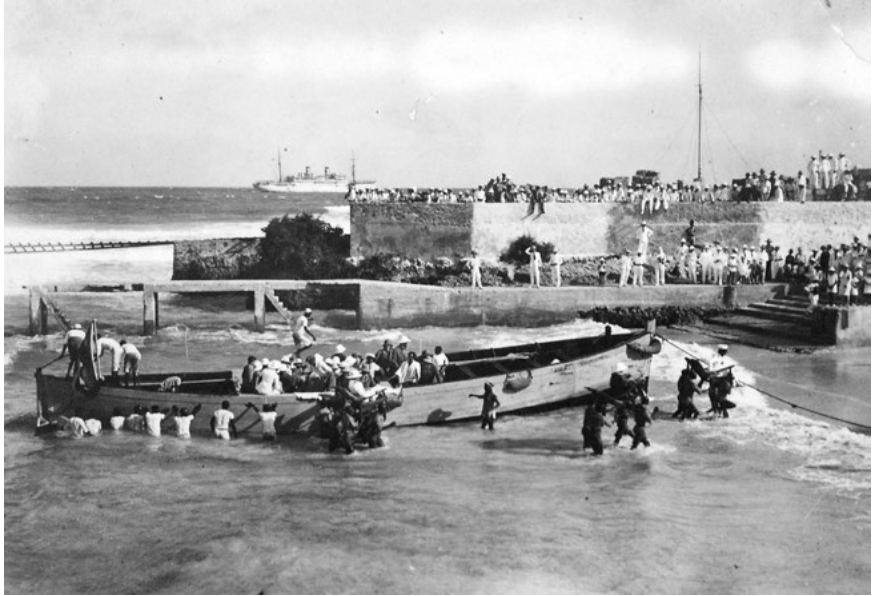
## Investments

Aside from the non-operational freezer, there has been little investment in Hordio from the international community or private investors.

## Potential For Development

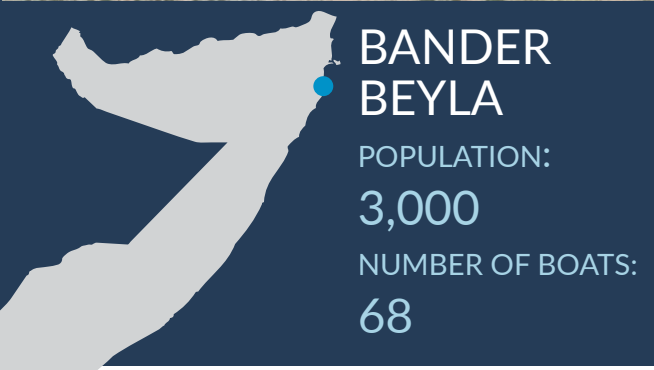
Before tackling any fishing projects, improving the civic infrastructure in Hordio is key. Reliable electricity is vital to producing marketable fish products. New projects should consider renewable energy sources like solar and wind to decrease the use of generators and provide electricity to the whole community. Better roads and transportation methods for fish products are crucial to accessing markets.

Fishers in Hordio are catching sardines (see Box III: More Sustainable Alternatives), a sustainable fishery that may be useful for a variety of non-human direct applications such as animal feed and fertilizer. Creating a market for these fish and redirecting efforts toward sardines and away from the unsustainable demersal species is a way to ensure the long-term success of fisheries development. If a market for these fish is identified, directly targeting these fish with the appropriate gear would increase fishing efficiency, allowing fishers to spend less time at sea and reducing catch of unwanted species. Thus, there is opportunity for providing gear in Hordio and educating fishers on how to use it to improve their efficiency. Catching more fish in less time means a greater profit for the effort expended. However, education is crucial to fostering an understanding of which fish should be targeted. If efforts are not made to shift fishing away from sharks and slow-growing coastal species, improving efficiency could mean a faster decline of these already unsustainable stocks.



*Hordio grew as a port city during the 1920s and 1930s with the presence of an Italian salt factory.*

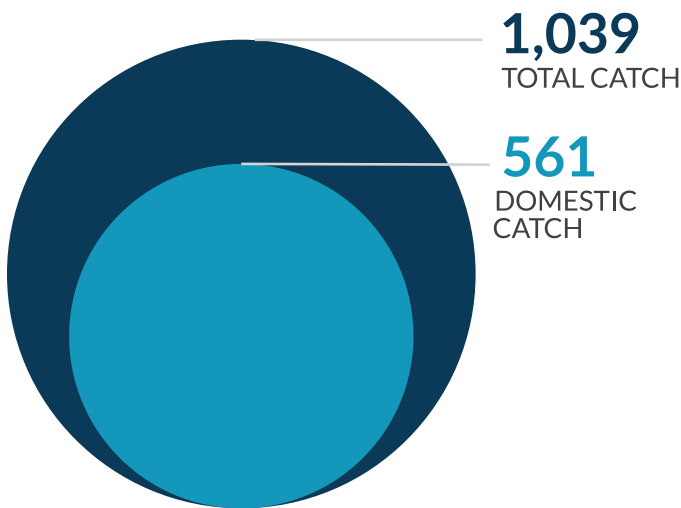
Because of the prevalence of destructive foreign trawling in this area, bolstering enforcement mechanisms is an opportunity in Hordio. The federal law states that foreign fishing is not allowed within 24 NM of shore and that bottom-trawling is prohibited. Improving reporting of illegal fishing would decrease competition between foreign and domestic fishers for fishing grounds and resources. Work in this area includes educating fishers on how to document and report illegal fishing to the PMPF so that appropriate measures can be taken to stop the trawlers.



Bander Beyla is located in northeast Puntland, 80 km south of Hordio. A historic port town and maritime-oriented community, Bander Beyla depends on fishing for its economy. Though it was known to harbor pirates in 2010–2012, they were removed from the community and it is now a peaceful place with few security risks.

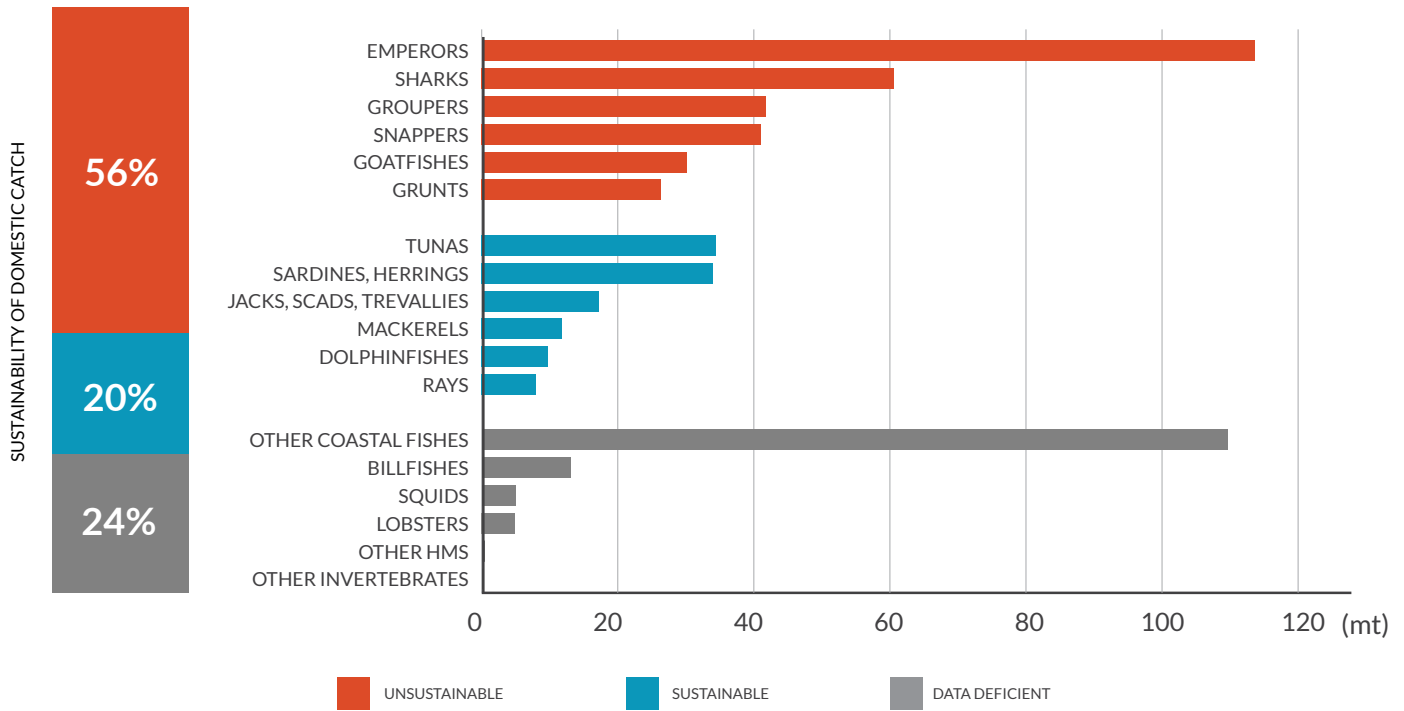
There are approximately 3,000 people living in the town. Bander Beyla has been impacted by several recent events that have disrupted the livelihoods of its citizens. The town’s fishing infrastructure was badly damaged by the 2004 tsunami. Though some rebuilding occurred, there is not a robust infrastructure system to support fishing. In 2011 and again in 2017, a devastating drought spread across the region, leading some in the area to move away from their failing crops and livestock and turn to fishing as their sole means of income and food, putting more pressure on an underdeveloped fishing sector and the fish stocks on which the community depends.<sup>18,19</sup>

BANDER BEYLA: TOTAL & DOMESTIC CATCH (MT/YEAR)



The main fish products are similar to those in Hordio and include kingfish (Spanish mackerel), yellowfin tuna, skipjack tuna, kawakawa, scavenger, billfish, sardine, snapper, emperor, shark for fins and meat, and lobster. Of these, only mackerel, some tuna, and sardines are sustainable. As in Hordio, there are foreign trawling vessels that operate close to shore targeting species similar to those in the domestic catch.

**FIGURE 10: DOMESTIC CATCH SUSTAINABILITY & COMPOSITION IN BANDER BEYLA**  
*Data from The Sea Around Us*



### Infrastructure

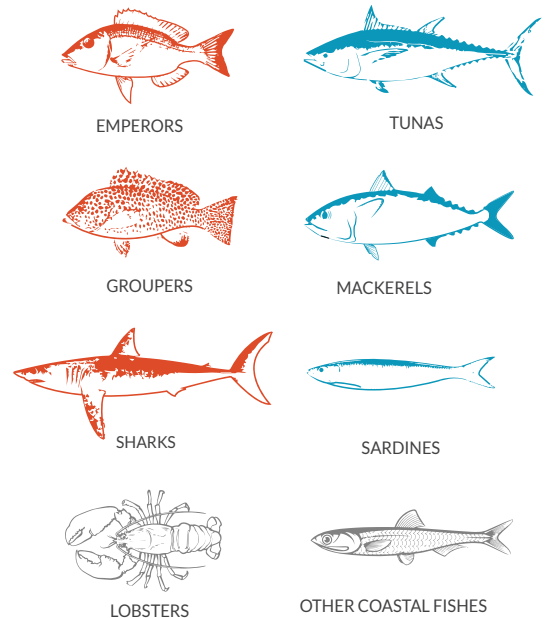
Civic infrastructure in Bander Beyla is slightly better than in the other case studies discussed. There are passable roads connecting it to other coastal towns such as Bosasso and Eyl, and to inland urban centers such as Garowe, Galkayo, and Kardo.

The 2004 tsunami and resulting destruction was a major blow to the community, but it also brought international attention to the area and instigated many development activities. The tsunami damaged fishing gear and buildings, and the international aid community responded soon after by distributing fishing gear and boats to get fishers back on the water.<sup>20</sup> VSF Suisse and FAO constructed a post-harvest processing facility with cold storage, a plate freezer, and an area for gear storage and repair to help rebuild the fishing sector after the tsunami. Unfortunately, in the time between the new development and now, much of that infrastructure has fallen into disrepair.

### Fisheries Governance

Bander Beyla’s fishers are regulated by the Puntland laws and regulations that apply to the region. There is a fisheries cooperative and a women’s organization in Bander Beyla, but their activities are limited.

### BANDER BEYLA: MAIN CATCH Reported by Local Fishers



*Local fishers reported these fish as being the main species or types they catch. They did not report quantities.*



*Overlooking the town of Bander Beyla in Puntland, Jamamd.*

## Enforcement

There is no local enforcement system. Regional enforcement is carried out by the regional PMPF and the Ministry of Fisheries. However, according to our contacts, little attention is paid to local fishers' activities.

## Market

The current market for fish is both local and international. The domestic market includes the major inland cities in Puntland because the town is fairly well connected to them by road. The export market includes Yemen, which buys most of the fish products. Lobster tail and shark fins are sent to the UAE. Dried shark meat goes to Mombasa, Kenya.

## Investments

Because Bander Beyla is an established fishing community that managed to survive so many threats to its fishing sector, it has garnered attention from local and international investors. Bander Beyla is home to one of the largest private fishing companies in Puntland, the Corno Africa

Fishing Company (CAFCO), which received international financing to grow their business by expanding their cold storage capacity.<sup>21</sup> Promoting Inclusive Markets in Somalia (PIMS) is making similar investments in fishing companies in the area.

There are some development projects that are not directly related to fishing but serve the community. The World Food Programme and Save the Children have been working in Bander Beyla to provide food and healthcare. Additionally, the Joint Program on Local Governance is working to improve the roads within the town.

## Potential For Development

The opportunities in Bander Beyla are similar to those in Hordio because of their close proximity and similar catch composition. Bander Beyla has the advantage of having current projects that are focusing on civic infrastructure, so more attention could be paid to improving fishing infrastructure and data collection. Enhancing the connection between the cooperative, the women's association, private companies, Puntland's government, and the federal

government is the first step. These relationships are key to establishing local governance mechanisms. From there, education initiatives and catch data collection projects are possible.

As in Hordio, fishers in Bander Beyla are catching sardines (see Box III: More Sustainable Alternatives), a sustainable fishery that may be useful for a variety of non-human direct applications such as animal feed and fertilizer. Creating a market for these fish and redirecting efforts toward sardines and away from unsustainable sharks, large reef fishes, and lobsters could be a way to ensure long-term success for fisheries development. Another opportunity is providing the appropriate gear to efficiently catch sardines and educating fishers on its use. Importantly, education programs need to create an understanding of why a shift in primary catch is crucial to maintaining the fishing sector.

As in Hordio, the prevalence of destructive foreign trawling in this area presents a governance challenge. The federal law states that foreign fishing is not allowed within 24 nautical miles of shore and that bottom-trawling is prohibited. Improving law enforcement capacity and the reporting of illegal fishing would decrease competition between foreign and domestic fishers for fishing grounds and resources. Work in this area includes educating fishers on how to document and report illegal fishing to the PMPF so that appropriate measures can be taken to stop the fishers.

## BOX III: MORE SUSTAINABLE ALTERNATIVES

By Ciera A. Villegas

Anchovies, sardines, and herrings are excellent sources of protein, fats, and nutrients. Their small size means they can be easily dried or salted, making anchovies a good food source in places with limited refrigeration. These fishes live in large schools and typically spawn tens of thousands of young at a time. Thus, they can serve as a more sustainable food source than species like sharks that produce few young at once or species that are overexploited, like yellowfin tuna. Additionally, their schooling behavior means many fish can be caught by small-scale vessels with minimal effort and high efficiency.

Shifting Somali fishing efforts to catching these small schooling fishes will require appropriate gear and infrastructure. Additionally, having management measures in place that consider environmental effects from climate change, water quality, and population dynamics is necessary before expanding these fisheries. Because these small schooling species are typically caught with purse seines, bycatch of vulnerable and endangered species like sea turtles, sharks, and tuna is a risk. Bycatch regulation, reporting, and monitoring alongside the expansion of anchovy, sardine, and herring fisheries will help maintain the long-term viability of these sustainably fished Somali stocks.

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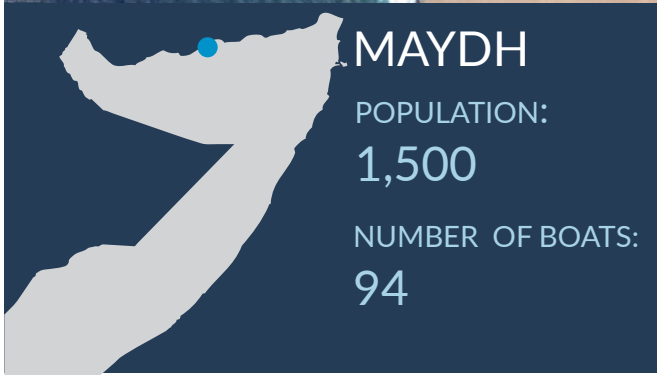


### III. CASE STUDY: SOMALILAND

One of our case studies covers a location in Somaliland: Maydh. Somaliland comprises the northwest portion of the Somali region bordering the Gulf of Aden. Though it declared its independence in 1991, it has not been internationally recognized as an independent state. However, it maintains its own government system and laws, including fishing laws and regulations and a fisheries ministry. The port in Berbera is the largest in Somaliland and one of the largest in the region. It is an important access point for exporting fish and other goods to countries across the Gulf of Aden and around the world, but with few paved roads and little other infrastructure, getting fish from remote coastal towns to the port for export is difficult.<sup>22</sup>

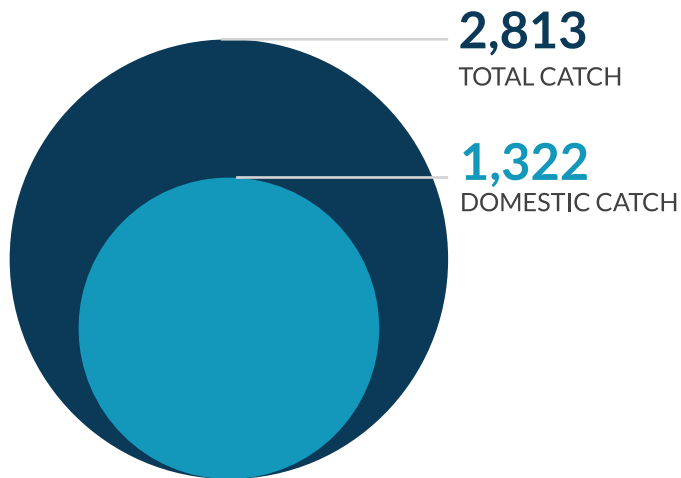
The Somaliland Ministry of Fisheries and Marine Resources has limited resources and capacity to govern Somaliland fisheries. There are no limits on artisanal fish catch. Previous ministry officials issued licenses to Egyptian trawlers and their fishing has impacted local habitats and fisheries production. One report<sup>23</sup> estimates that local production decreased by 50 percent after the trawlers began operating in 2004. An additional challenge to fishers in Somaliland has been the ongoing conflict in Yemen. The number of Yemeni dhows that provide a consistent market for Somaliland fishers has decreased dramatically since the Yemeni civil war escalated in 2015.<sup>24</sup> Without civic infrastructure like good roads and freezers, Somaliland fishers have few other market opportunities.





Maydh is a small fishing community in the Sanag region of Somaliland with a population of around 1,500. It is an ancient town that long functioned as the Sanag region’s only port. It is approximately 75 km away from the regional capital, Erigabo, which is the main market for seafood caught in Maydh. There are no current conflicts in Maydh and it is considered a safe place to operate.

MAYDH: TOTAL & DOMESTIC CATCH (MT/YEAR)

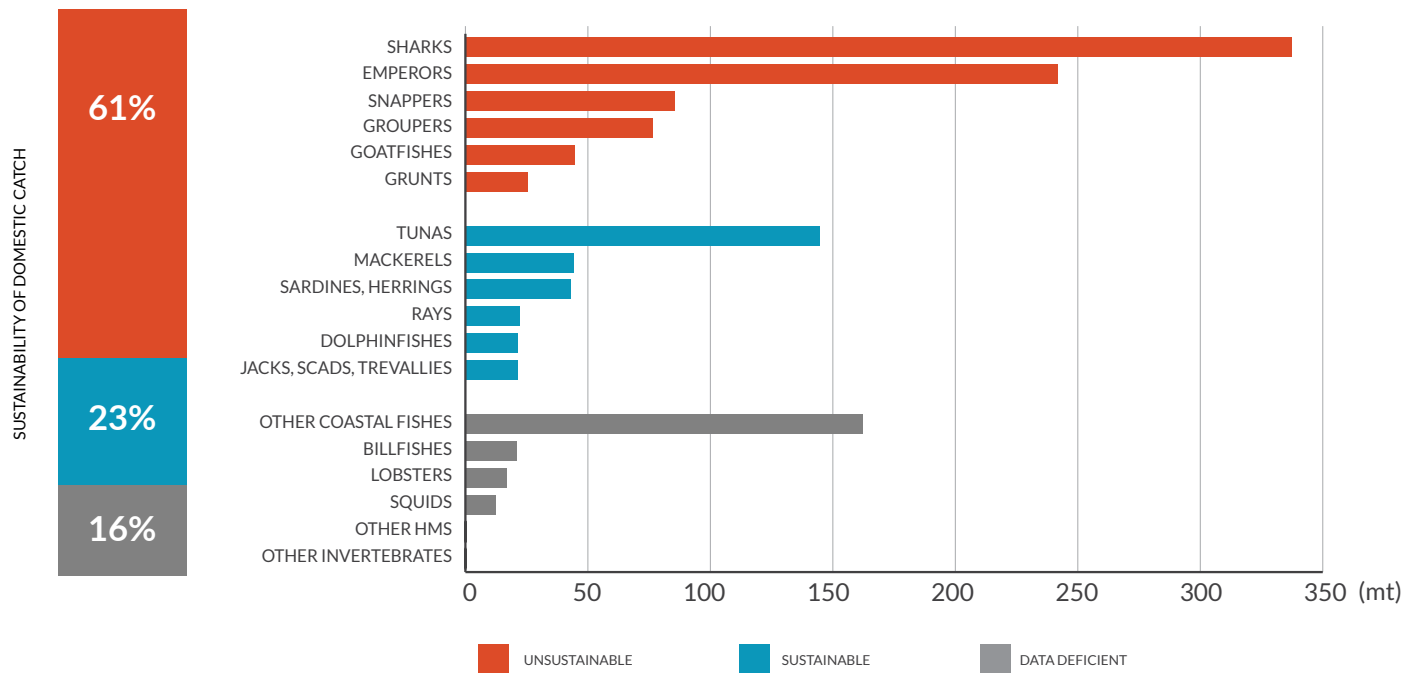


Locals involved in the fishing industry report that the main fish species caught are snappers, trevally, kingfish (Spanish mackerel), yellowfin tuna, frigate tuna, and emperor. Though tuna overall is considered sustainable according to the Indian Ocean Tuna Commission, or IOTC (see Box I: Tunas in Somali Waters), there are not enough data to assess the sustainability of frigate tuna, and the IOTC lists yellowfin tuna as unsustainable.<sup>25</sup> Though fishers do not currently report sharks as a main target species, historically, the catch of sharks was high. Fishers sold shark fins to traders from Dubai for Asian markets and the dried shark meat went to Mombasa.<sup>26</sup> The Sea Around Us data indicate they are a substantial portion of fish catch in Maydh, so it is possible this practice is ongoing but unreported.

Foreign catch in the waters off Maydh is greater than 50 percent of the total catch in the area. Most of this fishing is

likely by Yemeni vessels that pay a fee to the community for access to their fishing grounds. This practice has recently been outlawed by the Somaliland government, but with little means for enforcement, it is unclear how effective this ban will be. However, locals do not report any IUU fishing activity<sup>27</sup> indicating they do not consider Yemeni fishers to be illegal or Somali fishers do not encounter foreign fishers.

**FIGURE 11: DOMESTIC CATCH SUSTAINABILITY & COMPOSITION IN MAYDH**  
*Data from The Sea Around Us*

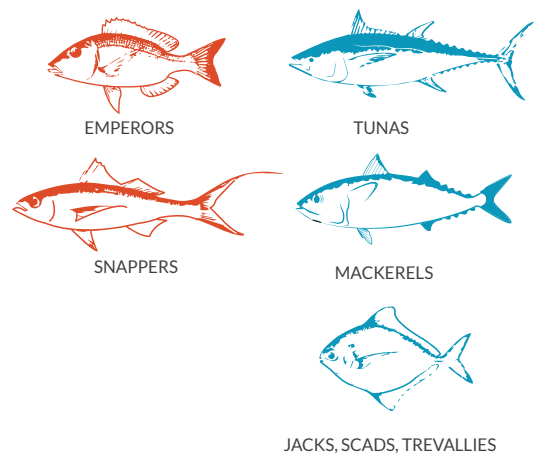


### Infrastructure

Maydh has one operational cold storage unit. There was a wooden dock constructed in the late 1980s, but it was mostly destroyed in a storm in the mid-1990s. The structure is still visible, even on the satellite imagery, but does not extend far enough into the water to be useful for docking, even at the highest tides.<sup>28</sup> Though a road exists between Maydh and Erigabo, it is dirt, making travel tedious and difficult, especially during the rainy season.

There are some development efforts occurring in Maydh. The Somaliland Development Fund (SDF) is a pool of international donors who support development projects in Somaliland. Partner organizations include the Department for International Development (DFID) from the United Kingdom, the Danish International Development Organization (Danida), Norway, and the Netherlands. The SDF is in the process of building an ice plant and fixing the jetty to make it usable by fishing boats and vessels carrying other goods.

### MAYDH: MAIN CATCH Reported by Local Fishers



*Local fishers reported these fish as being the main species or types they catch. They did not report quantities.*

Prior to our conversations with locals, we were unaware of current development efforts in Maydh. Had they been included in the development project dataset used in the initial assessment, Maydh may not have made it through our initial assessment to be a case study. We include it as an example how important local knowledge is to the project identification process and to note how development projects can build upon each other to support a community.

## Skills

Besides fishing, the people of Maydh were traditionally boatbuilders in the past,<sup>29</sup> but with new boat designs and materials, the traditional industry is now obsolete.

## Fisheries Governance

Somaliland's Ministry of Fisheries and Marine Resources has an office in Maydh. Local fisheries management may exist at different levels but is often not well-coordinated.<sup>30</sup> Small-scale domestic fishing is not restricted.

There is a voluntary fishing cooperative in Maydh that is tasked with supporting the fishers and lobbying for their interests.

## Enforcement

There are fishery laws and regulations to govern fisheries in Somaliland, but enforcement capacity is low. If there is a local fishing issue, different levels of government, tribal leaders, or the coast guard may get involved depending on the severity of the issue.

## Market

Erigabo is the closest large city, making it the main market for fish from Maydh. However, the condition of the road and the lack of an ice facility means fresh fish caught in Maydh can spoil before reaching Erigabo. Dried fish, which travels more readily, is a less desirable product to the Somali palate. The private fishing companies in Maydh package and export fish to local and international markets including the UAE, Saudi Arabia, and China.<sup>31</sup>

## Investments

In Maydh, there are at least two fishing companies that receive some external financing: Pontus Marine<sup>32</sup> and the Zakia Fishing Company.<sup>33</sup> Both have a fleet of small boats, freezers, ice makers, and processing and packaging



*Beach and boats docked along the shore of Maydh*

facilities. Pontus Marine ships its products via air, while Zakia has a large boat with a freezer they use to collect the catch and store it. Zakia also has a freezer truck that they use to transport their products around the region.

## Potential Development

Besides the work already taking place, the main opportunities are to improve infrastructure in Maydh and to pave the road between Maydh and Erigabo. This would benefit the town as a whole and open the corridor for more commerce in all sectors, including fishing. With improvements to the dock, Maydh could serve as a small port for the entire Sanag region, providing there is reliable transportation between Maydh and the capital.

Because Maydh is small but has an office for the ministry, a fishing cooperative, and growing fishing businesses, it is a good candidate to be a site where organized fisheries data collection can begin. Data collection carried out by the cooperative and collated by the government is necessary to more fully understand the state of fisheries resources and build a broader regional fishery assessment. Maydh is a good candidate for a location to conduct pilot projects to establish the feasibility of systematic data collection in Somaliland.

Bolstering the fishing cooperative and fostering engagement between it and private companies could have follow-on benefits for the local community. Projects in Maydh could involve training women and youth in both gear and mechanical maintenance and repair, how to process and package fish, and other non-fishing skills that would improve their chances of employment in one of the growing fishing businesses. Collaboration between the cooperative and private companies on price setting would also benefit both entities.

Without an ice-making facility for use by the cooperative fishers outside of private companies, the main fish product coming from Maydh is dried fish. Though frozen fish fetches a higher market price and Somalis prefer its taste, the market for dried fish can be expanded while the ice facility is completed. A campaign encouraging fish eating in Erigabo and other cities could be helpful in educating inland



*Maydh Island fishers preparing to scrape up guano, Abdi Jama.*

citizens on ways to prepare fish and the health benefits, thereby creating greater demand for fish products.

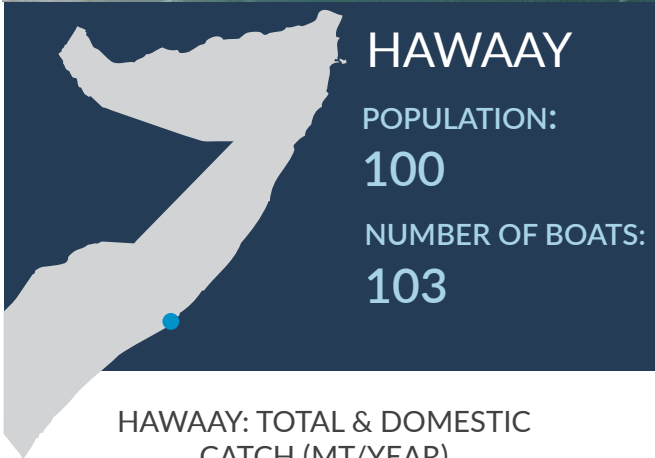
Existing laws prohibit most foreign fishing in Somaliland, yet the proportion of foreign fishing near Maydh is high (53 percent). Increasing enforcement capacity through building up and training the coast guard or maritime police force is necessary to control foreign fishing. In lieu of having a full law enforcement team based in Maydh, fishers could be trained to recognize and report illegal fishing to the Somaliland Coast Guard, the only law enforcement authority that currently exists, which is based in Berbera.

Caution is warranted when considering market or capacity expansion. Rather than increasing the amount of catch, fishers would benefit from focusing on the more sustainable but still lucrative species such as trevally and jacks. Provision of more selective gear and trainings in how to efficiently target these species would be beneficial to fishers and create a system with long-term production potential.

A dark blue silhouette of the country of Somalia is centered on a lighter blue background. A white circle with a thin border is positioned on the southern coast of the map, indicating a specific location of interest.

## IV. CASE STUDY: HIRSHABELLE STATE

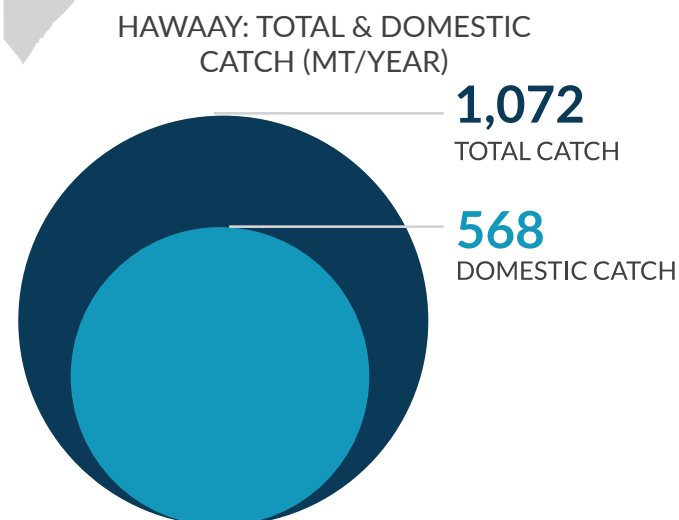
One of our case studies covers a location in Hirshabelle State: Hawaay. The Hiiraan and Middle Shabelle areas of Somalia combine to form Hirshabelle State. This region has served as the breadbasket for the Horn of Africa throughout history because the Shabelle River provides fresh water and irrigation for crops. The coast has many well-established fishing communities that benefit from the proximity of the markets and export capabilities of Mogadishu. However, as in other regions, fishing communities have endured decades of meager production yields due to the lack of adequate equipment, skills, resources, and markets. Hirshabelle's Ministry of Planning has identified the strategic goal of developing the fishing industry as being a top economic development priority. Fisheries are governed by the Federal Government of Somalia based in Mogadishu. Federal fishing laws and regulations are enacted by the Ministry of Fisheries and Marine Resources.



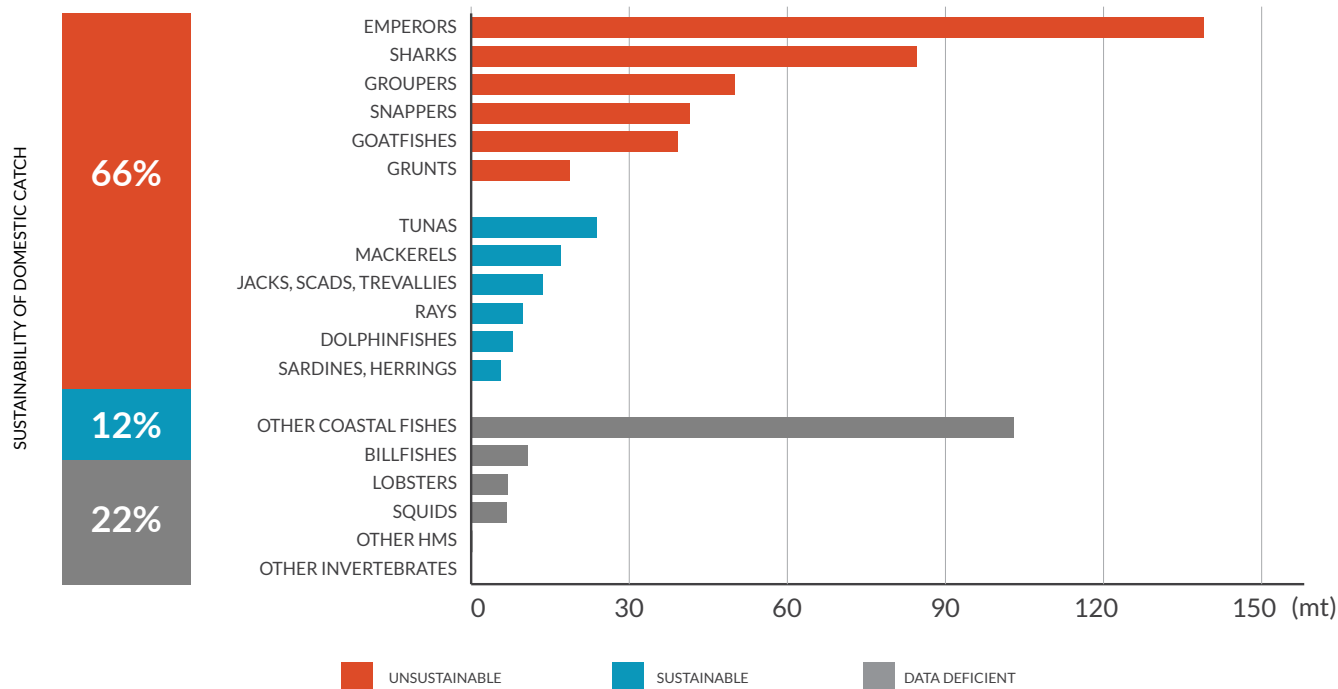
Hawaay, the smallest site in this assessment, has an estimated population of 100. Much of the land is privately owned, but there is a small fishing community. The presence of fishing boats in the area increases temporarily during the monsoon season (April–June) when the Mogadishu landing sites are unavailable to small boats due to large waves.

As in other coastal towns, Yemeni boats commonly fish near Hawaay. Large Yemeni vessels act as motherships to collect fish catch. They acquire licenses from the federal Ministry of Fisheries and Marine Resources in Mogadishu, then send smaller Yemeni boats to Hawaay, Elamaan, Warshiikh, and Adale while the larger boat remains near Mogadishu to collect the catch and transport it back to Yemen.

According to local fishers, the fishing grounds near Hawaay are especially productive. The main catch is reported to be lobster, snapper, grouper, tuna, and shark.



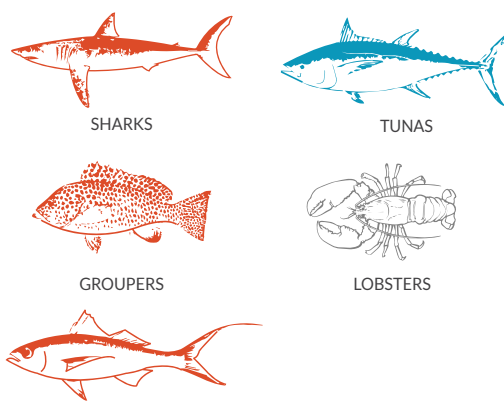
**FIGURE 12: DOMESTIC CATCH SUSTAINABILITY & COMPOSITION IN HAWAAY**  
*Data from The Sea Around Us*



### Infrastructure

Hawaay was first established in the 1970s by an Italian business owner as a hub for catching, processing, and storing lobster for export to Italy and the UAE. This business had an associated cold storage facility, an ice plant, and other facilities for processing, packaging, and exporting the product. At that time, about 10 to 20 tons of lobster were exported annually. After the collapse of the Somali government in 1991 and the ensuing civil war, a Somali took over the operation but was unable to keep it running. The business folded, and the associated infrastructure is not currently operational.

### HAWAAY: MAIN CATCH *Reported by Local Fishers*



*Local fishers reported these fish as being the main species or types they catch. They did not report quantities.*

### Fisheries Governance

There are no local regulations on fishing in Hawaay.

### Enforcement

There are no enforcement mechanisms in place in Hawaay.

### Market

The main local market for fish is Mogadishu. Dried shark meat is exported to Kenya, and lobsters are exported to the UAE.

## Investments

There are no current international projects or private investments in Hawaay.

## Potential for Development

The large population and the presence of African Union Mission in Somalia (AMISOM) troops and other international actors in Mogadishu means there may be more demand for fish there than in other areas of Somalia. This is a market opportunity for fishers from Hawaay and the surrounding area. Proper preservation of the fish is necessary to ensure it will make it to Mogadishu, so investing in freezers and conducting trainings on other hygienic methods of processing and storing fish would be beneficial. In lieu of major infrastructure installments, trainings about other hygienic fish preservation methods like salting and drying would be useful, especially to women, who are often involved in fish processing. Though salted and dried fish does not fetch as high a price as frozen fish, the small population in Hawaay means there will be more opportunities to sell fish in any form outside of the town.

Because fishers cite lobster as being part of the main catch in Hawaay, there is potential for education on sustainable fishing of localized stocks. Lobsters prefer specific habitats and area easy to catch; therefore, they are also easily



*Cooler from a former fishing company based in Hawaay, Abdinasir A. Hassan.*

overexploited. To avoid decimating the population and eliminating this source of livelihood, trainings could be implemented to ensure fishers are only taking lobsters over a certain size and avoiding females of reproductive age.



*Ruins on the beach of Hawaay, Abdinasir A. Hassan.*

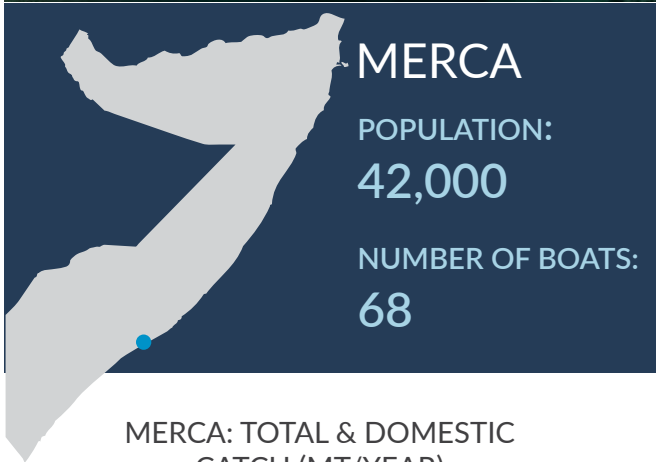


## V. CASE STUDY: SOUTH WEST STATE

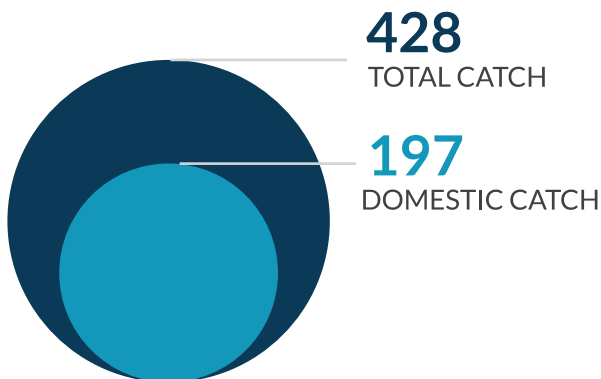
One of our case studies covers a location in South West State: Merca. A reconciliation conference in Baidoa in October 2014 combined three southern Somali regions to form the Interim South West Administration (ISWA). South West State has a regional constitution endorsed by the conference delegates which was formally enacted in November 2014. Like Hirshabelle State to the north, the South West State of Somalia is an agriculturally rich area with both the Juba and Shabelle Rivers running through it. There is potential to develop and expand the production of irrigated and rain-fed agriculture and livestock in this area. With access to the markets of Mogadishu and Ethiopia, commerce in the region is growing, including fisheries. Fisheries are a major economic driver, with the largest artisanal fishing communities traditionally based in the Lower Shabelle region of the South West State.

The South West State is under federal jurisdiction and is subject to the federal fishing law and regulations put forth by the Ministry of Fisheries and Marine Resources. This region faces security challenges that make development work difficult.





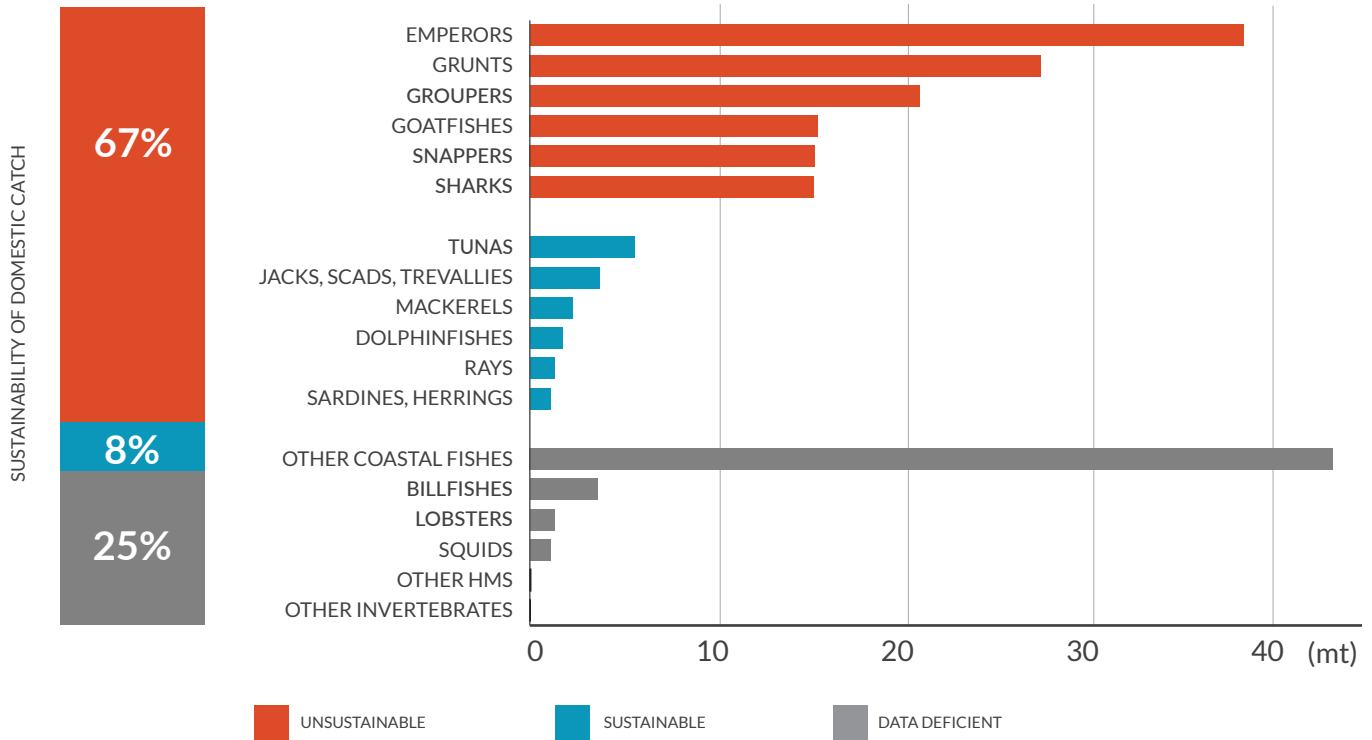
MERCA: TOTAL & DOMESTIC CATCH (MT/YEAR)



Among the locations in our case studies, Merca has the largest population. According to a 2014 survey by the United Nations Population Fund (UNFPA), the Merca district’s urban population is around 42,000, though there is not a good estimate. It is located about 100 km south of Mogadishu in an area of Al-Shabaab activity, so the security situation is not stable, making it a difficult place for international organizations to operate. Though the town is under government control, Al-Shabaab activity along the roads and in rural areas makes transportation difficult. We did not include security in our initial assessment, but future identification of sites for fisheries development will incorporate this variable.

Fishers report that their main catch includes snapper, grouper, tuna, billfish, shark, and lobster. All of these are unsustainable or data-deficient except some species of tunas.

**FIGURE 13: DOMESTIC CATCH SUSTAINABILITY & COMPOSITION IN MERCA**  
 Data from *The Sea Around us*



### Infrastructure

Merca has little civic infrastructure. While there is a road connecting it to Mogadishu, it is difficult to use during the rainy season. Merca used to have a port and the lighthouse tower is still visible, but there is currently no functioning port or fisheries infrastructure.

### Fisheries Governance

There are no local regulations on fishing in Merca.

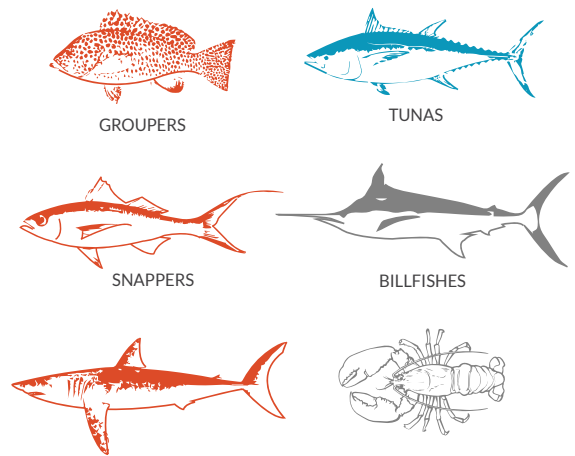
### Enforcement

There are no fisheries enforcement actions being taken in Merca.

### Market

The main market for fish from Merca is Mogadishu. Lobster is shipped to Dubai, UAE and dried shark goes to Mombasa, Kenya.

### MERCA: MAIN CATCH Reported by Local Fishers



*Local fishers reported these fish as being the main species or types they catch. They did not report quantities.*

### Investments

There are limited current international or private investments in Merca.

### Potential for Development

Unfortunately, the security situation in Merca prohibits most activities that would improve fishing livelihoods. If security improves, there is potential to benefit from the markets of Mogadishu and neighboring Kenya. In order to take full advantage of these markets, significant improvements would need to be made to the processing and storage of fish and to the roads leading out of Merca.



*A member of the Somali National Army stands guard on a beach near the city of Merca. AU-UN IST PHOTO / Tobin Jones*





*Mosque in Merca, somaliweyn/Google Earth.*

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## OEF'S APPROACH

OEF is a self-funded, private operating foundation seeking to create a more peaceful world through collaborative, data-driven initiatives. OEF focuses on enhancing maritime cooperation, creating sustainable jobs in fragile economies and research which actively contributes to thought leadership on global issues. As an operating foundation, One Earth Future provides strategic, financial and administrative support allowing its programs to focus deeply on complex problems and to create constructive alternatives to violent conflict.

Secure Fisheries is a program of One Earth Future. Secure Fisheries works with local, regional, and international stakeholders to strengthen fisheries governance, combat illegal fishing, and promote sustainability in fragile and post-conflict regions as a pathway towards greater peace and stability.



**SECURE FISHERIES**

Advancing Sustainable Fisheries

*a program of One Earth Future*

[securefisheries.org](http://securefisheries.org)

*a program of*

**one earth**  

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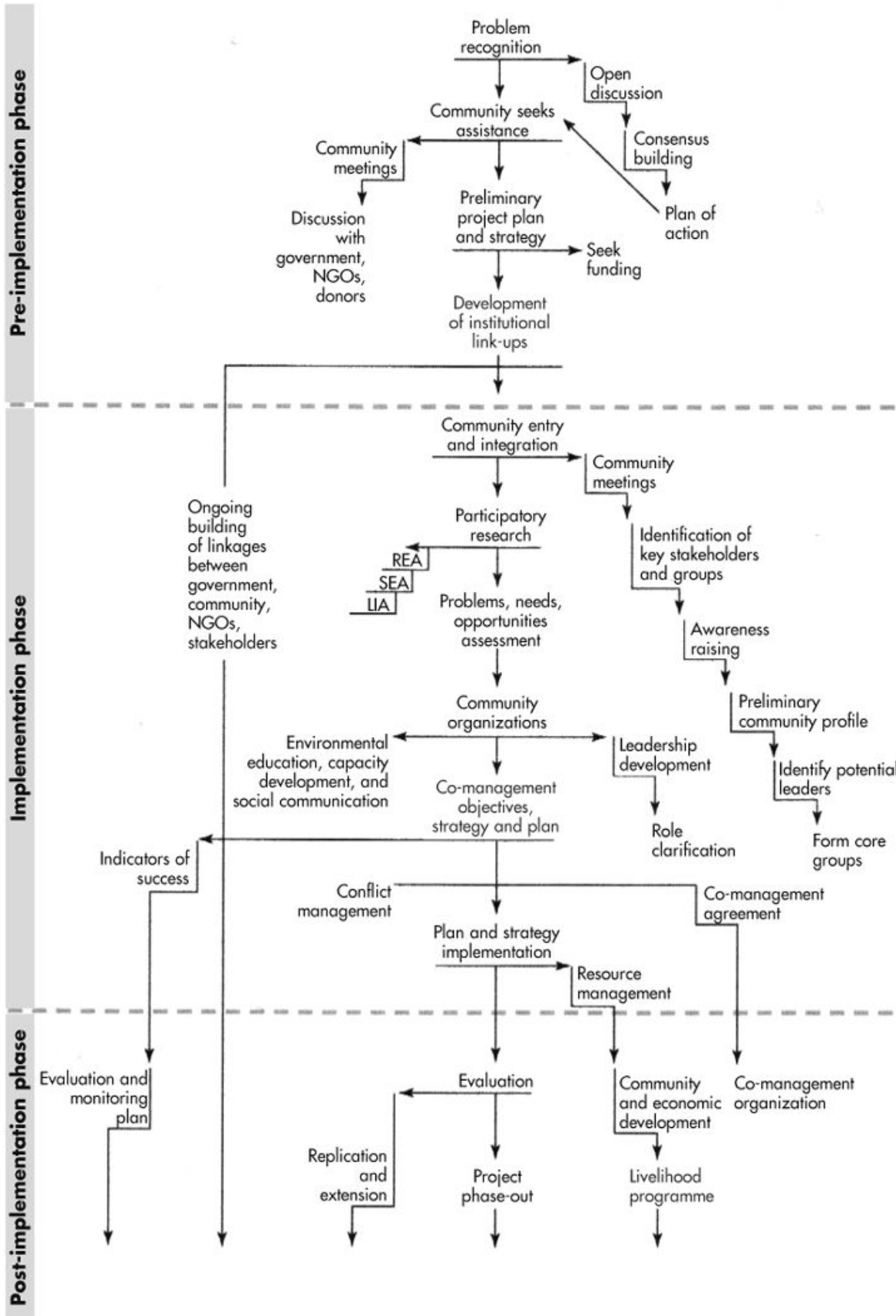
**FUTURE**

*Peace Through Governance*

[oneearthfuture.org](http://oneearthfuture.org)

# Fisheries Co-Management Timeline

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WORKSHOP REPORT | FEBRUARY 2020

# SOMALIA FISHERIES CO-MANAGEMENT: GOVERNMENT WORKSHOP

NAIROBI, KENYA; JANUARY 6–7, 2020

**OVERVIEW:** Co-management is a partnership between the government and resource users to provide effective governance structures for fisheries management, especially in areas with low capacity for traditional or centralized fisheries management. Somali fishing communities and government stakeholders have expressed interest in implementing co-management as a means of improving sustainability and livelihoods in the fisheries sector. The following brief is a product of a fisheries co-management workshop that was hosted by Secure Fisheries for Somali government stakeholders in order to introduce the concept and process of fisheries co-management. Government representatives from across Somalia indicated support for co-management and discussed next steps for implementation.

As Somalia becomes more stable and the economy grows, marine natural resource management must catch up to business interests and sectoral development to ensure a sustainable and profitable Blue Economy. Co-management also has benefits outside of the fisheries sector. It improves governance and transparency and increases trust and decreases conflict between fisheries stakeholders.

On January 6–7, Secure Fisheries hosted a workshop on fisheries co-management for Somali government officials facilitated by co-management expert Dr. Robert Pomeroy. The workshop was designed to improve understanding of the co-management process and generate discussions around coordination to produce tangible and realistic paths for the Federal Government of Somalia (FGS) and Federal Member States (FMS) to implement co-management. Participants voiced support for co-management and said they believe it will be an effective system for their country.

In Somalia, the fisheries sector faces a lack of management and economic security. Even where marine resources are abundant, fisheries management is absent. Across Somalia, fishers lack training, equipment, and infrastructure. In Puntland, the sector lacks funding, staff, information, and technical and financial support. Many are still struggling to

recuperate from past conflict, which decimated much of the sector's infrastructure. Hirshabelle was especially hard-hit.

Without strong fisheries management, fishers have already been experiencing the depletion of important fish stocks. Participants reported a decline in lobster catch, one of the most profitable stocks in the region. Somali fishers' range is limited by the capacity of their boats, meaning they can only fish near the coast and for a few months out of the year. This makes them especially vulnerable to depleted fish stocks.

*In Somalia, the fisheries sector faces a lack of management and economic security. Even where marine resources are abundant, fisheries management is absent. Fishers lack training, equipment, and infrastructure.*

Somali participants emphasized the strong history of cooperatives in the country and provided background to Secure Fisheries. Prior to the civil war, many fishing communities had strong infrastructure and reliable markets, and fish was purchased by the government and resold to



international partners including Russia and Italy. But much of this infrastructure was decimated by conflict. In Jubaland, “people are nostalgic about the fishing sector,” and some structures still remain, namely several fisheries cooperatives. While the cooperatives primarily provide collective economic benefits for fishers rather than fisheries management, they are important entities to engage with and may even provide a foundation for fisheries management.

Fisheries co-management aligns well with gaps in the fisheries sector and the advancement of the Somalia National Development Plan. Beyond advancing the fisheries sector, co-management can promote inclusive politics, effective institutions, and economic and human development. If co-management is designed inclusively, it can also promote gender equality.

*Fisheries co-management aligns well with gaps in the Somali fisheries sector and the advancement of the Somalia National Development Plan. Co-management can also promote inclusive politics, effective institutions, and economic and human development.*

## WHAT IS FISHERIES CO-MANAGEMENT?

Co-management is a partnership between the government and resource users to provide an effective governance structure for fisheries management. In areas with little capacity for traditional fisheries management, co-management has emerged as a means of promoting a more suitable form of resource governance. It has been implemented around the world to provide more equitable and effective fisheries management systems. By involving resource users in the fisheries management process, co-management generates stronger buy-in. Co-management is different from community-based management because it acknowledges the necessity of including government in the process. Co-management can take many different forms and include different stakeholders, resource regulations, and levels of power-sharing. Some of the potential power-sharing structures are:

- **INSTRUCTIVE**—There is only minimal exchange of information between government and fishers. This type of co-management regime is only different from centralized management in the sense that the mechanisms exist for dialogue with users, but the process itself tends to be government informing fishers of the decisions they plan to make.

- **CONSULTATIVE**—Mechanisms exist for government to consult with fishers but all decisions are made by government.
- **COOPERATIVE**—Government and fishers cooperate as equal partners in decision-making.
- **ADVISORY**—Fishers advise government of decisions to be made and government endorses these decisions.
- **INFORMATIVE**—Government has delegated authority to make decisions to fisher groups who are responsible for informing government of these decisions.

Dr. Pomeroy has supported the implementation of co-management in 70 different countries, some with similar contexts to Somalia’s. For example, Liberia, Cambodia, and Vietnam all implemented co-management systems following destructive violent conflict. Co-management can be beneficial in areas with low central-government capacity to distribute the burden of fisheries management.

The process of implementing fisheries co-management usually takes three to five years to work towards a system becoming self-sustaining. At this point, roles are well-established, strong lines of communication between fishing communities and government are in place, and fisheries management regulations are in place. The process requires significant collaboration and building of trust.

In order for the co-management body to be effective and to advance Somalia’s National Development Plan, it should be inclusive. Women comprise an important stakeholder group in the fisheries sector. They are often involved in marketing and processing fish as well as in making nets. However, around the world, women are frequently underrepresented in fisheries management. It is important for the success of co-management that it includes women’s perspectives, meaning that women are not only present in co-management meetings, but are encouraged to speak. Co-management can also serve to improve women’s skills in the sector, benefiting them, their communities, and the economy as a whole. For example, Secure Fisheries facilitated a net-making training to build skills for women and men in the fishing sector in Bander Beyla. Women are in turn more likely to reach out to other women in their networks to disseminate new information and skills. Furthermore, recent research in Kenya indicates women in co-management units were perceived as more trustworthy than their male counterparts. Fishers may also have less power in fisheries management compared to boat or gear owners due to their comparative lack of formal education and capital. However, it is vital for fishers to have a strong role in fisheries co-management to ensure that regulations are well-informed and adhered to.

## INTEGRATING AN ECOSYSTEM APPROACH TO FISHERIES MANAGEMENT

Traditional fisheries management focuses on the control of one species (or stock) of fish at a time; such an approach often fails to protect fish stocks from overexploitation. Ecosystem Approaches to Fisheries Management (EAFM) recognize that the marine environment, the terrestrial environment, and interactions between species (e.g., predator–prey relationships) must be considered when designing effective fisheries management. EAFM (the approach to natural resource management) complements co-management (the approach to governance), especially where technical stock assessments are not yet possible. Data-poor approaches to EAFM convene fisheries stakeholders to collect all available ecosystem information, make management decisions, learn from those decisions, and adapt management plans. Even where information is not perfect, Dr. Pomeroy states, “it is better to manage, make mistakes, and learn, than not to manage at all.” EAFM also has the other benefits of improving communication between stakeholders and developing more transparent and effective resource governance.

## CASE STUDIES OF FISHERIES CO-MANAGEMENT

Fisheries co-management has been implemented in locations throughout the world. In order to provide lessons learned for Somalia, Secure Fisheries developed four case studies of fisheries co-management in Africa—in Kenya, Tanzania, Mozambique, and Liberia. Each country had important motivations for implementing co-management, including IUU fishing, diminishing fish stocks, and conflict between fishers.

In each case, different regulations were modified or established to better suit the fishing community’s needs. In Tanzania and Mozambique, consultative co-management units were implemented in which resource users were consulted before government decisions were made. In Liberia and Kenya, more autonomy was placed on resource users, with Liberia implementing a cooperative system and Kenya implementing an advisory system.

Funding structures were also different in each location. Other than Tanzania, every country used donor funding to support co-management. And every country used some combination of fishing fees or co-management fees for local and/or external fishers. Mozambique also implemented fines for illegal fishing, but these can often be ineffective if they are enforced within the fishing community. If fines are too severe, community members may opt to look the other way when their neighbors violate regulations.



*A Somali fisher carries fish from a car in Hamar Weyn district’s fish market. Mogadishu, Somalia. Photo: Ilyas A. Abukar, AU UN IST,*

## FEASIBILITY FOR SOMALIA

Overall, participants believed that co-management is feasible for Somalia at the federal, state, and community level. Participants discussed the pros and cons of these examples and which type of system would be best suited for Somalia. Through discussion, it emerged that the consultative or cooperative co-management systems appeared to be most appropriate for the Somali context. These systems provide a useful template for establishing power-sharing, but it is important to tailor them to the needs of Somalia. Thus, a hybrid between two systems may also be most suitable, and these systems can change over time as fisheries management and the co-management unit develop.

*Participants believed that co-management is feasible for Somalia at the federal, state, and community level. Through discussion, it emerged that the consultative or cooperative co-management systems appeared to be most appropriate for the Somali context.*

However, there are challenges for implementation in Somalia. It will be important to focus on increased trust between communities and government. This is the most important component of successful fisheries co-management and will require further communication and transparency. Another obstacle is funding. While there is some revenue generated from licensing, little funding is allocated to the fisheries sector in Somalia. There is potential to use revenue from licensing while seeking external funding. Co-management may also make external funding more accessible because it necessitates responsible, transparent, and inclusive resource governance—some of the main requirements stated by external donors.

## ROLE OF THE GOVERNMENT

Government representatives discussed the role of the government and the next steps to advance co-management in Somalia. One of the first steps is incorporating co-management into federal fisheries policy, with input from member states, existing local fisheries cooperatives, and fisheries businesses. The policy should include operations for coordination, communication, and roles, and outline how communities will deal with fisheries management challenges. The federal government has already made significant progress towards this in the most recent draft of the fisheries policy.

### Next Steps

- **AGREE ON A CO-MANAGEMENT APPROACH:** the style of co-management can adapt over time, but during early stages, co-management implementers must decide on power-sharing between government and community. Once the co-management style is established, stakeholders can initiate channels for communication and establish operations for making management decisions.
- **INCORPORATE CO-MANAGEMENT INTO POLICY:** Somalia is already ahead of many other countries because it is incorporating co-management into its updated fisheries policy. The FGS and FMS can then decide whether the FMS will duplicate the FGS policy towards co-management or tailor policies to their own states.
- **ESTABLISH FUNDING FOR CO-MANAGEMENT:** this will likely be a combination of revenue generated from the fisheries sector and external funding.
- **IDENTIFY COMMUNITIES TO IMPLEMENT CO-MANAGEMENT AS PILOT PROJECTS:** each Director General agreed to pilot co-management in their respective state. These pilot communities will provide lessons learned for the Somali context to inform nationwide management planning.
- **SENSITIZE COMMUNITIES TO CO-MANAGEMENT:** Secure Fisheries will work with government stakeholders to develop educational materials around fisheries co-management for fishing communities.

## Conclusion

This workshop was an important first step in terms of building knowledge and coordination between government stakeholders. Participants generated active discussion about how to implement co-management in Somalia and were enthusiastic about advancing co-management. Securing funding and maintaining strong communication and coordination between the federal government, state government, and fishing communities will be key challenges for Somalia to address in this process. But co-management also has the potential to serve Somalia, advancing long-term profits in the fisheries sector, establishing sustainable and transparent governance structures, and developing dispute resolution mechanisms to mitigate coastal conflicts. Somalia is still home to more abundant marine resources than many of the other areas in which co-management has been implemented, and its leaders have the knowledge and motivation to improve the sector. With the support of government leaders, Somalia could become a global leader in fisheries co-management.

## ENDNOTES

- 1 [Women in Fisheries Co-management: Limits to participation on Lake Victoria.](#)

## ONE EARTH FUTURE

[oneearthfuture.org](http://oneearthfuture.org)     

One Earth Future (OEF) is a self-funded, private operating foundation seeking to create a more peaceful world through collaborative, data-driven initiatives. OEF focuses on enhancing maritime cooperation, creating sustainable jobs in fragile economies, and research which actively contributes to thought leadership on global issues. As an operating foundation, OEF provides strategic, financial, and administrative support allowing its programs to focus deeply on complex problems and to create constructive alternatives to violent conflict.

## SECURE FISHERIES

[securefisheries.org](http://securefisheries.org)  


Secure Fisheries is a program of One Earth Future. Secure Fisheries works with local, regional, and international stakeholders to strengthen fisheries governance, combat illegal fishing, and promote sustainability in fragile and post-conflict regions as a pathway towards greater peace and stability.

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SECURE FISHERIES

Advancing Sustainable Fisheries

*a program of One Earth Future*

one earth  
FUTURE

# Power Sharing for Fisheries Co-management in the Somali Region

## A Template for Co-management Associations

### 1. Rationale for Power Sharing

Power sharing, as used here, refers to a “politically negotiated process of making decisions on the ownership, control, and overall policy directions of coastal resources.”<sup>1</sup> This may involve questions of resource allocation, distribution of resource benefits, and management arrangements among stakeholders. It is important for the success of co-management that involved entities come to an agreement on power sharing. This enables a shared understanding of roles and responsibilities for the involved entities, and provides documentation of decisions. These roles are flexible and should be decided upon by the involved entities based on local context. This document provides a template for a power sharing agreement for a co-management association that can be applied to fishing communities in the Somali region.

### 2. Stakeholders involved

*May be divided into “Primary” and “Secondary” stakeholders.*

- Government:
  - i. Entity 1
  - ii. Entity 2
  - iii. Entity 3
- Resource Users:
  - i. Entity 1
  - ii. Entity 2
  - iii. Entity 3
- Change Agents:
  - i. Entity 1
  - ii. Entity 2
  - iii. Entity 3
- Other Stakeholders:
  - i. Entity 1
  - ii. Entity 2
  - iii. Entity 3

### 3. Definitions

- **Artisanal fishing:** small-scale fishing, for commercial (as opposed to subsistence) purposes, using an artisanal fishing vessel where the owner is directly involved in the day-to-day running of the enterprise

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<sup>1</sup> National Fisheries By-Laws Working Group, “Managing Artisanal Fisheries through a Co-management Approach Using Fishing Rights in Liberia: By-Laws,” September 1, 2011

- **Co-management:** a partnership arrangement in which the fishers and government share the responsibility and authority for management of the fishery. Through consultations and negotiations, the partners develop a formal agreement about their respective roles, responsibilities, and rights in management
- **Co-management Association (CMA):** a structure to manage fisheries at community level and which performs as the decision making body for the designated area
- **Fisheries Waters:** the waters over which [the Somali region] exercises jurisdiction or sovereign rights as declared in relevant national laws
- **Fishery or Fisheries:**
  - i. one or more stocks of fish, or parts thereof, which can be treated as a association for the purposes of conservation, development, and management, taking into account geographical, scientific, technical, customary, recreational, economic and other relevant characteristics; or
  - ii. any fishing for such stocks;
- **Fishing:**
  - i. searching for, catching, taking, or harvesting fish;
  - ii. the attempted searching for, taking, or harvesting of fish;
  - iii. engaging in any other activity which can reasonably be expected to result in the locating, catching, taking, or harvesting of fish;
  - iv. placing, searching for, or recovering any fish aggregating device or associated equipment including radio beacons;
  - v. any operation at sea in support of or in preparation for any activity in relation to a fishing vessel described in (i), (ii), (iii) or (iv);
  - vi. any use of an aircraft which is related to any activity described in section f (i), (ii), (iii) or (iv), except for flights in emergencies involving the health or safety of a crew member of the safety of a vessel, but does not include aquaculture or the transportation of fish;
- **Fishing Rights:** a kind of right, by which fishers may have exclusive use for a designated area and resources. It is an authorization given to fishing communities to enable them to do fishing.
- **Illegal, Unreported, and Unregulated (IUU) Fishing:**

#### 4. Purpose of this Co-management Association

[Insert the primary purpose for the existence of this co-management association, including locations covered]

#### 5. Physical Scope of Co-management Association

[Define the Fisheries Waters that are covered by the jurisdiction of this agreement]

#### 6. Inclusivity and equity

*For the co-management association to be successful, the power sharing agreement should emphasize the need for inclusive representation, with particular attention to the involvement of women, youth, and other marginalized or vulnerable groups within the community. These stakeholders are involved in important roles throughout the fisheries value chains and hold important information and perspectives. If they do not benefit from co-management, compliance and legitimacy will be undermined and the co-management association will fail to achieve its*

*goals. The power sharing agreement should include statements supportive inclusive membership and potentially outline mechanisms for outreach to these stakeholders.*

[Include specific commitments by the parties to inclusivity and equity]

## **7. Type of Co-management Association**

It can be helpful to this process to define the type of co-management association. There is a range of government and resource user involvement and these relationships can change as the co-management association develops. While it may be useful to decide on a type of co-management in this power-sharing agreement, the co-management association may decide that this should evolve over time.

### *Examples of co-management association types*

- Instructive: There is only minimal exchange of information between government and fishers. This type of co-management regime is only different from centralized management in the sense that the mechanisms exist for dialogue with users, but the process itself tends to be government informing fishers about the decisions they plan to make.
- Consultative: Mechanisms exist for the government to consult with fishers but all decisions are made by the government.
- Cooperative: Government and fishers cooperate together as equal partners in decision-making.
- Advisory: Fishers advise the government of decisions to be made and the government endorses these decisions where appropriate.
- Informative: Government delegates authority for all decisions to fisher groups who are responsible for informing the government of those decisions.

## **8. Roles of the Entities Involved in Co-management**

The responsibilities of the co-management association vary based on stakeholder needs and goals. Some examples of co-management responsibilities are listed below, but these responsibilities are neither necessary nor exhaustive. They are meant to generate discussion and provide ideas for inclusion in the power sharing agreement specific to a community or location.

### Non-negotiable roles

#### *Government*

The government should empower the community, through legislation, to authorize and legitimize their right to organize, to make and enforce decisions of the co-management association, and to recognize the legitimacy of co-management associations. Its responsibilities also include taking action at the regional and national levels to combat Illegal, Unreported, and Unregulated (IUU) fishing, through international agreements, inter-agency coordination, and information sharing. The government should trust the knowledge held by fishing communities and consult with them on fisheries management decisions and policy. The government should also be transparent with the community regarding policing and enforcement. Last, the

government should commit to reinvesting in fishing communities, such as through profits from licensing. These steps will be important for trust building and for fisheries sector development.

#### *Community members and resource users*

The resource users and fishing community should openly share knowledge with the government, including information on suspicious vessels, management measures, and catch and ecological information. The fishing community should also bring issues and concerns to the government when they are not resolvable at the community level. The community should agree to abide by policies coming from the co-management association, and commit to creating norms around compliance with management plans.

#### **Other Potential Roles/Functions**

- **Management measures:** Development and Implementation of ecosystem-based management measures (MPAs, Gear restriction, Closed seasons).
- **Compliance and enforcement:** Includes formulating, rationalizing and imposing the rules and regulations for their overall well-being
- **Catch data collection:** The co-management organization will collect fisheries catch data. Data collection is important for ensuring the successful management and sustainability of fisheries and informing policy decisions.
- **Monitoring:** Keep track of the effects and impacts of the management measures. Monitoring makes it possible to learn if fisheries management measures and alternatives are working out.
- **Fundraising:** This may involve external actors in the early stages, but ultimately the Co-management Association will need to consider how to generate local revenue to finance activities, such as through membership or licensing fees.
- **Capacity building:** This should include empowering and equipping fishers and others working in the sector, such as pre- and post-harvest workers, with the knowledge and skills they need to be successful.
- **Environmental education:** Environmental education is a critical ingredient in the transformation of community members into active partners in co-management. It includes awareness raising around the environment and sustainability.

#### **9. Issue Scope of Co-management Association**

[Issues relevant and not relevant to this co-management association]

#### **10. Conflict Management and Dispute Resolution Board**

A dispute resolution mechanism, implemented by a board of representatives from the co-management association, provides a platform to peacefully discuss and resolve conflicts and disputes between co-management stakeholders. The structured process will help opposing parties express differences and solve problems in a collaborative way, focusing on the problem (not the people) and creating awareness of interdependence among stakeholders.



- a. Board mandate: To facilitate the progression of conflicts through the structured resolution process, encouraging peaceful, problem-focused solutions.
- b. Board membership: The board should have equal representation of the co-management association stakeholders. The total number of board members will be an odd number (e.g., 5, 7, or 9) depending on the size and diversity of the commassociationy they are representing. Board membership composition should be decided early in the process. *[Insert here consensus on how many board members and what stakeholders will be represented]*
- c. Board membership appointment: Board members may be elected or appointed, and it is recommended they have rotating terms every few years. *[Insert here consensus on how board members are appointed or elected]*

Development and approval of the conflict dispute mechanism process should happen long before stakeholders assess their first dispute. One proposed dispute resolution mechanism might follow this process.

- a. Activation: The resolution process begins by any member of the stakeholder group (fishers, NGO, government) bringing the issue to assigned managers of the mechanism.
- b. Assessments: Community stakeholders analyze the conflict, including who is involved, the causes of the conflict, incentives and disincentives to resolve conflict. Stakeholders then set up an initial strategy for dealing with the conflict.
- c. Agreement: Individual stakeholder groups carry out their own assessments, then all stakeholders come together to assess and select the best resolution strategy, including agreed upon decisions for how to implement and monitor the plan.
- d. Action: Plan is implemented and monitored.
- e. After-action: Following the implementation of the agreement, the stakeholder group will evaluate the outcomes and impacts of their decision.

The dispute resolution mechanism can also be used to address foreign fishing in territorial waters. For example, community members will report foreign vessel sightings to the board, who is responsible for relaying the information to the regional and federal authorities through a messaging system. Board members are also responsible for communicating information they receive about the vessel (e.g. flag, license, enforcement measures) to the community. This information path will encourage the development of a communication plan between the various levels of government for a collaborative effort against illegal fishing.

## 11. Responsible Entities

- a. **Government Stakeholder Entity 1**  
[insert list of relevant responsibilities]
- b. **Government Stakeholder Entity 2**  
[insert list of relevant responsibilities]
- c. **Government Stakeholder Entity 3**

[insert list of relevant responsibilities]

**d. Resource User Entity 1**

[insert list of relevant responsibilities]

**e. Resource User Entity 2**

[insert list of relevant responsibilities]

**f. Other Stakeholder Entity 1**

[insert list of relevant responsibilities]

**g. Other Stakeholder Entity 2**

[insert list of relevant responsibilities]

**12. Agreements and Ground Rules**

In order to ensure the effectiveness of the co-management association, it is useful to outline agreements and ground rules for how the parties will interact and communicate, including:

- Frequency of meetings
- Points of contact for each stakeholder group
- Rules and guidelines for communication

# FAA'IIDOOYINKA MAARAYN-WADAAG



Maarayn-wadaagu wuxuu kordhiyaa wada shaqaynta ka dhaxaysa dawlada iyo bulshada kaluumaysatada ah



Kalluumeysatada



Dawlada



Daneeyayaasha  
Kalluumeysiga



Daneeyayaasha  
xeebaha

Maarayn-wadaagu wuxuu kor u qaadayaa hab kaluumaysiga waara oo wax ku ool ah ee Degmada Bandar Beyla



Deegaan  
Caafimaad qaba



Suuq kaluun  
ka buuxo



Cuntada  
Qoyska



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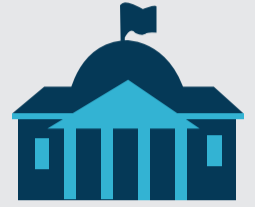
# BENEFITS OF CO-MANAGEMENT



Co-management increases collaboration between the government and the fishing communities



Kalluumeysatada



Dawlada



Daneeyayaasha  
Kalluumeysiga



Daneeyayaasha  
xeebaha



Co-management promotes **sustainable, equitable, and effective** fisheries-management systems in Bandar Beyla



Healthy  
ecosystem



Full fish  
markets



Food for  
families



**SECURE FISHERIES**

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