stop illegal fishing

FISH-i Africa

STOP ILLEGAL FISHING CASE STUDY SERIES **15**

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Assessing risk in Kenya's marine fisheries

A strategic approach to MCS planning

Background

Kenya has coastal and off-shore marine fisheries that support national employment, food, nutrition and government revenue. The coastal fishing grounds are used by artisanal fishers on foot, in dug-out canoes or in small sailing crafts, while slightly larger motorised vessels fish further off-shore. The coastal waters also host a small number of semi-industrial trawlers and support the collection of live ornamental fish for a growing trade in aquarium species. The off-shore waters cut into the rich tuna belt of the South West Indian Ocean, resulting in foreign commercial vessels targeting large pelagic species.

Wishing to maximise the benefits gained from these fisheries, and armed with a new Fisheries Act[1], Kenya set out to establish the institutional, human and infrastructural capacity to implement the new legal framework and to ensure a compliant sector. As part of this process, a risk assessment was carried out, providing the basis for a ten-year monitoring, control and surveillance (MCS) strategy for the marine fisheries.

In 2016, the Kenyan Government set in motion plans for an MCS strategy and development plan for the coastal and marine fisheries. It soon became clear that, despite there being sufficient legislative and institutional frameworks in place, there were insufficient operational funds, limited political understanding and a lack of human capacity to fully implement the MCS requirements. This warranted a strategic approach, including the prioritisation of issues through assessing risks.

A risk assessment process and methodology were applied to the Kenyan coastal and marine fisheries in order to 1) identify and describe the main sub-sectors, 2) assess what risks may occur and to prioritise these risks, 3) identify possible solutions, and 4) for this to feed into an MCS strategy and development plan. This approach offered a transparent evaluation technique, in which a range of players participated to jointly calculate the relative level of risk associated with issues and to allocate management and operational activities to minimise these risks.

STOP ILLEGAL FISHING CASE STUDIES aim to:
Define best practice by analysing practical examples of different approaches in the fight against IUU fishing. They also demonstrate the magnitude of activities and partnerships underway to stop illegal fishing and provide the basis for policy advice.

The story continued

Table 1: Comparison of the benefits gained from the main coastal and marine fisheries of Kenya. (Source: compiled from published information). Currency in USD.

Fishery	Off-shore	Coastal	Shrimp	Ornamental	Sports
Estimated value of fishery at landing	$4 million	$10 million	$750,000	$250,000	$500,000
Employment of Kenyans	111	86,000	100	200	400
Production (tonnes per year)	2,000	10,000	200		1,000

Key					
Level of benefit	Very low	Low	Medium	High	Very high

Prior to conducting the participatory workshop in early 2016, qualitative and quantitative data was collected on Kenyan fisheries. This included an assessment of the policy objectives and legal framework requiring implementation by Kenya as a coastal, flag, port and market State, as well as a review of the current capacity available to implement coastal and marine MCS. Based on the information gathered and knowledge and experience of the participants, five main fisheries sub-sectors were identified as important for MCS: the off-shore, coastal, shrimp and sports fisheries (see Table 1).

For each sub-sector, risks or threats to the integrity of the fisheries management system and the risk that the fishery would not be able to achieve national policy goals were considered. They were then allocated to one of five groups covering risks associated with a) excess or illegal fishing capacity or effort, b) non-compliance in the catching sector, c) non-compliance in the post-harvest sector, d) weak management system and e) environment and ecosystem issues. The likelihood of the risk occurring within a one-year period was defined on a scale of five, from *rare* to *almost certain*. The potential consequences to the integrity of the fisheries management system and to the achievement of national policy goals were described on a scale of five from *insignificant* to *serious*. By combining these two ranks, an inherent risk ranking was applied to each risk of a scale of: *low, moderate, high* or *severe*.

Comparing the number and severity of risks between the sub-sectors, as seen in Figure 1, demonstrates that the coastal fishery (which includes the small and medium pelagic, the small-scale purse seine, the lobster and the reef fisheries) is vulnerable to more severe risks and greater impacts that the other fisheries. In interpreting the analysis of the other sub-sectors to identify priority fisheries, it was proposed that the *low* and *moderately* rated risks be noted for inclusion in the MCS development plan for them to be monitored for possible changes in compliance level and to increase MCS efforts if the risk moves into a *high*-risk status. *Low* and *moderately* rated risks in the coastal fishery were also thought to benefit from a strategic response to improve awareness. Analysis and comparison of these risks across risk area and sub-sector is important to identify the most pressing and dangerous risks to coastal and marine fisheries in Kenya. The analysis also provides a useful baseline for monitoring the implementation of the MCS strategy and MCS development plan.

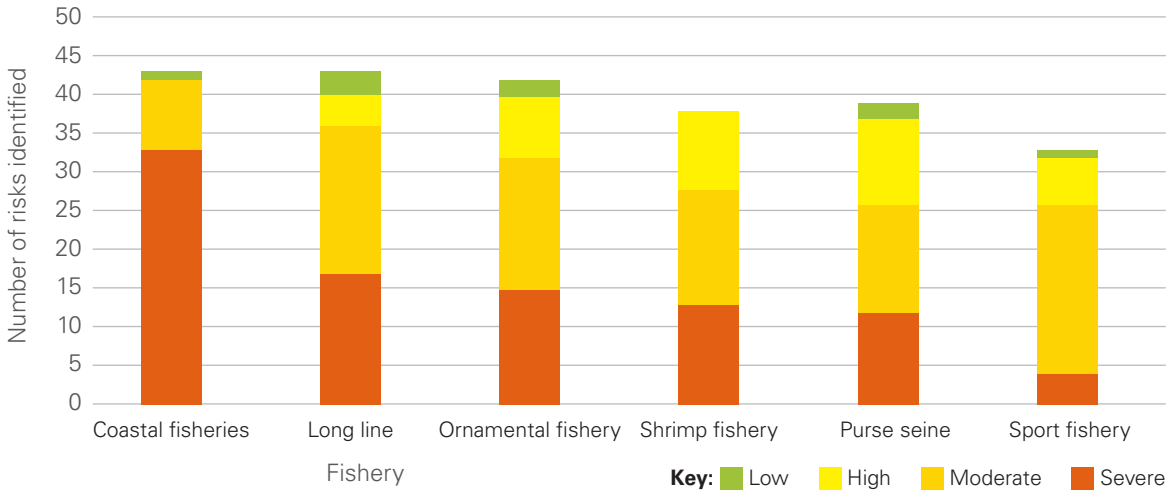

Figure 1: Comparison of the number of identified risks per risk area by sub-fishery

Drivers

SmartFish funded two training workshops in 2012[2] and 2014[3] to build capacity in East Africa and the Western Indian Ocean and prepare a methodology for conducting risk assessments in data-poor fisheries. These laid the foundations for Kenya to build their own fisheries risk assessment.

The 2016 Fisheries Management and Development Act was key in opening the door to a national MCS strategy and development plan and the lack of funding, political support and human capacity to fully implement the MCS requirements drove the need for a strategic approach and thus, a risk assessment.

Challenges

- **Accessing adequate information on the fisheries from a resource management and MCS perspective:** quantitative risk assessments require significant levels of information and as in most developing-country situations, the fisheries are 'data-poor'. The qualitative risk assessment methodology which was applied allowed for the calculation of the *relative level* of risk associated with particular issues in the fisheries. The risks could then be prioritised to lead to better management decisions and subsequently improve the long-term performance of the fisheries.
- **Different views on the importance or relevance of a risk** made it difficult to reach agreements in some cases.
- **Human capacity, background knowledge and understanding of risk assessments in fisheries was limited.** Applying this methodology would benefit from further support of experts to assist in application across a wide range of stakeholders.

Key features and outcomes

- **The MCS strategy for Kenya** that provides the strategic goal, objectives, priorities and targets for coastal and marine fisheries over a ten-year perspective was established as a result of the solid base set up by the risk assessment being combined with the legal and policy review and the capacity assessment.
- **The MCS development plan,** created to accompany the MCS strategy, was developed to provide management and operational actions and details required to turn the strategy into reality in a five-year period. An additional MCS budget was established to provide the financial requirements for implementation.
- **The establishment of the long-term strategic goal:** *long-term sustainable employment, nutrition and revenue are derived from the coastal and marine fisheries of Kenya due to compliant fishers and operators within a vibrant blue economy.* This goal envisages that in ten years the capacity, functionality and sustainability of MCS will exist to fully implement the MCS requirements for coastal and marine fisheries[4].
- The risk assessment not only provided the basis for strategic planning of MCS but also **increased awareness and understanding amongst individuals responsible for implementing the strategy.**
- **Management decisions are urgently required to increase MCS effort through allocation of additional assistance and funds,** as demonstrated by the significant number of high and severe risks in all coastal and marine fisheries.

Lessons learned

- **A risk aligned strategy will assist the country in reducing the vulnerability of its fishery sector,** thus making it more sustainable and able to provide benefits in terms of fish, jobs and income.
- **Areas that require an increased effort in terms of management actions or MCS** to minimize the vulnerability of a fishery to certain risks can be identified by a fisheries risk assessment, when applied correctly.
- **Scoping of the risk context from wide general consultation with stakeholders** helped to determine the true nature of the fisheries and uncover more potential risks than the obvious and well-known ones.
- **Wide participation, support and compromise on the part of the different players** in the risk assessment process was key to arriving at a balanced and widely accepted result. Overall changing practices require stakeholder collaboration. For this reason, the risk assessment methodology encourages the use of a participatory workshop.

Policy implications

- Ensuring that regular risk assessments constitute an intrinsic part of planning and developing MCS strategies in order to prioritise and allocate limited capacity and resources.
- The risk assessment of the coastal and marine fisheries identified areas specific to Kenya that will require increased effort in terms of management and operational actions to minimise the vulnerability of the fishery and to increase the chance of the fishery achieving maximum contribution to the nation.
- A risk assessment should encourage targeted actions that not only deal with the priority risks today but also identify risks that may become relevant in the future, therefore addressing them before they become priorities and making the risk assessment part of the longer-term fisheries management process.

Players involved

The risk assessment was conducted by **NFDS Africa**. Funding was provided by the **EU SmartFish Programme** and participants included personnel from the following national authorities:

- State Department for Fisheries and the Blue Economy
- Kenya Marine and Fisheries Research Institute (KMFRI)
- Kenya Immigration Service (KIS)
- Kenyan Maritime Authority (KMA)
- Kenyan Ports Authority (KPA)
- Kenyan Revenue Authority (KRA)
- Kenyan Wildlife Service (KWS)
- Kenyan Maritime Police Unit (KMPU)
- Port Health Services (PHS)
- Representatives from the five County Authorities.

Next steps

- **Implement and monitor an MCS strategy and MCS development plan** to address the urgent moderate and severe risks, especially for the coastal fisheries.
- **Monitoring the *low* and *moderately rated* risks within routine MCS work** for possible changes in compliance level, so that MCS efforts could be increased if the low risk turns into *high* risk.
- **Reviewing and renewing the risk assessment on a regular basis** in order to track changes and optimise efforts.
- **Management systems should be the highest priority for improvement in the MCS strategy** as this was the weakest risk area identified across all fisheries sub-sectors.
- Risk assessments are still, to some extent, an unfamiliar concept that will require **further training to build capacity and mainstream them in the fisheries management decision-making process.**

Footnotes

[1] Fisheries Management and Development Act (No. 35 of 2016); *An Act of Parliament to provide for the conservation, management and development of fisheries and other aquatic resources to enhance the livelihood of communities dependent on fishing and to establish the Kenya Fisheries Services; and for connected purposes.*

[2] The first SmartFish workshop was held in the Seychelles from 5 to 7 December 2012, and attended by participants from Comoros, Kenya, Madagascar, Mauritius, Mozambique, Reunion, Seychelles, Uganda, Tanzania and Zambia. The purpose was to introduce the concept of a risk assessment and to practice the methodology on selected fishery units.

[3] The second workshop was convened in Mauritius from 28 to 30 January 2014 with participants from Comoros, Kenya, Madagascar, Mauritius, Seychelles and Tanzania. It used a similar approach and focused on the large pelagic fisheries of the Western Indian Ocean.

[4] As set out in the 2016 Fisheries Management and Development Act to achieve the objectives of the National Oceans and Fisheries Policy and regional and international commitments.

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