

# IMPROVING KENYA'S MARINE FISHERIES TRANSPARENCY THROUGH ELECTRONIC MONITORING

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## Abstract

The Government of Kenya aims at achieving 100% transparency in the EEZ industrial fishery, and supplement human observer programs with the implementation of electronic monitoring systems- the use of onboard video cameras, GPS, and sensors to automatically track activity on fishing vessels. Electronic monitoring will create transparency, provide confidence to consumers that the seafood products have been harvested legally, sustainably and without labor abuses. Effective monitoring will also contribute vital data, the current absence of which makes regulation of even the most vulnerable fisheries difficult. It will help ensure the sustainability of Kenya's EEZ fish stocks and the coastal communities they support.

To achieve the stated objectives, Kenya is implementing plans to deploy remote sensors, GPS systems, cameras, and tracking devices on tuna longline and trawl fishing vessels in its waters by 2025. This will enable the collection of information such as catch composition, discards, and bycatch, which in turn will help minimize the accidental capture of sharks, turtles, and marine mammals. Crucially, these tools will also give the fisheries authorities in Kenya the data to manage ocean resources in real time. It will also enhance compliance with the existing Indian Ocean Tuna Commission (IOTC) conservation and management measures, and those that will be adopted from time to time.

**Key words:** *Electronic monitoring system, transparency, conservation, compliance*

## INTRODUCTION

Most fisheries in the world lack reliable data about what happens on-the-water to inform and implement science-based management. The Indian Ocean is the second most productive tuna fishery in the world. Without effective monitoring and enforcement, fisheries will struggle to reach sustainability.

To fill data gaps and inform fisheries management, the Government of Kenya (GoK), in collaboration with The Nature Conservancy (TNC), will pilot electronic monitoring (EM) - the use of onboard video cameras, GPS, and sensors to automatically track and verify fishing activity onboard fishing vessels. Data is power, and EM data will supplement the existing Kenya human observer program and potentially support Marine Stewardship Council (MSC) certification. EM will enhance transparency and help to manage and conserve Kenya's fisheries.

## **JUSTIFICATION AND OBJECTIVES**

### **The problem**

More than 90% of Illegal, unreported, and unregulated (IUU) activity in tuna fisheries occurs by licensed fishing vessels, which are not reporting or under-reporting catches. The negative impacts of IUU run deep - from hundreds of millions of dollars in lost revenue for local communities and national governments, to significant levels of “bycatch” of at-risk species such as sharks and sea turtles, to the overfishing of regional fishing stocks. These effects threaten ecosystems, global food supplies, and livelihoods.

The little independent fisheries data we have is primarily collected remotely, limiting our ability to understand what is happening aboard vessels. Data is also collected by human observers stationed on fishing vessels, which is expensive, often impractical at-scale and presents a serious safety risk in the face of IUU fishing (observers have been killed to hide poaching) as well as COVID 19 Pandemic.

### **The approach**

With Kenya’s industrial fleet size increasing and human capacity remaining nearly constant, the Government of Kenya (GoK) sees the value of using EM to improve fisheries monitoring, enhance transparency, provide faster communication, and avoid complacency with the current human observer program.

The EM pilot project will be used to test and gather lessons learned for how an EM program could be designed to support 100% EM application in industrial vessels, including costs, training, and infrastructure. Kenya Fisheries Service (KeFS) will use EM data to enhance and address compliance issues. Kenya Marine & Fisheries Research Institute (KMFRI) will use data to validate logbooks. This project is a collaborative effort and will need full support and buy-in from industry and project partners for project success.

### **Project goal**

Use EM pilot to drive towards and inform Government of Kenya’s commitment to 100% transparency in all industrial vessels at sea by 2025.

### **Project outcomes**

- Demonstrate the validity and usefulness of EM as a monitoring tool.
- Build solid working relationships among partners.
- Generate reliable fisheries data that can be used for compliance, science, training, and marketing purposes.

- Enhance the institutional capacity of Kenya Fisheries Service (KeFS), Kenya Marine and Fisheries Research Institute (KMFRI) and partners to use EM to work towards a scaled-up EM program in recognition of commitment to 100% on-the-water monitoring.

### **Project timeline**

2021 - 2025

### **MAIN PROJECT PARTNERS**

- State Department for the Blue Economy and Fisheries (SDBE&F);
- Kenya Marine Fisheries and Socio-Economic Development Project (KEMFSED);
- Kenya Fisheries Service (KeFS);
- Kenya Marine and Fisheries Research Institute (KMFRI);
- The Nature Conservancy (TNC);
- Fishing Industry.

### **PROJECT FUNDING**

Approximately US\$1 million combined from the International Climate Initiative (IKI), The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety via TNC and The World Bank-funded KEMFSED Project via the GoK.

### **GOVERNMENT INVOLVEMENT AND ROLES IN THE PROJECT**

KeFS and KMFRI will provide critical input into the design of the EM pilot and program, including setting goals, objectives, and minimum data and performance requirements for industry to adhere to. Alongside TNC, a core planning team from KeFS and KMFRI will lead work planning efforts, EM data review, and communication with stakeholders on the project. KeFS and KMFRI will take EM data and use it to inform fisheries management decisions and provide feedback back to vessels to support more sustainable fishing practices and address compliance events.

### **Expected roles & responsibilities:**

- Provide input into EM project workplan;
- Provide feedback on EM pilot goals, objectives, needs, budget, and timelines;
- Provide feedback on EM pilot project success metrics to inform EM program design;
- Define partners and clarify roles and responsibilities;

- Facilitate buy-in with industry;
- Receive training on EM installations;
- Use EM data to inform fisheries management decision making, handling practices, and address compliance events;
- Provide part-funding from the KEMFSED project.

## **INDUSTRY INVOLVEMENT IN THE PROJECT**

Industry will provide valuable insight into the EM pilot design and cooperate with government in launching the EM pilot and EM program. Benefits of EM for vessels includes: (1) meet observer requirements in fishery improvement projects and MSC-certified fisheries, unlocking premium pricing for fishing companies; (2) inform company operations and serve as a critical risk mitigation tool; (3) shape the way EM programs develop from the beginning and potential to receive special incentives (such as cost sharing) for agreeing to participate.

### **Expected roles & responsibilities:**

- Provide input into the planning and implementation of EM pilot and EM program.
- Provide an open line of communication and cooperation between project partners.
- Maintain EM systems and meet duty of care responsibilities to ensure functionality.
- Report system malfunctions.
- Address issues identified through EM data review.
- Abide by minimum data and performance requirements set by government.
- Use EM data and feedback from government to adjust fishing practices to support more sustain able fishing practices.

## **TNC INVOLVEMENT IN THE PROJECT**

- Providing technical expertise and overall project management.
- Supporting the Government of Kenya in EM pilot and EM program design and implementation.
- Leveraging financial support for EM installation, EM data review, and capacity to support project activities.

## **CONCLUSION**

In summary, these are the main envisioned steps in the EM cycle up to roll out:

## **Scoping**

Initial kick off to clarify roles, objectives, and requirements, lock in specs and contracts

## **Inspection and maintenance**

Data removed from vessel; EM systems maintained to ensure proper function

## **Installation**

EM systems are installed on vessels at port and training of project partners

## **Data review and analysis**

Raw EM data is reviewed and analyzed

## **Fishing and data collection**

EM systems record raw video data on fishing vessels

## **Reporting, compliance management**

Reports generated and data used by stakeholders to drive continuous fishery improvement.

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