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INDONESIA SOUTH-EAST SULAWESI PURSE SEINE FISHERIES IMPROVEMENT PROJECT

VESSEL MONITORING SYSTEMS FOR <30GT VESSELS - KENDARI

CONCEPT PAPER

September 2020

Objective

This concept paper seeks to document key information to facilitate formal engagement with MMAF and Kendari DKP on the potential of rolling out Vessel Monitoring Systems (VMS) on vessels < 30GT participating in the Indonesia South East Sulawesi Skipjack and Yellowfin Tuna Purse Seine Fisheries Improvement Project (FIP).

Rationale for VMS Installation

The rationale for voluntary VMS installation on purse seine FIP vessels < 30GT is as follows:

- Improved monitoring of vessel movements for compliance and traceability purposes.
- Improved monitoring of vessels movements/fishing patterns for operational purposes when vessel tracks are made available to vessel owners.
- Improved safety at sea for vessel crew.
- Enhanced communication when VMS systems include communication add-ons like two-way text messaging.

Key VMS Characteristics

VMS units with the following key characteristics are deemed the most appropriate for < 30 GT vessels:

- Low cost
- Provide real-time monitoring
- Purpose-built for vessel tracking, with the potential for add-ons (e.g. safety-at-sea, two-way communication)
- Always on when the vessel is at sea
- Powered independently from the vessel (i.e. stand-alone batteries, solar powered)
- Capable of transmitting on both satellite and cellular networks
- Capable of integration into existing national/provincial monitoring networks

Potentially Suitable VMS Units

On the basis of technical input from a Fisheries Compliance Consultant engaged by the FIP and a technology review undertaken by Marine Change, a shortlist of potentially suitable VMS units has been established:

- *SpotTrace* – low purchase (USD 129) and operating costs (USD 200/year), portable, battery powered, always-on, reporting in near real time, web application software, capable of being monitored in iFish by KKP, not purpose built for external marine use but third party weather/splash protection available, requires exterior mounting on vessel as no external aerial, rolled out on small scale vessels in Larantuka, Maumere, Bitung, Ternate, Ambon.
- *Pelagic Data* – low cost (comparable to SpotTrace), solar powered, always-on, purpose built for marine use, GSM technology, approved by KKP for integration into iFish, requires exterior mounting on vessel as no external aerial, successfully rolled out on small-scale vessels in Timor Leste, Banda, Larantuka, Bitung, and Ambon.
- *SRT Marine* – low cost, always-on, hybrid satellite and GSM technology, large-scale roll-out to Philippines fishing fleet.
- *CLS Argos Nemo* – low-mid purchase cost (US 300) and airtime (starting at US 180/year), vessel-powered, data transmission via satellite and terrestrial networks, add-ons including text messaging, SOS capabilities, not yet approved for use in Indonesia.

Compliance Monitoring

Given one of the primary purposes of installing VMS is to enhance monitoring of vessel movements for compliance purposes, suitable arrangements will need to be established for independent monitoring of vessel tracking data, either directly through national and/or provincial regulatory agencies or by an independent third-party which would then provide information to regulatory agencies.

FIP Support

- The FIP will provide budgetary support (via direct and/or donor funding) towards the trialing, procurement, installation and running costs of VMS units for <30GT vessels participating in the FIP.
- The FIP will support the incentivization of vessel operators to install VMS through outreach and if necessary, the provision of incentives (e.g. fishing equipment, technological aides).
- The FIP can provide budgetary support on a cost-recovery basis for VMS compliance monitoring.

Next Steps

- Continue dialogue with MMAF/Kendari DKP on the potential to voluntarily roll-out VMS on < 30 GT vessels.
- In cooperation with MMAF/Kendari DKP, identify potential VMS data monitoring options.
- Further evaluation of SpotTrace, Pelagic Data, SRT Marine and CLS Argos Nemo VMS units for <30 GT vessels participating in the FIP, to identify the most potentially suitable unit, in line with the key VMS characteristics listed above.
- In cooperation with MMAF/Kendari DKP, establish a FIP-funded trial of a small number of the selected VMS unit to fully evaluate their suitability for <30 GT vessels.
- If deemed suitable, in cooperation with MMAF/Kendari DKP, develop a strategy for full roll-out to all participating FIP vessels, including regular monitoring and evaluation to ensure timely adjustments and improvements.