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ROADMAP FOR THE IMPLEMENTATION OF VMS IN THE GFCM AREA

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In order for the member countries of the GFCM to reap maximal benefits from the implementation of fishing vessel monitoring system (VMS) technology, it is important that the technology be established by all of the member countries, and that each country benefits from the same range of compatible functions for their system.

GFCM is somewhat unusual in the sense that, because a number of its member state are also EU member states, that group of countries has had a head start in that the EU regulation requiring its member states to operate VMS dates to more than 10 years now. For that reason, the first step on the roadmap is to bring, as far as possible, all GFMC member states to a similar level of VMS operational capacity. That done, the plan can be expanded to include data sharing and other cooperation as well as the addition of ancillary services, such as the electronic logbook.

It is highly likely that the countries that have not yet begun to explore VMS, or are at the very beginning of the process, will require some technical support to help them towards an operational system. For this reason, it would be appropriate to designate 2012 as the catch-up year for countries that are behind in their VMS implementation. Furthermore, this corresponds to the implementation deadline stated in the recommendation **GFCM/33/2009/7: Concerning minimum standards for the establishment of a Vessel Monitoring System (VMS) in the GFCM area.**

The roadmap will be implemented in four stages, each with a number of activities. And will cover a period of three years, with completion scheduled for the end of 2014. The four stages will consist of:

Stage 1, catch up (12 months): This is the implementation stage for countries without an operating VMS or in the very first stages of implementation. Supposing that a member country has not yet started the process of VMS procurement and implementation, steps to be carried out will include:

- Preliminary study regarding available resources (technical, human and economic) and determination of objectives
- Creation of a functional specification and finalisation of documentation for public tender
- Selection of supplier, including implementation calendar
- System installation and technical verification.

Stage 2, compatibility (three months): This stage will consist of a programmed verification of compatibility between each of member state VMS and all of the others. Performance will take into account all types of messages and will be measured in terms of speed of reception, absence of errors in message content and the capability of processing messages automatically, without manual intervention. A number of intensive trial periods, used to send pre-formatted messages between groups of national FMCs and, finally, between all of the FMCs will verify compatibility of the FMCs taken as a whole. this stage can overlap with Stage 3.

Stage 3, introduction of new services (18 months): A functioning cluster of functioning and compatible national FMCs will provide the backbone for the addition of additional services that will transform VMS into a multi-function tool able to combat IUU fishing and provide timely input for resource management. These services are threefold and include the addition of the electronic logbook and a corresponding shift from paper-based reporting to electronic reporting; the development of a highly modified version of VMS adapted to the needs of monitoring artisanal vessels, and the adoption of satellite-based vessel detection systems (VDS), in an effort to use satellite imagery to detect vessels that are participating in VMS. A very high percentage of these vessels engage in IUU fishing.

Monitoring artisanal vessels will be most effective if viewed on a national, or sub –regional, basis. Ideally, this activity would involve no more than two or three countries at a time. The reason for this micro-approach is based upon the diversity of artisanal fisheries. Technical choices, such a strategies for power supply, the frequency of reporting, required data sets and any supplementary services will vary significantly from fishery to fishery. It is important that there will be no global solution to suit the monitoring of artisanal fisheries.

The use of VDS takes VMS to another level where it is possible to detect vessels that are reporting to no FMC. VDS implies access to a certain level of MCS resources, as well as the capacity to process in a timely manner data received from satellite image service providers. As the European Union will be requiring member countries to install the capability of using VDS, it would be highly beneficial for the non-EU member states of the GFCM to cooperate with their EU counterparts to gain experience with this technology. There is by no means an absolute necessity for each GFCM member country to have its own VDS. Optimal use of this technology would imply a regional strategy.

Stage 4, homologation and verification (6months): After an intensive period of installation of new services, it will be essential to take a certain period to, once again, test compatibility and, perhaps more important, to determine the specific lines of cooperation between GFCM member states. The most beneficial way of attacking this problem is to develop a series of exercises touching all parts of the GFCM area of competence, and taking into account all of the newly installed services. In any case, it is important to understand that these technologies are not static, and that updating both their capabilities and their use will be an on-going effort.

Methods of working: In international cooperation, there is no substitute for the workshop as the articulation of such efforts. It is only here that the principal participants can formulate strategy and agree on both the principles and details of cooperation. On the other hand, it is essential to keep requirements for workshops to a manageable level so that the administration of the task is in appropriate proportion to the goals.

The plan being presented here, ambitious by any measure, could well benefit from at least on workshop for each of its stages. By combining individual workshops to deal with, for example, the end of one stage and the beginning of another, the total number could be kept to a workable minimum. Suggested workshops would be:

- **Workshop 1**, March 2012: Member states planning VMS define potential difficulties and requirements for technical assistance
- **Workshop 2**, January 2013: Stage 1 implementation review, stage 2 test phase design and plan, definition stage 3
- **Workshop 3**, March 2014: Stage 3 review, stage 4 test design and implementation plan.
- **Workshop 4**, December 2014: Overall review and plan for future actions

Graphic of GFCM roadmap: