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COMBATING ILLEGAL, UNREPORTED AND UNREGULATED FISHING THROUGH MONITORING, CONTROL AND SURVEILLANCE, PORT STATE MEASURES AND OTHER MEANS

SUMMARY

IUU fishing causes severe economic, social, biological and environmental impacts. The paper describes current actions to combat IUU by States, RFMOs and others through the use of various mechanisms such as port state measures, VMS, and other technology. As the problems caused by IUU fishing have been exposed and counteractive mechanisms have been identified and implemented, progress has been realized. However, commitment, cooperation, resources, creativity and constant vigilance will be required for future success.

INTRODUCTION

1. Illegal, unreported and unregulated (IUU) fishing¹ describes a wide variety of conduct related primarily to illicit fishing activities. It is a major concern for all fisheries stakeholders, including governmental authorities, law abiding fishers, and civil society. IUU fishing thwarts attempts by States and regional organizations to manage fisheries in a responsible manner and safeguard ocean resources. IUU fishing also constrains the progress of governments towards achieving food security for dependent populations and supporting sustainable livelihoods for fishers. Reflecting a widespread concern, the UN General Assembly, in its recent resolution on sustainable fisheries, “emphasizes once again its serious concern that IUU fishing remains one of the greatest threats to marine ecosystems and continues to have serious and major implications for the conservation and management of ocean resources”.²

2. IUU activities are dynamic, adaptable and highly mobile, and often done covertly making monitoring difficult. By their very nature clandestine, they defy precise quantification, but are very real.³ Because of their inherent complexity, they are not amenable to simple solutions, as demonstrated by their increase in spite of all the concerted efforts made by the international community to address IUU fishing.

3. IUU fishing involves complex webs of actions and entities and is not limited to the illegal harvesting of fish but also includes the shipment, processing, landing, sale and distribution of fish and fishery products. Support and provisioning of vessels and providing financing are also part of the IUU continuum. To monitor and control IUU activities, emphasis must not be limited to tracking the harvesting vessel but also must be put on tracking the fish⁴, in recognition of the reality of product movement in today’s supply chains. Usually it is not the harvesting vessel which arrives in port with its cargo holds filled with IUU fish. Rather, transactions are carried out at sea, which transfer the fish from harvesting vessel to reefers, mother ships, factory trawlers or other vessels. Catch can be divided among numerous processors, brokers or importers and multiple marketers can be involved, with transport by air, sea or overland. Hence, a broad range of actors and stakeholders can play a role in eliminating IUU activities, including flag states, coastal states, port states, and market states, international and intergovernmental organizations, fishing industry, non-governmental organizations, financial institutions, insurers and consumers .

4. IUU fishing concerns all aspects and stages of the exploitation and utilization of fish. It occurs both on the high seas and in the areas under national sovereignty or jurisdiction. It plagues fisheries of all types, small scale and industrial. For instance, in developing countries, some industrial fishing vessels have persistingly encroached in fishing zones reserved for small-scale, artisanal fisheries. Due to lack of monitoring, control and surveillance (MCS) capacity,

¹ Paragraph 3.1 (illegal fishing), 3.2 (unreported fishing) and 3.3 (unregulated fishing) of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU). Rome, FAO. 2001. 24p.

² General Assembly A/RES/60/31 2006 (para.33).

³ Reports of vessels being arrested after lengthy, dramatic and often dangerous chases across vast expanses of ocean, high profile court prosecutions or vessels being refused landing at multiple ports due to their involvement in illegal transshipment continue to be the subject of press accounts.

⁴ An RFMO review panel determined recently that “Little attention is paid to controlling the fish that has been caught (by IUU vessels). None of the vessels which have been identified as having engaged intensively in the redfish fishery have, to anyone’s knowledge, entered into port with fish on board. Instead the fish is transhipped at sea and landed by reefers.” Performance Review Panel’s Report of the North East Atlantic Fisheries Commission, Vol. 1 Main Report, 2006. 100p, pp 41-42.

surveillance in these areas is often non-existent and illegal fishing can go unchecked with severe consequences for dependent populations and economies.⁵

5. While progress has been made against IUU fishing, weak links are continually exploited by those who engage in IUU activities. The implementation by flag States of their responsibilities and obligations is a key component of the strategy needed to eliminate IUU fishing but it is not the only one. A new emphasis on other tactics is needed to overcome the problems caused by those States which cannot or do not fulfil their responsibilities and obligations. The report which follows provides a snapshot of some of the recent developments in addressing IUU fishing at the national, regional and international levels and invites COFI's consideration of a number of actions.

SUMMARY OF CURRENT STATUS OF IUU AND MSC RELATED ISSUES

6. FAO has been at the leading edge of addressing IUU activities by conducting studies, disseminating information, offering capacity building and institutional strengthening and providing a global forum for States to formulate appropriate instruments. More particularly, the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU), built upon the responsibilities and obligations of States under international law and being voluntary, provided an important guidance to States on measures to adopt in their various roles as flag, coastal, port, market States or members of Regional Fishery Management Organization (RFMO). It also required each country to self assess its own laws, policies and practices. To assist in this endeavour and in the implementation of the IPOA-IUU, FAO sponsored nine regional IPOA-IUU workshops, published technical guidelines⁶ and issued a model national plan of action on IUU for coastal and small island developing states⁷. These efforts have aided States and RFMOs in taking some of the actions described below.

7. FAO also continues to work with its sister agencies such as the International Maritime Organization (IMO) on these issues. The FAO/IMO *Ad Hoc* Working Group on IUU Fishing and Related Matters met in 2001 to identify areas for collaboration. A second meeting is scheduled for July 2007. The IMO Sub-Committee on Flag State Implementation has a standing item on IUU Fishing and Related Matters.

8. While this report cannot present a complete catalogue of what States have done, a recent FAO survey summarizes what responding members have undertaken to prevent IUU fishing.

9. In addition to individualized actions, States have acted collectively through joint programmes and regional bodies. Shared assets are increasingly being employed in areas where national governments cannot sustain large-scale operations individually or in other contexts where joining assets maximizes the effectiveness of MCS operations. Examples from some regions might include the Regional Security System of the Eastern Caribbean region, in existence since the 1980s, with fisheries protection as one of its many cooperative functions; the Maritime Organization of West and Central Africa (MOWCA) has proposed establishing an integrated coast guard function for its 25 member States.

⁵ In September 2006, Kenya announced a ban on trawling prompted by a number of large-scale trawlers infringing on reserved nearshore grounds. Although trawlers were supposed to fish beyond 5 nm, they had moved closer to shore, were in conflict with artisanal fishers and were depleting stocks. COSMAR News, October 2006. p8.

⁶ Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. *FAO Technical Guidelines for Responsible Fisheries*. No. 9. Rome, FAO. 2002. 122p.

⁷ National Plans to combat illegal, unreported and unregulated fishing: Models for coastal and small island developing States. *FAO/FishCode Review*. No.6. Rome, FAO. 2003. 76p.

Measures taken to prevent, deter and eliminate IUU fishing (figures in %)*

Region (number of specified responses in brackets)	Improvement of MCS (77.6%)	Licensing system and vessel register (22.4%)	Legal framework improvement (16.3%)	Cooperation between countries & authorities (16.3%)	NPOA-IUU development / Compliance Agreement (14.3%)
Africa (12)	45.0	25.0	10.0	10.0	5.0
Asia (4)	60.0	20.0	20.0	20.0	
Europe (3)	100		33.3	66.7	
Latin America & Caribbean (13)	71.4	28.6		7.1	14.3
Near East (3)	66.7	33.3	33.3		
North America (2)	100		100	100	100
Southwest Pacific (2)	33.3		33.3	33.3	66.7

*Source: Regional Statistical Analysis of Responses by FAO members to the 2006 Questionnaire on the Code of Conduct for Responsible Fisheries Implementation (Table 37).

[Note: 83.1% of responding FAO Members reported to have identified IUU fishing as a problem (see Table 36). Percentage values in this table only apply to this pool of nations.

Table headers: The percentage value indicated represents the overall percentage of countries that reported to have applied it as a measure to combat IUU fishing. The tabulated measures embody 73.5% of all measures reported. Other reported measures included: the collection of catch and effort data (10.2%), training and awareness raising (8.2%), traceability systems (6.1%), and co-management schemes (6.1%). All remaining issues scored below 4.1% each.]

10. For many years Forum Fisheries Agency (FFA) members in the South Pacific have shared MCS capabilities by utilizing a regional vessel register, VMS, observers, surveillance, standard boarding procedures and other measures. The resulting decline in IUU fishing has been attributed to the increased level of surveillance and cooperation among countries in the region as well as heavy penalties imposed in court prosecutions.⁸

11. Sharing also occurred among regional bodies and involved non-surveillance assets. The North East Atlantic Fisheries Commission (NEAFC) has acted as the Fisheries Monitoring Centre for the South East Atlantic Fisheries Organization (SEAFO) as the latter builds its programmes.

12. Many recent activities of RFMOs have addressed IUU issues. Reflecting the desires of their member States and the guidance offered by the IPOA-IUU⁹ and other instruments, RFMOs have adopted a variety of conservation and management measures designed to address their unique role in the IUU struggle.

13. Worldwide use of lists of IUU vessels is common through their participation in RFMOs. RFMOs have also extended the impact by linking their lists. This targets highly mobile vessels, those that re-flag and those that tranship illegally at sea. In 2007, a reciprocity agreement between NEAFC and NAFO will give effect to the other's IUU list.

⁸ Field Study on Port State Measures in Select Major Small Island Developing Ports in the Western Central Pacific Region, Brown, C. FAO Consultant, 2006. 48p.

⁹ IPOA-IUU recognizes the role of RFMOs and suggests strengthening by: development of compliance measures, mandatory reporting, cooperation in the exchange of information, development and maintenance of records of fishing vessels, MCS, boarding and inspection schemes and observer programmes, market related measures, definition of circumstances in which vessels are deemed to have engaged in IUU fishing and maintenance of records of vessels authorized to fish and records of vessels engaged in IUU fishing and many other options.

14. NEAFC used a two-tier list, an A (observation/suspect) and B (permanent) list for naming those involved in IUU activity. A review panel has judged that the use of the lists and the introduction of port States measures improved the control of IUU fishing.¹⁰ A refrigerated transport ship, blacklisted by NEAFC in 2006 after being observed receiving fish from non-party vessels fishing inside the Convention Area, had been tracked from the North Atlantic to Asian ports as it tried repeatedly to offload its cargo of IUU caught fish. Through timely government to government cooperation, advance notification was provided to governments which have turned the ship away and even ordered her to depart territorial waters, becoming costly for the vessel's financial backers.

15. In addition to vessel lists, authorized and unauthorized, some RFMOs have adopted catch documentation schemes, mandatory VMS, port control measures, prohibited transshipments at sea, closed fisheries suspected of misreporting species, harmonized data transmissions, required observers, required reporting by licensed vessels of IUU sightings, trade sanctions and expanded their cooperation.

16. These efforts and more are needed to counteract some disturbing trends reported by MCS authorities, including infiltration of organized criminal enterprises into the fishing business. In addition, sophisticated syndicates of illegal fishers are engaged in the global trade, often designing and building vessels to their own requirements to avoid detection by surveillance. By-catch taken in significant quantity, much of it unreported or unregulated, is a growing issue.

17. Other entities too have been active. The International Network for the Cooperation and Coordination of Fisheries Related Monitoring, Control and Surveillance Activities continues to expand. More than 50 countries are currently members of the no-cost organization. The Network is a forum for fisheries MCS professionals where coordination, cooperation, training and discussion occurs. The Network hosted a global enforcement training conference in 2005 for approximately 150 participants, which was co-sponsored by FAO, the EU and Malaysia. The Ministerially-led Task Force on IUU Fishing on the High Seas is funding a three year demonstration project allowing the Network to hire analytical capacity, training staff and support.

18. The Ministerially-led Task Force on IUU Fishing issued its report on IUU fishing¹¹, and is moving forward on a number of initiatives through its follow-on body in the UK. Workshops at Chatham House discussing market options to control IUU and an IUU website have been started.

19. Increasingly, law abiding fishers have joined in the fight to overcome IUU activity by notifying national and regional authorities when they encounter IUU actors who are unwilling to operate within legal frameworks. There are industry driven initiatives trying to counteract IUU such as the Coalition of Legal Toothfish Operators and the Organization for the Promotion of Responsible Tuna Fisheries.

20. Traceability¹² is one of many trade related measures being used in the fight against IUU¹³. A leading retailer of natural and organic foods in the US, Canada and UK had stopped carrying toothfish in 1999 due to concerns over sustainability and illegal fishing. In 2006, the chain started

¹⁰ Performance Review Panel's Report of the North East Atlantic Fisheries Commission, Vol. 1 Main Report, 2006. 100p.

¹¹ Closing the Net. Final Report of the Ministerially-led Task Force on IUU Fishing on the High Seas. 2006. 112p.

¹² Traceability systems are designed for various purposes. Some are required for food safety and security or for public health or regulatory requirements while others are voluntary and can include commercial information or information for the consumer, such as eco-labelling. The most recent developments in the traceability and labelling in fish trade are described in the report for the 10th Session of the Sub-Committee on Fish Trade, Santiago de Compostela, Spain, May-June 2006. COFI:FT/X/2006/6 p9.

¹³ For a extended discussion of possible trade related measures that are or could be effectively used to counteract IUU fishing. see Using Trade Measures in the Fight Against IUU Fishing: Opportunities and Challenges, OECD, Bertrand Le Gallic, 2005.

to stock the fish again but only from the South Georgia longline toothfish fishery which had attained certification by the Marine Stewardship Council (MSC). Citing concerns with illegal fishing and overfishing for toothfish, shoppers were urged to check for the (MSC) eco-label before buying¹⁴.

PORT STATE MEASURES

21. Without prejudice to the emphasis put on the role of the flag State in controlling IUU fishing, attention has become increasingly focussed on the contribution that may be made by port States, whose intervention is seen as not only cost-effective in ensuring compliance with national law and regional conservation and management measures, but as potentially resulting in a compelling array of enforcement tools by the port State, flag State and/or third States.¹⁵

22. Port State competence to adopt appropriate measures has been addressed in a graduated manner. In the 1982 UN Convention on the Law of the Sea, the only explicit reference to port States appeared in the provisions related to the protection of the marine environment. A decisive, although limited, step was made with the 1993 FAO Compliance Agreement, which referred to the duty of the port State to notify the flag State where it had reasonable grounds for believing that a fishing vessel of that State had been used for an activity that undermined the effectiveness of international conservation and management measures. Another step was taken with the 1995 UN Fish Stocks Agreement, which contained more explicit and detailed provisions on the measures that may be taken by a port state (Article 23), including the prohibition of landings and transshipments. The 1995 FAO Code of Conduct for Responsible Fishing also contained specific provisions in its article 8.3, focussed on the assistance they should provide to other States and particularly to flag States. The 2001 FAO IPOA-IUU went further and dedicated an entire section to detailed provisions on port State measures. Building on the IPOA, FAO convened Expert and Technical Consultations which compiled a detailed list of practical measures that evolved into the Model Scheme on Port State Measures to Combat IUU Fishing (FAO Model Scheme).

23. The 26th session of COFI (March 2005) endorsed the FAO Model Scheme and acknowledged a need to strengthen port State measures in a more substantive manner, given that the lack of agreed binding measures provided a loophole. The members of COFI agreed that follow-up work should be undertaken, especially with respect to operationalizing the FAO Model Scheme. The Model Scheme, a voluntary instrument, sets out minimum standards; port States and RFMOs are free to adopt stricter standards.

24. At ensuing meetings throughout the UN system there was a recognized need for enhanced port State controls, and encouragement for States to apply the Model Scheme and to promote its application through RFMOs and to consider, when appropriate, the possibility of developing a legally binding instrument.¹⁶

¹⁴ Comments of Jim Humphrey, MSC's Regional Director of the Americas.

¹⁵ Enforcement tools include:

- denial of port access altogether;
- prohibiting the landing, transshipment and/or processing of catch;
- seizure and forfeiture of catch;
- prohibiting the use of port services, such as refuelling, resupplying, repairs;
- prohibiting the sale, trade, purchase, export, import of IUU caught fish;
- initiating criminal, civil or administrative proceedings under national law;
- cooperating with the flag State and/or members of an RFMO on enforcement and/or deterrence.

¹⁶ This occurred at the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (July 2005), at the UNGA and its Resolution on Sustainable Fisheries (November 2005), A/RES/60/31 para.42, and the UN Fish Stocks Review Conference (May 2006).

25. The primary characteristics of the FAO Model Scheme are operational. It addresses the port State's responsibilities for inspections, actions to be taken when violations are detected and information to be reported and communicated. Its Annexes provide detailed guidance in the following areas:

- Information to be provided prior to entry into port;¹⁷
- Port State inspection procedures for foreign fishing vessels;¹⁸
- Results of port State inspections, including when violations are detected;¹⁹
- Information systems on inspections²⁰; and
- Comprehensive training for port State inspectors.²¹

26. Building on the call by COFI 26 for human capacity development to support port State measures, the Training and Awareness project of FAO's FishCode, the TrainFish component, coordinated a Regional Workshop on port State Measures in partnership with the FFA in Fiji, August 2006.²² Additional workshops for other regions are being planned.

27. RFMOs have already adopted a variety of port State measures to address IUU fishing. Some have implemented measures and evaluated performance, identifying loopholes or operational constraints. Some examples of these port State measures appear below.

28. NEAFC recently adopted measures²³ which are described "as going beyond the provisions laid down in the FAO Model Scheme²⁴ which would impose additional responsibilities upon flag States to verify and authenticate the information provided by their fishing vessels prior to landing.²⁵ These measures will effectively close European ports to landings of frozen fish which have not been verified to be legal by the flag State of the vessel.

29. The Western Central Pacific Fisheries Commission (WCPFC) is developing a regional scheme on port State measures and the Permanent Commission for the South Pacific (CPPS) has adopted a Model on Port State Measures to Combat IUU Fishing in the South East Pacific, both based on the FAO Model Scheme.

30. The International Commission for the Conservation of Atlantic Tunas (ICCAT)²⁶, the Northwest Atlantic Fisheries Organization (NAFO)²⁷ and the Indian Ocean Tuna Commission

¹⁷ Vessel identification, purpose of entry into port, fishing authorizations, trip and species information.

¹⁸ Vessel identification, authorizations, other documentation, fishing gear, fish and fishery products, and report.

¹⁹ Inspection references, vessel identification, fishing authorization, trip information, result of the inspection on discharge, quantities retained on board the vessel, results of gear inspection and conclusions.

²⁰ Computerized communications, international codes and data elements.

²¹ Elements of a training programme should include at least procedures, conservation and management measures, laws, information sources for validation, species, measurement, catch landing monitoring, vessel boarding/inspection, preservation of evidence, range of measures available, and relevant languages.

²² FAO/FFA Regional Workshop to Promote the Full and Effective Implementation of Port State Measures to Combat IUU fishing, 2006. See <http://www.fao.org/newsroom/en/news/2006/1000380/index.html>. The Report of the Workshop, including the FAO CD-ROM multimedia presentation, will be published in early 2007.

²³ At its Twenty-fifth Annual Meeting, reported in a press release of 20 November 2006.

²⁴ Performance Review Panel's Report of the North East Atlantic Fisheries Commission, Vol. 1, Main Report p 42.

²⁵ Any foreign vessel that intends to land or tranship catch has to inform the port State three days in advance of the estimated time of arrival. Operations may only commence after authorization by the port State, based on flag State confirmation that the catch was within quota (if applicable), reported and calculated and in the area declared.

²⁶ ICCAT Recommendation 97-10. The Scheme includes some minimum standards to monitor landings and transhipments, check compliance, including quotas, and collect data and other information. Later it was agreed to ban

(IOTC)²⁸ have established port inspection schemes. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) has also adopted a variety of measures, such as catch documentation.

31. Coordination among port States is critical and could be facilitated greatly by the adoption of US Lacey Act-type²⁹ legislations. Under this type of system, product illegally leaving a state can be the subject of prosecution in the state where it is imported, sold, transported, etc.³⁰

VESSEL MONITORING SYSTEMS, VESSEL DETECTION SYSTEMS AND OTHER TECHNOLOGY

32. MCS authorities rely on many tools, as no single means can deliver all necessary information and analysis needed to successfully locate, identify, track, apprehend and prosecute IUU fishers. However, one tool may be unique for the exceptional speed and extent of its acceptance, satellite-based Vessel Monitoring Systems³¹ (referred to herein as VMS)³². VMS has been a valuable addition to the fisheries MCS toolkit, allowing authorities to learn about vessel positions in real time. VMS data has made patrol deployment much more cost effective, with targets identified in advance and more easily intercepted. Violations, such as those involving closed areas, can be readily detected and successfully supported in a prosecution through VMS.

33. Future expansion of VMS is assured. It will be powered by dual forces: a competitive marketplace and official calls for increased VMS usage.³³ The market, bolstered by technology advances, yields smaller and cheaper VMS units with reduced communication costs. It is also being driven by fisheries ministers who called for ensuring that all large scale fishing vessels operating on the high seas be required by their flag State to be fitted with VMS no later than December 2008.³⁴

landings and transshipments from vessels of non-parties identified as having committed a serious infringement. See also ICCAT Recommendation 98-11.

²⁷ Such an inspection includes: verification of species, quantities and size; cross-checking with logbooks, exit catch reports, and reports of any inspections; and verification of mesh size.

²⁸ IOTC Resolution 05/03. Members are to inspect documents, fishing gear and catch in port and to adopt regulations in accordance with international law to prohibit landings and transshipments by non-party vessels. Since 2005, additional obligations have been adopted.

²⁹ The Lacey Act makes it unlawful for any person subject to the jurisdiction of the United States to “import, export, transport, sell, receive, acquire, or purchase ... any fish or wildlife taken, possessed, transported or sold in violation of any law or regulation of any State or in violation of any foreign law.” 16 United States Code Section 3371 et seq.

³⁰ Recently a guilty plea was entered in US court by a Spanish national and Uruguayan corporation involved in importing from Singapore and attempting to sell in the United States more than \$3.5 USD million worth of illegally harvested toothfish, and falsifying import documents. In addition to forfeiting the fish, and paying a fine, the defendant must cease all involvement in the toothfish industry, direct or indirect, and the company must dissolve as a business entity within 45 days.

³¹ A vessel monitoring system is the use of navigation and communications capabilities to provide data on a vessel’s position and movements.

³² VMS for fishing vessels was first introduced in 1988 and currently all major fishing nations have implemented VMS in at least some of their fisheries. Worldwide tens of thousands of fishing vessels have been fitted with VMS. A high percentage of responding FAO members to the Code Implementation Survey have either already implemented VMS or plan to do so. Regional Statistical Analysis of Responses by FAO members to the 2006 Questionnaire on the Code of Conduct for Responsible Fisheries Implementation. table 16.

³³ The IPOA-IUU and a number of successor documents which have reiterated its listing of suggested activities, called for flag states to know the location of its fishing vessels in waters beyond its jurisdiction and specifically identifies VMS as a tool for tracking vessels. See e.g. the 2003 Expert Consultation on Fishing Vessels Operating under Open Registries and the previous session of COFI, in endorsing the report of the Expert Consultation reiterated recommendations made in that report that were based on the IPOA-IUU.

³⁴ 2005 Rome Declaration on Illegal, Unreported and Unregulated Fishing.

34. VMS, for all of its capabilities, has also been inappropriately overvalued by some authorities as the ultimate MCS tool, and as one which will make other tools unnecessary. Maximum benefit of VMS is derived only when it is used in conjunction with other MCS tools to supplement and complement other systems. FAO recently convened an Expert Consultation on the Use of Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance, gathering legal, technical and operational experts to provide FAO with advice and guidance in these areas.³⁵

35. The Consultation recommended a number of actions regarding the use of VMS, and in particular considered whether it would recommend an additional binding international instrument for adoption of VMS. The Consultation concluded that the current international legal framework of instruments provided an adequate basis for VMS adoption and implementation. The Consultation weighed carefully the possible advantages which might be supplied by an additional binding agreement e.g. the extra impetus such an agreement would provide; the range of issues which could be addressed; and the potential for sustained capacity building against the significant acceptance VMS had already achieved, i.e. currently nearly 94% of large fishing vessels-over 100 tons-in countries under obligations to regional fisheries agreements have VMS capabilities; what was to be gained as so many States have already implemented or plan to implement VMS; additional factors, such as possible conflicts with many existing arrangements, the time needed for conclusion and entry into force and the resistance of a certain “instrument fatigue”.

36. While not recommending a binding international agreement the Consultation did recommend that a number of other mechanisms be considered to address gaps in VMS implementation. These mechanisms could include an IPOA, a declaration or strategy to guide and facilitate enhanced global implementation of VMS. FAO should develop a checklist of legislative requirements, model clauses and templates for the implementation of VMS including access, use and sharing of data. The Consultation recommended updating the existing FAO Technical Guidelines on VMS.

37. In order to fully realize the potential of VMS, the Consultation recognized that functional analysis and wider system integration were needed. While VMS was recognized as a valuable complement to fisheries management regimes, the necessary analysis of its role in supporting management objectives was sometimes lacking. VMS had not always been well integrated into other existing data streams collected by national authorities. Often VMS was operated independently from vessel registration data, fishery management data regarding catches, effort, gear, license information, logbook data and other available maritime information.

38. The situation in Iceland illustrated the value of full systems integration. Due to integration of systems for MCS, fisheries management and safety at sea in Iceland, if a vessel had not supplied a required VMS position report every 30 minutes and could not be contacted by radio, a search and rescue mission was launched. This protected life at sea but also discouraged a vessel from failing to report through VMS as to do so would virtually guarantee a boarding by Icelandic authorities.

39. Further, VMS must exist as part of an institutional framework of policies, laws and practices. Appropriate development in all areas was needed to take advantage of VMS fully. Caution was expressed about situations where VMS was implemented as the showpiece of an MCS operation while the balance of the operation was weak. Sufficient development of surveillance capacity, training of MCS officers, legal and technical frameworks, supportive prosecutorial relationships and other fisheries MCS programmes were needed to utilize VMS.

³⁵ Report of the Expert Consultation on the Use of Monitoring Systems and Satellites for Fisheries Monitoring, Control and Surveillance. FAO Fisheries Report. No. 815. Rome, FAO. 2006 68p.

40. Data sharing among states, RFMOs and appropriate regional and international authorities was seen as essential and the need for harmonized data formats³⁶, data compatibility and quality was stressed.

41. Confidentiality of data was also often raised as a concern regarding data access and use at the national level and beyond. Many countries lack legislative provisions on data confidentiality. It was suggested that FAO might develop a model provision on confidentiality to assist countries in the development of legislation.

42. Tampering with a vessel's VMS data remained a major concern. Examples of sophisticated tampering, such as false position reporting, were expected to be ongoing challenges. Data verification through vessel detection systems, better data security and better integration of other data systems such as electronic logbook data were seen as ways to combat tampering. Development of analytical software to detect data anomalies was seen as necessary but prohibitively expensive. Funding options and joint research were needed.

43. Vessel Detection Systems (VDS) piloted by the European Commission's Joint Research Centre demonstrated satellite imaging of vessels which were non-compliant or not reporting. As satellite-based VMS depends on the cooperation of the vessel operator to participate in being fitted with the necessary equipment, alternatives for detecting those who refuse to be fitted with VMS equipment or turn it off are vital. These VDS systems showed promise but due to cost and other current constraints are not expected to come into widespread use in the short term.

44. Other technologies, including Long-Range Identification and Tracking Systems and Automatic Identification Systems, were described to the Consultation but neither was seen as a replacement for VMS.

45. Market forces had driven down the cost of VMS hardware and communications costs and were also driving additional product innovations, making inclusion of small scale fisheries and artisanal sectors possible. New, relatively inexpensive products, developed with these sectors in mind, take into account the availability of reliable power sources, the size and decking of such vessels, low power consumption, and revised specifications, as well as the overall need for safety and monitoring. Some examples have already proved successful. A community surveillance project in Guinea, part of FAO's Sustainable Fisheries Livelihoods Programme, relied on collaboration between the coast guard and local fisher patrols in canoes outfitted with hand held satellite position receivers and radios. Concerned over dangerous interactions between the industrial fleet and local fishers, community patrols alert the coast guard of the illegal vessel's position in latitude and longitude and coast guard assets are dispatched. Fishers report that trawlers now flee at the sight of their canoes, knowing how quickly they can summon the authorities.³⁷

THE COMPREHENSIVE GLOBAL RECORD OF FISHING VESSELS

46. The March 2005 Ministerial Meeting on Fisheries concentrated ministers' attention on two topics-IUU fishing and the tragedy of the December 2004 tsunami. The ministers expressed their "desire to move from words to action" in addressing IUU. However, they recognized that reliance on existing measures was not enough and additional tools were needed to fill gaps and address deficiencies.

³⁶ Under a protocol agreed by the European Commission, Norway, Iceland, the Faeroe Islands and two regional fisheries organizations, NAFO and NEAFC, a harmonized data format, the "North Atlantic Format" was devised to define uniform data fields; however data quality remains a significant issue. (pers comm. with NEAFC VMS manager.)

³⁷ Grassroots Potential Unleashed. Good news from West African fishing communities. 2003. FAO, DFID. 25p. p16-17.

47. One of these new actions called for in the ministers' 2005 Rome Declaration on Illegal, Unreported and Unregulated Fishing was the development of "a comprehensive record of fishing vessels within FAO...". Such a comprehensive record for fishing vessels does not exist currently. In addition to fishing vessels, coverage was to include refrigerated transport vessels and supply vessels, as they are often involved in transshipments from IUU vessels. Available information on beneficial ownership was also to be incorporated into a global record, subject to confidentiality requirements in accordance with national law. The UNGA Resolution on Sustainable Fisheries of 2006 encouraged and supported the development of a comprehensive global record within FAO of fishing vessels, using the same descriptive language.³⁸

48. In response, FAO has prepared a feasibility study, as summarized in COFI/2007/Inf.12, which examined legal and practical considerations involved in creating a global record. It also contrasted existing information systems, e.g. those at RFMOs; the High Seas Vessels Authorization Record (HSVAR) created under the Compliance Agreement; Lloyds/Fairplay; and Equasis, a public website promoting quality shipping and safety, primarily in the merchant marine sector.

49. After a thorough analysis of relevant factors, FAO's feasibility study concluded that:

- the development of such a record is technically feasible;
- flag States and economic entities would have to provide detailed information regarding vessels and their ownership in a complete and accurate manner as requested by FAO to ensure a useful system and developing countries may require assistance in this regard, including the development and maintenance of a register of fishing vessels;
- a unique vessel identifier system would need to be introduced so any vessel could be identified permanently, irrespective of change of vessel name, ownership or flag;³⁹
- an expert consultation would be needed;
- a phased approach for inclusion in the system would be desirable; and
- the costs of development, estimated at \$2.5 million (USD) over 3.5 years, and annual operational expenses of \$600,000, would be significant.

50. The conclusions of the feasibility study were presented to the VMS Expert Consultation and the experts expressed views on how such a global record could directly benefit national MCS authorities and those who are responsible for registering fishing vessels and authorizing fishing. Vessels remain able to re-flag, obtain multiple identification documents and change appearance with shocking rapidity. Yet, conclusive identification of a vessel is key to a successful investigation and prosecution. The Consultation agreed that a global record could dissuade the practice of re-flagging and utilizing flags of convenience. RFMOs, individually and collectively, were also identified as potential beneficiaries and specifically, on development of positive and negative vessel lists. In short, the Consultation agreed the global record could be of value but they did not underestimate the magnitude of creating and maintaining such a record and the costs involved.

51. Finally, in parallel, at least one other similar initiative has been undertaken. New Zealand has carried out its own feasibility studies for a high seas fishing vessel information system as part of its commitment to the High Seas Task Force on IUU Fishing. Those studies have looked at a comparable range of factors and likewise reached similar conclusions about feasibility, cost and the need for state cooperation to create a useful data information system.

³⁸ General Assembly A/RES/60/31, para 45.

³⁹ The need for a unique vessel identifier system was also called for by the 2002 FAO Expert Consultation to Review Port State Measures to Combat IUU Fishing. Report. Rome Nov. 2002

SUGGESTED ACTION BY THE COMMITTEE

52. Taking into account the negative social, economic and biological effects IUU fishing has had on achieving sustainable fisheries and the challenges that exist to effectively address IUU activities, the Committee is invited to reflect and offer comments on the measures that this paper proposes, in particular, in relation with the further development of the Model Scheme on Port State Measures, including the possible development of a binding instrument, as well as whether a new binding international instrument on VMS should be sought. The Committee is invited also to evaluate alternative strategies to guide and facilitate the global implementation of VMS, including activities to be undertaken by FAO, as discussed in this document. Finally, the Committee is requested to provide direction on the next steps that should be taken for the development of a comprehensive global record of fishing vessels, including in particular, the question of its funding as well as associated steps.