

REPORT OF THE FOOD AND AGRICULTURE ORGANIZATION AS REQUESTED BY UNITED NATIONS
GENERAL ASSEMBLY RESOLUTION 61/222 ON OCEANS AND THE LAW OF THE SEA

October 2007

In his letter of 12 September 2007 to the Director-General, FAO, the Under-Secretary-General for Legal Affairs, United Nations, sought input from FAO relevant to the topic of focus for the ninth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea in 2008, "Maritime Security and safety".

The elements in this report reflect a **fisheries** perspective on the question of the safety of fishing vessels and fishermen, which falls under the topic "Maritime Security and safety".

FAO has estimated¹ that the global fishing fleet currently consists of about 1.3 million decked vessels and 2.7 million undecked vessels. About 86 percent of the decked vessels are concentrated in Asia. There is little information available for the undecked/non-motorized vessels but it is estimated that Asia accounts for about 83 percent of them. In 2004, it was estimated² that the number of fishing vessels of 24 metres in length and over was 56,789, which is about 4% of the total number of decked fishing vessels in the world. While virtually all decked vessels were mechanized, only about one-third of the undecked fishing boats were powered, generally with outboard engines. The remaining two-thirds were traditional craft of various types, operated by sail and oars.

Available statistics on fisheries employment are scarce, incomplete and of low quality. According to FAO records³, employment in the primary capture fisheries and aquaculture production sectors in 2004 was estimated to have been about 41 million fish harvesters, including full-time, part-time and occasional workers. The great majority of these are in developing countries, principally in Asia. In 2004, the number of fishermen accounted for three-quarters of the total number of fish harvesters, i.e. about 30 million, out of which 16 million are working full-time in the marine sector. This figure is indicative, as some countries do not collect employment data separately for the two sectors and some other countries' national systems do not yet account for fish farming. About 98% of fishermen are working onboard fishing vessels of less than 24 metres in length of whom about two-thirds work on vessels of less than 12 meters in length, both decked and undecked.

Fishing at sea is probably the most dangerous occupation in the world,. ILO estimates that 24,000⁴ fatalities occur worldwide per year in capture fisheries. It seems plausible that the fatality rates in countries for which data is not available might be higher than it is in those that do keep records and thus the global estimate of fatalities might be even higher. The consequences of loss of life fall heavily on the dependents. In many developing countries, these consequences can be devastating: widows have often a low social standing, there is no welfare state to support the family and with lack of alternative sources of income, the widow and children may face destitution.

Safety of fishing vessels and fishermen involves several interrelated components such as design, construction and equipment of the vessels. However, social and economic pressures as well as overcapacity and overfishing of coastal resources are probably the major factors which have negated the results of efforts to improve safety at sea. Furthermore, safety issues on fishing vessels are of a different nature from those on merchant vessels where for example, the majority of hazardous operations are carried out in the safety of the port, unlike on fishing vessels (particularly small fishing vessels) where crews have to work at sea, on deck in all weathers, frequently with their hatches open, locating and gathering their cargo from the sea.

This report focuses on four areas:

- Survey of FAO's past and present activities relating to the safety of fishing vessels and fishermen;
- Identification of key issues and FAO's role;
- Lessons learned; and
- Conclusions.

¹ FAO.2006. The State of World Fisheries and Aquaculture. Rome: FAO.

² IMO.2004 Council paper C 93/4/Add.2.

³ FAO.2006. The State of World Fisheries and Aquaculture. Rome: FAO.

⁴ ILO.1999. Tripartite Meeting on Safety and Health in the Fishing Industry, Geneva, 13-17 December 1999

1. Survey of FAO's past and present activities relating to the safety of fishing vessels and fishermen

1.1 FAO history in safety of fishing vessels and fishermen

The safety of fishing vessels and fishermen has been a matter of concern for FAO since its inception in 1945 when the Organization provided assistance in the establishment of fishery training institutions in a number of countries. Hundreds of training institutions were established, many of which are still operating. Hundreds of fisheries projects related to training and safety, including courses, workshops and seminars have been organised, in which many thousands of participants have taken part. Curriculum development is an essential component of the support to national fishery training programmes and reflects regional and international requirements where they exist.

Safety at sea was one of the key issues discussed at the FAO International Fishing Boat Congress, which was held in 1953 in Paris, France and Miami, United States. By that time, the number of fishing vessels and fishermen worldwide began to grow rapidly. Because of the high incidence of capsizes (which still accounts for more than 50% of the fatalities in the industry), FAO organised a Fishing Vessel Stability Conference in Gdansk, Poland 1963. A follow-up activity from this conference was the development of new international standards on the stability of large fishing vessels.

Through its Bay of Bengal Programme (BOBP) project which was conceived in 1974 and covered seven countries around the Bay of Bengal (Bangladesh, India, Indonesia, Malaysia, Maldives Sri Lanka and Thailand), FAO has contributed towards improved safety of fishing vessels and fishermen in the region by holding workshops on safety at sea, providing training and publishing practical guidelines on the subject as well as on all facets of design and construction of small fishing craft. The FAO BOBP programme became an IGO in 1999, and active cooperation with FAO has continued since then.

The FAO World Conference on Fisheries Management and Development, which was held at FAO Headquarters in Rome in 1984 recognised that vessel safety was a very important factor to address in the development and management of small-scale fisheries. The absence or lack of proper crew training, life-saving facilities and on-board communications as well as the incorrect use of gear were highlighted as frequent causes of accidents.

Long-standing cooperation between FAO and its sister organizations, ILO and IMO, has led to the development of guidelines and standards on the safety of fishing vessels and fishermen. Further information on this cooperation is contained in section 1.3.

FAO has carried out several regional projects on the safety of fishing vessels and fishermen. Currently a number of projects devoted to safety are under implementation and others are under development. FAO also actively participates in international and regional conferences and workshops on the subject. The main features of FAO projects is their reliance on the involvement of all concerned stakeholders through a process of active consultation and participation; the main problems and underlying causes of accidents are identified, supported by data where available. Solutions are designed for maximum impact, thus focusing not only on the more common direct causes of accidents, but also on the underlying reasons behind the accident which are frequently social or economic, as well as technical. Dialogue between shipping and fisheries administrations is an essential feature of these projects in order to define the roles and responsibilities of each (which is often unclear, especially in respect of the small scale sector). The main role of FAO is to facilitate the processes of design and implementation of the activities, identify and acquire funding, provide technical and other expertise, and to ensure necessary follow up actions while trying to ensure that ownership of the problem and its solution remains with the various stakeholders. Awareness raising of the severity of the problem at the policy level is an essential component of these activities, as is the message that the safety problem is not insurmountable. In the last 10 years, FAO has implemented, or continues to implement, a number of regional projects and workshops.

An important aspect of FAO's work concerning the safety of fishing vessels and fishermen is the publication of Fisheries Technical Papers, Circulars and other documents on the subject. In addition to its extensive and broad range of publications addressing design, construction and equipment of fishing vessels, all of which directly link to safety, FAO has also published a number of reports devoted to improving safety at

sea⁵. FAO has recently initiated an extensive study on the impacts of fisheries management on fishermen's safety.

1.2 The Code of Conduct for Responsible Fisheries and the Role of FAO

After the 19th session of the FAO Committee on Fisheries (COFI) in 1991, the Government of Mexico in consultation with FAO organized the International Conference on Responsible Fishing in Cancún in May 1992. The Conference adopted the Declaration of Cancún, which, *inter alia*, called upon FAO, in consultation with relevant international organizations, to draft an International Code of Conduct for Responsible Fishing ("Fishing" was later changed to "Fisheries"). The outcome of this Conference, particularly the Declaration of Cancun, was an important contribution to the 1992 United Nations Conference on Environment and Development (UNCED, Rio, Brazil), in particular its Agenda 21. It also hastened the process within FAO to address issues relating to responsible fisheries, such as safety at sea.

Safety in the fishing industry cannot be divorced from fisheries management and this is recognized in the provisions of the FAO Code of Conduct for Responsible Fisheries. The Code, which was unanimously adopted on 31 October 1995 by the FAO's governing Conference, provides a necessary framework for national and international efforts to ensure sustainable exploitation of aquatic living resources in harmony with the environment. The Code, which is voluntary, also addresses safety and health in the fishing sector (see Annex 1).

FAO, in accordance with its mandate, is fully committed to assisting Member States, particularly developing countries, in the efficient implementation of the Code of Conduct for Responsible Fisheries and reports to the United Nations community on the progress achieved and further action required. FAO uses the Code as a vehicle to promote various issues relating to safety at sea.

1.3 Collaboration with IMO and ILO on the safety of fishing vessels and fishermen

There is a long-standing cooperation between FAO and its sister organizations, ILO and IMO, in developing guidelines and standards on the safety of fishing vessels and fishermen. The first attempt to address the safety of fishing vessels and fishermen on an international level took place in the early 1960s. Information on the FAO/ILO/IMO publications on the safety issues is contained in Annex 2. These publications are the following:

- FAO/ILO/IMO Code of Safety of Fishermen and Fishing Vessels, Parts A and B
- FAO/ILO/IMO Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels
- FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel

The FAO/ILO/IMO Code of Safety for Fishermen and Fishing Vessels, Part A and Part B as well as the FAO/ILO/IMO Voluntary Guidelines were recently revised. FAO played a major role in this work. Currently, FAO is working together with ILO and IMO in developing new safety standards for small fishing vessels that are not covered by the revised Code and Guidelines. The provisional title of these new standards is "Safety recommendations for decked fishing vessels of less than 12 metres in length and undecked fishing vessels". The target completion date for this work, which also includes the development of guidelines for implementation of the Safety recommendations, is 2010.

FAO has participated actively in the development of various instruments dealing with the safety of fishermen and fishing vessels as well as the working and living conditions on board such vessels under the auspices of IMO and ILO, such as the Torremolinos International Convention for the Safety of Fishing Vessels, 1977; the Torremolinos Protocol of 1993 relating to the Torremolinos Convention; the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995; and the ILO Work in Fishing Convention, 2007 (No.188).

FAO has also been assisting IMO in preparing the material for a regional seminar on the implementation of the Torremolinos Protocol, which are being held in several regions of the world, and in conducting of the first seminar in Beijing, China in 2004. The main objective of the seminar is to have a

⁵ Recent FAO publications on improving safety at sea: Safety at sea as an integral part of fisheries management; Safety at Sea – A Safety Guide for Small Offshore Fishing Boats – BOBP/MAG/16; and Boat Building in the Tsunami affected areas of Aceh and Nias - Fishing Vessels Quality Issues.

better understanding of the legal, administrative and technical constraints to the ratification of the 1993 Torremolinos Protocol. The secondary objective is to acquire an understanding of the relationship between the Protocol and the FAO/ILO/IMO Code of Safety of Fishermen and Fishing Vessels as well as the role of fisheries management in relation to fishing vessel safety.

2. Identification of key issues and FAO's role

2.1 Key issues

The main reason for accidents in the fishing industry is human error (estimated⁶ to be responsible for 80% of accidents in the industry) rather than the design and construction of unsafe boats. Poor fishing practices and seamanship result, for example, in well designed and constructed fishing vessels capsizing because of ignorance of operational factors that govern the stability of the vessel.

In the absence of external controls, human behaviour while undertaking fishing operations is largely governed by economic and social considerations. In a situation of overcapacity and overfishing, there exists high competition to catch limited resources. Economic survival results in cost cutting, risk taking, under manning, fatigue amongst other factors which contribute to the poor safety record. Increased investment in speed and catching efficiency further aggravates these problems. Improving safety should therefore become an explicit objective of fisheries management which must ensure that fishing effort is commensurate with the state of fishery resources.

Although working conditions and efficiency have improved in many ways with increased mechanization, new dangers have been introduced and the strain on the crew is still considerable, not least because of the reduction in crew size to cut costs. Safety regulations accepted by the merchant fleet have been met with reluctance in the fisheries sector, where crews resented any restrictions that might affect their income. The factors that endanger the safety of fishermen at sea include also excessive fishing effort, increased competition, unsatisfactory vessel maintenance, equipment and manpower, fatigue, recklessness, fisheries management measures that do not pay attention to fishermen safety and diversifying operations without training fishermen.

Inadequate institutional practices cover a wide range of issues, for example, fisheries management regimes which create unsafe fishing environments, lack of appropriate legislation related to design, construction and equipment of fishing vessels and their control as well as legislation concerning maintenance, training, minimum age and minimum levels of manning of such vessels. Furthermore, the lack of accident reporting and investigation and the lack of access to insurance or other financial security are also contributing factors.

Poorly designed, constructed and equipped vessels are often the result of insufficient controls and the profit incentive. Unlike many industries, working environment, including working conditions and practices, in the fishing sector are inadequately (if at all) controlled. Cost cutting in construction and equipment of fishing vessels and their maintenance is common.

2.2 The role of FAO

Safety at sea is a very serious problem in both developing and developed countries. It is likely that many developing nations will seek external advice in planning the management of fisheries in their EEZs. FAO is the UN agency with the mandate and competence to promote a holistic approach to fisheries management, including safety of fishing vessels and fishermen, in developing countries. This is in full accordance with FAO's mandate to raise levels of nutrition and standards of living, and follows naturally from the Organization's formulation of the Code of Conduct for Responsible Fisheries and its mandate to monitor the application and implementation of the Code and its effects on fisheries worldwide.

Working in cooperation with local experts and together with project beneficiaries, FAO has built up an extensive body of knowledge about local conditions and a network of contacts at local, national and regional level. Since its inception, FAO has implemented hundreds of fisheries projects directly related to the establishment of fisheries training institutions, improving the quality of design, construction and equipment of

⁶ US 2007. The website of the United States Coast Guard

fishing vessels, and above all, working directly with fishing communities; all these have a bearing on safety of fishing vessels and fishermen.

By making safety requirements prerequisites to fisheries authorization, progress is guaranteed. To fish legally will be to fish safely. Such a step will require a change of attitude within the fisheries, and consequently a firm motivation on behalf of the legislators, but, given that fishing is one of the most dangerous occupations known on earth, this progress seems inevitable. When giving advice, FAO will advocate a holistic approach to fisheries management for developing countries and include safety at sea as an integral part of the management regime.

3. Lessons Learned

The main lesson learned from FAO's experiences in the implementation of its various safety activities is that recommendations, however sound, do not form an adequate basis for administrations to act or for industry to respond. Despite the development of instruments and guidelines related to the design, construction and equipment of fishing vessels, the accident rate in the fishing industry is unacceptably high. The main cause of accidents and losses of lives in the industry is not poorly designed, constructed or equipped vessels, but the human error as a result from lack of awareness of safety problems and poor fishing practices and seamanship. Such practices often place demands on the boat which exceed the design limitations. Regulations which result in the vessel being stronger, more stable or more seaworthy may simply result in the operators taking greater risks to improve their catches. This could be avoided by fisheries management measures which deter or prevent skippers from doing so or by fisheries management measures which might remove some of the economic pressures which force fishermen to take risks.

FAO's Fisheries and Aquaculture Department has elaborated proposals for regional projects, but the necessary resources are lacking to ensure their implementation. The small projects of pilot character conducted by FAO show that important progress can be achieved, particularly in providing guidance in the development of national sea safety strategies; what remains lacking is often the implementation of these strategies. Because the link between safety at sea and fisheries management, for example linking safety requirements to fishing permits, has been demonstrated in isolated cases, further studies on these could provide guidance on how their positive impacts could be replicated elsewhere.

The various FAO/ILO/IMO Codes and Guidelines are all voluntary in nature. They are not intended as a substitute for national laws and regulations on the safety of fishing vessels and fishermen but provide guidance to those concerned with framing such national laws and regulations. Each competent authority responsible for the safety of fishing vessels and fishermen should, therefore, ensure that the provisions of these guidelines are adapted to its specific requirements. Many countries also need guidance here on how to systematically carry out an assessment. COFI in 2007 has already suggested that FAO should develop guidelines on best practices for safety at sea and should consider developing an International Plan of Action (IPOA) on the subject⁷.

The Torremolinos Protocol, if it enters into force, would represent a milestone in improving the safety of fishermen working aboard fishing vessels of 24 metres in length and over. However, as the vast majority of the world's fishermen are working onboard fishing vessels of less than 24 metres in length, the impact of the entry into force of the Protocol will be limited as it will only apply to about 4% of the world's fishing fleet. Its entry into force might conceivably pave the way for the gradual implementation of the provisions of FAO/ILO/IMO instruments on safety of fishing vessels, such as Part B of the Code of Safety for Fishermen and Fishing Vessels, 2005 (for vessels of 24 metres in length and over); the Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels, 2005 (for vessels of 12 metres in length and over but less than 24 metres in length); and the draft Safety recommendations for decked fishing vessels of less than 12 metres in length and undecked fishing vessels.

Long standing co-operation between FAO, ILO and IMO has resulted in the development or revision of a number of binding and non-binding instruments concerning Safety for Fishermen and Fishing Vessels, but their effect will remain minimal unless placed as appropriate within a mandatory framework. The safety issues are multi-sectoral, and they have often addressed on an ad-hoc basis. The mandate for dealing with the safety for small-scale fishing is often unclear. The maritime administrations typically deal with the bigger ships and the fisheries administrations with fisheries management. There is a tendency for neither to adequately address the safety of small fishing vessels. Generally, administrations are vocal in their support, but specific actions are lacking, and there is a need for an international organization like FAO to lead the process of introducing and implementing appropriate measures.

⁷ Paragraph 82 of the report of COFI 27 which was held at FAO Headquarters from 5 to 9 March 2007

4. Conclusions

From a FAO perspective, the following mechanisms for the promotion of international cooperation and coordination **for the safety of fishing vessels and fishermen** should be further considered.

- UNGA resolutions that raise awareness and provide strong political endorsement for initiatives which improve the safety of fishing vessels and fishermen;
- At the 27th Session of COFI⁸ a large number of Members expressed concern about the safety at sea for fishing vessels, especially small-scale fishing vessels. FAO was urged to continue collaboration with IMO and it was suggested that FAO should develop guidelines on best practices for safety at sea and that COFI should consider developing an IPOA on the subject.

An IPOA on Safety at Sea, which would incorporate guidelines on best practices for safety at sea, could become another milestone to improved safety, providing the opportunity to address safety in a holistic fashion. An IPOA is a voluntary instrument elaborated within the framework of the FAO Code of Conduct for Responsible Fisheries. In implementing IPOAs, States are required to carry out a set of activities in conjunction as appropriate with relevant international organizations and conduct a comprehensive assessment of the issue in question to determine if a problem exists. If a problem exists, States should adopt a National Plan of Action (NPOA) which is a plan that a State designs, implements and monitors to mitigate the problem. The NPOA should prescribe appropriate mitigation measures, contain plans for research and development, prescribe means to raise awareness among fishers, fishing associations and other relevant groups, provide information about technical or financial assistance and prescribe collection programmes of reliable data.

States which determine that an NPOA is not necessary should review that decision on a regular basis, particularly taking into account changes in their fisheries. If, based on a subsequent assessment, States determine that a problem exists, they should implement an NPOA. States should report on the progress of the assessment, development and implementation of their NPOA as part of their biennial reporting to FAO on the Code of Conduct for Responsible Fisheries.

An IPOA would have many advantages. Being a voluntary instrument, it would be unlikely to face the obstacles encountered in the development of a new international instrument. It is foreseeable that it could apply to all sizes of vessel. But as an instrument elaborated within the framework of the FAO Code of Conduct for Responsible Fisheries, it would have greater authority than voluntary guidelines. Following its adoption, an IPOA would require States in effect to carry out a national audit of the problem and the underlying causes and to prescribe a broad range of actions to improve safety. It would also require States to report every two years to COFI on actions undertaken, and thus permit a sharing of experiences and lessons learned.

⁸ Paragraph 82 of the report of COFI 27 which was held at FAO Headquarters from 5 to 9 March 2007.

Annex 1

Safety at sea in the FAO Code of Conduct for Responsible Fisheries

With the Code of Conduct for Responsible Fisheries and the accompanying Technical Guidelines, FAO has provided a framework on which different fisheries management systems can be built. The Code seems to meet with general approval and has already been used as framework for a new fisheries management legislation⁹. The Code of Conduct refers to safety in several paragraphs, such as the eight paragraphs below:

6.17 States should ensure that fishing facilities and equipment as well as all fisheries activities allow for safe, healthy and fair working and living conditions and meet internationally agreed standards adopted by relevant international organizations.

8.1.5 States should ensure that health and safety standards are adopted for everyone employed in fishing operations. Such standards should be not less than the minimum requirements of relevant international agreements on conditions of work and service.

8.1.6 States should make arrangements individually, together with other States or with the appropriate international organization to integrate fishing operations into maritime search and rescue systems.

8.1.7 States should enhance through education and training programmes the education and skills of fishers and, where appropriate, their professional qualifications. Such programmes should take into account agreed international standards and guidelines.

8.1.8 States should, as appropriate, maintain records of fishers which should, whenever possible, contain information on their service and qualifications, including certificates of competency, in accordance with their national laws.

8.2.5 Flag States should ensure compliance with appropriate safety requirements for fishing vessels and fishers in accordance with international conventions, internationally agreed codes of practice and voluntary guidelines. States should adopt appropriate safety requirements for all small vessels not covered by such international conventions, codes of practice or voluntary guidelines.

8.3.2 Port States should provide such assistance to flag States as is appropriate, in accordance with the national laws of the port State and international law, when a fishing vessel is voluntarily in a port or at an offshore terminal of the port State and the flag State of the vessel requests the port State for assistance in respect of non-compliance with subregional, regional or global conservation and management measures or with internationally agreed minimum standards for the prevention of pollution and for safety, health and conditions of work on board fishing vessels.

8.4.1 States should ensure that fishing is conducted with due regard to the safety of human life and the International Maritime Organization International Regulations for Preventing Collisions at Sea, as well as International Maritime Organization requirements relating to the organization of marine traffic, protection of the marine environment and the prevention of damage to or loss of fishing gear.

⁹ The Philippine Fisheries Code of 1998.

Annex 2

FAO/ILO/IMO publications

FAO/ILO/IMO Code of Safety of Fishermen and Fishing Vessels: Considering that it was desirable to co-operate within their respective fields of competency, in order to extend the scope of the proposed safety code for fishing vessels and make reference to all aspects of the safety of fishing vessels and fishermen, the three organizations entered into an agreement with respect to principles of co-operation and areas of mutual interest and responsibility: FAO, fisheries in general; ILO, labour in the fishing industries; and the IMO, safety of life, vessels and equipment at sea. The Code is divided into two parts – Part A, which was adopted in 1968, addressed to skippers and crews, containing operational and occupational requirements, and Part B, which was adopted in 1974, addressed to shipbuilders and owners, containing requirements for the construction and equipment of fishing vessels. Part A and B of the Code have recently been revised and published.

FAO/ILO/IMO Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels: The Voluntary Guidelines, which were approved in 1979, have recently been revised and published.

FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel: The first international maritime training guide for fishermen, the Document for Guidance on Fishermen's Training and Certification, was prepared by a joint FAO/ILO/IMO working group and published in 1985. It took account of the conventions and recommendations adopted by ILO and the IMO and the wide practical experience of FAO in the field of fishermen's training and covered training and certification of small-scale and industrial fishermen. In 1995 a joint FAO/ILO/IMO working group reviewed the Document for Guidance with particular reference to relevant resolutions of the 1995 International Conference on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F). The outcome was a revised document, titled Document for Guidance on Training and Certification of Fishing Vessel Personnel, which was approved by FAO, ILO and the IMO in 2000.