

Safety of small fishing vessels in India, Maldives, Sri Lanka and Thailand

In October 2005, an FAO consultant, Agnar Erlingsson, carried out a survey and a detailed assessment of the safety of small fishing vessels in India, Maldives, Sri Lanka and Thailand on behalf of the FAO of the United Nations and the BOBP-IGO. A valuable 52-page report resulting from his study will be discussed at the IFISH-3 Conference, to be held from February 1 to 7, 2006 at Mahabalipuram (Chennai). Here are glimpses into what Mr Erlingsson saw and what he said.

Mr Agnar Erlingsson's first-of-its-kind study on the safety of small fishing vessels (below 24m in length) in Tamil Nadu (India), Maldives, Sri Lanka and Thailand was carried out in October 2005. The study was an initiative of the Fisheries Industries Division of FAO, Rome, and the BOBP-IGO. It focused on "the extent and effects of all the mandatory requirements that existed for fishing vessels under 24m in length," and "how and why they are not effective".

In the course of the study, the consultant met transport and fisheries officials, interviewed the Coast Guard or those responsible for Safety and Rescue (SAR), visited fishing ports and met their administrators, surveyed fishing boats of all categories, a few in some detail; surveyed local boatyards and their production status and interviewed their managers.

The study has led to a comprehensive report. It will also serve as a discussion paper for the Third International Fishing Industry Safety and Health Conference or IFISH-3 to be organised in Mahabalipuram (Chennai) from February 1 through 7, 2006, by the BOBP-IGO in co-operation with the FAO and the Alaska Center of the National Institute for Occupational Safety and Health (NIOSH), USA.

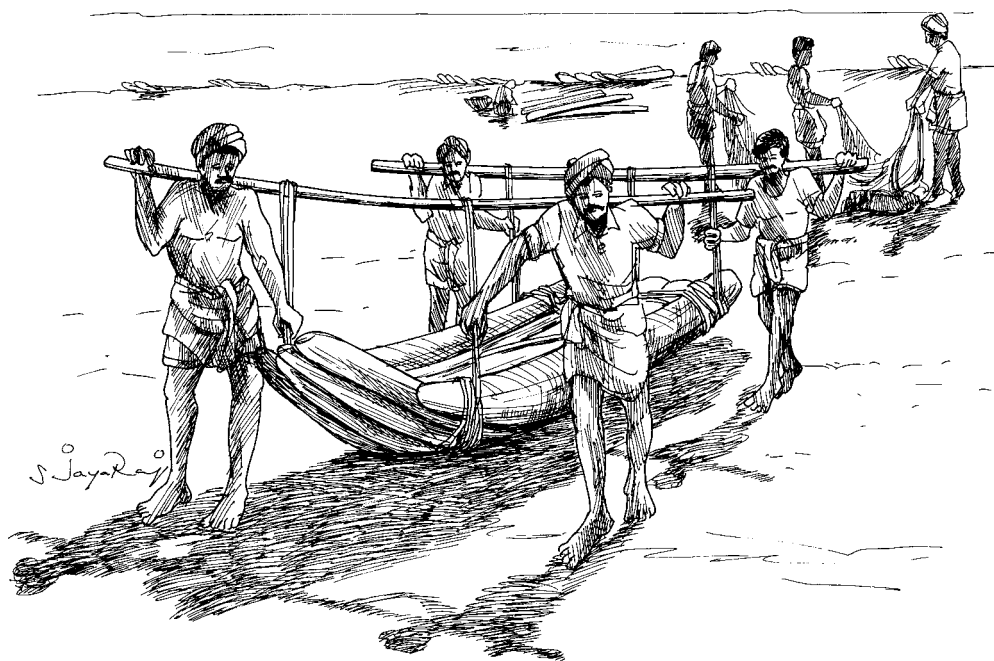
For each country, the report describes the current status of

fishing vessels and of boatbuilding capacity, discusses registration procedures and regulations for vessels, and various aspects concerning safety. It concludes with a number of recommendations for the future. It also contains a "global perspective" and "issues for discussion".

General comments on safety: Mr Erlingsson says that safety aspects of a craft relate to the vessel itself and to ancillary safety equipment on board. "The best safety equipment is the boat itself". Safety features of boats relate to boat design, construction, watertight integrity, stability and machinery.

The boats: In Tamil Nadu, India, boats under 24m may be divided into three groups – some 35 000 kattumarams, lografts about 4.5 to 8m in length; some 8 000 vallams, previously made of wood, nowadays from FRP (fibre-reinforced plastic) generally 8 to 9m long; some 12 000 mechanised craft, between 11 and 15m long, decked vessels of wood, typically with a main diesel engine of 70 to 120 H.P.

Fishing vessels in the Maldives may be divided into three categories: the Bokkura, used for coastal reef fishing, a double-ended wooden rowing boat 7 to 15 feet in length; the Vadhu Dhoni, a wooden sailing



The kattumaram of Tamil Nadu, India, is an excellent craft for small-scale fishermen, but has safety limitations.

boat 15 to 18 feet long, traditionally used in line trolling for tuna; and the Mas Dhoni, which fish for tuna by the pole and line method, and range in size from 50 feet to 110 feet in length, mechanized with engines from 80 H.P. to 500 H.P.

Sri Lanka's fishing craft are of four types: some 15 000 traditional dugout orus with outriggers; about 12 000 open boats with outboard motors; and some 3 000 mechanized boats of which some, fitted with 15-25 H.P. inboard engines, go out fishing for a few days a week; and larger boats, fitted with 30-80 H.P. inboard diesel engines that do fishing trips of 30 to 45 days.

Thailand has some 2 800 traditional craft without engines; some 36 000 longtail boats, usually 5 to 8m long, with outboard motors; and about 15 000 mechanized boats, most of them between 15 and 25m long, with inboard engines. These are 1995 census figures, 11 years old. Most Thai fishing vessels are built of wood. There are very few FRP boats. But new boat hulls are usually of steel.

Main Findings

Mr Erlingsson's report has a two-page summary of "main findings" with a tabular statement of "issues and recommendations" for each country; plus observations and findings separately for each country in the main text.

"The main finding of this study is that in general, the safety of these small fishing vessels is not under control," says Mr Erlingsson. "Regulations for registration may exist but enforcement is very much at random. Regulations for design, construction, safety equipment and crew qualifications are in most cases non-existent — though those responsible may have authority to set rules and enforce them. A notable exception to this is in the Maldives, where regulations for safety equipment are in place, although enforcement may be somewhat lacking. In another country, Thailand, there is usually some safety equipment available on



Serious accidents to fishing vessels in the Maldives are rare, but awareness of safety regulations should improve.

board the fishing boats although there are no regulations to this effect."

Mr Erlingsson says that to ensure some control over the safety of fishing vessels, it is necessary that they be registered, at least those that are mechanically powered. Both governments and fishermen ought to be committed to this. Fishermen can be motivated by certification, award of fishing licences or subsidies — on fuel oil for example. Governments should bear in mind that search and rescue (SAR) is very costly, and registration is far cheaper.

Discussion on Tamil Nadu

Mr Erlingsson says that from the safety standpoint, fishing vessels in Tamil Nadu should focus on four main areas: registration, training, minimum practical safety equipment on board, certification of FRP boatbuilding.

"It boils down to changes in attitude and motivation on the part of fishermen as well as the government, and processes in place."

Fishing vessels must be registered for any regulatory enforcement to be effective. "Present rules require all fishing boats that fish for profit to be registered, but the rules are apparently not being followed because there is no motivation for it," says Mr Erlingsson. He therefore recommends that such registration be tied up with the discount or subsidy fishermen are already getting on diesel oil. "Other ideas and methods will definitely develop as this system drops into place."

Training/Education should cover navigation, safety, first aid and minor engine repairs. Regulations do exist concerning minimum training and the qualifications of the skipper and the engine driver, but they are not enforced. These qualifications should be checked when the safety equipment of boats is surveyed.

On **minimum practical safety equipment on board**, Mr Erlingsson says that some rules that exist do not seem to be very effective. He has suggested a revised list of equipment.

Safety of Small Fishing Vessels: Issues and Recommendations by Country

Country	Issues	Recommendations
Tamil Nadu, India	Registration of boats is required. However, follow up is not clear. Enforcement of rules for safety equipment is seriously lacking. Control of qualifications and training of crew is deficient. No rules for design and construction. FRP boat building of poor quality. Marine accident statistics lacking.	Registration is imperative for safety; this may be done through subsidy motivation. Training of surveyors is necessary. Rules for safety equipment may be enforced by linking diesel oil subsidy with compliance. Safety regulations to be updated. FRP boatyards to be certified. Statistics on accidents need to be improved.
Maldives	Registration pretty well in place. Vessels generally well-built, but construction rules not in place. Fairly adequate safety equipment rules, but compliance is unsatisfactory. So are qualifications standards of crew. FRP boats are generally good in quality. Boatyards maintain high standards, but lack standardization and certification. No statistics available on marine accidents.	Present status good, but can be made better. Training of surveyors and enforcement of rules to be improved. Qualifications of crew to be enhanced. Safety equipment quality to be improved. FRP boatyards to be certified. Accident statistics to be made available.
Sri Lanka	Regulations for registration are in place but enforcement is lacking. No regulations exist for construction, design or safety equipment, but rule-making authority exists. Only informal rules for boatbuilding – these do not seem to be working. Training and qualifications of crew not standardized, and are deficient. FRP boatyards of doubtful quality. No coastguard or SAR vessels. Statistics good but no record of accidents.	Better follow-up of registration needed. Regulations for design, construction and safety equipment to be put in place. FRP boatyards to be certified, boats to be inspected on completion. Surveyors of boats to be trained. Training and qualifications of crew to be given all due consideration. SAR boats to be made available. Statistics should include record of accidents at sea.
Thailand	Registration procedures random, not systematic. No regulations for construction, design or safety equipment in place. Crew qualifications inadequate. Use of safety equipment random. Thai Navy effectively controls SAR. No statistics on marine accidents.	Follow-up in all categories to be improved. This is to be done by applying fish licence motivation. Surveyors to be employed and trained for enforcement both in boatbuilding and for ships in service. Statistics on accidents at sea should be improved.

Enforcement of rules for safety equipment is often lacking in small-scale fisheries.



For non-mechanized kattumarams and similar boats: No particular rules apart from oars and paddle if that is considered sensible.

For motorized and mechanized boats of up to 9 m length: An electric torch (watertight), tools to repair motors, oars/paddle, a small buoyancy float to be marked with name /registration number of the vessel, a bucket or a bailer.

For mechanized vessels of 9 m in length and more: a compass, navigational lights in accordance with Colregs, bilge pumps, both manual and mechanically driven, anchor with rope, paddle/oars, bucket and bailer, buoyancy floats for all on board, marked with name/ registration number of vessel, first aid box, VHF communication, tool kit and spares for engine, including one or more watertight battery torches.

For vessels of more than 15 m length: In addition to the above, GPS and EPIRB, when an inexpensive type comes on the market.

Mr Erlingsson says that the quality of local production of FRP 27-30 foot vallams – in the matter of facilities, environment, materials,

scantlings, methods and training – needs to be improved. Experienced master builders or organisations should be sought to set quality standards, provide training and qualify the yards for certification given by a local statutory body. “This way the customer would know what product he is getting and a certain degree of safety and durability would be assured.”

Discussion on the Maldives:

Extracts from conclusions and recommendations:

- Registration of fishing vessels in Maldives is pretty well in place. All the vessels surveyed appeared to be well built and in fairly good condition.
- Serious accidents on fishing vessels are rare, mostly due to engine breakdowns. No one interviewed could recall a recent fatal incident on a Maldives fishing boat.
- Many interviewed said that awareness of safety regulations was generally lacking amongst fishermen.
- There are no rules for the making of FRP boats. Since these are taking over from wooden boats,

some sort of control should be imposed on boat-builders and their methods.

- Some design features should be improved; this applies specifically to the height of coamings of engine room openings, hatches and hatch cover closures. Stability should receive some attention in larger vessels.
- Regulations for safety equipment seem to be appropriate. But it's questionable whether all the rules should apply for the smallest boats.

There do not appear to be serious problems concerning the safety of small fishing vessels in Maldives and their fishermen. A few recommendations:

Training: Fishermen's awareness of safety issues may be improved by training. Presently, all engine drivers take part in a course concerning navigation and engine use; first aid and safety should be included as a part of this course.

Quality of safety equipment: Life vests are required on all boats for all persons aboard. The quality of these is not defined; they are stored in various places. It is important that a minimum quality for life vests and

Fishing vessels at the harbour in Tuticorin, Tamil Nadu.



their storage facilities be described. The Ministry of Transport should propose a definition with respect to material, operational buoyancy, support angle and marking.

Safety equipment on small boats: Small boats may not always have proper storage facilities for prescribed safety equipment. Life vest requirements for at least two people on all such boats would mean adequate storage on those boats. Alternatively, life floats could be considered.

Certification of FRP boat yards: Some sort of a certification system could be developed in Maldives for boatyards so that customers know what kind of a contract they are entering into and what product they will be getting. This certification need not necessarily be of an international standard, assistance might be sought from FAO or some other organisation capable of providing such help.

Discussion on Sri Lanka:

Here are extracts from conclusions/recommendations:

Registration: Registration of fishing vessels is in place, better follow-up

is wanted. Fishing licenses or permits should be issued only to registered boats.

Regulations: Regulations should be formulated for construction, navigation, safety and manning standards. Requirements should be laid down about the training and qualifications of vessel operators.

Boatbuilding: Most boats, traditional or modern, are built in FRP by the country's 75 boatyards. None of these yards are certified; most employ workers with little or no formal training. Boatbuilding standards in accordance with internationally accepted levels and practices should be enforced. This is already being done by a handful of boatyards. They should be given a certificate or a letter of approval. Only certified yards should be given licenses.

Safety and Rescue: Though this report is about safety, the dearth of rescue vessels should be mentioned. They are sorely needed and should be supplied as soon as possible. The round-the-clock monitoring and

surveillance system and the coastal network of radio stations is worthy of praise, and should be strengthened and modernized.

Discussion on Thailand

Here are extracts from conclusions/recommendations:

Registration: All motor-driven boats in Thailand should be registered with the Marine Office. Proper registration and a valid certificate should be a prerequisite for a fishing license, otherwise safety regulations may be difficult to enforce.

Regulations: For all decked and mechanized fishing vessels, regulations will have to be put in place; this should be the responsibility of the Marine Office. The design, safety and qualification regulations should cover watertight integrity, vessel stability, safety equipment, navigation and communication equipment, training, and the qualifications of the skipper and engine driver. For longtail boats, only minimum requirements regarding life saving, navigation and communication equipment are



Regulations need to be formulated on construction, navigation and safety standards of fishing boats in Sri Lanka.

considered necessary. These may be administered by the Department of Fisheries if, and as, found practical.

Boatbuilding: At present the main building activity relates to the smaller, open, longtail boats and the larger steel fishing vessels. A long and successful tradition with longtail boats and an accident-free performance seems to indicate that no immediate improvement is necessary. As regards the larger mechanized steel vessels, it is imperative, to ensure both quality and safety, that they are approved and authorized before they are in business.

No FRP boatbuilding activity was seen. But it is very probable that, production of FRP boats is going on somewhere around the coast. The Marine Office should therefore be ready for such a development and formulate rules and regulations for the production of FRP boats.

Training: Skippers and engine drivers of decked mechanized boats should undergo some training in emergency procedures, elementary stability, navigation, communication, first-aid and engine repairs. With time, other crew member will also follow suit.

Global perspective:

The consultant says that safety-at-sea problems for fishermen differ in developed and developing countries. In the latter, political commitment to invest in the safety of fishermen in small-scale and artisanal fisheries seems to be lacking. This attitude must change.

It is true that there are no international rules or regulations for fishing vessels smaller than 12m in length. But the Nordic Rules for Construction and Certification of Vessels Less than 15m in length, were formed by a working group from Nordic countries in the early 1980s. They applied to recreational craft and working boats constructed of wood, steel, aluminium, ferrocement and FRP. These standards have been used to good effect.



Boatyards and landing centres in Sri Lanka (top and centre) and Thailand (below) are sometimes deficient in trained manpower and adherence to safety regulations.