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INFORMATION NOTE

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**SAFETY AND THE CAUSES OF ACCIDENTS IN
THE FISHERIES SECTOR**

*The opinions expressed are those of the author
And do not necessarily reflect the position of the European Parliament*

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Summary

Fisheries is still one of the sectors with the highest risk of accidents. The causes of accidents vary widely, requiring specific regulations adapted to each case. The EU has two Directives (Directives 93/103/EC and 97/70/EC), but they only concern large vessels, i.e. +/-10% of the EU fishing fleet. Hence the importance of fresh legislation that should include all types of vessels. This information note gives:

- an analysis of the main types of accidents, their recurring causes and their consequences;
 - a look at the various international instruments, Community directives and national practices;
 - recommendations on measures for preventing accidents involving fishing boats.
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INTRODUCTION

The issues

The Community fishing industry has an extremely important social impact. It employs around 252 000¹ fishermen and generates a large number of jobs in the processing industry and services. These jobs are vital for many peripheral coastal regions of the European Union. Fisheries, remains, however, one of the sectors with the highest risk of accidents. Estimates for 1997 from the International Labour Office (ILO)² indicate that, at world level, some 24 000 fishermen die each year.

At Community level, the risk of being killed or injured while fishing is also high. The diversity in the causes of accidents, classified by category or under various headings and related in particular to the size of vessel, requires specific regulations adapted to each case. At the present time, the EU has two Directives in force to make up for the lack of safety regulations in the sea fisheries sector (Directives 93/103/EC and 97/70/EC). However, these directives only concern larger vessels, i.e. +/-10% of EU vessels.³ Hence the importance of fresh legislation that should include all types of vessels.

This information note looks at safety problems and the causes of fishing accidents. The first part provides details on the type, causes and consequences of accidents. The second part takes a look at the various international instruments, Community directives and national practices. The third part sets out recommendations on measures for preventing accidents and in particular those that were formulated by experts at the public hearing organised by the Committee on Fisheries on 18 and 19 September 2000.

Methodology

Organisations consulted

A survey was made at national level among various government departments, Permanent Representations in Brussels and trade unions; at Community level the survey included Eurostat, the different European Commission DGs concerned (DG FISH, DG TREN, DG EMPLOYMENT) and the European Trade Unions Confederation (ETUC) and the European Transport Workers' Federation (ETF).

¹“Annual Economic Report 1999” in *Economic performance of selected European fishing fleets*.

² ILO, *Safety and Health in the Fishing Industry*, Geneva, 1999, p.19.

³ SSPA, Maritime Consulting, *"Fishing vessel safety - recommendations for complementary Community action for harmonisation of safety legislation"*, 1998 (Study carried out for the Transport DG of the European Commission).

Difficulties in obtaining statistical information

The process of gathering relevant and comparable statistical data was long, difficult and frustrating. In some countries, such statistics are practically non-existent. In others, only some areas are covered. Several Member States replied that a system for collecting statistics is finally being put into place.

Heterogeneity of statistics

The response from Eurostat was clear and unequivocal: there are no statistical data in the fisheries field. The reason is simple: there is no uniform definition for each concept. From one country to another, the same concept covers different elements. This is obvious in the actual definition of the term “*accident*”: for some this covers “incidents” or near accidents, for others it does not. Eurostat is currently working with the relevant departments in the Member States in order to resolve these problems and establish uniform criteria.

Limiting the number of parameters: An imposed choice

The subject of safety in the fisheries sector covers a vast range of particularly complex parameters.

Given the reply from Eurostat, which was largely confirmed by the answers obtained from the other bodies consulted, the choice of parameters had to be drastically reduced in order to take account only of comparable and thus relevant data.

1. SEA FISHERIES: A DANGEROUS PROFESSION

The available statistics allow us to record the principal safety problems that exist in the fishing industry. They reveal the dangerous nature of this profession and provide a means for reflection on the prevention of accidents. However, these statistics must be handled with care, given that methods of collection and compilation differ from one country to another.

1.1 Types of Accidents involving Fishing Vessels

The types of accident (see: **table 1**) can be divided into 7 categories: sinking, grounding, collision, capsizing/listing, fire/explosion, engine failure, leaking and accidents linked to bad weather. This typology allows accidents occurring in 1998 to be classified according to the nature of the accident:

An analysis of Table 1 reveals that there were 1347 recorded accidents in the EU during 1998 compared with 1250 in 1996⁴, representing an increase of 3.7%. The highest percentage of accidents came about as a result of engine failures (33%), followed by sinkings (9%), running aground (9%) and collisions (7%). The lowest percentages concerned accidents involving leaks (4%), fires and explosions (3%), capsizing and listing (2%) and weather conditions (1%).

We can therefore see that the number of engine failures remained very high: 445 in 1998, compared with 437 in 1996⁵. This increase is due to the dilapidated state of engines, inappropriate training and obsolete safety equipment.

⁴ SSPA, Maritime Consulting, *op. cit.*

⁵ *Idem.*

Table 1

Types Of Accidents Involving Fishing Vessels

1998

<u>Country</u>	Sinkings	Running aground	Collision	Capsizing/ listing	Fire/ Explosion	Engine failure	Leaks	Accidents linked to bad weather	Others	Total
1. Germany	-	-	1	2	1	3	-	14	135	156
2. Austria	-	-	-	-	-	-	-	-	-	-
3. Belgium	1	0	1	1	2	0	-	7	168	180
4. Denmark	6	3	6	1	4	0	-	0	0	20
5. Spain	34	19	30	9	16	0	45	-	11	164
6. Finland	0	28	14	0	3	0	-	0	6	51
7. France	29	22	14	-	14	113	-	-	-	-
8. Greece	0	0	0	0	0	0	-	0	0	0
9. Ireland	3	7	7	5	-	79	15	2	11	129
10. Luxembourg	-	-	-	-	-	-	-	-	-	-
11. Italy	0	0	3	0	0	0	-	0	1	4
12. Netherlands	0	2	8	1	3	0	-	0	22	36
13. Portugal	N/A.	N/A.	N/A.	N/A.	N/A.	N/A.	N/A.	N/A.	N/A.	N/A.
14. UK	61	40	20	11	6	244	-	2	3	387
15. Sweden	0	9	2	7	3	6	-	-	1	28
Total	134	130	106	37	52	445	60	25	358	1 347
Percentage	9.94%	9.65%	7.86%	2.74%	3.86%	33%	4.54%	1.85%	26%	100%

* **Italy:** Large tonnage vessels.

Greece: Large tonnage vessels.

Sources: Ministries, trade unions, Member States' Permanent Representations in Brussels and other public bodies. (See annex 2).

1.2. The Recurring Causes of Accidents

Given the diverse nature of the compilation criteria applied to statistics in the various Member States, *table 2* is divided into three generic categories. Each category includes several causes rather than any one particular cause.

- **human factors** include: tiredness, stress, poor maintenance, failure to pay attention up to the point of negligence, routine, **drug** or alcohol abuse, navigation errors, personal relationships and working conditions;
- **technical factors** are: the absence of or failure to respect parallel standards during the design, construction or conversion of the vessel; the poor state of engines; the absence or the poor functioning of equipment and in particular, alarm systems and fire-fighting systems; the use of unreliable fishing gear, inadequate personal safety and survival equipment; stability measures ignored and the absence of systematic control;
- **external factors:** mainly include meteorological conditions.

According to *table 2*, 40% of the accidents occurring in 1998 were the result of human error.

Technical factors were the cause of nearly 26.98 % and external factors of 16 %.

This result is symptomatic of a profession that has not yet guaranteed acceptable working conditions. Fishermen are subject to economic pressure and competition which push them into taking greater risks: reductions in crew and increases in the number of hours worked. This situation is very frequent and results in accidents due to extreme fatigue.

Table 2

Causes of Accidents Involving Fishing Vessels

1998

<u>Country</u>	Human Error	Technical Factors	External Factors	<i>Others</i>	Total
1. Germany	*	*	*	*	*
2. Austria	-	-	-	-	-
3. Belgium	75	65	40	-	180
4. Denmark	5	5	5	5	20
5. Spain	51	30	22	61	164
6. Finland	32	8	3	8	51
7. France	*	*	*	*	*
8. Greece	N/A.	N/A.	N/A.	N/A.	N/A.**
9. Ireland	N/A.	N/A.	N/A.	N/A.	N/A.**
10. Luxembourg	-	-	-	-	-
11. Italy	N/A.	N/A.	N/A.	N/A.	N/A.**
12. Netherlands	N/A.	N/A.	N/A.	N/A.	N/A.**
13. Portugal	N/A.	N/A.	N/A.	N/A.	N/A.**
14. U.K.	21	6	5	3	35
15. Sweden	11	15	2	-	28
Total	195	129	77	77	478
Percentage	40.79%	26.98%	16%	16%	100%

* Germany indicated only the percentage for principal causes: **81% caused by human error and 6% caused by technical factors.**

* France only indicated a percentage of more than 85% for human error.

** No available statistics.

Sources: Ministries, trade unions, Member States' Permanent Representations in Brussels and other public bodies (See annex 2).

1.3. The consequences of accidents

According to the Occupational Safety and Health Branch of the International Labour Office (ILO), fisheries accounts for a global fatal accident rate of 80 per 100 000 workers, or around 24 000 deaths per year and some 24 million non-fatal accidents annually.⁶

⁶ ILO, op.cit.

In 1998, in the Community fishing industries, there were 2527 injuries and 160 deaths, making a total of 2 655 victims (see *table 3*). It should be pointed out that these statistics concern both large and small vessels.

Table 3

Figures For Victims of Fishing Accidents

1998

<u>Country</u>	Deaths	Injured	Total
1. Germany	4	152	156
2. Austria	-	-	-
3. Belgium	5	175	200
4. Denmark	9	2	211
5. Spain	48	8	56
6. Finland	0	66	66
7. France	7	N/A.	N/A.
8. Greece	0	0	0*
9. Ireland	0	171	171
10. Luxembourg	-	-	-
11. Italy	0	0	0*
12. Netherlands	1	84	85
13. Portugal	9	1739**	1748**
14. U.K.	26	112	138
15. Sweden	6	18	24
Total	160	2 527	2 655

* Large tonnage vessels.

** These figures include accidents and incidents.

Sources: Ministries, trade unions, Permanent Representations of Member States in Brussels and other public bodies. (See annex 2)

2. MEASURES TO IMPROVE FISHING SAFETY

2.1. Recommendations from international organisations

2.1.1 International Labour Organisation (ILO)

The work of the ILO results in the adoption of many agreements and recommendations dealing directly or indirectly with health and safety in the fishing industries (Annex 2). These instruments are supported by initiatives and actions, such as the safety code for fishermen and fishing boats, guidelines for the design, construction and equipment of small fishing boats, and the Document for Guidance on Fishermen's Training.

Alongside this, the ILO organises debates in the context of tripartite ILO/IMO/FAO activity. The meeting of 13-17 December 1999 in Geneva was devoted to safety and health in the fishing industry. Those involved recognised that, despite the panoply of measures, sea fishing remains a dangerous profession.⁷ They stressed the importance of taking into account human factors and the modernisation of equipment. They also invited governments to ratify and apply international standards on the safety of fishing vessels.

2.1.2 International Maritime Organisation (IMO)

The IMO attaches a great deal of importance to safety on fishing vessels. The most important conventions are: the International Convention of 1974 for the Safety of Life at Sea (SOLAS), amended in 1978 and 1988, the Torremolinos Convention of 1977 followed by the Protocol of 1993, and the International Convention on standards of training for fishing vessel personnel of 1995. The IMO has also adopted other instruments, for example, the Code for the investigation of marine casualties and incidents. This code establishes an investigation procedure for evaluating the circumstances of accidents and the causa factors.

However, these instruments, which are essential for promoting health and safety in the fishing industry, are only useful if they are ratified and applied. Many conventions have still not been ratified, for example the Torremolinos Convention (1993) which has only been ratified by five States⁸ or the International Convention on Standards for Training of 1995, which has been ratified by two States.⁹

⁷ International Labour Office, *Tripartite meeting on health and safety in the fishing industry*, Geneva, 1999, p.78

⁸ Cuba, Denmark, Iceland, Norway and Sweden.

⁹ Denmark and the Russian Federation.

2.1.3. United Nations Food and Agriculture Organisation (FAO)

The FAO's contribution to the fishing industry in terms of safety is built around two pillars. The first is the establishment of rules, with the Code of Conduct for Responsible Fisheries, adopted in 1995. This Code contains provisions that clearly link responsible fishing to the safety and health of fishermen, particularly articles 6, 8, 8.2, and 8.2.10. In another document, the Fishery Industries Division of the FAO¹⁰ defines a new approach for dealing with safety problems and proposes specific solutions.

The second pillar is technical co-operation. It particularly covers the fleets of developing countries, mainly made up of small boats. This led to the publication in 1993 of *A safety guide for small offshore fishing boats*.

2.2. The Community approach

2.2.1. Fishing vessel safety

Community legislation in the area of fishing vessel safety has gone through two stages.

On 23 September 1980, the Council adopted a recommendation inviting the Member States "to ratify the *Torremolinos International Convention (...)* or accede thereto as soon as possible and not later than 31 July 1982"

But it was only in 1993 and 1997 that the Council adopted two directives on the safety of fishing boats (93/103/EC and 97/70/EC).

The first, Directive 93/103/EC, concerns minimum rules for health and safety at work on board fishing vessels. It contains prevention and safety measures that cover ship owners, workers and equipment. It also lays down obligations on lifesaving and survival equipment and personal protection equipment.

However, according to the statistics from 1997, this directive would only affect +/- 8% of fishing boats, i.e. around 8 000 boats, because it only applies to new boats of 15m or longer and to existing fishing boats of 18 m or longer.

Directive 97/70/EC, which establishes a harmonised system for the safety of fishing boats of 24 m or longer, is based on the "Torremolinos Protocol" adopted on 2 April 1993, itself based on the International Convention for the Safety of Fishing Vessels. It only affects the low percentage of +/- 3% of the Community fleet (around 3 000 boats).

To conclude, these two directives, despite their importance, only apply to around 10% of the Community fleet. The vast majority of fishing boats is therefore governed by national legislation.

2.2.2. The safety and health of fishermen

In April 1988, the European Parliament adopted a resolution (A2-310/87) in which it recognised the importance of developing the social aspects of the common fisheries policy and, in particular, the importance of prevention in the area of safety on board fishing boats.

Given the precarious nature of the sector, in the resolution the EP considered it to be a priority to define the funding of action in the areas of training, safety and medical assistance as well as the

10 M. Turner, " A Guide for the implementation of safety programmes in fisheries", proceedings of the International Symposium on Safety and Working Conditions aboard fishing vessels, Rimouski, Canada, August 1989.

collection of information and monitoring. It highlighted the importance of appropriate vocational training, particularly with regard to safety and the use of new technologies, and asked for a single training manual to be published and distributed. It also asked for information campaigns to be funded and conducted among fishermen, in order for all of them to be aware of the 'safety' aspect of their work, particularly through the distribution of the ILO International Medical Guide for Seamen (1965) and the Code of Practice for health and safety on board fishing vessels, adopted in 1962 by the ILO, WHO and FAO. It requested further measures for developing, among other things, the network of consultations by radio, satellite communications and information exchange systems. Finally, the EP requested that a specific budgetary heading be created to fund research in the field of marine safety and proposed a tax exemption for lifesaving equipment.

Community action on health and safety for fishermen was then set out in various directives. Some are of a general nature, such as:

- Directive 89/391/EC aimed at encouraging improvements in health and safety for all workers,
- Directive 89/656/EC concerning the minimum safety and health requirements for use by workers of personal protective equipment and
- Directive 92/58/CE which establishes the minimum requirements for the provision of safety and/or health signs at work.

Directive 92/29/EC is specific to the fisheries sector. It concerns medical treatment on board vessels and stipulates that every vessel flying the flag or registered under the jurisdiction of a Member State must carry medical supplies (Article 2(1)(a), that are inspected annually (Article 7) accompanied by a guide to their use for fishermen. Those responsible for the use of the medical supplies on board vessels must receive special training updated periodically, at least every five years. All fishermen must receive basic training in the medical and emergency measures to be taken immediately in the event of an accident or serious medical emergency.

2.2.3. Working time

With regard to the reduction of working time in fisheries, the debate is currently in progress. This is a crucial problem for fishermen, given that they do not have any protection against the risks that excessively long hours represent for their health and safety.

Indeed, Directive 93/104/EC, which aims to protect workers against the damaging effects on their health and safety of excessive working time, insufficient rest and an irregular organisation of work, does not apply to the sea fisheries sector.

Employers gave several reasons for this refusal to apply this Directive to the fisheries sector: the specific characteristics of the sector, the principle of subsidiarity, the high number of independent fishermen, the financial consequences for fishermen as well as the diverse nature of the sector in the EU. The trade unions, however, were in favour of the Directive.

On 17 May 2000, the European Parliament approved the joint text submitted by the Council for a Directive extending provisions relating to rest, breaks, working hours, paid holidays and night work to certain categories of work including workers in the sea fisheries sector.

With regard to fishermen, the Member States could opt for:

- 1) either a minimum hours of rest which shall not be less than 10 hours in any 24-hour period, or 77 hours in any seven-day period;
- 2) or a maximum hours of work which shall not exceed 14 hours in any 24-hour period, or 72 hours in any seven-day period or 48 hours a week on average calculated over a reference period not exceeding one year.

These rules aim to guarantee the protection of the health and safety of workers in their work place while allowing a certain degree of flexibility. They are in accordance with the international rules of the International Labour Organisation (ILO).

2.3. National practices in terms of social security and monitoring

2.3.1. Social security systems

Surveys carried out among the Member States highlighted the diversity of the social security systems applied to the fisheries sector (see Table 4). There are, in very general terms, three types of system:

- the general system
- the general system with special clauses for fishermen
- the special system, managed by private or public bodies.

Table 4

**Social Security for Fishermen
1998**

<u>Country</u>	General System	Special System
1. Germany		Specific insurance system for fishermen
2. Austria	General system	
3. Belgium		Special system managed by the fund for accidents at work 'Fonds des Accidents du Travail'
4. Denmark	NA	
5. Spain		Special system managed by the "Instituto Social de la Marina"
6. Finland	General system	
7. France		Special system run by ENIM (Etablissement National des Invalides de la Marine)
8. Greece	NA	
9. Ireland	General system	
10. Luxembourg	General system	
11. Italy		Special system managed by IPSEMA (Istituto di Previdenza per il Settore Marittimo)
12. Netherlands	NA	
13. Portugal	General system with special clauses for fishermen (tax and pre-pension rights)	
14. U.K.	General system covering industrial accidents at work	
15. Sweden	General System	

Sources: Ministries, trade unions and Permanent Representations of Member States in Brussels and other public bodies. (See annex 2)

2.3.2. Inspection of vessels

According to *table 5*, annual inspection of vessels is in general obligatory. However, the types of checks differ from country to country. Certain States practise systematic inspection, while others only carry out inspections periodically. In certain cases, checks are only strict for new vessels or large tonnage.

It is therefore essential that a common control system be created. It should include in particular:

- inspection of boats and workers;
- verification of respect for safety standards;
- application of penalties as a means of exerting pressure;
- checking the methods of communication on board.

Table 5
Checks on Fishing Vessels

1998

<u>Country</u>	Type of Inspection (Obligatory/ Voluntary)	Observations
1. Germany	Obligatory annual inspection; In the case of an accident a further inspection is necessary.	In 1998, there were 15 inspectors. Number of vessels inspected: 2147 Number of inspections carried out: 2 786.
2. Austria	-	-
3. Belgium	Obligatory annual inspection for all fishing vessels.	
4. Denmark	All vessels of >5 tonnes are subjected to inspection; after renovation of a vessel a new inspection is required; regular inspections of equipment.	
5. Spain	Obligatory inspection of new vessels; periodic inspection of other vessels; new inspection required for change of ownership.	
6. Finland	Obligatory inspections: Vessels >15m: inspection every 2-4 years; Vessels <15m: inspection every 4 years.	40 inspectors (of which 5/6 are highly specialised)
7. France	Obligatory annual inspection for all fishing vessels	+/- 60 inspectors for all vessels (not only fishing); 15 Inspection Centres (France and Antilles)
8. Greece	Obligatory annual inspection. Very thorough inspection for vessels >10m.	
9. Ireland	Only new vessels are inspected.	
10. Luxembourg	-	
11. Italy	Obligatory inspection every 2-3 years.	
12. Netherlands	Obligatory inspection: annual check on engines and two complete checks every 5 years.	
13. Portugal	Obligatory inspection.	
14. U.K.	Inspection every 4 years.	
15. Sweden	Obligatory inspection every 2-4 years	

	for vessels of 22 GRT or more; Occasional checks for other vessels.	
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Sources: Ministries, trade unions and Permanent Representations of Member States in Brussels and other public bodies.
SSPA Maritime Consulting, *op. cit.* (See annex 2).

3. RECOMMENDATIONS FOR IMPROVING FISHING SAFETY

3.1. Preventing risks: a necessity

3.1.1. Harmonisation of accident statistics

The absence of uniform criteria makes it impossible to collect comparable statistical data in all the Member States. Moreover, few countries publish reliable annual statistics on accidents and their causes. The lack of reliable statistics means that it is impossible to get a true and complete picture of the real situation and results in partial and incomplete interpretations.

It is therefore essential that a uniform method for the collection and compilation of data on accidents affecting fishing vessels be created and applied by all EU Member States.

3.1.2. Promoting a safety culture

It is also essential to promote a *safety culture* in the fishing world, i.e., throughout the chain of activities connected to fisheries: from the construction and use to the maintenance of boats and engines, the replacement of boats and all fisheries equipment.

All of the vessel's equipment (safety, lifesaving and anchoring equipment) must be regularly checked by a body authorised to issue the navigation permit. Penalties must be applied if the vessel does not conform to requirements.

Also, improving research and investigations into accidents is the best way of discovering, analysing and prevent their main causes. In order to do this, direct and correct information needs to be available on vessels and there need to be competent organisations/administrations responsible for working on this type of information.

3.1.3. The development of on-going training

Professional training must be part of the fundamental rights of workers for effective protection and health and safety at work.

On-going training programmes must be developed that take account of the constant evolution of maritime techniques, so that professionals can be retrained during their careers.

These professional training courses should cover precise themes, linked to the safety of workers and vessels and in particular to adapting them to new technology. These should include for example:

- techniques for disengaging gear caught on fasteners and precautions to be taken;
- looking after fire alarm systems and combating fire ;
- looking after flood alarm systems and combating flooding;
- looking after anti-collision alarm systems and prevention of collision ;
- prevention of the risk of falling overboard ;
- techniques for abandoning ship and the use of lifesaving equipment and life rafts;
- techniques for anchoring and mooring;
- limits of computer assisted navigation, etc.¹¹

3.1.4. The need for a unified registration system for EU fishing vessels

Enquiries carried out after accidents often reveal numerous faults in vessels classified and certified by top classification companies and belonging to the International Association of Classification Societies (IACS).

There is a need to obtain a transparency in information relating to ships and their use: the following data concerning the quality of vessels should be incorporated in real time into the EQUASIS information system which is currently being set up by the European Commission:

- Identity of the real owner and not simply vague references to companies registered in one or several tax havens ;
- Names of the companies which classified the vessel and certified its sea-worthiness (in the ISM sense of the term) and mention made of the certificates issued by them in the name of the flag state as well as those signed by the company director ;
- Name of the legal insurer and any ceilings applicable to the amounts guaranteed ;
- Name of the insurer of the hull ;
- Name of the certifying body under the ISM code from whose registered office the vessel is managed, giving the authorisation issued by the flag State;
- Name of the ship manager and of any subcontracting crewing agencies¹².

3.1.5. Improving compatibility between equipment, vessel and crew

In order to function at an optimum level and for the best possible on-board safety, compatibility between crew, vessel and equipment is essential. In fact, this is rather rare. In many accidents that are described, the lack of adequate synergy between crew, vessels and equipment is one of the principal factors contributing to the accident.

The lack of compatibility between ship and crew, numerous communication problems between members of crews of mixed nationality or difficulties encountered by some crew members using certain equipment as well as a lack of standardisation of equipment all constitute negative factors in relation to vessel safety.

The heterogeneous nature of crews, either due to the fact that they are of different nationalities, or due to their varying training and professional experience, creates considerable communication

¹¹ BEA/mer, *Rapport Annuel 1999*.

¹² BEA/mer, *op.cit*.

problems, which are a determining factor in a great deal of the accidents that are examined.

An improvement in the compatibility of equipment is a real priority. In particular, when the vessel becomes older, the equipment that is modified - engine power, arrangement of facilities etc. – or that is added – electronic equipment put on board – can produce strange results. When any new technology is being introduced there should be serious consideration of how it will be used and its affect on other activities at sea.¹³

3.2. Improving working conditions: a priority

3.2.1. Reducing working time

The main problem in the field of risk prevention in the fisheries sector is that of the length of the working day. A lack of administrative control, the fact that the place of work is far away and isolated and catch-share payment are the reasons behind excessively long working days.

The average working time is 12 hours, distributed in an irregular manner, with intense and hard work which causes tiredness, a reduction in reflexes and the use of stimulants. This situation is one of the main causes of accidents on fishing boats. As a result, the directive on working time for sea fishermen needs to be implemented as soon as possible.

3.2.2. Towards effective monitoring of working conditions

In the fisheries sector, there is very little monitoring of working conditions on board vessels. In general, inspection visits for preventing risks are practically non existent. Co-operation between workplace inspectors and the fishing sector is therefore of vital importance: firstly so that a feeling of impunity does not set in due to the lack of monitoring of activities and, secondly, so that real communication between the administration and the sector can be effective in helping to prevent and reduce the risks of accidents at work.

CONCLUSION

The problem of safety in the fisheries sector is, as we have seen, a very complex one: there are considerable differences between small-scale traditional fishing, coastal fishing, open sea fishing and deep sea fishing. Moreover, the interests of ship owners, salaried fishermen and independent fishermen are far from coinciding.

Nevertheless, we can define some possible lines of action and envisage the implementation of *a complete framework of prevention/safety measures* including, in particular:

- guarantee of good working conditions;
- development of professional training programmes
- improvement in social dialogue;

¹³ *Idem.*

- extension of social protection to all fishermen;
- renewal and modernisation of the fleet;
- construction of vessels from good quality and resistant materials;
- maintaining protection equipment against fire, smoke and shipwreck and life-saving equipment in good condition;
- improvement in navigation aids;
- monitoring of maritime traffic;
- meteorological information for fishing;
- increased safety standards for equipment;
- improvement in vessels' life-saving equipment;
- all vessel and crew licences to be held and in order;
- co-ordination of all departments/administration/agencies associated with health and safety in the fisheries sector.

In order to achieve this goal it is necessary to go through certain stages:

- First of all, a big step forward would be if the Member States ratified and implemented the existing international and Community instruments in the area of health and safety in the fisheries sector;

- Secondly, in order to make the application of these measures more effective, we need to improve co-operation between the different authorities involved, at national, Community and international level;

- Thirdly, we need to create a structure to co-ordinate all efforts both at national and Community level aimed at increasing prevention and safety measures in fisheries. In particular, this structure will establish common databases and will facilitate the exchange of information, experience and know-how.

Such a project involves the commitment of the necessary financial resources, at an appropriate level, for all those involved (administration, ship owners and fishermen), matched by tax incentives. Appropriate safety criteria should also be imposed on those benefiting from subsidies allocated in the fisheries sector.

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Ministero dei Trasporti e della Navigazione, *Sistema Statistico Nazionale*, Rome, 1999.

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Annex 1:

International agreements and conventions on health and safety in the fishing industry

UN

United Nations Convention on the Law of the Sea, 1982.

IMO

International Convention of 1974 for the Safety of Life at Sea (SOLAS), amended in 1978 and 1988.

International Torremolinos Convention for the Safety of Fishing Vessels, 1977.

Torremolinos Protocol, 1993.

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1995.

ILO

Prevention of Accidents (Seafarers) Convention, 1970.

Seafarers' Annual Leave with Pay Convention, 1976.

Continuity of Employment (Seafarers) Convention, 1976.

Health Protection and Medical Care (Seafarers) Convention, 1987.

Social Security (Seafarers) Convention (revised), 1987.

Repatriation of Seafarers Convention (revised), 1987.

Seafarers' Welfare Convention, 1987.

Convention on the recruitment and placement of seafarers, 1996.

Convention on the length of working time for seafarers and crews of vessels, 1996.

FAO:

Code of Conduct for Responsible Fisheries, 1995.

Annex 2

The data given was supplied by the following organisations:

Country	Organisations ¹⁴
1. Germany	<ul style="list-style-type: none"> . See-Berufsgenossenschaft - Ship Safety Division . See-Krankenkasse . Federal Ministry of Labour and Social Affairs . Bundesministerium für Ernährung, Landwirtschaft und Forsten
2. Austria	<ul style="list-style-type: none"> . Bundesministerium für Soziale Sicherheit und Generationen
3. Belgium	<ul style="list-style-type: none"> . Fonds des Accidents du Travail
4. Denmark	<ul style="list-style-type: none"> . Ministeriet for Fodevarer, Landbrug -op fisheri
5. Spain	<ul style="list-style-type: none"> . Ministerio de Fomento . Dirección General de la Marina Mercante . Instituto Social de la Marina . UGT - Federación de Transportes y Telecomunicaciones Sector de Marina Mercante y Pesca . Sociedad de Salvamento y Seguridad Marítima
6. Finland	<ul style="list-style-type: none"> . Agriculture Ministry . Directorate General for Fisheries . Accident Investigation Board . Ministry of Tansport and Communications
7. France	<ul style="list-style-type: none"> . Ministère de l'équipement, des transports et du tourisme . Inspection générale des services des affaires maritimes . Bureau des Enquêtes après Accidents (BEA/mer) . Représentation Permanente de la France auprès de l'UE
8. Greece	<ul style="list-style-type: none"> . Ministry of National Economy . National Statistic Office - Department of Mercantile Marine . Ministry of Mercantile Marine . General Directorate for Shipping Policy

¹⁴ Only including *organisations that replied* to the enquiry.

9. Ireland	. Irish Marine Ministry Marine Safety and Environment Division
10. Luxembourg	. Ministère des Transports Commissariat aux Affaires Maritimes
11. Italy	. Ministero dei Trasporti e della Navigazione . IPSEMA - Istituto di Previdenza per il Settore Marittimo
12. Netherlands	. Ministerie van Landbouw, Natuurbeheer en Visserij . Productschap Vis
13. Portugal	. IPIMAR - Instituto de Investigação das Pescas e do Mar Ministério da Agricultura, do Desenvolvimento e das Pescas . Ministério da Defesa Nacional Direcção-Geral de Marinha . Instituto Nacional de Estatística Departamento de Estatísticas da Agricultura e Pescas . Ministério do Trabalho e da Solidariedade . Mútua dos Pescadores . Sindepescas/UGT
14. United Kingdom	. Marine Accident Investigation Branch (MAIB) . Ministry of Agriculture, Fisheries and Food Department of Social Security and Department of the Environment, Transport and the Regions
15. Sweden	. SHK - Statens haverikommission Swedish Board of Accident Investigation . FISKERIVERKET – National Board of Fisheries