

# Assessment of the European Guide for Risk Prevention in Small Fishing Vessels. Guide applicability in Polish coastal fishing

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## ABSTRACT

*The European Commission – The Directorate General of Employment, Social Affairs, and Equal Opportunities is going to publish the European Guide for Risk Prevention in Small Fishing Vessels. The legislative basis was the Report COM (2009) 599 on the practical implementation of Health and Safety at Work Directives 93/103/EC (fishing vessels) and 92/29/EEC (medical treatment on board vessels), which recommended the drawing up of a non-binding guide for vessels under 15 m in length. The Guide draft was produced directly by Labour Asociados, SSL, Spain. The organization has asked IIMTM in Gdynia, Poland, to participate in the project of evaluating the draft of the Guide. The testing took place simultaneously and homogenously in other chosen European countries. The results of the assessment are presented below. They indicate some differences and specific challenges faced by fishermen working in small coastal boats in the Baltic area. The Guide should take these under consideration.*

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**Key words: hazards, risk factors, quality of life, health promotion, risk assessment**

## INTRODUCTION

The risks in fishermen's work are related to physical, biological, psychosocial, and work organization factors. All of them involve the interaction between humans, the shipping unit, and the environment. The 20<sup>th</sup> and 21<sup>st</sup> centuries are a time of growth in the number of people employed at sea. Similar to onshore population hazards connected with civilization, lifestyle, and work environment changes, such as improper nutrition, lack of activity, shift work and stress, nicotinic, alcoholism, and other intoxicant abuse, have also appeared in small fishing enterprises [1], resulting in the increase of such disorders as cardiovascular diseases, addictions, accidents, and suicides [2, 3].

Jobs in the fishing industry are considered to be among the most hazardous occupations. Norwegian

reports state that fishermen and seamen of offshore service vessels have two of the most dangerous professions in Norway as far as the number of accidents and incidents per man-labour day are concerned [4]. The fatal accident rate in the UK fishing industry during 1996 to 2005 was 102 per 100,000 fishermen-years, 115 times higher than that in the general workforce of Great Britain. The fatal accident rate in fishing was also 24 times higher than in the construction industry and more than 80 times higher than in manufacturing [5]. Special attention was paid to coastal fishing [6]. Mortality rates and accidents in Polish small-scale fishing were significantly higher when compared to seamen in the merchant fleet or deep-sea fishermen groups [3].

New international standards on prophylactic examinations and risk assessment for fishermen work-

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ing on units smaller than 15 metres were proposed by EU the Directorate General of Employment, Social Affairs and Equal Opportunities. The Polish group was invited to take part in creating and reviewing of the Guide. The main idea was to reduce risk in the small-scale fishing industry through:

- screening of work-site conditions and safety procedures in the sea environment;
- pre-employment education and repeated training in safety work rules;
- health improvement of fishing boats crew members by promoting healthy behaviours;
- providing the vessel with appropriate medical equipment and resources;
- systematic supervision of the state of seafarers' health through prophylactic examinations, technical inspections, and individual guidance;
- securing the vessel crew members with efficient access to medical help and care according to binding regulations;
- minimizing the effects of medical events that have already occurred, through coordination of medical emergency, rescue, and search centres and services.

The European Guide for Risk Prevention in Small Fishing Vessels, developed by the team of Labour Asociados, SLL, was elaborated and written in 2010 [6].

On March 4<sup>th</sup> 2011 in Poland, a review of its practicability and utility was conducted in Gdynia by IIMTM. The aim of the testing was to determine if the guide is useful for Polish/Baltic costal fishermen and whether or not it encourages them to protect their health and adopt safer practices on board.

It enabled the authors to get direct feedback from the ultimate users of the guide: fishermen and skippers, who are responsible for all aspects of health, safety, and crew and vessel management. Representatives from port authorities and associations involved in policies for maritime safety and health protection were also invited as observers of this event. The whole venture was recorded using voice recorders and photo and video cameras. For all documentation collected, a statement was constructed and a full final report was delivered to the project's authors.

## EU AND NATIONAL FISHERY REGULATIONS

In 2009 the European Commission issued a Green Paper entitled Reform of the Common Fisheries Policy. It included numerous references to current and future legislation of the subject on domestic and community levels. The paper encouraged a thorough review of the relevant law [7].

In Poland the law concerning Fisheries was regulated by the Prussian "Fischereigesetz" from 1916, and then it was replaced in 1963 by the Bill on Fisheries; the next amendment was in 2001, and the final law, in force today, was established in 2011 [8].

The EU fishery sector is the third largest of its type in the world. Every year it provides about 6.9 million tons of fish, employing over 400 thousand people. The European Fisheries Fund has at its disposal a budget designed for the years 2007–2013 in the amount of 3.85 billion euro and uses ca 1,200 ports. The policy of the EU is to treat the fisheries industry as a broad spectrum taking into account all fields of marine territory. The aim is to use all attributes of Europe in the area of research connected with the sea and the branches of technology and innovation. This approach fits into the framework of the Lisbon Strategy for rapid economic growth, creation of more work places, and their improved quality. The primary aim of EU is that the economic growth would not interfere with the condition of the environment [9].

The institutions that conduct the most research in the area of sea fisheries in Poland are: the National Marine Fisheries Research Institute, the Sector of Nutrition and Fishing Science, and the West Pomeranian University of Technology in Szczecin. The supervision of this sector is carried out by the Regional Sea Fisheries Inspectorate in Gdynia, Słupsk, and Szczecin. The powers and duties of the Regional Inspector are determined by the fisheries act constituted on 19.02.2004 [8]. In this specific project – the evaluation of the draft Guide – the chairman and members of the Association of Fishermen at Sea were engaged.

## CHARACTERISTICS OF THE POLISH COSTAL FISHING INDUSTRY

In Poland the most representative fishing sector is the costal one – close to the beach. The boats in the Polish fishing industry are divided into the following categories of registered units: (1) 3–8 m – 252 units; (2) 8–12 m – 289 units; and (3) 12–15 m – 43 units. Overall in the Polish coast there are 59 ports and fishing harbours. The number of people employed in this sector is about 4,000 [10].

There have been two principal methods of net fishing in Polish Baltic areas used since the last world war until now, relating to the type of fish present in the water. The most common techniques of fishing include active fishing gear, e.g. trawl and pair nets (bottom and pelagic), which, in the process of fishing, are towed astern of one or two boats. The other, passive gear, includes drift nets, bottom nets, traps, and hooks [11].

## RISK FACTORS IN POLISH FISHERIES

The main risk factors concerning fishing are primarily connected with the environmental conditions, such as: temperature, wind, isolation, sea state, and sea worthiness. Together with such parameters as small size of unit, mechanical and electrical equipment on board, toxic substances, overload by physical, manual effort, small crew numbers, and fatigue.

In the Baltic area, fishermen working outside are dependent on the temperature, wind strength, water temperature, and humidity. This comfort is extremely difficult to maintain in the cold microclimate and its maintenance transfers to work quality and performance. It increases the risk of accidents at work and occupational diseases [12], hypothermia, frostbite, and sunburn. Additionally, some allergenic contact while pulling nets with jelly fish burns or infections by specific pathogens relevant to injuries caused by the equipment – hooks, strings, knives, and nets – are frequent can be very hazardous [13]. Mechanical trauma, occupational or casual intoxication, and falling overboard are the main causes of life and health endangerment [3].

A large problem connected indirectly with the environmental and work conditions in fishermen is alcohol abuse [3]. Fishermen often seek alcohol to warm up or reduce stress, which unfortunately can cause freezing, accidents, and irreversible injuries or death. A 50-year longitudinal analysis has shown that excessive alcohol intake was the most significant risk during work at sea in Polish coastal and deep-sea fisheries [2]. The most common cause of fatality was loss of balance, falling aboard, drowning, hypothermia, and missing at sea.

Drinking alcohol, stress, and unpredictable work conditions can also lead to serious disorders in CNS functioning, hypoglycaemia, or psychosocial burden [14]. It may result in irresponsible decision-making, epilepsy, psychomotor disabilities, bursts of uncontrolled emotion, lack of impulse control, cognitive slowdown, and lack of reflex in decision-making required in crisis situations [15]. All of above may put at risk not only the life and health of the fisherman but also co-workers and family.

## THE REVIEW

### THE AIM OF THE TESTING

The aim of the testing event was to determine whether the Guide could be useful to fishermen and encourage them to protect their health and adopt safer practices on board. The organizers and authors

of the Guide were also looking to collect the participants' views on how such a kind of resource could support self-learning, either at training centres or places where fishermen are likely to gather. Once published, the Guide is to be disseminated by focal points in every Member State.

## PROFILE OF PARTICIPANTS

The participants tested were 10 skippers from various ports in Poland. The average age of the participants was 47 years. Eight of the fishermen were vessel owners. Five of the participants worked on 6–10 metre vessels, four on 15–20 metre vessels, and one on a 10–15 metre vessel. The average experience of the fishermen was 25–30 years. Five of the participants finished vocational and technical schools, four high school, and one finished university.

## PROCEDURE

The testing took place on March 4<sup>th</sup> 2011 from 9 am to 1 pm, and consisted of two parts: the review of selected sections of the Guide's modules, and the risk assessment exercise.

**The review of the selected modules:** in order to make the session dynamic, this part of the assessment took the form of paired discussions. Taking into consideration that it would not be possible for the participants to read and assess the contents of all sections/modules, it was required that at least 15 different sections were reviewed (5 groups × 3 modules). After filling out the prepared evaluation charts all participants took part in a discussion on the reviewed material.

**Risk assessment exercise:** the aim of this part was to evaluate the usefulness of the Risk Assessment Checklist prepared by the authors. The participants were presented with different deck scenarios and situations and were asked to assess the sort of risks visible in the photos. At the end of the evaluation of all the scenarios the fishermen were asked to evaluate the usefulness of the risk assessment matrix by describing their own risky experiences.

## RESULTS

### THE EVALUATION OF DIFFERENT PARTS OF THE GUIDE

The participants stated that the overall idea of the Guide was useful and important, especially enabling young, inexperienced fishermen to familiarize themselves with the character and risk at work. The construction was readable, logical, and interesting.

The descriptions and graphic imaging of risk was harmonized; however, in some sections the presented photos did not apply to the content of the text. A lot of information (especially for the most experienced fishermen) was quite obvious, presenting knowledge that every fisherman already has or should have.

The fishermen underlined that some parts of the Guide content should be closely adjusted to the specificity of fisheries in given countries. Everything should be relevant to local terms and conditions. The guide is representative mostly for southern European waters, for big (over 12 metres) units, while in Poland the most popular way of fishing is on near-shore units and beach fishing on smaller boats with modest equipment.

The attendants of the test indicated the importance and usefulness of the Guide especially to young, inexperienced fishermen. Such a manual can contribute to: increased risk awareness, hazard reduction, and improvement of safety during work at sea. The guests' opinion was in accordance with the comments of the participants about necessary adjustment to the conditions and specificity of work in a given country. Overall, the stakeholders agreed on the practical applications of the Guide, recommending relevant suggestions of change to be introduced before its publication.

## RISK ASSESSMENT

Participants evaluated the risk assessment matrix very positively. They felt that such a way of rating risk is logical, readable, and useful in gathering data, ideas, and plans of action. The Polish fishermen stated that the safety standards in Poland are on a very high level compared to regulations in other countries. Some of the risky situations presented during the test do not exist on Polish boats whereas some of them are specific or more frequently met in the Polish fishing industry. The control of risk on boats in Poland is usually adequate and cohesive with the required EU/Polish standards and procedures.

## CONCLUSIONS AND RECOMMENDATIONS FOR GUIDE IMPROVEMENT

It should be underlined that fishing is specific not only when it comes to different regions around the world, but also within Europe where there is a great diversity of landscapes and territories. In Poland it is a regional occupation that gives employment to the local community, influencing the characteristics of the profession. Differences concerning the size of fishing units, technical equipment,

fishing reinforcements, navigation, and sea rescue are also connected with the specificity of the catch in a chosen region. There are significant differences between the techniques of fishing in the warm waters of Spain or Portugal and the cold waters of Iceland. The fauna of the Baltic Sea enforces and limits the kinds of catch possibilities. Due to this fact Polish fishermen also have their own unique techniques of fishing, which are not mentioned in the guide.

If the necessity for issuing one universal guide for all fishermen in Europe exists, the content must apply to overall standards, but it should also include information typical for the specificity in different regions – for example the Mediterranean vs. the North Sea or Baltic. We suggest writing a separate section on regional differences in Europe. The Guide content should include more information about smaller boats, such as: near-shore units and beach fishing, with modest technical and safety equipment. Special attention should be paid to young inexperienced fishermen.

From an editorial point of view the cover of the guide should be waterproof and useful in the maritime environment on board. The chapter about healthy lifestyle should incorporate more detailed information about the challenges to the muscle-skeleton and digestive system. Also, a section about addiction and substance abuse should be added. A multimedia version is expected, ready for everyone to use. The CD or DVD version should be included with the paper edition of the Guide.

Overall the meeting with the representatives from the fishing industries seems to be a very fruitful and educational way for creating a good guide, showing the great necessity of engaging the people working directly in the area.

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