"Fisheries accidents & casualty analysis"

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Fisheries accidents and causality analysis

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Contents

1. The Fishing Industry in Norway
   – Key figures for the fishing fleet
2. Occupational accidents in the Norwegian fisheries
   – Fatalities and injuries in the coastal vs the deep sea fleet
3. Causality analysis
4. Safe communication on board?
5. Safety measures - examples
6. Summary

(The fisherman's work environment handbook)
The Fishing Industry in Norway

Active fishing vessels in the years 1985-2012

- Active vessels
- Total
Key figures for the Norwegian fishing fleet

- 5,401 active fishing vessels with registered income > 50,000 NOK (approx €6,200)

- Vessel length (meters):

<table>
<thead>
<tr>
<th>Length (meters)</th>
<th>1911</th>
<th>10-</th>
<th>11-</th>
<th>15-</th>
<th>21-</th>
<th>28-</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1911</td>
<td>1269</td>
<td>685</td>
<td>155</td>
<td>135</td>
<td>249</td>
<td>5401</td>
</tr>
</tbody>
</table>

- Production of fish (tons):

<table>
<thead>
<tr>
<th></th>
<th>Fishing vessels</th>
<th>Aquaculture</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>94,593,679</td>
<td>83,729,313</td>
<td>178,322,992</td>
</tr>
<tr>
<td>Norway</td>
<td>2,433,811</td>
<td>1,138,797</td>
<td>3,572,608</td>
</tr>
</tbody>
</table>
Norwegian Fishers

Source: The Norwegian Directorate of Fisheries
Occupational accidents in the Norwegian fisheries
Fatal accidents in fisheries compared with other high risk industries 2000-2011
Injuries and incidents rates per 10,000 man years
Injuries and incident rates per fleet subdivisions 2000-2011
Causality analysis
Fatalities grouped by type of accident

- Acc. fall: 5 (1990-1999), 0 (2000-2012)

Source: SINTEF Fisheries and Aquaculture
Fatalities per month 1990-2011
Fatalities per vessel group and fisher age 1990-2011
Injuries and incident rate per age group 2000-2011
No of injuries and incidents rates for work activities 2000-2011

69% of all injuries occur on deck!
Safe communication on board?

- 500-900 foreign fishermen are employed in the Norwegian fishing industry.
  - No mandatory registration
  - Regulations define requirements on safety training, on board training and a common working language on board

- Our study shows that active fishers do not see language and communication barriers as risk factors - neither in daily operations nor in emergency situations.

- Fishing experience is usually seen as a more important qualification than language proficiency.

- Language may have implications for safety in the event of something unexpected, when quick clarification or verbal responses are needed.
Safety measures: Mandatory safety training for fishermen
Safer work clothing for fishermen:
Regatta Fisherman

Northern Norway, June 2006
Photo: Redningsselskapet
Systematic safety management on board

• Mandatory to establish and maintain a safety management system on all fishing vessels
• Perform and document risk analyses
• Internal control
• Ensure employee participation
• Maritime authorities will perform inspections

Training manual on health, safety and work environment in the fishing fleet
(Norwegian Fishermen's Association)
Summary

• Working in fishing involves a greater risk of accidents than most other professions in Norway, as well as worldwide.

• The number of fatal accidents has decreased from an average of 18.8 per year in the 1990s to 7.7 fatalities per year in the 2000s. When taking into account the decline in the total number of fishermen, there has been a decrease in fatalities from 10.2 to 6.9 per year and 10,000 man-years.

• In the period 1990-2011, 281 fishing-related deaths occurred in the Norwegian fishing fleet. Most of these are related to the small coastal fleet where the fishing method of gillnetting and fishermen over 40 years of age show the highest fatality incident rates.

• Singular fatalities were significantly more common than multiple death incidents.

• Reported accidents involving personal injury are highest from the deep sea fishing fleet.

• Under-reporting of accidents is probably common in the fishing fleet in general.
Summary (2)

• Frequent causes for fatal accidents have been capsizing, man overboard accidents, drowning in the harbor as well as fatalities due to machinery entanglement. There have also been some fatalities due to hit by falling objects.

• Injuries commonly occur during fishing operations and work on deck. Fish processing and work in the hold is also related to a large proportion of injuries.

• The analysis shows that a single accident can be linked to several contributing or underlying factors, and causality must therefore be seen as complex.

• A fishing vessel at sea is a moving work platform that is affected by rapidly changing weather and waves. This contributes to the risks involved in fishing.

• Ship technical matters, as well as the impact of regulatory regimes, lacking rescue equipment, working alone, inadequate training and skills are also important aspects when it comes to safety.
Summary (3)

• Several important measures have helped improve safety at sea:
  – Safety training for fishermen
  – Increased use of personal protective equipment
  – Safety management systems, risk analyses
  – Increased focus on control regimes for fishing vessels by the authorities
  – Vessel design (e.g. stability)
  – Careful operation and loading of vessel at sea
References

The illustrations and results are from the publications:


Photos by SINTEF.
Thank you for your attention!

This research has been funded by the Norwegian Seafood Research Fund.

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