European Bank
for Reconstruction and Development

Sub-sectoral Environmental and Social Guidelines: Commercial Fishing

PROCESS DESCRIPTION

Commercial fishing covers a wide spectrum of business activities. This sub-sector guideline describes the environmental and health and safety issues associated with the process of catching large volumes of fish at sea by trawler or smaller fishing vessels, such as coastal fishery vessels. This note does not cover fish farming, fish processing or fish harvesting (see Aquaculture and Fish Processing Guidelines).

Large scale commercial fishing typically includes a combination of fishing fleets (e.g. trawlers, long liners etc.) which catch the fish; and factory ships, which process, freeze and sometimes pack the fish at sea. More commonly, large commercial trawlers freeze their own catch before returning to deliver at port.

Commercial fishing companies may aim to catch fish for human consumption or to catch high volumes of smaller fish which are converted into fish meal and oil for subsequent use as animal feed or fertiliser.

KEY ENVIRONMENTAL, HEALTH AND SAFETY RISK/LIABILITY ISSUES

Sustainability of Modern Fishing Methods

Sustainable fishing is critical to the management of wild fish stocks and the prolonged commercial viability of large-scale fishing. Advances in technology such as the use of GPS, sonar, acoustic gear monitoring and fisheries information services have greatly increased the ability of commercial fishermen to efficiently catch large quantities of desirable fish. This can lead to problems caused by overfishing.

Overfishing and the destruction/loss of spawning sites can lead to the rapid decline of the profitability of commercial fishing. Overfishing is evident when species abundance falls and increasingly smaller fish are caught.

In many parts of the world fishing quotas are implemented by national and international regulations that limit fish catch sizes and the methodologies used to catch the fish.

Typical regulations enforced are the mesh size of the net, fishing exclusion zones, fishing times, gear limitations (e.g. no hydraulic winch) and environmental designations (e.g. Marine Ecosystems).

Damage to Habitats and Non-Targeted Fish Populations

Commercial fishing practices such as beam trawling or dredging to catch flat fish can often have a significant impact not only on fish species being exploited but also the sea bed and species which sustain these and other species. Damage by trawlers is greater in deep waters where particularly vulnerable features such as sea mounts, hydrothermal vents and cold water corals can be negatively affected.

Internationally or nationally protected species or areas may be affected. Species that may be affected include birds, mammals, reptiles (turtles), other fish species and organisms that live on the sea bed. A number of deep sea species affected by trawling (e.g. blue ling, orange roughy or black scabbardfish) grow very slowly and mature late and therefore, the impact on these species is greater.

Handling, Lifting or Carrying

Many injuries from commercial fishing are associated with handling, lifting and carrying heavy or unconventional shaped objects.

Slips, Trips and Falls

Slips trips and falls are regular occurrences in the commercial fishing industry and result in many injuries. Typically these are because of unstable footings (e.g. working at sea) and poor housekeeping.

Fire

Fire aboard a commercial fishing vessel can be disastrous. Common causes of fire can include faulty electrical appliances, overloading of electrical circuitry, careless disposal of cigarette ends, and spontaneous combustion of dirty waste/rags, especially if contaminated with oil or by oil spillages in enclosed space.

OTHER ENVIRONMENTAL, HEALTH AND SAFETY RISK/LIABILITY ISSUES

Ghost Fishing

Nets lost or abandoned at sea can continue to catch fish and cetaceans without ever being hauled in. This is known as 'ghost fishing' and adds to the negative impact on fish stocks of some fishing methods.

Disposal of Waste

Waste from commercial fishing can either be disposed of at sea or at port. Waste disposal at sea is likely to require a license, although this is dependent on the nature of the waste. Larger ships typically used for commercial fishing are likely to be required to meet more stringent targets for sewage waste disposal.

Disposal at sea is typically prohibited in protected areas. Discharge of waste in these areas could be detrimental to the marine environment. Where oils, plastics (including plastic bags) or other synthetic materials are disposed of to any area of the ocean, further damage can be afflicted to the marine environment.

Incinerators and compactors are used on larger vessels to reduce the physical size of waste.

Disposal of waste in port is likely to be covered through port management facilities. All ports are likely to have their own by-laws in determining waste management procedures.

Water Pollution

Water pollution can provide a serious threat to water quality, and in turn to fish stocks. Polluting agents from industrial, agricultural and household sources are of major concern. Oil spills at sea are considered to be equally hazardous. It is estimated that 80% of marine pollution is derived from land based activities. The remaining 20% is derived from shipping activities, off-shore drilling and accidental spills.

Energy Consumption

Commercial fishing vessels produce greenhouse gases (mainly carbon dioxide and sulphur dioxide) through the use of combustible fuel (predominantly diesel). In addition, large refrigerators are used on board ships to maintain the freshness of fish which need to be stored for long periods of time prior to offloading. Energy usage has a direct correlation with operating costs.

Trawler Mudtrails

As trawlers scrape the floor of the ocean, large volumes of sediment are disturbed and mobilised into the water. Fish cannot migrate easily as visibility is impaired. Mud can also clog

the gills of fish leading to fish kills of species not intended to be caught or effect the wider environment.

Vessel Design/Sea Worthiness

Design standards for fishing vessels and factory ships are established by the International Maritime Organisation (IMO). Potential investors should assess the seaworthiness of a fleet and compliance with international safety design standards.

Working in Dangerous/Hazardous Spaces

Ships typically have enclosed spaces where employees are expected to work at some time during commercial fishing activities. Employees can be at risk from toxic fumes, flammable gases or vapours, or from oxygen deficiency that may endanger life or the health of those entering the space.

Working near Water

The majority of a commercial fishing employee's time will be spent at sea. Working in proximity to water provides the potential risk of falling overboard, risking severe injury or loss of life.

Health and Hygiene of Employees

Where vessels travel internationally, employees may contract diseases (e.g. malaria) that affect health.

KEY SOCIAL, LABOUR, AND COMMUNITY RISK/LIABILITY ISSUES

Handling of Dangerous/Hazardous Goods

The community could be exposed to potentially hazardous (e.g. oils) or dangerous goods used within commercial fishing practices.

Users of the docks or local coastal resources (e.g. beaches) could be negative impacted by oil spills.

Impact of Commercial Overfishing on Subsistence Fishing Communities

Stock depletion and overfishing in regions may limit the ability of subsistence fishing communities to provide sufficient food. This could lead to loss of livelihood or malnutrition in the extreme.

FINANCIAL IMPLCATIONS

Potential financial implications from the risks and liabilities identified in the previous section are wide ranging and may include:

- Capital costs for maintaining and servicing vessels to ensure national and international safety standards are met;
- Capital costs for purchasing and implementing technological upgrades (refrigeration, winches, nets, fuel usage), or operational issues (waste management) to meet new international or local regulations;
- Restrictions or bans on fishing in certain areas reducing potential to make profit;

- The level of enforcement capability by the national or international government governing the fisheries;
- Potential clean up costs for proven oil or other spills;
- Fines for fishing in restricted areas.

IMPROVEMENTS

Environmental Improvements

- Adhere to regulatory and voluntary fisheries protection codes of practice to avoid targeting non-target species;
- Follow national or international limits of Total Allowable Catches, Technical Measures or limits on the number of fishing days or vessels aimed to enhance sustainability;
- Reduce fishing pressure on fishing grounds to sustainable levels where possible;
- Avoid using fishing techniques which damage sea bed environments;
- Improve fishing methods with a view to reducing discards, incidental by-catch and impact on habitats;
- Develop or follow proposals to protect sharks, cetaceans and sea birds from the adverse effects of fishing;
- Implement alternative fishing methods to poison or explosive fishing;
- Develop or follow long term Biodiversity Action Plans for fisheries that set up management guides for the protection of key habitats;
- Adhere and assist in the development of guidelines for best practice fishing to minimise environmental and health and safety impacts;
- Provide secondary containment of tanks to prevent spills reaching water resources;
- Conduct and document regular inspection/integrity testing of tanks;
- Consider use of renewable energy source
- Implement policies and practices which control waste disposal at sea, the discharge of ballast and bilge waters, and the discarding of nets at sea and fuel usage;
- Implement waste segregation and reclamation programmes where possible. In port follow receiving port authority's waste segregation and reclamation programmes;
- Implement or upgrade waste water treatment facilities at sea prior to disposal;
- Maintain records to monitor catch volumes and report to regulatory organisation when required;
- Make improvements to general housekeeping

Health and Safety Improvements

- Implement a comprehensive preventative maintenance programme for all on ship or dock equipment;
- Ensure First aid equipment is available and suitable life boats are on board
- Separate people from vehicles and machinery were practicable;

- Ensure drivers and users are properly trained to operate the machinery and equipment;
- Fit quayside and on vessel vehicles with rollover protective structures;
- Use mechanical lifting devices where possible in port and at sea;
- Enclose noisy machines to isolate employees from the noise where practicable. Reduce exposure times for people working near noisy machinery;
- Ensure employees are aware of vaccinations and medical treatments required based on destination of travel;
- Improve housekeeping to ensure safe and secure stowing of loose items, proper securing of doors and illumination of all work/transit areas;
- Improve ventilation in enclosed spaces on fishing vessels where practicable;
- Ensure that machinery is adequately guarded to reduce likelihood of entrapment;
- Implement leak detection methods to detect fugitive emissions;
- Introduce or improve accident, fire and explosion precautions and emergency procedures;
- Ensure security of storage areas to prevent third parties misusing chemicals (or their containers) or end product fertilisers.

GUIDE TO INITIAL DUE DILLIGENCE SITE VISITS

During the tour of the ship/dock it is important to gather information on the following issues:

- Assess the type and age of equipment used on the vessel and on the dockside. Check it has appropriate certification and insurances which stipulate vessel is sea worthy;
- Establish system for recording catches and reporting to regulatory bodies;
- Check awareness of quotas and technological restrictions in place;
- Check type of refrigerant used and that CFCs have been removed;
- Perform a complete tour of the vessel, accompanied by someone knowledgeable about all the activities at the works;
- Observe for signs of bad housekeeping e.g. poorly stacked equipment, inadequate lighting;
- Note nature and location of solid waste and wastewater storage and disposal;
- Look for localised spills, leaking pipes etc; check whether fuel storage tanks are tested regularly for leakages;
- Check vessel maintenance and storage areas for signs of oil staining or accidental spillage history;
- Assess emergency procedures to respond to fires, pollutant spillages etc;

- Note/enquire about communications from/with the relevant national or international regulators regarding non compliance/fines and/or warning letters;
- Check that wages and working hours are consistent with the average for the sector and national standards;
- Note any fines/fees against the company;
- Find out whether there have been any fatalities/significant Environmental Health and Safety (EHS) incidents in the past 3 years. Determine if there have been any health and safety claims?
- Note any excessive noise or emissions that may cause a health and safety risk to employees;
- Note any machinery that may cause occupational health and safety problems (e.g. vibration);
- Assess the level of health and safety awareness on board the vessel and at the docks, for example the presence of safety notices and the general appearance of the site;
- Find out what insurances are in place and level/type of cover (health, hygiene, fire etc). Has the organisation been subject to any audits by its insurers?
- Note any complaints made by customers, general public and/or employees directly to the company and/or to the relevant regulators;
- Check appointments and qualifications/training of vessels Safety Officer, Safety Committee and Medical Officer;
- Note frequency and written records for safety inspections by Safety Officer;
- Note presence of and common issues in the accident and dangerous occurrences log;
- Identify type and risk assessment basis for personal protective equipment taken on board a vessel;
- Check log of personal protective equipment employee training, maintenance and checking procedures;
- Is the facility subject to any audits by its customers? What was the outcome of these audits?
- Does the business plan have line items for Environmental, Health and Safety and Hygiene improvements?
- Check how fleet or vessels adhere to national or international policies;
- Check relationship between commercial fishery and regulators.
- Check that labour standards, contracting and remuneration are in line with national law and are consistent with the average for the sector.
- Check that hours worked, including overtime, are recorded and staff should receive written details of hours worked and payment received.
- Has the Company received inspections from the local labour inspectorate in the previous three years? Have these resulted in any

penalties, fines, major recommendations or corrective action plans?

- Does the organisation have a grievance mechanism which allows employees to raise workplace concerns?
- Are employees free to form, or join, a worker's organisation of their choosing?

Take notes/ask questions relating to any activities that address the improvements listed in the improvements section of this document.

ACTION PLANS

Dependent on the individual business, select appropriate improvements from the list above to include in the action plan. As a minimum any business should be required to have the following in place:

- Operational procedures to manage environmental, health and safety risks;
- Monitoring programmes;
- Improvement objectives, targets and project plans;
- Training for personnel;
- Regular inspections, checks and audits with records to demonstrate achievement of the required level of performance against legal requirements and improvement action;
- Emergency plans for environment, health and safety accidents;
- Management review/demonstrated involvement in environment, health and safety management.

REFERENCES AND ADDITIONAL SOURCES

European Bank for Reconstruction and Development (EBRD). Environmental and Social Policy May 2008. Performance Requirement 2: Labour and Working Conditions. http://www.ebrd.com/enviro/tools/index.htm

European Commission, Fisheries, from http://ec.europa.eu/fisheries/index_en.htm

International Labour Organization (ILO). Programme on Safety and Health at Work and the Environment (Safe Work): http://www.ilo.org/public/english/protection/safework/

International Maritime Organisation (IMO) http://www.imo.org/safety

ISO14001:2004: Environmental Management Systems – Requirements with Guidance for use. Geneva: ISO

United Kingdom (UK) Government Health and Safety Executive web site. www.hse.gov.uk

UK Government Maritime and Coastguard Agency (MCA), available from http://www.mcga.gov.uk/c4mca/mcga07-home.htm

United Nations Environment Programme (UNEP), Regional Seas Programme, available from http://www.unep.org/regionalseas/default.asp

World Bank, Coastal and Marine Management Section, available from http://www.worldbank.org