

## Sustainable development and marine environment protection in Albanian coastal areas

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### Abstract

Oil spills through operational or accidental discharges are common in the activity of ships, especially in protected areas and in the Albanian coastal area. Due to the activity of fishing vessels and the presence of marine pollution, ecosystem development in the area is among the lowest in the region. The ecosystem along the coast is being threatened by constant erosion due to over fishing and the crude oil tanker traffic. Besides oil spills, ships activity emit other types of hazardous materials such as marine waste, hazardous and harmful substances that are sources of marine pollution. With increased shipping traffic, the current regime for environmental protection may not be sufficient to protect the marine environment of the area. With more ships traversing the area, safety and environmental concerns will become more acute for Albanian state. Fishing vessels usually do not comply with the rules of navigation and do not meet the standards required for the conservation of the marine environment. This paper examines this situation and proposes possible legal measures for coastal states to increase their regulatory power and enforcement that is limited by the application of the LOSC Convention. The proposed legal measures provide a platform to strengthen their power and to ensure that the marine environment can be protected from pollution and damage. An available option to assist in the protection of the coastal zone is to propose additional safeguards within the IMO competency such as the designation of separate areas under MARPOL 73/78. In addition it is recommended that efforts be made to further promote the development of cooperation mechanisms between state and private institutions in the efficient management of the coastal zone. The coastal area is a navigational area, especially for cargo and fishing vessels, the proposed measures will not be fully applicable if their crews are unaware of them. Therefore, it is important for users of these tools to continue supporting existing plans for the protection and development of this area. This will ultimately promote a situation which maintains a better balance between the rights of navigation and the protection and preservation of the marine environment of the coastal area.

**Keywords:** maritime transportation, fishing vessels, marine environmental, coastal areas, oil spills.

### Introduction

The Republic of Albania is a country in South-Eastern Europe. It is bordered by Montenegro to the northwest, Kosovo to the northeast, the Former Yugoslav Republic of Macedonia to the east and Greece to the south and southeast. Albania has a coastline 427 km long with 273 km of coast in the West facing the Adriatic Sea and 154 km of coast in the South West on the Ionian Sea. Internal waters represent 735 km<sup>2</sup> and the territorial waters (extending from the internal waters to 12 nautical miles

offshore) represent 5,322 km<sup>2</sup>. Albania's marine ecosystems and coastal wetlands are rich in habitat typologies and associated biodiversity. They constitute an important part of natural heritage, not only for the country itself, but also for the Mediterranean region as a whole. The main threats to the coastal marine environment have been identified and are listed hereafter: uncontrolled urban and tourism development; increased pollution in particular due to untreated waste and sewage discharged into the sea; deforestation and erosion; low public awareness and education on marine and coastal issues; abusive interventions in river beds and watersheds; unsustainable land reclamation in coastal wetlands; illegal fishing and hunting; unsustainable fishery and aquaculture.

### **Integrated Coastal Zone Management**

Coastal erosion is a significant problem in the northern and central coastal regions. Sediment discharges from rivers are relatively large, which explains the very dynamic nature of the deltaic development of the coast, resulting in the rapid development of new coastal features, such as spits and lagoons. The main causes of coastal erosion are: sediment input (mainly brought by rivers); reduced sand amount in the coastal zone due to anthropogenic activities (sand extraction from beaches and the sea bottom – although this is prohibited by law); the changing location of river mouths in deltaic systems as a result of natural causes or anthropogenic effects; the alteration of the usual pattern of coastal currents and the associated sediment transport along and across the shoreline, due to manmade structures built along the coast.

Management plans of protected areas will include at least the following:

- a) Management objectives of a protected area;
- b) Mechanisms and direction authority either of the Ministry of Environment, other state organs or organizations and juridical persons;
- c) Processes and categories of activities which threaten or are menacing to the protected area and its surrounding areas inclusive;
- d) Regulatory or administrative measures necessary to avoid or lessen the identified threats;
- e) Permitted activities within the protected area;
- f) The right activities for surrounding areas including buffer areas and beyond;
- g) Conditions for control of tourism and other services;
- h) Conditions for scientific research, inventory and monitoring;

Albanian coastal ecosystem resources and cultural assets to promote their sustainable development and management.

The main outputs are:

- establishing an Integrated Coastal Zone Management institutional and policy framework;
- strengthening the broader regulatory and enforcement capacity at the central, regional and local levels for the protection of coastal and marine natural resources;
- increasing access to basic services associated with the improvement of the quality of life and attractiveness of the coastal areas; and
- implementing sub-projects aiming at promoting sustainable tourism development.

## **Implementation of Conventions for the Protection of Marine Environment**

An emergency fishing incident is, first of all, the loss of the fishing gear. It is associated with failures of technical equipment, errors of vessels operators while fishing, meteorological conditions, etc. Fishing vessels must comply with the discharge restrictions, but are exempt from any specific ship-board equipment requirements. In most cases this means that oily mixtures must be stored onboard for disposal at port waste reception facilities. This includes diesel, hydraulic fluids and bilge water with any concentration of oil.

To reduce a potential oil discharge:

- All leakage of fuel oil, lubricating oil and cooling water should be dealt with as soon as it is detected. If repairs cannot be carried out by the crew at sea, they should be done as soon as the vessel reaches port.
- A drip tray should be fitted under all engines with suitable drainage to a holding tank or drum for disposal ashore.
- Make sure that engine rooms and other machinery spaces are fitted with sump plumbing so that any leakage is collected in the sump instead of the bilge.
- Make sure that the propeller shaft seal is in good working order.
- Where the manufacturer's warranty is not affected, high efficiency bypass oil filters can be installed that extend the life of the engine oil and reduce the need for frequent oil changes.

Lost fishing gear may harm the marine environment or create a navigational hazard. Garbage such as rope and plastic material can also get caught in propeller shafts or block water intakes, causing major damage and expensive repairs and posing a risk to the safety of vessels. Whenever practicable, fishing gear should have degradable panels of natural material to reduce the entanglement of marine life.

The law states that fishing vessels must make every effort to retrieve all lost or damaged fishing gear. Fishing vessel operators are also required to record the discharge or loss of fishing gear in the garbage record book or ship log. The best way to avoid the discharge of garbage and the possibility of fines is to reduce the amount of potential garbage taken onboard and the amount of garbage generated through the use of packaged items. Where is possible, consider how much waste a product will generate when buying products.

The use of reusable and recyclable packaging and avoiding plastic packaging, unless it is reusable or recyclable, are all ways to reduce the amount of waste generated.

If fishing vessels are unable to incinerate their rubbish, they will need sufficient storage space and equipment-including cans, drums, bags or other containers-to retain all plastics for disposal ashore.

## **Protecting the Marine Environment from Fishing Vessels**

Fishing, including aquaculture, provides a vital source of food, employment, recreation, trade and economic prosperity to people around the world, present and future generations, and should therefore be addressed in a responsible manner.

Fisheries management bodies should through a suitable policy and appropriate legal framework, take measures for the conservation and sustainable use of fishery resources. Preservation and management measures at the local and national level should be based on the best scientific evidence and be conceived to ensure long-term sustainability to guarantee their existence for present and future generations.

The management of fishing and the impact on the environment objectives are:

- assessing the negative environmental consequences from human activities and where possible, correcting;
- reduce the consequences of pollution from waste, junk and lost fishing gear,
- development and use of fishing gear and techniques, economically viable and environmentally safe.

Where fishing capacity exists, such mechanisms should be established to include capacity monitoring of fishing fleets. Examine the characteristics of all existing fishing tools, methods and practices and take measures to ensure that tools, methods and practices that are not in line with technical standards are excluded and replaced with more acceptable alternatives.

Owners and managers should ensure that their vessels are equipped with the appropriate equipment as required by the MARPOL 73/78 Convention and must consider installing a combustion furnace for the relevant types of vessels for the purpose of handling waste of food and other waste generated during normal ship's service. In addition, the fishing vessel crew must be familiar with the proper procedures of the ship board in order to ensure that the discharges do not exceed the levels established by MARPOL 73/78. These procedures should include the elimination of oil waste and the handling and collection of other shipboard waste.

In the design and construction stage of ports and harbors for fishing vessels should be considered:

- to provide safe places for fishing vessels and adequate service structures for ships,
- ensure the supply of fresh water and sanitation facilities;
- to implement waste elimination systems, including the elimination of oil, oil residues and damaged fishing gear;
- minimize pollution from fishing activities and external factors;
- settle agreements between different actors to combat erosion and sedimentation effects,
- to establish an institutional framework for the improvement of port facilities for fishing vessels, which shall include consultation between the responsible authorities for the management of the coastal area.

In this aspect, little has been done in Albania to bring favorable conditions for fishing in the exercise of their normal activity. Today, most of the fishing ports are in bad conditions, whether in their structural conditions or in the opportunities they have to serve fishermen. Actually there are four fishing ports in Albania positioned in: Durres, Vlore, Sarande and Shengjin.

Tab 1 Fishing vessels statistics in Albanian ports

Port Name	Ship number	Amortization	Service Years
Durres	90	30%	20-30
Vlora	65	40%	30-40
Saranda	45	25%	25-30
Shengjin	55	30%	20

About 60% of the ships are imported after 1990 and about 40% are inherited from the state enterprise before 1990. Fishing vessels result in variations ranging from 10 to 33 m in length. The technical conditions are very bad with an average age of about 35 years old. Furthermore, fishing ports need to scrub, deepen and build new quays for vessels.

From frequent inspections it turns out that no ship is equipped with deposits for the collection of oil waste accumulated by the use of the vessel.

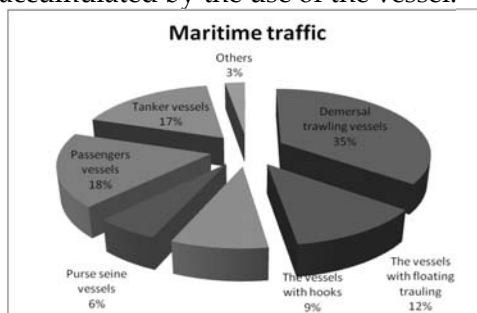


Fig 1 Maritime Traffic in Albania

There are no fuel filtration and separation plants for wastewater residues that are mandatory under the MARPOL 73-78 Convention. Furthermore, there is no company licensed for the removal of waste, such as oil, oil residues and other waste on board. As a result of these deficiencies, the wastewater mixed with engine oil is discharged into the sea, creating a major threat to the marine environment.



Fig 2. Fishing Port of Vlora

The fishing industry in Albania contributes significantly to the national economy both in terms of economic income for the country and employment. It is one of the industries that need investments to enhance shipping safety and to maintain the standards of uncontaminated marine environment. Meanwhile, fishing boats have been an important contributor to the reported marine pollution incidents. Fishermen have an increased responsibility not to pollute the sea that secures their livelihoods.

### **Integration of Fishing Activities in Coastal Zone Management**

Fishers must be recognized as major stakeholders, with their representatives included in general coastal management planning. Authorities should have a role in environmental impact studies, issuing construction permits, drafting laws and regulations, and in decisions regarding the use of coastal areas.

Internal disputes may arise between fishers from different places using the same area, and between different groups of fishermen, especially with regard to the use of different fishing gears. Regulations on when and where fishing may be done, or placing limitations on the use of different gears in different areas or at different times, are examples of ways to resolve internal disputes. These regulatory measures should be developed and implemented in consultation with the fishers.

If potential conflicts between fishers and other groups using the marine environment are anticipated, some conflicts may be avoided. The important thing is that fisheries and coastal area management authorities work cooperatively to identify and resolve conflicts quickly and fairly.

This requires:

- to provide an appropriate policy, legal and institutional framework with the aim to achieve sustainable and integrated use of resources, taking into account the fragility of coastal ecosystems and the finite nature of their natural resources and the needs of coastal communities.
- ensure that fishers and fishers representatives are consulted in decision-making processes and engage in other activities related to planning and development of coastal zone management.
- to develop, as appropriate, the institutional and legal framework for defining the potential use of coastal resources and managing the use of these resources, taking into account the rights of coastal fishing communities and their traditional practices, how they are in line with sustainable development.
- support the introduction of fishing practices that avoid conflict between fishery users, and between them and other users of the coastal zone.

With damage prevention in focus, it is important to identify potential effects of development activities as early as possible. Fishery authorities should monitor, or be able to collect information on areas of interest to the sector.

Fisheries are best integrated into overall coastal development through informed cooperation with agencies representing other activities in the area. The aim is to balance various kinds of developments with the protection of the natural environment, for the benefit of all coastal area communities.

## National Laws and International Conventions

In our national legislation, the basic norms related to the pollution of the coastal zone by vessels are set by recognizing the shipowner liability regarding sea pollution. This includes procedures relating to the prosecution of ships and their owners in the event of marine pollution and damage to coastal areas by vessels, including fishing vessels. In accordance to the provisions of current national legislation, direct or indirect discharging of ballast and bilge water and dumping of any kind of waste and residues from ships and waterborne crafts into the sea within the territorial waters, free zones and Exclusive economic regions of Albania, inland waters, straits, harbors, canals and shores have been prohibited.

All marine and coastal protection activities are based on the implementation of national laws and international conventions that Albania has already ratified.

The Conventions, with relevance and impact on coastal areas, rectified and signed by the Albanian state authorities include the following:

- In 1990, Albania acceded to Barcelona Convention for the Protection of Mediterranean Sea against Pollution;
- On November 29, 1995, Albania acceded to the Ramsar Convention and ratified it on March 29, 1996. This is very important in terms of management and administration of the wetland ecosystems, which are very prominent in the Albanian coast;
- In 2001 Albania ratified amendments of the Barcelona convention and its six protocols.
- Under the sub-agreement with UNESCO, Albania is making efforts to install pollution monitoring systems in the coastal areas.
- International Convention for the Prevention of Pollution from Ships, (MARPOL73-78),
- Law for the Protection of the Marine Environment of the Republic of Albania from pollution and damage 2002;
- The law on Environmental Impact Assessment in Albania 2003.
- The law on Ship and Port Security in Albania 2004.
- The law on Environmental Protection in Albania 2011.

## Conclusions

Integrated Coastal Management is necessary to ensure that coastal areas are planned, developed and managed in a responsible and longterm sustainable way. The coastal zone is subject to many competing uses and fisheries may be pushed out or marginalized and given lower priority because fishers and their communities are not as well organized or vocal as other interests such as those from the tourist industries, aquaculture, manufacturing, etc.

To prevent engine spills from seeping off the coast;

- It is necessary to invest more in the professional training of the crew and captains, especially in those cases where the ships in which they work carries dangerous cargo;

- Apply monetary sanctions;
- All the shipping operators should be aware of their responsibilities in the event of pollution of the marine areas;
- Constant accurate measurement of oil concentrations in water via reliable real-time equipment.
- Establish a mechanism that helps long-term partnerships with industry, government, and local communities with the oversight of environmental problems in coastal areas;
- Involving local citizens in the process of preparing, approving, and revising contingency oil spill plans;
- National integration with each regional unit of priorities, programs and strategies for environmental protection;
- Port facilities are required to have all the capacity to manage risky situations in case of oil spills at sea.
- Use of new technologies that minimize negative environmental impacts.
- Perhaps the best strategy to reduce marine pollution is environmental education. Most people are unaware of the sources and the dangerous effects of marine pollution. Inform the population and all data should be made known.

A “participatory or inclusive” approach to Integrated Coastal Management is important to ensure that all legitimate interests in the coastal zone are fairly and transparently represented. By involving all interests in this way, better policies and measures will be developed for management. More importantly, this type of participation should also lead to a greater level of compliance with measures and regulations after they are adopted and implemented. Furthermore, people from the different interest groups will consider themselves to have been part of the development process and they will feel some “ownership” over it.

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