



PHYSICAL ALTERATION AND DESTRUCTION OF HABITAT (PADH)

A BACKGROUNDER FOR THE GPA ONLINE DIALOGUE

The increase of populations and economic activities in coastal areas is leading to an expansion of construction, and to alterations of coastal areas and waters. The driving force behind physical alteration and destruction of habitats is accelerating social and economic development in coastal areas, which in turn results from such increasing pressures like population, urbanization and industrialization, maritime transport and tourism. Excavation and mining, such as sand and aggregate extraction, the building of ports and marinas and building of coastal defences and other activities linked to coastal urbanisation are also giving rise to alterations of coral reefs, shorelands, beachfronts and the seafloor. Particularly in developing countries food security, and hence the very survival, of coastal populations is directly threatened by this destruction of habitats of living marine resources.

Physical alteration and destruction of habitat is one of the areas identified for priority attention by the GPA. The UNEP/GPA Secretariat has developed the Physical Alterations and Destruction of Habitats (PADH) Programme, which aims to support the efforts of stakeholders in protecting coastal and marine habitats against alterations and destruction from human induced development activities. The Programme focuses on four economic sectors that potentially pose a threat to such habitats. Those sectors include: tourism; ports and harbours; aquaculture; and mining (sand and aggregate extraction). This background note provides a brief overview of the impact Physical Alteration and Destruction of Habitats may have, and introduces questions for discussion on how the Second Intergovernmental Review Meeting of the GPA (IGR-2) in October 2006 can strengthen global, regional and national processes and policy mechanisms to address Physical Alteration and Destruction of Habitats.

The extent of the problem

Coastal ecosystems, such as estuaries, marshes, shallow bays and wetlands, mangroves, coral reefs and sea-grass beds, play a major role in the life cycle of many marine organisms, including economically important fish species, by providing breeding, nursery and feeding grounds. About 95% of world marine production originates from coastal ecosystems. As rapid development and population growth continues in coastal areas increasingly heavy demands will be placed on natural resources and habitats. Unless corrective measures are taken, environmental degradation and over-exploitation will erode marine and coastal biological diversity, undermine productivity, and intensify conflicts over the increasingly scarce coastal resources.

Tourism

Construction related to tourism development (hotels, airports, roads, and vacation homes) causes the greatest negative impact to coastal and marine ecosystems around the world. Loss of biodiversity and picturesque landscapes already affects a number of tourist destinations throughout the Mediterranean. The projected growth of tourism will continue to contribute to the degradation of these regions. Over 43% of the Italian coastline is completely urbanised due to tourism development, with only 6 stretches of coast over 20 km that are not developed. Littoral habitats such as beaches, seagrasses meadows, coral reefs and mangroves are all particularly sensitive to habitat alterations, which are partly associated with growth in the tourism industry. Seagrasses for example, although relatively hardy, are plants susceptible to damage from excess siltation, turbidity, shading and water pollution typically associated with shoreline development. When developing mangrove forests, their natural value in combating natural hazards for example buffer against storm and/or tide surges are lost. These losses are often greater than the value of the activity for which they were substituted.

Land Reclamation

Coastal human settlements can exploit their position by reclaiming tidal and shallow sea areas through land reclamation. This can ease the pressure put on towns and cities, increase food production (if the new areas are used for agriculture), create new investment into a city (if the area is used to attract new businesses) and create new areas for urban development, easing housing shortages. Habitat loss itself is an obvious environmental blow but sedimentation caused by landfill and the usual further development of any area leads to more waste and pollution and extra environmental problems. Sedimentation from landfills causes increased turbidity, which in turn kills marine vegetation, similarly with coral reefs that need clear waters to survive. The fragile corals cover with sediment and are effectively choked to death.

Ports and Marinas

Ports are the vital link between maritime and land-based trade. The global need for coastal facilities has risen dramatically in the last decade due to growing commercial, industrial and recreational needs. The liberalisation and subsequent increase of international trade has been a contributing factor in the rapid development of ports and harbours. Today, new ports and harbours are being developed and existing facilities expanded with great momentum. However, harbour construction and reclamation accounts for substantial habitat loss, particularly in estuaries. Construction may lead to changes in water currents and circulation, turbidity and sediment load, which in turn will impact benthic communities. Port facilities not only require large areas of coastal land and waters for their construction, conversion or extension, but also for the operation of all port installations, accompanying industrial and commercial installations and transport systems. Marine structures and installations (breakwaters, quays, groins etc) also require large areas of land and water. The impacts of ports on the coastal environment are considerable. Effects and changes at times occur particularly in sensitive areas, due to dredging, soil excavation, soil replacement or backfilling, surface sealing, water drainage and high ground loads.

Looking Forward to IGR-2

Direct physical alteration or outright destruction of coastal and marine ecosystems is coupled with population growth and economic activities. The most damaging actions are; changes in land use, including draining wetlands and mangroves for use in agriculture or settlements, building dams, ports, seawalls and aquaculture installations as well as tourist facilities, and overuse of resources, including over-fishing, water, sand and gravel extraction and other similar practices. Increasingly it is understood that the problem cannot be dealt with in an isolated manner, but must be approached on a broad front, in an integrated manner, not only at the level of activities (such as tourism, aquaculture and infrastructure development), but also applying an area based approach (such as coastal areas, associated river basins and hinterland). Systematic area based integrative management approaches are being considered and it is accepted that all relevant actors (industry, policy makers, and the private sector) must embrace them.

The UNEP/GPA Secretariat's Physical Alterations and Destruction of Habitats (PADH) Programme, has identified the need to take specific action to protect marine environment particularly in the tourism, ports and harbours, aquaculture, and mining sectors. In this respect the programme specifically aims to:

- build capacities within governments to address the urgent threats to coastal zones through, among other issues, strengthening legislation and regulatory capacity and facilitating multi-stakeholder/partnership fora;
- safeguard the ecosystem function, maintain the integrity and biological diversity of habitats, which are of major socio-economic and ecological interest through integrated management of coastal areas; and
- promote effective action in specific locations to reduce and prevent the degradation of the coastal and marine environment caused by pollution and physical alteration and destruction of habitats, and where practicable, restore marine and coastal habitats that have been adversely affected by anthropogenic activities.

The Second Intergovernmental Review Meeting of the GPA (IGR-2), which will take place in Beijing, China from 16-20 October 2006, will aim to strengthen the implementation of the GPA, including defining the programme of work for the UNEP/GPA Coordination Office for the period 2007-2011. In addition to providing guidance on the Programme of Work, the IGR-2 will also advance global, regional and national commitments to protect marine environments, including Physical Alterations and

Destruction of Habitats. The draft guidance document for the implementation of the GPA 2007-2011 stresses the need for States to develop National Programmes of Action for the Protection of the Marine Environment from Land based Activities (NPAs). These NPAs will provide an important vehicle for mainstreaming the GPA within national development and infrastructure plans and programmes, particularly as it applies to addressing Physical Alterations and Destruction of Habitats. However, past experience and the increasing impact of unsustainable development on marine environments, requires that IGR-2 consider further the actions needed to ensure the sustainable development of coastal areas, including the issues of sustainable human settlements and sustainable tourism.

Key Questions for Discussion

- What policy instruments need to be put in place to ensure adequate safeguards against alterations and destruction of coastal resources and habitats?
- Since many habitat modifications arise from initiatives led by private sector institutions, such as ports and harbours, aquaculture and tourism, what role would there be for private sector to contribute to the safeguarding against alterations and destruction of coastal resources and habitats?

Links to Further Information

UN Atlas of the Oceans:

Assessment of Impact

<http://www.oceansatlas.org/servlet/CDSServlet?status=ND0yNTY5JjY9ZW4mMzM9KiYzNz1rb3M~>

Physical Alterations

<http://www.oceansatlas.org/servlet/CDSServlet?status=ND0yNTA4JjY9ZW4mMzM9KiYzNz1rb3M~>

Physical Alterations and Habitats

<http://www.oceansatlas.org/servlet/CDSServlet?status=ND0yNjEzJjY9ZW4mMzM9KiYzNz1rb3M~>

Land Reclamation by the Coast

<http://www.oceansatlas.org/servlet/CDSServlet?status=ND0xODAwOCY2PWVvUjMzPSomMzc9a29z>

Ports

<http://www.oceansatlas.org/servlet/CDSServlet?status=ND01NjEwMyY2PWVvUjMzPSomMzc9a29z>

Ports and Marinas

<http://www.oceansatlas.org/servlet/CDSServlet?status=ND0yNjMzJjY9ZW4mMzM9KiYzNz1rb3M~>

UNEP/GPA:

Clearing House Nodes – Physical Alteration and Destruction of Habitat

<http://padh.gpa.unep.org/>

Physical Alteration and Destruction of Habitat

<http://www.gpa.unep.org/bin/php/programs/padh/index.php>

The State of the Marine Environment, Trends and Prospects

http://www.gpa.unep.org/document_lib/en/pdf/global_soe.pdf

The NGO Alternative Treaties from the Global Forum at Rio de Janeiro June 1-15, 1992:

31 -Minimizing Physical Alteration of Marine Ecosystems

<http://habitat.igc.org/treaties/at-31.htm>