



Mangroves for the Future
INVESTING IN COASTAL ECOSYSTEMS

Marine Protected Areas

PAKISTAN





What are Marine Protected Areas (MPAs)?

A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

MPAs are created by delineating zones with permitted and non-permitted uses within that zone. Marine Protected Areas help in managing natural resources, fishing activities, stocks and the overall health of the ecosystem.

Target 11 of the Aichi Biodiversity Targets states that by 2020, at least 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, should be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape. Furthermore, the UN-SDG 14 calls for conservation and sustainable use of the oceans, seas and marine resources for sustainable development.

Why Marine Protected Areas (MPAs)?

MPAs play an important role in conserving biodiversity and ecosystems; stock enhancement and management of fisheries; education and research; nature-based recreation and tourism.

MPAs offer ecotourism potential which brings numerous benefits to the country and the dependent communities. For example, in Australia the Great Barrier Reef attracts about 1.8 million tourists annually, generating a revenue of over AUD 1 billion per year, in addition to the estimated AUD 359 million per annum earned from the Reef's fisheries. However, poorly managed tourism can lead to site degradation and may adversely impact MPAs. For example, physical injury to or removal of a certain species or set of organisms, and tourism activities, like trampling, scuba-diving, anchoring and snorkeling, may negatively impact marine communities and the ecology of the area.

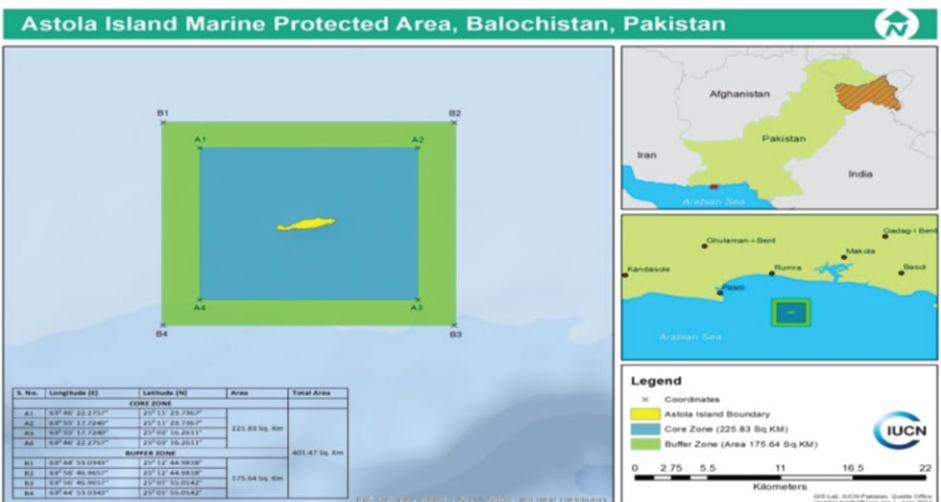


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Astola Island as the First MPA in Pakistan

Astola Island (locally known as “Haft Talar” or Island of the Seven Hills) is Pakistan’s largest offshore and uninhabited island, located at a distance of 20 nautical miles east of Pasni off the north coast of the Arabian Sea. The island is about 4 km in length and 1.5 km wide at its maximum width. The island is an ecologically important site, inhabited by colonies of coral reefs; its sandy beach provides a nesting ground for the endangered Green turtle (*Chelonia mydas*) and Hawksbill turtle (*Eretmochelys imbricata*). The Astola saw-scaled viper (*Echiscarinatus astolae*) is endemic to the island. The waters surrounding Astola Island support several species of whale and dolphin and diverse fisheries. Astola has the potential for well managed nature based tourism.

In 2015, the Ministry of Climate Change, Government of Pakistan led the process of MPA designation with the support of the National Coordinating Body (NCB) of Mangroves for the Future Pakistan (MFF) by forming a Working Group for initial assessment of potential sites, including Astola Island, Churna Island, Miani Hor, and Gwatar Bay for MPA designation. Subsequently, the IUCN World Conservation Congress 2016 adopted resolution #052 calling for the declaration of Astola Island as a MPA. The NCB-led process resulted in building stakeholder consensus on Astola Island and it was notified as the first MPA in Pakistan on 15 June 2017 by the Forest & Wildlife Department, Government of Balochistan under the Balochistan Wildlife (Protection, Preservation, Conservation and Management) Act, 2014.





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Objectives

- (a) Protect, conserve and restore species, habitats, biodiversity and ecological progress which may be adversely affected as a result of human activities or otherwise;
- (b) Prevent degradation of and damage to species, habitats, biodiversity and ecological processes, following the precautionary principle;
- (c) Protect and conserve areas that best represent the range of species, habitats, biodiversity and ecological processes in the Biosphere Reserve/Conservation Area; and
- (d) Maintain “Astola Island’s Marine Protected Area in Balochistan, Pakistan” hereinafter referred to as AIMPBA-Balochistan”, under the Convention on Biological Diversity (CBD).

IUCN has defined six categories of protected areas and specified permitted and non-permitted activities within each category. Astola Island falls under IUCN’s Category IV Habitat/Species Management Areas with the list of permitted and non-permitted activities (See Matrix).

Activities	IV
Research: non-extractive	Y
Non-extractive traditional use	Y
Restoration/enhancement for conservation (e.g. invasive species control, coral reintroduction)	Y
Traditional fishing/collection in accordance with cultural tradition and use	Y
Non-extractive recreation (e.g. diving)	Y
Shipping (except as may be unavoidable under international maritime law)	Y
Problem wildlife management (e.g. shark control programmes)	Y*
Research: extractive	Y
Renewable energy generation	Y
Restoration/enhancement for other reasons (e.g. beach replenishment, fish aggregation, artificial reefs)	Y
Fishing/collection: recreational	*
Fishing/collection: long term and sustainable local fishing practices	*
Aquaculture	*
Works (e.g. harbours, ports, dredging)	*
Untreated waste discharge	N
Mining (seafloor as well as sub-seafloor)	N
Habitation	N*

Key:	
No	N
Generally no, unless special circumstance apply	N*
Yes	Y
Yes because no alternative exists, but special approval is essential	Y*
*Variable: depends on whether this activity can be managed in such a way that it is compatible with the MPA’s objectives	*



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Prescribed Conditions for Astola Island MPA (AIMPA)

- 1) The AIMPA-Balochistan shall be accessible to public for recreation and education, subject to restrictions as and when prescribed, by the Government;
- 2) Change in land sea use shall not be allowed in the AIMPA Balochistan except with prior permission of the Government, where the change is likely to enhance the conservation value of the AIMPA-Balochistan in terms of biodiversity and other elements of nature, subject to and within the permitted scope of the CBD;
- 3) The following acts shall be prohibited in the AIMPA-Balochistan:
 - (a) hunting, shooting, trapping, killing or capturing of, and injury to any crustaceans, corals, mammals, sharks, turtles, whales, mobulids, whale sharks, sunfish, guitarfish, sea birds, including all other species declared as endangered species;
 - (b) fishing, hunting, shooting, trapping, killing, capturing with methods such as use of explosives, electric current, poisons and chemicals, and use of spear guns and scuba guns;
 - (c) constructing or erecting any temporary or permanent structure;
 - (d) residing without prior permission of competent authority;
 - (e) carrying or firing any gun or other fire-arm, with the exception of personnel of law enforcement agencies for the purpose of enforcing law & order, in or within the boundaries of the AIMPA-Balochistan;
 - (f) no scuba diving, snorkeling, cliff jumping, jet skiing, sailing or power boating, surfing or sport fishing shall be allowed in the AIMPA-Balochistan without prior permission of the competent authority;
 - (g) any other which may disturb any element of the ecosystem or damage feeding and breeding locations of any marine or terrestrial species;
 - (h) any act, which is prohibited under Section 34 (8) of the Act: and
 - (i) permission for any of above will be subject to permitted scope of CBD.

Potential MPA Sites in Pakistan

Churna Island is a small 1.2 km long and 0.82 km wide uninhabited island located about 9 km west of the mouth of the Hub River along the Balochistan coast. Primarily, it is a rocky Island with diverse marine life including corals. Because of its location near Karachi city, it is a popular destination for snorkelers, scuba divers, cliff jumpers, jet skiers, sport fishermen and picnickers.

Gawatar Bay is a trans-boundary bay situated on the coast of the Sistan-Baluchistan province of Iran and of the Balochistan province of Pakistan. It is one of the largest embayments along the entire coast of the two countries and covers an area of around 1,000 km² (including the adjacent floodplain) and 64 km of coast. The area is biologically diverse, with mangrove vegetation and a myriad of biologically and commercially important fish species that provide livelihood sources for the fishing communities. The area is home to three of the world's seven species of marine turtles, as many as five species of small cetaceans, and numerous bird species.

Indus Swatch: The River Indus, like all major rivers entering the sea, has formed the world's second largest submarine fan which has a deeply incised canyon known as the Indus Swatch. The Indus Fan stretches ~1500 km south towards the Carlsberg Ridge. It is 1500 km in length with a maximum width of 960 km, the most extensive physiographical province of the Arabian Sea in the northwest Indian Ocean. The Indus Swatch is an important fishing ground, especially for sharks.

Miani Hor is a lagoon located along the coast of Balochistan at a distance of 90 kilometers from Karachi. The average width of this lagoon is 7 kilometers, with a narrow and shallow connection with the open sea. The lagoon is of special significance for migratory and resident birds has been declared a Ramsar site, and is the only habitat in Pakistan where three species of mangroves, *Avicennia marina*, *Rhizophora mucronata* and *Ceriops tagal* occur naturally. The lagoon also provides a habitat for Humpback and Bottle nosed dolphins and a variety of fish species.

The maritime zone of Pakistan, including the continental shelf, extends up to 350 nautical miles from the coastline. The shelf of the coast is dominated by the Indus (a major river of Pakistan) canyon in the coast. The continental shelf varies in size distinctly along the Sindh and the Balochistan provincial coasts. The seaward coastal zone up to 12 nautical miles (NM) from the coastline falls within the jurisdiction of the two provinces (Sindh & Balochistan). The coastal zone beyond the 12 NM up to 24 NM is the contiguous zone and beyond the 12 NM up to 200 NM is under the jurisdiction of federal governments. The Exclusive Economic Zone (EEZ) of Pakistan covers an area of about 240,000 sq. km.

Mangroves for the Future (MFF) is a partnership-based regional initiative which promotes investment in coastal ecosystem conservation for sustainable development. MFF focuses on the role that healthy, well-managed coastal ecosystems play in building the resilience of ecosystem-dependent coastal communities in Bangladesh, Cambodia, India, Indonesia, Maldives, Myanmar, Pakistan, Seychelles, Sri Lanka, Thailand and Viet Nam. The initiative uses mangroves as a flagship ecosystem, but MFF is inclusive of all types of coastal ecosystem, such as coral reefs, estuaries, lagoons, sandy beaches, sea grasses and wetlands. MFF is co-chaired by IUCN and UNDP, and is funded by Danida, Norad, Sida and the Royal Norwegian Embassy in Thailand.

Learn more at: www.mangrovesforthefuture.org



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