

Information Sheet on Ramsar Wetlands

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

NOTE: It is important that you read the accompanying *Explanatory Note and Guidelines* document before completing this form.

1. Date this sheet was completed/updated:

April 24, 2001

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DD	MM	YY					

Designation date

Site Reference Number

2. Country:

PAKISTAN

3. Name of wetland: Miani Hor

4. Geographical coordinates: 25°24'N, 66°06'E

5. Altitude: (average and/or max. & min.) Sea Level

6. Area: (in hectares) c. 55,000 ha

7. Overview: (general summary, in two or three sentences, of the wetland's principal characteristics)

A large shallow sea bay and estuarine system with several low-lying islands and extensive mangrove swamps and intertidal mudflats separated from the adjacent Sonmiani Bay by a broad peninsula of sand dunes. The Hor receives freshwater input from a number of seasonal streams rising in the hills of eastern Balochistan to the north, and empties into Sonmiani Bay through a broad channel at its eastern end. The area is important on account of having large concentrations of waterbirds during the season. As many as 60,000 water birds have been counted there. Occasionally, cetaceans are also sighted in the coastal wetland.

8. Wetland Type (please circle the applicable codes for wetland types as listed in Annex I of the *Explanatory Note and Guidelines* document.)

marine-coastal: A . B . C . D . E . F . G . H . I . J . K

inland: L . M . N . O . P . Q . R . Sp . Ss . Tp . Ts
 . U . Va . Vt . W . Xf . Xp . Y . Zg . Zk

man-made: 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9

Please now rank these wetland types by listing them from the most to the least dominant:

F, I, A, G, E

9. Ramsar Criteria: (please circle the applicable criteria; see point 12, next page.)

1 . 2 . 3 . 4 . 5 - 6 . 7 . 8

Please specify the most significant criterion applicable to the site: 5

10. Map of site included? Please tick *yes* ✓ -or- *no*

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits).

11. Name and address of the compiler of this form:

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Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):

12. Justification of the criteria selected under point 9, on previous page. (Please refer to Annex II in the *Explanatory Note and Guidelines* document).

Criterion 1: The site contains one of the most robust and productive stands of mangrove forests along the Balochistan coast, situated in more than one biogeographic region, including estuaries, mudflats, mangrove swamps, and sand dunes.

Criterion 4: As many as 50,000 water birds were counted in January 2000 The site is an important staging and wintering area for migratory shorebirds, flamingos, and pelicans. In addition, large flocks of little ringed plovers, sanderlings, curlew sandpipers, caspian terns, herring gulls, lesser blackbacked gulls, and slenderbilled gulls can be frequently seen. Turnstone and osprey are also commonly seen.

Criterion 5: According to Asian Waterbird census (AWC) totals carried out between 1995-99, the site supports an average of 22,700 waterbirds on a regular basis.

13. General location: (include the nearest large town and its administrative region)

On the coast of the Arabian Sea, 100 km Northwest of Karachi in the province of Balochistan.

14. Physical features: (e.g. geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate)

The area consists of shallow sea bays, estuaries, sea beaches, inter-tidal mudflats and mangrove swamps. Arid subtropical climate results in very hot summers and mild winters with annual rainfall averaging less than 150mm. Miani Hor tidal estuary extends for 45 km from the delta of the Windar River and extensive mudflats are exposed on the west side of the lagoon at low tide. The bay is characterised by upwelling and sea fronts creating ideal conditions for high fish catch. Thousands of years ago, it was once an open bay but a spit of land finally closed off the lagoon from the sea. The tidal amplitude fluctuates from 1-3 m in monsoon season. The seawater is polluted in the bay due to the discharge of domestic wastes from Dam and Sonmiani villages.

15. Hydrological values: (groundwater recharge, flood control, sediment trapping, shoreline stabilisation etc.)

Two seasonal rivers, the Windar and Porali, drain into the lagoon in the east and west, respectively. Flash floods are quite normal and even moderate to slight rains heavily erode the uncovered hillsides and muddy banks. Considerable silt deposition occurs along the mouth of these rivers. Seepage and flood spills of the river system contribute to groundwater recharge of the basin.

16. Ecological features: (main habitats and vegetation types)

The Hor is separated from Sonmiani Bay by a broad peninsula of sand dunes. Two species of mangroves, *Avicennia marina* and *Rhizophora mucronata* can be found around the eastern side of the lagoon; of these, the former is predominant as it occupies a larger area. *Ceriops tagal* also can be found sparsely scattered around the site. In addition to the mangrove growth which is situated just off the coast along the numerous creeks and sub-tidal mudflats, there are other types of vegetation, particularly grasses and shrubs along the beach area. Prominent shrubs include *Salsola barysoma*, *Abutilon indicum*, *Sericostma pauciflorum*, *Cressa creatica*, and *Hetiotropium undulatum*. Sparse growth of *Tamarix spp*, *Acacia senegal*, *A. nilotica*, *Polycorpa carymbosa*, *Atriplex griffithi* can be found inside the coastline in sandy sheltered areas, fed by seasonal rainwater and run-off.

17. Noteworthy flora: (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc.)

The site is the only area in Pakistan's coast where three species of mangroves viz., *Avicennia marina*, *Rhizophora mucronata*, and *Ceriops tagal* occur in natural conditions.

18. Noteworthy fauna: (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.)

The site is an important staging and wintering area for migratory shorebirds, flamingos, and pelicans. In addition, large flocks of little ringed plovers, sanderlings, curlew sandpipers, caspian terns, herring gulls, lesser blackbacked gulls, and slenderbilled gulls can be frequently seen. Turnstone and osprey are also commonly seen.

19. Social and cultural values: (e.g. fisheries production, forestry, religious importance, archaeological site etc.)

The site area is of social and economic importance to the local fisherfolk. Smaller fish, shrimp, and crabs are abundant in these shallow estuarine waters, some of which are consumed locally, while the more commercially valuable catch is sold in the market. The lagoon is a traditional shrimp fishing ground with high quality shrimp. The area around Sonmiani village (Golden village) is of archeological interest; Balakot, which is situated 10 miles northeast of Sonmiani once boasted a thriving civilisation which flourished around 2000 BC.

20. Land tenure/ownership of:

Most of the area is state owned (Revenue Department) except a small portion of mangrove forest of the northern side owned by the Forest Department of Balochistan. Community has the cutting and utilizing rights.

21. Current land use:

Fishing is the main activity throughout the site area. Mangrove stands are also cut in increasing numbers by the local inhabitants, which provide fuelwood and fodder.

22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:

The local communities depend on the mangrove branches to provide fuelwood and fodder for their camels. With increasing population in the site area, this activity cannot be sustained indefinitely without adversely affecting the

mangrove ecology and hence, the productivity of the wetland. In the site area, fisherfolk use fine mesh nets to catch fish, many of which are juveniles which result in the over-exploitation of the fisheries resources. The local communities also hunt birds for food, some of which are considered a delicacy. There are a number of villages around the site area and the effects of pollution are visible. Solid waste disposal is a problem and parts of the clay and sandy beach area are littered with debris mostly discarded fishing nets, bottles, and plastic bags.

23. Conservation measures taken: (national category and legal status of protected areas - including any boundary changes which have been made; management practices; whether an officially approved management plan exists and whether it has been implemented)

Over the past decade, IUCN and WWF-Pakistan have both undertaken mangrove plantation and conservation work in the area, with active participation from the local community. WWF-Pakistan established a field office at Sonmiani and planting activities were carried out both with the local participation and by themselves. Community based Organisation (CBO) was formed at Dam village by WWF-Pakistan. Three nurseries were established at SonMiani. Different plantation techniques were used for raising plantations, Balochistan Forest Department also established a container plants mangrove nursery.

24. Conservation measures proposed but not yet implemented: (e.g. management plan in preparation; officially proposed as a protected area etc.)

None.

25. Current scientific research and facilities: (e.g. details of current projects; existence of field station etc.)

The federally administered Zoological Survey Department (ZSD) usually conduct annual bird counts and assess the fauna of the site area. In virtually all cases, this survey exercise takes place during the winter; as a result, very little is known about the site conditions during summer.

26. Current conservation education: (e.g. visitors centre, hides, information booklet, facilities for school visits etc.)

While there is no site-specific conservation education programme, IUCN's Coastal Ecosystem Unit routinely carries out awareness and environmental sensitisation activities, largely through accompanying students, local, and foreign visitors to various coastal mangrove sites in the vicinity of Karachi. Public awareness of environment, and particularly of national wetlands has been steadily increasing in the national media through contacts with a number of interested and competent environmental journalists. WWF for example, had inaugurated a Wetland Visitor Centre in the same week as World Wetland Day (February 2, 1999), which is due to be operational by the end of June 1999. Provincial government agencies such as the Sindh Wildlife Department and the Sindh Environment Protection Agency also carry out selected awareness campaigns, related to turtle conservation or coastal pollution. Although, environmental awareness and conservation education activities occur throughout the year, it should be noted that such activities tend to be inevitably clustered around specific occasions, such as World Wetlands Day, World Water Day, or World Environment Day.

WWF-Pakistan organised various awareness and education activities under the mangrove conservation project. Various workshops were conducted with local communities, school children, university students, journalists and other volunteer groups.

27. Current recreation and tourism: (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)

None at present.

28. Jurisdiction : (territorial e.g. state/region and functional e.g. Dept of Agriculture/Dept. of Environment etc.)

The site is the territorial jurisdiction of:

Balochistan Forests and Wildlife Department, Civil Secretariat , Lytton Road, Quetta, Tel: (92-81) 838358,
Balochistan Board of Revenue Civil Secretariate, Quetta, Tele: (92-81) 83830
Balochistan Fisheries Department, Saryab Phatak, Quetta, Tel: (92-81) 834604.

29. Management authority: (name and address of local body directly responsible for managing the wetland)

Divisional Forest and Wildlife Department officer,
Balochistan Forest and Wildlife Department, Uthal, Balochistan

Balochistan Fisheries Department officer, Balochistan Fisheries Department.

30. Bibliographical references: (scientific/technical only)

Ahmad, M.F., Ghalib, S.A., & Hasnain, S.A. 1987. Vertebrate Fauna of the Mangroves of the Balochistan Coast. (Unpublished report)

Scott, D.A. (ed) 1989. A Directory of Asian Wetlands. IUCN: Gland, Switzerland and Cambridge, UK.

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