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

FOR OFFICE USE ONLY.

DD MM YY

Designation date

Site Reference Number

2. Country:
Pakistan

3. Name of wetland: Jiwani Coastal Wetland

4. Geographical coordinates: 25°02'- 25° 07'N, 61°44'- 61°52'E

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

6. Area: (in hectares) 4,600 ha approx.

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

Jiwani is situated at the edge of the bay called Gawater Bay. It is the largest embayment along the entire coast and is fed by the largest river of Balochistan, the Dasht River. There are approximately 2,200 ha of mangrove forests in Gawater Bay of Jiwani. These forests extend to Iran in the west. Turtle Beaches are a cluster of primarily four sandy beaches on the eastern side, which are moderately wide and gently sloping with an indistinct platform above the tidal waterline. Marine turtles mostly nest on the beach at the foot of some cliffs a few kilometres Southeast of Jiwani town. The beaches immediately surrounding this area are known as Dran.

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:
Mangrove area: I, F, L
Turtle nesting beach: E, D

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: 2

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:

Tahir Qureshi, Head of Coastal Ecosystems Unit
& Jamshed Kazi, Programme Development Officer
IUCN-Pakistan, 1 Bath Island Road, Karachi- 75530
PAKISTAN, Tel: (92-21) 5861540-42, Fax: (92-21) 5861448
E-mail: tahir.qureshi@iucnp.org

Rahat Jabeen, Wetlands Conservation Officer
WWf-Pakistan, Fortune Centre, Room #606
6th Floor, Block 6, PECHS
Sharah e Faisal, Karachi – 75400
PAKISTAN, Tel.: (92-21) 4544791-2, Fax: (92-21) 4544790
E-mail: wwfkhi@khi.compol.khi

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: In Pakistan there are three species of mangroves (*Avicennia marina*, *Rhizophora mucronata*, and *Ceriops tagal*) found along the coastline. The main spots of mangroves are Indus delta, Sindh, Miani Hor, Kalmat Khor, Gawater Bay, and Balochistan. Jiwani coast is one of the major mangrove areas in Pakistan. The area is representing one species of mangrove i.e. *Avicennia marina*. In addition, the site contains a representative transboundary wetland as the mangrove forest area is continued towards Iran. Moreover, this mangrove area in Iran side is also a Ramsar site.
Criterion 2: The eastern side of the coastal wetland, better known as Dran consists of stretches of sandy beaches punctuated by rocky, spectacular cliffs. The sandy beaches are ideal nesting sites for the endangered Olive Ridley (*Lepidochelys olivcea)* and Green turtles (*Chelonia mydas*), both of which are found in substantial numbers. This site is generally acknowledged as one of the most important marine turtle sites along the Pakistan coast. A visual survey was undertaken on site during the off-peak nesting season (July 1999) and at least half a dozen fresh turtle tracks were observed within a two-hour period over a two-kilometre stretch of sandy beach. If this figure is extrapolated to take into account the peak season breeding and nesting activity, the individual numbers could well reach into the thousands per year.
Criterion 4: The eastern side of the wetland system is of special value (as indicated under 2) since it is the habitat of at least two species of marine turtles that come ashore to lay their eggs, representing a critical stage in their biological cycle. The mangrove ecosystem plays vital role in the food chains, as they are in the breeding and spawning grounds for shrimps and fishes.

---

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

The sites are located a few kilometres east and west of Jiwani town of Gwadar district, 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 Balochistan area near the Iranian border is a coastal plain with a low swampy region forming the delta of the Dasht River. Dasht River, the largest river in Balochistan, is the main source of freshwater to the mangroves. The width of turtle beaches along section of the coast averages 60-120 metres. These turtle beaches extend for around 18 kilometres from Jiwani town to Ganz with cliffs gradually rising in an eastward direction to 30-40 metres in height. Turtle beaches are cluster of primarily four sandy beaches, which are moderately wide and gently sloping (gradient of 1-3 degrees) with an indistinct platform above the tidal waterline. East of Dran, the cliffs end rather

abruptly and the remainder of the beach is characterised by a low plain of sand with scrub vegetation and a muddy lagoon at the beach's eastern limit. The beach at Ganz consists of fine to medium grain sand. Climatic conditions are arid and very little rainfall in the area.

---

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

The Jiwani site receives water from the Dasht River and seasonal rainwater from the hills. Although this river drains a large section of central Balochistan, it does not bring large quantities of sediment to the coast. All human settlements close to the banks of the occasional rivers such as the *Rakshan River*, *Kech Kaur*, and other small waterways are being supplied water from the riverbeds. However, in some of the settlements, for example in the *Dasht* and *Parome* plains, the sub-soil water is brackish and is not fit for human consumption. In addition the mangrove forests stabilize the shoreline, protect from flood and windstorm.

---

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

Mainly Jiwani coast is comprises of two main habitat from ecological point of view, one is the mangrove swamps, marshy and muddy area along the river mouth or delta of the Dasht River also continue upto the Iranian border. Second, the sandy beaches from the eastern side of the Bay. Beside these two main habitats the shoreline support algal communities and these communities are important part of the coastal ecosystem. Other vegetation of the area composed of various halophytes and xerophytic plants. The Bay is best known for its quality seafood export to the Asia Pacific region. Thousands of migratory birds also visit this beach every year.

---

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

Avicennia marina the threatened mangrove species is present along the river mouth or delta. In the immediate vicinity behind the sandy beach area, a number of salt tolerant trees and shrubs can be found. These include: *Calligonum polygonoids, Calatropis procera, Haloxylon saliccornicum, Tamarix aphylla, Prosopis juliflora* and *Atriplex stocksii*. Algal communities are found abundantly along the coast, for example the species belongs to the families *Cholorophyceae, Rhodophyceae* and *Pheophyceaea* are commonly found in the area. Seaweed is the favourite food of the turtles visiting for feeding purposes.

---

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

The site is particularly important as a nesting ground for both Olive Ridley and Green turtles. Exact numbers are not known, however, it is generally acknowledged that this is one of the most important marine turtle sites along the Pakistan coast. Among the notable, migratory avian fauna which has been sighted in the area include the Lesser flamingo and pelicans and a variety of waders. Its importance as a wetland site needs to be acknowledged.

---

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

The people living around the Jiwani area belong to various clans and tribes who have migrated from Iran and Lasbela District, Balochistan. They are predominantly fishermen and some are pastoralists and peasants. The people living along the Balochistan coast have had long-standing contacts with the Persian Gulf, particularly Oman, as well as links with North and East Africa. In fact, a sizeable part of the population has descended from African traders and soldiers. Initially, there were tribal conflicts between the settlers of African and Arab origin but over time gradual social integration occurred in large measure through inter-marriage of the two ethnic groups.

---

20. Land tenure/ownership of:

The land along the coastal site belongs to the Board of Revenue. The wadis or valleys, beyond the coast are communally owned by the local Balochis who cultivate the land form stored rainwater and run-off. In principle, it is possible to apply for land allotment from the Board of Revenue. However, in practice, this procedure is very tedious and most locals tend to occupy land if there is no strong opposition.

---

21. Current land use:

Fisheries is the most important economic activity along the Balochistan coast. The Jiwani beaches are used as landing ground for shrimps and fish.

---

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

The mangrove forests are not facing any pollution as compared to the mangroves of the Indus delta in Sindh as water quality is better. Mangrove forests are globally threatened specially in the arid region in Pakistan, whereas the pressure on the mangrove by the local communities cutting them for various domestic purposes is a common practice.

Relative to the other coastal townships in Balochistan, such as Ormara, Pasni, and Gwadar, the Jiwani turtle beaches have encountered fewer threats to its ecological condition. Intense wave action has been causing considerable erosion along the base of the rocky cliffs and as a result there is a high concentration of silt and littoral mass in the waters near the shore.

While fishing is an ongoing economic activity, the scale and volume of fish landings at the site area is not significant. There are however, poorly documented incidences of mortality among marine turtles which sometimes get ensnared in the nets of fishermen within a 5-kilometre radius of the coastline. During interviews with local community members, including provincial government functionaries, it was learned that turtle eggs are dug up and consumed by many Balochis and visiting Arabs, since it is widely believed that turtle eggs are an aphrodisiac. Moreover, some of the local herders admit to feeding nutrient-rich turtle eggs to their cattle since they claim that it increases the milk-producing potential of their camels and goats.

There are a number of development plans in the pipeline which are bound to adversely affect the ecological character of the coastal wetland site. The Balochistan government has concrete plans to award a 30-year fishing concession to a US based fishing company, which would arguably lead to an over-exploitation of fish stocks along the Pakistan coast. Also, the provincial government is on the verge of approving a foreign oil company to commence off-shore drilling operations, near Gwadar Bay, which is roughly 160 kilometres east of the Jiwani site.

The Balochistan Conservation Strategy (BCS) is a comprehensive strategy to promote environmentally and socially sustainable development in Balochistan. Given the prominent role the coast plays in the economy and ecology of Balochistan, the BCS accords a good deal of emphasis on the conservation and management of marine and coastal resources.

---

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)

In 1998 the WWF-Pakistan conducted a case study to determine the Root Causes of the Biodiversity loss of Mangrove forest in Coastal areas of Sindh and Balochistan. The Jiwani coast has been surveyed under this study. In 1999 WWF-Pakistan initiated conservation activities in the area and initiated Mangrove Conservation project and Turtle Conservation project. Both these projects are running with the help of community participation and a field staff appointed in the field office. No legal protection from the government side is in force.

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

Groombridge *et al* undertook a survey of the Balochistan Coast in January 1987. He has offered the following recommendations for the conservation of marine turtles on the Balochistan Coast which have yet to be implemented: (1) More detailed information on turtle nesting numbers and seasonal density is required for the known nesting sites in Balochistan, including Jiwani, Ormara and Astola Island; (2) An overall assessment of the extent of marine turtle nesting is urgently required; (3) All exploitation of adult turtles should be stopped, in line with the existing legislation, until a more complete picture of marine turtle resources in Balochistan is available; (4) Consideration should be given to providing formal protected area status (possibly as wildlife sanctuaries) to 2 sites, including the turtle 'cliff ' beach (also known as Dran) in the current site of Jiwani.

A more recent recommendation was put forth by Tomascik (1997) who proposed the establishment of a green turtle hatchery and nursery in Sonmiani (Miani Hor) which is ideally located at the crossroads of the Sindh and Balochistan coast. The idea is to raise the hatchlings in captivity and release them once they are large enough to fend off potential predators.

The root causes study of WWF-Pakistan has proposed conservation measures for the loss of biodiversity in the coastal areas of Pakistan. Proper infrastructure as well as the basic facilities should be provided to the local communities, as they are the main users of the natural resources. Methods of sustainable utilisation of the natural resources should be introduced among the local communities. Hopefully the concerned agencies and institutions would adopt the recommendations made by this study.

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

So far, very little work has been undertaken on documenting the flora and fauna of the site. The Marine Fisheries Department and the National Institute of Oceanography have done some work from their field locations in Gwadar on fishes and oceanography, respectively. However, the allocation of resources for scientific research and development in Balochistan is negligible; Facilities like well-equipped laboratories, trained staff and other equipment is also strikingly inadequate.

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

Very little, if any, work has been done insofar as educating the local communities about the values and economic potential of well-managed coastal wetlands. Many locals though, are aware of the importance of the mangrove forest in their areas and the prevalence of marine turtles which emerge from the coastal waters in vast numbers during peak season to lay their eggs on the sandy beach. However, there has been no sustained effort to sensitise the local fishermen towards a conservation ethic or provide guidance on how to minimise turtle mortality from incidental catch or through sale and consumption of turtle eggs.

In recent months, WWF-Pakistan has set up a field office near the Jiwani wetland site and will soon be initiating programmes which focus on marine turtle conservation with the participation of local communities and mangrove conservation (at a separate site).

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

Inadequate service facilities have hampered the development of the Balochistan coastal region. There are commercial air links between Karachi and Jiwani but this service is only once a week. The coastal road is largely unpaved and frequented mostly by trucks and sturdy 4WD vehicles carrying goods to and from various coastal markets.

So far the eco-tourism potential of Jiwani and its environs has not been appreciated by the federal and provincial government. While the terrain and coast along Balochistan is spectacular, very few tourists venture into this area, since it is 'off-the-beaten track' and would suit only the most dedicated nature enthusiasts, with a flair for adventure.

---

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

The coast of Jiwani is under the jurisdiction of the Board of Revenue.

---

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

The Balochistan Forest and Wildlife department is responsible for the management of the Jiwani turtle beaches, under the Wildlife ordinance, 1973.

The Balochistan Forest and Wildlife department, Civil Secretariat,
Lytton Rd., Quetta, Balochistan, PAKISTAN Tel.: (92-81) 838358

---

30. Bibliographical references: (scientific/technical only)

Acreman, M. 1993. Hydrology and the Environment—the Lower Indus and Balochistan. IUCN: Gland, Switzerland.

Amjad, S. 1998. Draft on coastal fisheries sub-strategy for Balochistan Conservation Strategy.

RCDC 1995. Final report on formulation study of the Rural Community Development Council, Gwadar.

Tomascik, T. 1997. Coastal Marine Protected Areas Management Project (CMPAMP). Project proposal developed for IUCN Pakistan.
