



Preliminary Damage Assessment Report

Yemyin and Gonu Cyclones Makran Coastal Wetlands Complex



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Cover photograph: Boat damaged in Pasni Harbor

All photographs used in this report are taken during the study by Ahmad Khan unless otherwise specified. The report is produced for the Federal Ministry of Environment's Pakistan Wetlands Programme and can be used as a reference giving credits to the Programme and the author.

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1. The Pakistan Wetlands Programme

Pakistan Wetlands Programme is an initiative of the Pakistan's Ministry of Environment, being implemented by the World Wide Fund for Nature Pakistan. The programme aims at the creation of an enabling environment at the national level through capacity-building and training, awareness raising and communication and environmental assessments; developing replicable models in the four wetlands eco-regions of the country including the Makran Coastal Wetlands Complex (MCWC), Central Indus Wetlands Complex (CIWC), Salt Range Wetlands Complex (SRWC) and Northern Alpine Wetlands Complex (NAWC).

2. The Makran Coastal Wetlands Complex (MCWC)

The Pakistan Wetlands Programme efforts in this region concentrate on the coastline of Balochistan between the Basol and Dasht Rivers, including the towns of Pasni, Gawadar and Jiwani. The population here depends primarily on fishing and port related activities. They also subsidise their livelihoods with dry land farming. The core zone of the MCWC is heavily dependent on fishing and fishing related livelihood opportunities. Although land holdings are large with 56% of the population having at least 10ha, agriculture is subsidiary to fishing due to harsh topography and lack of irrigation. Any damage to agriculture and fishing industries in the area are potentially devastating to the local community. The recent Gonu and Yemyin Cyclone devastated the local community along the Balochistan Coast with severe damage in Lasbela, Ormara, and Pasni areas. The Pakistan Wetlands Programme conducted the following initial assessment of damages in the sphere of its focus.

3. Summary of Disasters and Damages

Recently two tropical cyclones hit the Makran Coast leaving destruction in their wake. Gonu struck the coast on June 4th and inflicted damage in Sur Bandar area of Gawadar. Another tropical cyclone "Yemyin" (No. 03B) developed over the North Arabian Sea during a strong monsoon weather system struck the Makran Coast and devastated it at many places. The heavy monsoon rains in the area left an estimated 250,000 homeless in Turbat in the Ketch district alone. This attracted attention and damage along the Makran Coast were overlooked. The Pakistan Wetlands Programme made a preliminary rapid assessment of the damage in the Makran Coastal Wetlands Complex, which is the region covered by the programme. According to findings, the cyclones damaged around 100 boats and claimed lives of two fishermen in Kalmat area. About 4 households lost shelter, while 20 households received partial structural damage. Two villages, the Kalmat and Chandi are experiencing outbreaks of disease primarily malaria and skin diseases. Most of the villages are dependent on subsistence agriculture and flood has washed out an estimated 70% of the fields, thus sweeping away their crops, trees and fruit plants. The Flood has severely damaged infrastructure in the area. The primary damage is to the Coastal Highway, which remained cut off for seventeen days. The floods in Shadi Kaur (river) damaged some of the link roads to villages such as Karki.

4. Assessment of Damages in the MCWC

4.1 Kawari Area

Kawari is a cluster of villages of Kawari, Jafari, Showai, and Chai, where a fishing community of about 700 people live. They subsidise their fishing-based livelihood with dry land farming but also grow barley and raise dates. They also encourage the growth of trees of *Acacia Arabica*, which provide fodder for livestock. A good sized Acacia tree can sell for Rs.1200/- to Rs.1500/-.



Figure 1: Acacia tree bowed down on ground. Photo credit: Ahmad Khan

The local community has about 50 boats, powered by small diesel engines. A boat of the size in the range of 6 - 6.5 meters costs around Rs. 100,000 and its engine costs around Rs.50,000. The fishermen are able to obtain loans from local fish traders to purchase such boats and equipment. A boat of this type may last for about six to seven years. Their catch is mostly jelly fish in the nearby shallow waters during July to September. A boat fetches income in the range of Rs.100,000 - 200,000 in during the peak season. The fishermen catch shrimp and fish over rest of the nine months and earn Rs.1,000 to 2,000 a day per boat. This fishing community uses nylon nets mostly knotted by them and their children. They have banned use of monofilament nets (plastic nets) in their area. They consider monofilament nets hazardous for their fishing practice.

During the Yemyin storm, a cyclone with heavy rain for sixteen continuous hours hit the Kawari area. It damaged almost all of their boats and either smashed or turned the boats upside down. It flew and dragged some boats as far as 500 – 1,000 meters from their anchorage. Engines from the boats fell into the sea and disappeared. They recovered about ten engines that have lost most of the parts and are non-repairable.



Figure 2: Boat turned upside down at Kawari. Photo credit: Ahmad Khan

Four of their boats are completely destroyed, while the rest are partially damaged. Nets from all of the boats fell into the sea and were lost. The fishermen couldn't recover the nets except fragments of some. They purchase nets or items from market and make nets at home. A net required around 20 kilograms of nylon thread that costs around Rs.6,000/- (Rs.300/- per kg), while other accessories of a net costs around Rs.1,000/- These villages were flooded from the water of Basol River. This destroyed their agricultural crops (melons and corn) and date fruit. The flood and wind damaged about 50 date trees in Chai. The flood and strong wind also uprooted about 30 trees of Acacia, which provide fodder for livestock in the area. The flood also washed away their earthen dams that collect rain water for raising crops in their fields. They construct these earthen dams through tractors.

The cyclone also flew about five huts in Kawari. For shrimp and jelly fish catching, they go to a nearby island of mangroves locally called “Reke Jungle”. They have shelters there, which have been washed away by the sea as it swept over the island.



Figure 3: A recovered boat engine damaged during the storm. Photo credit: Ahmad Khan

4.2 Makola Village

The Village of Makola also received damage to infrastructure and sources of livelihood. The community consists of 80 households, and also depends on fishing and farming. The floods destroyed five boats and partially damaged a further ten boats. It damaged their crops and fields, and washed away the dams constructed for collection of rain water. The strong winds flew away about ten of their huts.

4.3 Chandi

Chandi is a village located at the bank of Kalmat Lagoon by the seaside and the local community living in about 30 households is dependent on fishing. One boat drowned in the cyclone, while ten others sustained partial damages. The heavy floods damaged the livelihood. The strong winds and flood water destroyed two houses, while it damaged the boundary wall of one house. It partially damaged structure of six huts. They lost their salt reserves, used in fishing. After the

cyclone, mosquitoes invaded the area and local community suffers from malaria and rashes. Some members of the community burn rubber from used tyres in their houses during the night to repel mosquitoes, which itself is a health hazard and may be expected to result in respiratory diseases.



Figure 4: Blew away roof top of a building in Chandhi Village. Photo credit: Ahmad Khan

4.4 Kalmat

The Kalmat is a cluster of villages including Murganijhk, and Gursunt villages of about 250 households, located by the seaside. The community is dependent on fishing but subsidise their livelihood by means of subsistence agriculture. The village is still under flood water and this nurtures mosquitoes, which have become a health hazard. The local community is suffering from malaria and skin rashes. Children are at high risk from these diseases in addition to other water-borne diseases. Floods partially damaged about 20 houses, while boundary wall of one house collapsed. One boat sank in the floods resulting in death of two fishermen. The flood has damaged the access road, washed away the checkdams constructed for collection of rain water and boundary wall of the dispensary, which is the only health facility in the area. Several of the electricity poles fell during the storm.

4.5 Bal

The Bal village was hit by a strong flood accompanied by winds and rain. There are 28 households, and everyone has sustained some level of damage to their huts. The winds destroyed two huts and partially damaged about 14 others. Water has still surrounded most of the houses in Bal.

4.6 Rumbro

This is a small hamlet of four households by the Coastal Highway. The storm damaged two huts, while partially damaged the other two. The local mosque and school sustained partial damage.

4.7 Shadi Kaur

Shadi Kaur (Shadi Stream) has a cluster of villages in its nearby catchment area. These include Karki of about 50 households, Zahreen Kaur of about 70 households, Trati of about 60 households, Kabri of about 15 households, Sindi Paso of about 35 households, Tumpagi of about 30 households, Salach of about 40 households, and Sosee of at least fifteen households. The floods washed away all huts and shelters in Karki Village, leaving the community shelterless. The flood washed their access road and currently people have to take food stuff on their backs and walk/wade around for at least an hour. Heavy flood changed topography of Shaddi Kaur catchment area and local community is facing problem for placing their residences. The flood washed about 40 households of Zahreen Kaur. Other villages of the cluster have sustained damage equivalent to destroying an estimated 50% of the shelters. These villages depend on subsistence agriculture. They make earthen check dams to collect rain and seasonal flood waters for irrigating their crops. The flood washed all of their check dams.

4.8 Ispetaak

The local community reported loss of one boat and partial damage to three others.

4.9 Sar Dasht

This is a cluster of three villages of Sar Dasht, Dando Junobi, Bazwaja and several small hamlets. They form a community of around 200 households that include 42 households of Sar Dasht, 38 households of Bazwaja, and 32 households of Dando Junobi. The community is dependent on subsistence dry land farming. They collect rain water through check dams that provide moisture to the soil. The flooding of Shadi Kaur spread to this area and destroyed crops and has washed away the checkdams. The community was displaced by floods and about half of them lost their huts/shelters.

4.10 Pasni

In Pasni, flood water from Shadi Kaur entered the Babar Shor area and displaced all of the population from there. It has partially damaged shelters including pucca

houses, mud houses and huts of about 50 households. The irrigation and fisheries departments evacuated the local population with motor boats. The local community, has, however, returned to their settlement has yet to repair their shelters. Flood entered the electricity grid station and Zahrain Township. At Juddi, there is a community of about 200 households that extracts salt from sea water. The flood destroyed about 400 salt pans and also the stock they had for marketing. According to information from a salt manufacturer, making a salt pan costs them around Rs.9000/- each.

4.11 Shanikanider

A strong cyclone hit Shanikanider, which is a village of about 40 households to the north-east of Gawadar at a distance of about 20 km. The cyclone damaged boundary walls of seven houses, completely destroyed three huts and blew away roof tops of six huts. It flew roof tops of two houses (pucca). The cyclone hit a truck parked outside one of the houses. The storm took the truck about 50 meters away from where it was parked and resulted in breaking its front wind shield. The wind storm also hit a motorcycle and severely damaged it.

4.12 Sur Bandar

The cyclone Gonu hit the Sur Bandar Village, which is located on the sea side in the east of Gawadar City. A population of around 20,000 lives in about 3500 households. The Gonu cyclone hit this village on June 4th, 2007 and destroyed its southern side. The flood has washed away a school building and at least 40 houses. The sea has been eroding the beach continuously since it struck the village. Several houses are subject to threat of being taken away by the sea due to the continuous erosion of the beach. Currently four houses are partially damaged, which may be taken by the sea soon, particularly when there is no protection against it. In the cyclone, 30 boats were destroyed. The community of this village uses 27' to 30' boats with two engines, each of 13 hp and above. The area between Koh-i-Mehdi and head at village is 12,500'. According to Kouda Hameed Assa Baloch Nazim Union Council Sur Bandar, the irrigation department has prepared a PC-1 for protection wall on this area with an estimate of rupees 160 million and the Chief Minister of Balochistan approved rupees 5 million for emergency protection work. The emergency protection couldn't be effective due to high tides of summer season in the area.

5. Damage Outside of MCWC

The Yemyin Cyclone also hit the Ormara Beach and inflicted severe damages. The Basol River, at eastern boundary of the MCWC was in high floods and damaged properties. We couldn't make to visit the area primarily due to its location on Basol River that we considered outside of MCWC jurisdiction and secondarily due to time constraints. The Ormara beach is severely damaged. According to an estimate in light of interviews in Pasni and Gawadar about 100 boats are damaged in Ormara and its outskirts. The cyclone has damaged houses (partially or completely, 100 boats and agricultural crops). This needs a detailed assessment.

6. Recommended Actions

There is obviously an urgent need for action, which should include but not be confined to the following interventions:

- Assistance to the fishermen communities to repair their boats and engines;
- Assistance to fishermen communities in procurement of nets;
- Assistance in repairing their houses/huts;
- Assistance in repair and making of check dams;
- Provision of anti malarial medicine, malaria preventive medicine to communities of Chandi and Kalmat;
- Spray in the area to control mosquitoes outbreaks;
- Repair of access roads;
- Rebuild protection bunds;
- Assessment of environmental and ecological changes in the area; and
- Develop an action plan for rehabilitation of the population and their livelihood sources in the long-term.

7. PWP's Immediate Action

- With available resources, the PWP provided to the community of Kalmat Resochin tablets as a preventive medicine, and Nevaquin tablets, Fansidar tablets and Malagon syrup for children for treatment of malaria;
- The Pakistan Wetlands Programme provided nylon thread to four vulnerable fishermen families from the Kawari area to make nets for their fishing needs. The fishermen will bear cost of other accessories of nets.

8. Required Resources

The monetary resources required to rehabilitate the affected community is estimated at 0.40 million dollars.

9. Limitations

We couldn't make it to the western end of the coast, where Dasht River makes creek with the Arabian Sea. The River was in a high flood with above 400k cusecs flow. This might have inflicted damages on the human as well as wildlife such as population and habitat of marsh crocodile.



Figure 5: Date palms are also damaged in many parts of the Makran Coast. Photo credit: Ahmad Khan



Figure 6: In Surbandar area of Gawadar, residential area is at risk from erosion. Photo credit: Ahmad Khan



Figure 7: Water level in streams during flood is reflected in this pole. Photo credit: Ahmad Khan, PWP.



Figure 8: Some buildings are collapsed like this one. Photo credit: Ahmad Khan, PWP