WWF - Pakistan

COMMUNITY-BASED FISHERIES MANAGEMENT: CASE STUDY OF FISHING PRACTICES IN GANZ, DISTRICT GWADAR (BALOCHISTAN COAST)

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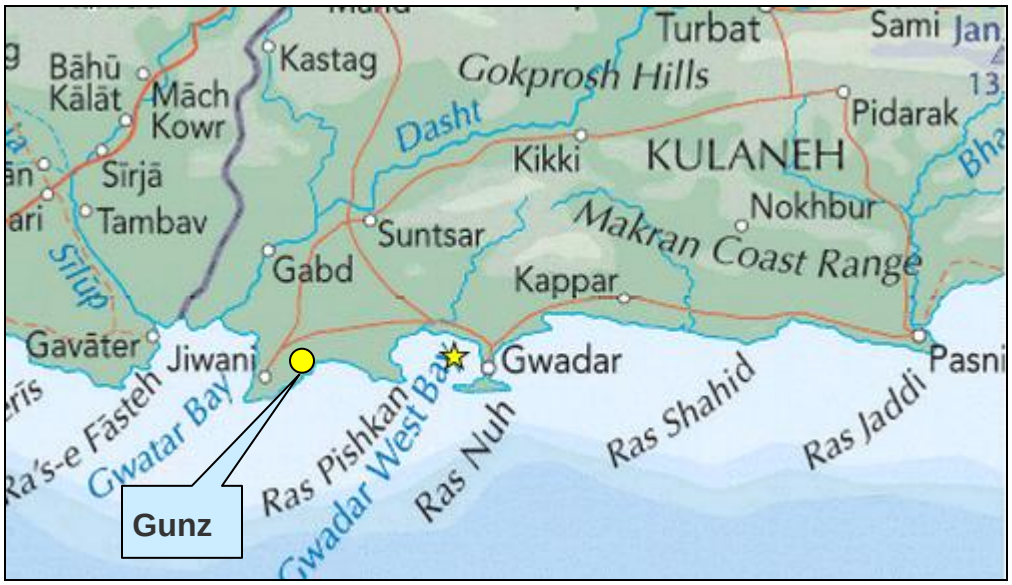
1. BACKGROUND:

There has been continuous degradation to the marine fisheries in the recent years. It is, mainly, because the new fishing methods have replaced the indigenous practices. Traditionally, fishing was carried out with cotton woven nets that have now been replaced by nylon nets of small mesh size like *bullo gujjo, katra* etc. These nets are destructive as they catch everything from the water. Though, this practice benefits them but results in dwindling fish population and environmental degradation. There are several fisher communities that have now realised the long-term hazards of the new fishing practices and started managing their resources for sustainable utilisation. This is a community-based approach of fisheries management.

A community-based approach appears to be an important factor in managing fisheries successfully, since it increases the commitment of fisher folk to the system and allows the resource to flourish. Ganz is a small village in Gwadar District of Makran coast where the community has taken steps to prevent their fishery resources from unsustainable exploitation. A brief study in the area has been conducted to document their practice.

2. DESCRIPTION OF THE AREA:

Ganz is a small village located at 25 km east of Jiwani. It is about 200 year's old settlement. Its original name was Ganj that meant resourceful. The main profession of the local people is fishing and 95% of the local people are engaged in fishing. The population of the village is approximately 3,000 and number of households is about 600. The people belong to Raees caste and majority of them lack basic education. People used to catch fishes off this coastal village in huge quantity about a century ago and it is said that people from Makran used to bring dates here for trade and get fish in lieu of dates at a ratio 1:2 by weight. The village is largely homogeneous in social and economic terms. Alternative livelihood resources are almost non-existent in Ganz.



3. CASE STUDY:

This case study is an attempt to document the conflict between two communities, one who was interested in sustainable resource use and other who was exploiting the resource. Majority of the fishing communities in the neighbouring town of Jiwani started using nets like wire/plastic, which had been declared illegal, to get maximum fish yield. Thus, the local fishermen of Ganz had developed a conflict with the fishing community of Jiwani over the use of nets which were barred. These fishermen have never been in favour of using wire nets.

Banned nets

Realising that the fish stock in their water is decreasing rapidly, the fishermen thought to save it from further deterioration. They immediately decided to prohibit the fishing by fishermen from other areas in their water. They also unanimously decided to implement following actions for fish catch. They consider it a move towards sustainable fishing. The three actions are as follows:

- Preference given to fishing through long line *kundi* (hook)
- Total ban on use of plastic nets
- Ban on catch of fish *kutchra* (juvenile fish)

Mr. Jumait Nakhuda who introduced himself as the Head of Ganz Fisher folk stated that the locals have been practicing this strategy for the last two years. He and the other fishermen, who joined in the discussion, informed that ever since they implemented the fishing strategy for sustaining the fish they are facing threats from the fisher-folk communities of neighbouring villages including Jiwani. Fortunately, they did not surrender rather they fought with them and confiscated 20 harmful nets and destroyed them. As the value of each net was around Rs. 20,000, those communities demanded for compensation but their demand was never adhered to. A reconciliation meeting was held in the premises of WWF - Pakistan's Jiwani Conservation and Information Centre (JCIC) between communities of Ganz and Jiwani in presence of MPA (Mr. Sher Jan Baloch), who tried to bring an end to hostilities between the two communities. Finally, both communities defined their territories and agreed not to encroach in others territorial water. The territory for Ganz community starts from Garian (Katagar Light House) in the

west and Gut (an area near Pishukan) in the east. It is approximately 18 – 20 km long area.

Jumait Nakhuda, Abdul Majeed and Nakhuda Yaqub Baloch, the team behind in stopping the intrusion of other fisher-folk community in their territorial water, stated that the wire net catches every thing around it. The net not only catches desirable or undesirable fish stock but also damages the fish due to its sharp edge and small mesh size of wire nets, which reduces the sale price of fish.

They were certain that the fish stock has increased in their territorial water after implementing their action in 2003. Now they are able to catch fish of larger size. This has also added value to their catch. Previously the size/weight of fish was reducing due to the catch of even smaller fish as the fish were not allowed to grow. For example, previously, shrimps were 2 – 3 grams in weight and now it is 5 – 6 grams and similarly lobster was 30 – 40 grams in weight and now it is 250 – 400 grams in weight. They view that one of the indicators of over-fishing is reduction in the size and weight of the captured fish. When fishermen catch smaller fish, they do not allow them to grow and the breeding population also declines.

They also explained that *kutchra* (juveniles) is a waste and fetches little price. These fisher men should wait for these fish to grow rather than to catch early for nominal profit.

3.1 THE LOCAL REFORM PROCESS:

The fishermen of Ganz have been practicing a traditional method of fishing for the last century. Unfortunately, the fishermen of the neighbouring villages adopted illegal practices of fishing to increase their catch but the people of Ganz decided to continue with their traditional fishing style and they mutually decided to ban those fishermen from entering into their territorial water who used the plastic nets for catching fish. The fisher men of Ganz realised that the usage of plastic nets may badly affect their livelihood in future and their future generations will have to migrate to other places in search of livelihood. Keeping in mind all this, they decided to continue using nets of larger mesh size and prefer to do fishing through line or hooks.

Hooks used for fishing

Long line is made of a nylon thread of about 1000 – 2000 metres in length. About 500 – 1000 hooks are hanged in one line at a regular interval. The locals call it ‘circle’ or ‘cincle”. The distance between the two hanging circles is usually 2 metres. Markers made of different buoyancies are used at regular intervals on the line (Fig. 1). The specification of hook varies from ‘Number 1 -9’, depending upon the kind of fish to be harvested e.g. Hook No. 9 is used for smaller fish and Hook No. 1 is used for catching larger fish like sharks. The hook is known as *Cheerdan* in local fishing community. The line is operated through the help of 10 – 15 metres long *Hora* (long boat). Small fish are used as bait, which is put into hooks. The bait is collected through cast net, which is a small circular net just like an inverted umbrella (Fig. 2). The line is usually taken out of water after every two hours and in one trip they catch fish worth Rs.1,000 – 2,000. The main season for catching fish through line is from September to May. Usually large mackerels, tuna and sharks are caught by this method.

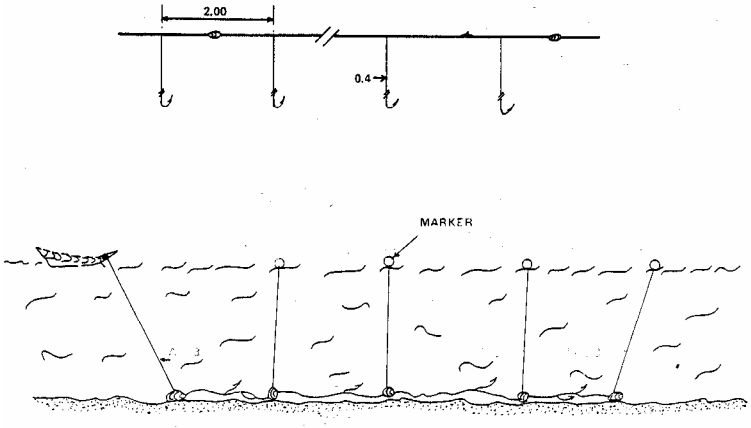


Fig .1 Long Line

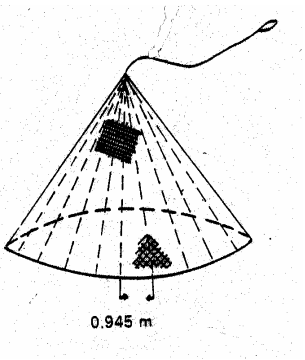


Fig.2 Cast Net

The locals mentioned the following advantages of using lines:

- ✓ Hooks can catch stock from the bottom, as it goes deep into water.
- ✓ It catches fish of larger size and the fish are seldom injured and thus add value to the fish catch.
- ✓ It is easy to clean.
- ✓ Nets usually get entangled with rocks etc. inside the water and get damaged, whereas this does not happen with *kundi* (hooks).
- ✓ It is least costly in comparison with the cost of nets.

Mahore net

The nets used by Ganz fisher folk are usually made of thick fibre having larger mesh size, and all of them are different types/kinds of gill nets. One such net is *Mahore* net which, used to catch *Mushka*, has 75 mm (about 3 inches) mesh size. The cost of this net is around Rs.1,000.

Thukri is another popular gill net and is locally made by fishermen from nylon thread (Fig. 3). The mesh size is about 40 mm. It is operated from small sized boats (*horas*) carrying 4 – 5 fishermen on board. They carry 2 – 3 nets on board. The fishermen after selecting the ground, drop one *Thukri* net at the place for 10 – 15 minutes to check if there is sufficient catch available. If sufficient fish is indicated to be available there then other sets of *Thukri* net is dropped. Similarly, they shift to other places and carry out the same practice. *Thukri* is mainly used for shrimp and lobster catch but other fish like Sardinelle is also caught by using it.

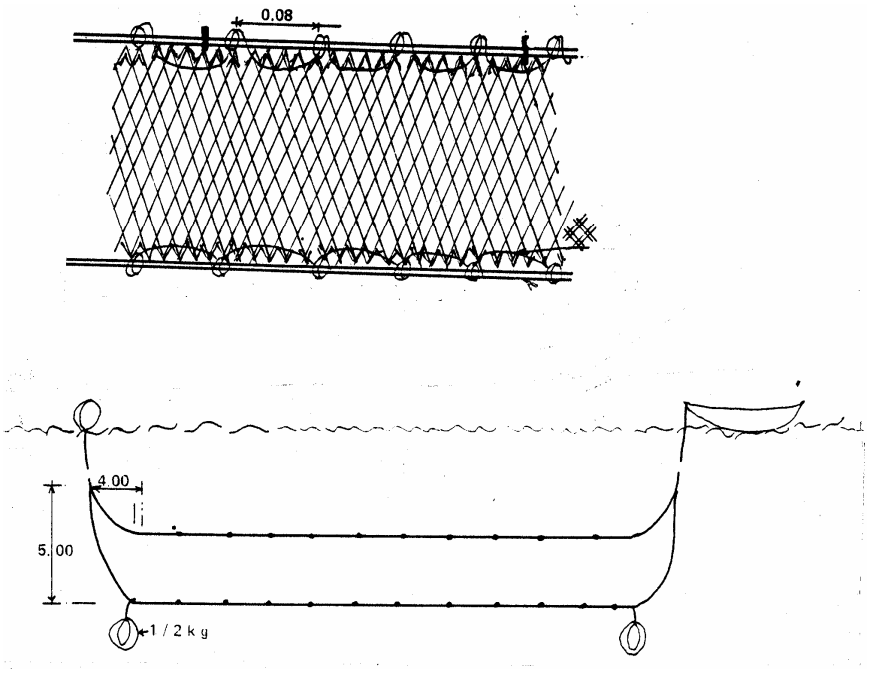


Fig. 3 *Thukri* net

Ruch is also a popular gill net used by the fishermen (Fig. 4). The mesh size of this net is about 150 mm and is made from nylon thread. The fishermen use stones as sinkers, which weigh approximately 4 – 7 kg and are used at a distance of 5 – 10 metres. Usually the fishermen drop this net after the sunset and haul in the morning. *Sua* (Spotted croaker fish) is, particularly, caught by using this net.

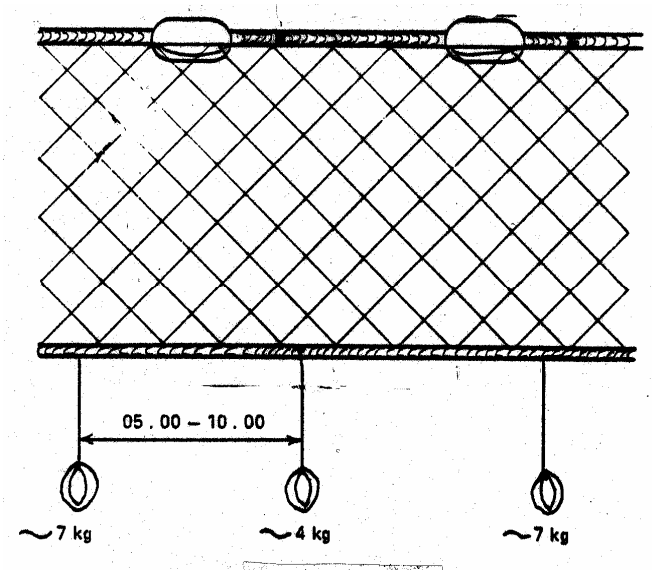


Fig.4 *Ruch* Net

They also have a seasonal calendar for catching fish. (Below)

S. No.	Local Names	Common Names	English Names	Scientific Names	Season of catch	Fishing gear used in catch
01	*Kirr*	*Sua*	Spotted Croaker	*Protonibea diacanthus*	June	*Rekh/Ruch* Net (Gillnet)
02	*Pagas*	Shark	Requiem Sharks	*Carcharhinus spp.*	June	*Kundi* (Hook), Net (Gill net)
03	*Sarm*	*Sarm*	Talang Queenfish	*Scomberoides commersonianus*	June	*Kundi* (Hook), Net (Gill net)
04	*Gore*	*Surmai*	Narrow-barred Spanish Mackerel	*Scombermorus commersoni*	Winter	*Kundi* (Hook), *Darband* or *Baran* Net (Gill net placed in circle)
05	*Kampoo*	*Dhotar*	Grunt	*Pomadasys spp.*	Winter	*Kundi* (Hook)
06	*Kalloo*	*Baam*	Dagger-tooth Pike Conger	*Muraenesox cinereus*	Winter	*Kundi* (Hook)
07	*Gullo*	*Khagga*	Sea catfishes	*Arius spp.*	Winter	*Kundi* (Hook)
08	*Lejar*	*Luar*	Indian oil Sardinella	*Sardinella longiceps*	Winter	Net (*Thukri*)
09	*Mushka*	*Mushka*	Tiger tooth Croaker	*Otolithes ruber*	Winter	*Mahore* Net (Gill net)
10	*Teegal*	*Poplet*	Silver Pomfret	*Pampus argenteus*	August	*Makkar* Net (Gill net)
11	*Madag*	*Jheenga*	Shrimp	*Penaeus spp.*	August	Net (*Thukri*)
12	*Kekta*	*Lobster*	Spiny Lobster	*Panulirus spp.*	August	Net (*Thukri*)

Nets used by fishermen are gill nets with little modifications and have local names as well. In summer, 70% nets and 30% *kundi* (line/hook) is used to catch fish while in winter 30% nets and 70% *kundi* is used in fishing practices.

3.2 Boats:

There are about 100 fishing boats or *horas* owned by the local fisher-folk. The boats are of three types:

Fibre Glass Boat **Wooden Boat**

1. Fibre Glass boat, made in Iran, is the most sophisticated boat. In rough season, this boat is only used for fishing.
2. Wooden boat known as *Kotial*.
3. Small *horas* also known as *Katti* (equivalent to *horas*, operational in Sindh) – This type of boat is not fitted with outboard engine rather they are sailed by hand. There are about 80 *kuttis* owned by the fisher-folk of the area.
4. A *hora* brings approximately 200 kg of fish a day.

3.3 Cost of Fish:

A market survey at the fish landing station at Ganz was conducted. The purchaser who now comes from Jiwani and belong to the fish-processing factory indicated the following prices on which they purchase the fish. He indicated that this is the price of 'A' quality of fish, which is exported. He also mentioned about the catching method of fish, through which the local fisher-folk harvest the good quality of fish.

S. No.	Name of fish	Scientific Name	Rate/kg	Catching Method
01	White Pomfret	*Pampus argenteus*	Rs. 300	Net
02	Black Pomfret	*Parasrtomateus niger*	Rs. 50	Net
03	Ribbon	*Lepturacanthus savala*	Rs. 50	Hook
04	Cuttle fish	*Sepia pharonis*	Rs. 85	Hook/Gill net
05	Croaker (*Mushka*)	*Otolithes ruber*	Rs. 35	Hook
06	*Dhotar*	*Pomadasys spp.*	Rs. 40	Net
07	Soldier bream (*Suru*)	*Argyrops spinifer*	Rs. 40	Hook
08	Eel (*Kalloo*)	*Muraenesox cinereus*	Rs.55	Hook
09	Shark	*Carcharhinus spp.*	Rs. 50	Hook
10	Grouper	*Epinephelus spp.*	Rs. 110	Net
11	Indian Mackeral (*Bangra*)	*Rastrelliger kanagurta*	Rs. 20	Net

S. No.	Name of fish	Scientific Name	Rate/kg	Catching Method
12	Tounge Sole	*Cyanoglossus quadrilineatus*	Rs. 90	Net
13	Round Sole		Rs. 20	Net
14	Lobster	*Panulirus spp.*	Rs. 300	Net
15	Shrimp	*Penaeus spp.*	Rs. 400	Net

The prices of same fish caught by wire nets fetch lesser price and were treated as number 2 or 3 quality.

4 Problems:

In spite of their efforts to prevent the neighbouring fishers to encroach upon their fishing territory, Sindh based fishing trawlers illegally intrude into their territory at night and throw nets. Regrettably, the Fisheries Department is not taking tangible measures to stop this illegal activity. Though, several complaints have been lodged with the Department but no action has yet been taken against the law breakers.

5. Advantages:

The introduction or adoption of above described fishing practices had numerous positive effects on the fish.

- The locals have noted stock recovery and increase in landings.
- Prices of fish in market has improved and stabilised due to better catch variety.
- The fishing season has lengthened due to non-intrusion of non-local fishers.
- The freedom to fish more, selectively, has led to a reduction in discards.

6. LESSONS LEARNED:

The case study demonstrates conclusively the merits of community managed fishing territory. With a well-defined boundary of the natural resource, the local community is empowered to manage and sustainably utilise the resource. This community-based approach, though it does not have a legal framework yet, has proved to be a successful approach for natural resource management.