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## Study on Knowledge, Attitudes & Practices of Fisherfolk Communities about Fisheries and Mangrove Resources

**Kaka Pir  
Village  
(Sandspit)**  
(Final Report)



2005

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## Acronyms

BHU	Basic Health Unit
CBO	Community Based Organization
CIR	Center for Information and Research
EEZ	Exclusive Economic Zone
EPA	Environmental Protection Agency
FCS	Fishermen Cooperative Society
FDO	Fisherfolk Development Organization
GOP	Government of Pakistan
GOS	Government of Sindh
KPT	Karachi Port Trust
KWSB	Karachi Water & Sewerage Board
NGO	Non-Governmental Organization
NIC	National Identity Card
PLA	Participatory Learning & Action
PRA	Participatory Rural Appraisal
RHC	Rural Health Center
SZABIST	Shaheed Zulfikar Ali Bhutto Institute of Science & Technology
UC	Union Council
WAPDA	Water & Power Development Authority
WWF	World Wide Fund for Nature

## **Glossary of Local Terms**

Bhandari	Cook in the Fishing Boat
Bhatta	Low Sea Tide
Chhapra	Shed (For Fish Cleaning)
Ghattoo	Most experienced fishermen
Ghut	Long Fishing Voyage
Goth	Village
Hello	One Day Fishing Effort
Horho	Boat mostly used for fishing
Jaar/ Jaal	Fishing Net
Jawar	High Sea Tide
Jhenga	Shrimps
Karigar	Expert in any Profession
Katra	Surrounding Net
Khalasi	Fishing Boat Crew Member
Laro	Fishing effort without Success
Mallah	Fishermen
Mangro	Shark Fish
Nakho	Captain of the Boat
Otaq	A common village place where guests stay
Paro	Locality in Village
Patti	Share (of Fish Catch)
Rachh	Gillnet mainly for fish
Sardar	Chief of the Clan
Thukri	Entangle Gillnet
Toofan	Coastal Cyclone

## 1. Introduction

Pakistan has a coastline of about 1050 km along the Arabian Sea. It extends from Sir Creek on the Indian side in the east to Gwatar Bay on the Iranian border in the west. It has a territorial coastal zone of 23,820 sq. km and an Exclusive Economic Zone (EEZ) of more than 266,650 sq. km. The coast of Pakistan is divided into the coasts of Sindh and Balochistan. This coastal zone is endowed with abundant natural resources, especially fisheries resources and mangrove forests.

The total population living along Sindh coast (up to 2-5km land-use and) is estimated to be about 1,000,000. Similarly, the total population living along Balochistan coast is about 250,000. Accordingly, the average population density in densely populated area is 1785/sq.km, while the average population density in scarcely populated area is about 87/sq.km. The Karachi coastal belt has a population of about half a million. The local inhabitants are mostly fishermen, professional grazers and agriculturists.

Majority of the coastal communities are solely dependent on the fisheries resources. The coastal waters of Pakistan are bestowed with a variety of fish and shrimp resources. The commercially important marine fisheries resources of Pakistan are comprised of about 350 different species. Some 240 are demersal fish, 50 are small pelagic, 10 are medium sized pelagic and 18 are large pelagic fish. In addition, there are 15 species of shrimps, 12 of squid/cuttlefish/octopus and 5 species of lobsters.

The next important natural resources, on which the coastal communities largely depend, are the mangrove forests. Mangrove forests constitute an important productive ecosystem of the coastal region of Pakistan. They provide a range of valuable forest products such as wood, fuel-wood and fodder. They also provide shelter and serve as nursery and breeding grounds for prawns, crabs and many species of fishes as well as habitat for certain species of birds and mammals. They bind silt, accrete shorelines, halt erosion of beaches and of coastline and prevent flooding. As a result of variety of factors, both the fisheries as well as mangrove resources are under grave stress value. It is adversely affecting the overall socio-economic condition of the coastal communities.

WWF Pakistan is implementing European Commission supported “Sustainable Coastal Livelihood Project (SCLP)” in the coastal communities of Sindh and Balochistan. The targeted areas are Keti Bunder, Sandspit Sindh, Sonmiani and Kalmat Khor Balochistan, covering population of about 30,000. The project has a number of important components and activities. This project is aimed at improving the sustainable livelihoods of these communities by achieving sustainable use of the mangrove and fishing ecosystems on which their livelihoods depend. Besides, WWF is also engaged in the community resource conservation activities in Korangi Phitti Creek of Karachi Coast.

One of the major components of the projects, in the above mentioned coastal communities, is to conduct “Baseline Research on Knowledge, Attitudes and Practices of Fisheries and Mangrove Forests” in the target communities/ areas through a project supported by Shell Pakistan Limited.

WWF – Pakistan engaged SZABIST Center for Information and Research (CIR) to conduct objective and systematic participatory baseline research in those areas, using the

Participatory Learning and Action (PLA) process for documenting knowledge, attitude and practices of local communities toward fisheries and mangrove resources.

## **2. Study Objectives**

The research activity is aimed at understanding communities' attitudes and knowledge about their livelihood resources, besides collection of vital information about their social conditions, poverty levels etc. The research process is also aimed at directly involving the local communities in data collection, analysis as well as preparation of community management and conservation plans for the livelihood resources to ensure reduction in the growing livelihood resource degradation and community poverty.

## **3. Methodology**

Method of PLA (Participatory Learning and Action) was adopted in the research process. PLA is an umbrella term for a wide range of similar approaches and methodologies, including Participatory Rural Appraisal (PRA), Rapid Rural Appraisal (RRA), Participatory Learning Methods (PLM), Participatory Action Research (PAR), and Farming Systems Research (FSR). The common theme to all these approaches is the full participation of people in the processes of learning about their needs and opportunities, as well as in the actions required to address them.

Participatory approaches offer creative opportunities to investigating issues of concern to the people, and to planning, implementing, and evaluating development activities. They challenge prevailing biases and preconceptions about people's knowledge. The methods used range from visualization, to interviewing and group work. The common theme is the promotion of interactive learning, shared knowledge, and flexible, yet structured analysis. PLA has frequently been used for appraisal, analysis and research in natural resources including forestry, fisheries and environment. This tool helps in participatory appraisal and planning as well as participatory implementation, monitoring and evaluation of programmes. PLA tools also help in the formulation of Village Development Plans.

### **3.1 Team- Formation & Training**

A rigorous exercise was done for selecting a skilled and experienced team to conduct field study. To ensure the participation of all community groups of the project areas, male and female teams were formed separately. Each team included field researchers, community development professionals and natural resource management experts. The selected team was imparted two days PLA/ PRA training at SZABIST Center for Information and Research to refresh their PLA skills before sending them in the field.

### **3.2 Research Process**

A participatory approach was adopted to initiate research activities in the village by informing in advance the village CBO and other stakeholders about the research team visit and its objectives. Three-day research activities were planned and carried out in this small village. A number of research tools were used to collect data from the village.

For example, village map was the key tool, which both, male and female teams of researchers used in the village to collect accurate information about the background of the

area as well as village including village history etc. The village men and women were facilitated by the team to prepare village map. This exercise proved to be ice-breaking step as it was during this process that the villagers and the research team came closer to each other. This information was further supplemented with two other important PLA tools i.e. semi-structured interviews and timeline matrix.

Preparation of village social map by the villagers generated ample information about the demographic characteristics of the village. The female and male community members of the village separately conducted that exercise. The information collected was further supplemented with observation, semi-structured interviews, transect walk and other tools.

Different PLA tools helped in generating data about the key capital assets of the community including their human, physical and social capital. For example, village map and social map generated data about different assets available with the communities and such information was further enriched with the use of observation, semi structure interviews, transect walk and resource map exercise. The preparation of mobility map by both women and men of the village helped in generating information about social capital including the levels of cooperation and conflict in the village.

Preparation of village map and village resource map by the village women, besides the participatory exercises of resource picture cards and benefit analysis flow, generated information about the gender based status and differences in the village. Such data was further supplemented with the preparation of separate daily activity clocks by males and females of the village. Semi- structured interviews of the women of the village also helped in the data generation and analysis.

Both male and female teams conducted exercise of natural resource mapping as well as developing livelihood system diagram to generate information about the main natural resources of the area. Tools like seasonal calendar transect walk towards the natural resources as well as daily activity clock also supplemented the data. Similarly, Village Resource Map, Livelihood System Diagram, coupled with semi-structured interviews, generated information about the pattern of natural resource exploitation. While, the participatory exercise of historical timeline of natural resource status provided valuable information about the present status of the natural resources.

Community practises toward the natural resources conservation were analysed through the tools of observation, semi- structured interviews as well as daily activity charts of the village men and women. The exercise of transects walk also supplemented information in this regard. The key tool used in PLA exercise to analyse the village problems was Problem – cause –solution matrix. This exercise was carried out with the male and female of the village. Other PLA tools including semi-structured interviews etc. also supplemented this information.

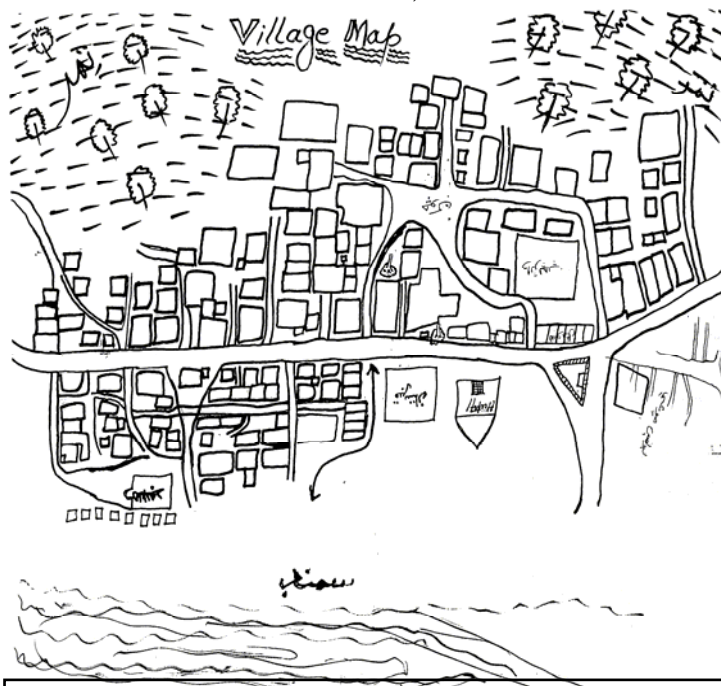
Preparation of the village development plan through community based planning process was the important phase of PLA process in the village. The exercises for this phase were done on the last day of the PLA process after collecting comprehensive information about the village, its communities, resources and problems. For that purpose separate gatherings of male and female were arranged as according to the village tradition the women and men were not supposed to sit together. Before initiating the exercise of preparation of community development plan, all the problems of the village including social and natural

resource problems were written on a sheet of paper and presented before the villagers to show them whether their problems were properly reported and analysed by the PLA team. After going through these problems, an exercise of Venn diagram of stakeholders and institutions was carried out with the villagers to know about the influence of different stakeholders on the issues and their expected role in the solution of such problems. After the completion of such exercise, problem prioritisation and solution exercises were done with the help of PLA tool Problem Ranking and Pair-wise Ranking Matrix.

In the end, through the PLA tool of Problem –Cause- Solution Matrix, first the solution of the problems already prioritized by the local community, was identified and written into specific Matrix column and then the roles of community, local CBO, WWF and the Government were identified. The community gathering to prepare this community planning was joined by a large number of community members, office –bearers of local CBO, WWF - Pakistan staff and the councilors of local government.

#### 4. Background of the Area

Kaka Pir village (Sandspit) is situated 15 km towards Southwest of the metropolitan city of Karachi. It is a small coastal village surrounded by variety of physiographic features. Towards its south lies Arabian Sea while towards its east, west and north lies the backwaters of Sandspit/Hawksbay. The backwaters are covered with vegetation of mangroves. The main channel locally known as *Nae Nar* is located towards the north of the village. The *Nae Nar* is used for the small scale fishing activities. According to the Goth Abad Scheme documents, the village is 2.5 km in length and 1.5 km in width and is spread over eight acres of land. Administratively the village comes under the jurisdiction of Keamari Union Council: 4.



Village Map of Kaka Pir Village Prepared by Women of the Village

The village is one of the main villages of Sandspit beach, the prime recreational site along the Karachi Coast. The Sandspit area basically contains tidal lagoons, intertidal mudflats and mangrove swamps. The western part is open sandy beach, extending up to 20 km. The Karachi Port Trust and Manora Cantonment Board owns the major portion of the area.

The village Kakapir has 127 houses with a population of about 600. The majority of the population belongs to Sindhi and Laasi ethnic groups while a few belong to Jat tribe. The village economy is primarily based on fishing, as majority of the population is engaged in activities related to fishing. Almost every household owns one or two small boats or work on others boats.



About 90% houses of the village are Pucca (cemented) while 10% are Katcha (non-cemented). Majority houses of the village are made of cemented blocks. The Katcha houses are built of the mangrove wood and other material. In the poor households the old and rotten nets are used as compound wall by erecting them with mangrove stalks. About 50% houses have two to three rooms, about 45% have only one room and 5% houses have more than three rooms. There is only one two storied building owned by the village headman Haji Mohammed Siddiq who is employed at Karachi Port Trust. The average size of the households in the village ranges from 80 sq ft to 120 sq ft.

#### 4.1 Historical Background

Village Kaka Pir is more than 100 years old village. The village “Kaka” means ‘brownish’ has been named after a saint whose hairs were said to be of brownish colour. The shrine of Kaka Pir is situated near the village. The residents of the village were earlier settled in Kharadar and Mithadar localities of Karachi but after the construction of Karachi Port Trust (KPT) the British government settled them in Shams Pir, which is an Island near Karachi. However, with the increase in population, people gradually migrated to and settled in the village Kaka Pir.

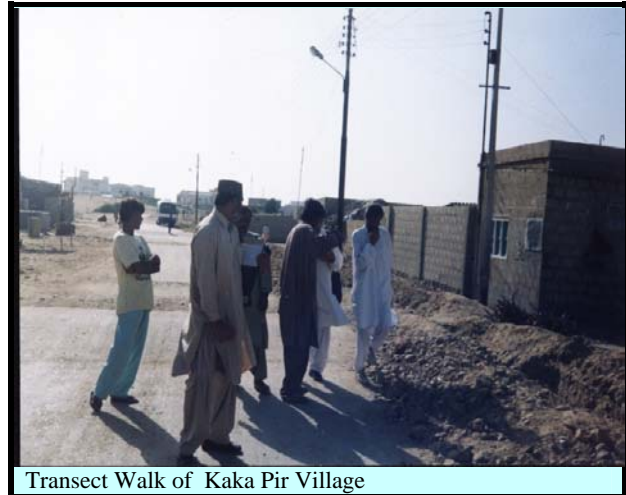
Originally, the village was like an island disconnected from Karachi till the construction of a bridge in year 1952. Prior to this, it was accessible either by boats or by foot after the recession of sea tides. Before the human settlement, the fishermen used this area for drying of their fish catch. However, during the peak fishing season, few fishermen would usually migrate to the area and settle there on temporary basis.

Year	Important Activity
1943	First Recreational Hut Constructed near the Village
1945	Room for Life guards established
1952	Old Bridge Constructed
1953	Manora Road Constructed
1965	First radio set was brought in the village
1970-71	Water Pumping Station established
1979	Pucca houses were built in the village
1984	Television set was brought in the village
1984	Village Road Constructed
1984	New Bridge Constructed
1985	Village streets were paved
1986	Sweet drinking water was made available
1987-88	Public Toilets Constructed
1993	Boys School Constructed
1994	Village was provided with electricity
1996	A viral diseases hit the village
1999	Cyclone hit the area and shrimp and fish rates declined
2000	Telephone connections were provided in the village
2001	Transport facility became available in the village
2003	Evening classes were started for girls with the cooperation of WWF-Pakistan
2004	Digging started in the village for provision of gas facility

The fishermen had appointed one of their elders as watchman to look after the fish being dried in the area. He lived in the area in a hut during the fishing season and would migrate to Karachi in the off- season. However, after some years he took an initiative to live permanently in the area along with his wife and started small-scale fishing, besides looking after the fish being dried. Some other fishermen followed him. Those fishermen also decided to live here permanently as the area suited them due to easy accessibility to the fishing grounds. Thus, with the passage of time, a fishermen’s village was established in the area. Once the village was established, socio-economic and infrastructure changes started taking place here.

## 4.2 Social Setting of the Village Communities

Almost 90 percent of the villagers are basically fishermen and are called *Mallah* in the local language. All the villagers are Muslim except one household of a Hindu shopkeeper who lives in a rented house. The village *Mallah* communities are further divided into sub-castes like *Motwani*, *Hashmani*, *Dharani*, *Shediani*, *Buhrani*, *Warani*, *Derani*, *Wangora* and *Panjwani*. The migrated families are *Verani* and *Kachhi* who were settled in this village about 20 years and 7 years back, respectively. The *Kachhi* families settled here mainly due to their relationships with the local people.



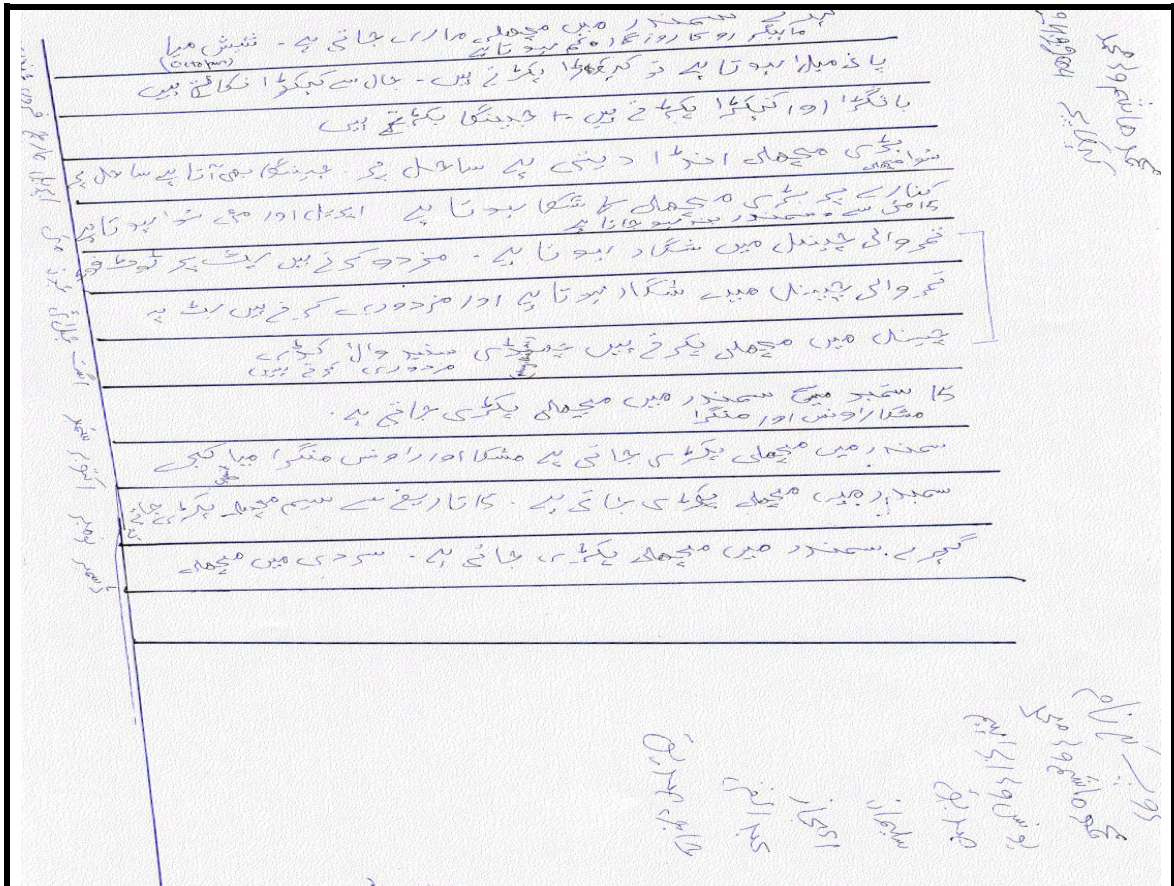
Non-fishermen communities like *Jokhia* and *Soomra* also live in the village, however, in a very small number. They settled in this village some six to seven years back. A number of villagers have migrated here from Shamasabad and YounisAbad and settled in the village.

The villagers have been living in joint family system. However, this family system is on decline in the village, as the young generation prefers to live independently from their parents soon after getting married. The village exhibits features of a closed society, as there is little social interaction with the outsiders. One can notice the words of caution indicated on walls facing the main roads that the entry of the alien males is banned inside the village.

## 4.3 Key Livelihood Activities

Livelihood of 90 percent of the people of Kaka Pir village is related to fishing and fisheries related activities i.e. boat repairing, net repairing, fish cleaning, shrimp peeling and selling fish at local level. These fishermen catch different kinds of fish and shrimp species, which they sell at Karachi Fish Harbour through middlemen. Fishing activity in the coastal waters is carried out for eight months as for the four months, from May to August, the Sea becomes rough and the villagers then turn to the local backwater channel for small-scale fishing.

About 12 villagers are working as watchmen at recreational huts along the beach. There are 386 huts at both the Sandspit and Hawks Bay Beaches. Government departments, private organizations and institutions as well as influentials own these huts. Few villagers are employed in government departments and only three percent villagers own shops.

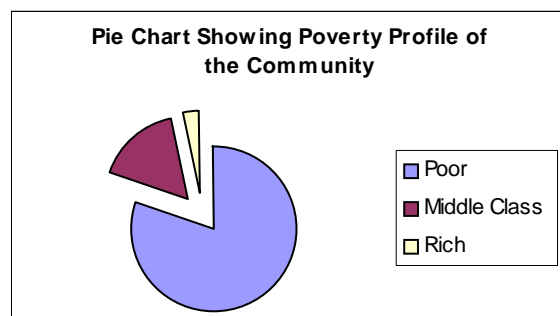


Seasonal Calendar of the fishermen prepared by the villagers

Local fish trade is also one of the local livelihood activities. Two dozens of people, majority of them outsiders, are engaged in the fish trade, purchasing fish from the local fishermen and selling the same to the Karachi businessmen and factories. They call themselves small businessmen. Majority of the fish purchasers (Punjabis & Pathans) belong to urban areas of Karachi. They purchase 100 to 500 kg fish from the village daily. They also provide loans to the villagers especially fishermen.

#### 4.4 Wealth and Poverty Profile

During the wealth ranking exercise, the villagers came up with their own concepts about wealth and poverty. According to the villagers' perception of poverty, those families, who are dependent on only fishing and have no other alternative resources, are basically poor. Those who have alternative livelihoods especially in the form of jobs etc, besides their dependency on fisheries resources, are termed as middle class people. Those people who have more than two resources of livelihoods are regarded as wealthy people. Based on these criteria, almost 80% households are poor, 17% belong to middle class while only 3% are rich. The average monthly income of poor household is around Rs.3000, middle class families is up to Rs.6000 per month and the wealthy households earn up to Rs.15,000 per month.



There is a marked difference in the earning of the local communities during the fishing and non-fishing seasons. The earnings from the fishing start dropping from the month of May. However, during the two months of June and July at least 50% fishermen become jobless. However, remaining 50% fishermen continue small level fishing in the backwater channel locally known as *Nae Naar*. The incomes of even those continuing small-scale fishing in backwater channel are reduced by almost 60% as compared to coastal water fishing.

## 5. Key Capital Assets of the Community

### 5.1 Human Capital

#### 5.1.1 Education/Literacy

The literacy ratio in village Kaka Pir is very low. Literacy ratio among the male population of the village is 20%. The literacy ratio among the women population of the village is lower than the male. It is hardly 5 per cent. Among the literate population of the village, a majority belongs to the category, which can only write and read. Number of those who have received formal education to the high school or college level is very small. For example, out of the total village population of 600 hardly 25 persons are Matriculate. High school or college level education among the women is nominal as only two girls of the village are Matriculate. Lack of education facilities, lack of awareness among the communities about the benefits of education and poverty are the major causes of low literacy rate.

The village has only one Boys Primary School. There is no Girls School even at primary education level. This has greatly hampered girl education in the village. However, recently WWF Pakistan has taken an initiative for imparting education to the girls of the village by facilitating evening classes for them in the Boys' School. This initiative has had great impact on the villagers, majority of whom longed for educating their girl children. In less than one year, 60 girls of the village have been enrolled in the evening classes. The ages of those taking evening class rang from 6 years to 22 years and they have to complete five classes in three years. There is also a *Madressah* (religious school) where the villager children are provided religious education.

#### 5.1.2 Health

Health status of the villagers is quite low as a number of diseases are common in the village. Women are more vulnerable to and affected by the diseases than men. *Diarrhoea* is the most common disease in the village and the second most common diseases reported in the village is *Malaria*. Other diseases reported in the village are *Tuberculosis*, *Jaundice*, *Asthma*, skin diseases, hypertension, heart disease and kidney failures. Besides common diseases the women of the village also face health complications due to gynaecological problems. Similarly, reproductive health problems are also common among the village women as 80 percent childbirth cases are dealt by the traditional Child Birth Attendants.

Lack of general and reproductive health facilities as well as little awareness about the health and hygiene are the key causes of the growing health problems/ diseases coupled with lack of clean drinking water and sanitation system. There is no health center or dispensary in the village. In case of any health emergency patients are taken to Maripur or



city hospitals of Karachi for treatment. The villagers incur large sums for transport, which further increases their financial problems.

### 5.1.3 Skills

Being traditional fishermen since centuries, all the villagers have substantial experience in fishing and other fishing related activities like preparing and mending fishing gears. Approximately, 5% villagers possess the skill of repairing boats, as well as boat engines. As fishing is a full time profession, which since centuries has become the part and parcel of the tradition and culture of the village community, the villagers have little choice and aptitude to learn other skills. Meanwhile, almost 90% village women are also expert in net repairing, fish cleaning and shrimp peeling. However, with the increased commercialisation of the fishing activities, women involvement in fishing activities has greatly reduced.

## 5.2 Physical Capital

### 5.2.1 Land & Other Infrastructure

The eight-acre village area is the common property of the villagers. It is comprised of the residential plots allotted to the villagers under Goth Abad Scheme, as well as a graveyard, a school, an Eidgah, a mosque and a fish landing site. Almost all the villagers own allotment documents of their residences. However, some villagers complain, with the valid documentary proofs, that they have still not received the possession of plots allotted to them. They allege that the plots allotted to them have in fact been occupied by the influential people of the village and have been sold to the third parties.

There is also a fishing shade in the village near the coastal waters where the local traders purchase the fish from the fishermen. The place is called *Chhapra* in the local language. There is also boat-repairing garage in the village. Besides, three public latrines have also been constructed in the village.

### 5.2.2 Boats

About 80% of the village fishermen have their own boats while rest of them work as labourer on the fishing boats of others. The boats range in size from 12 to 27 feet and their prices range from Rs 50,000 to Rs.500,000. None of the villagers own large boats, locally known as *trawlers*. The boats are usually made from the wood of *Shisham*, *Dayar*, *Babul* and *Chalgoza*. However, the boats made from *shisham* are said to be more durable. There is no boat making factory in the village. However, boat repair and engine (motor) repair is done in the village at the village level boat and motor repair shops.

### 5.2.3 Fishing Nets

Every boat owning fisherman of the village possesses two to three fishing nets of different sizes and quality. The local traditional net is called *Rachh*, which is about 300 feet long. The prices of the nets range from Rs.25,000 to Rs.35,000. Mostly the fishermen repair their fishing nets themselves. The womenfolk are also involved in the net mending work. The net mending is regularly done after each fishing trip to prevent rusting of the net.

The Poor fishermen, who do not afford to purchase big boats and nets and usually use small *Goal Jalli* (round mesh). They fish with this net in shallow waters along the coast. Fishermen using this kind of net, usually throw their nets by hand after witnessing fish.

### **5.3 Social Capital**

#### **5.3.1 Social Cooperation**

The residents of Kaka Pir village have very close interaction and cooperation with each other. They have also relations with the fishermen of other villages like Ibrahim Hyderi, Rehri and Hub River. Marriages usually take place within extended families. Some male have had marriages from outside. However, very few village girls have been married outside the village. There is a mutual understanding among the villagers not to sell their residential plots to the outsiders. Only those male outsiders have settled in the village, who have married with any of the village women.

#### **5.3.2 Social Conflicts**

There is no severe social conflict in Kaka Pir village. Majority of the villagers are relatives to each other. They speak the same language and share same culture and traditions. The village has a homogeneous society as such; there are fewer possibilities of any severe social conflict. Similarly, despite being dependent on the same livelihood resources the majority of the villagers use the same kind of nets and adopt same methods for fishing, leaving little room for any conflict within the boundaries of the village on the exploitation of fish and shrimp resources.

However, there are some minor scale conflicts. One of such conflict is between two groups of the village on the organizational basis. There are two organizations, one being the old named Shams Pir Village Association and the second, a new one, the Fisherfolk Development Organization. WWF-Pakistan is working in the village with Fisherfolk Development Organization, while the members of the Shams Pir Village Association are out of the process and blame WWF of doing little for the village despite its presence in the area since last many years. They also blame WWF of establishing a Wetland Center by occupying the playground of the village, thus depriving the youth of the village from recreational facilities.

Another conflict is between the local communities and Manora Cantonment Board. The villagers allege that Manora Cantonment Board of occupying the village land. They allege that the village playground, as well as Eidgah plot has been occupied by Cantonment Board.

## **6. Gender Analysis**

### **6.1 Social Status of the Women**

Being a part of male dominated patriarchal society, the male have upper hand in the family and societal affairs in the village. The decision-making authority rests with the men with little participation of womenfolk in the process. Generally, the villagers believe in equal status of boys and girls, men and women. However, in practice, this equality appears to be a remote affair in many social and family matters. Boys receive more attention and family

resources for their upbringing. Villagers, besides failure of local governments, share equal responsibility of depriving girls of education and by failing to raise a strong voice for the establishment of Girls School in the village.

As the boys and girls enter into the youth-hood, the boys tend to be preferred than the girls in the ownership of the resources and wealth of the family. The social structure of the rural society further limits the mobility of girls and their empowerment. The marriages of girls usually take place between the ages of 15 to 18 years. For the most part, the marriages are held within extended families and mostly on the basis of exchange system. There are only one or two families in the village whose girls have been married to the outsiders. On the contrary, the males of the village are free to marry women from outside villages.

Domestic violence against women is common in the village. Growing poverty and subsequent financial stresses are the key causes. The male flare up on petty matters and start beating their wives and other women of the family. Women's activities and physical appearance are monitored and controlled by the male members. However, there is no tradition of killing women on the basis of adultery, a violent practice common in the Upper Sindh in the name of honour killings. In the case of illicit relations, the male is beaten up and deported from the village and the woman is confined to the house imposing severe restrictions on her mobility.

Divorce trend is very common in the village. Male divorce their wives sometimes on very minor issues. In some cases women also seek divorce. A number of divorced women living in the village face difficulties in meeting their livelihoods. The children of the divorced couples suffer the most in the terms of deprivation from education, as well as love and affection of their parents. Most village women tend to be inclined towards savings. The amounts saved by them are spent on purchasing dowry for their daughters or any other household related activity. The women of the village visit the Karachi urban centres for the purpose of medical treatment as well as making purchases. They usually visit the markets of Maripur, Kharadar and Khada Market. Even though there are no obvious restrictions on their mobility, traditionally the females do not prefer to go out alone. However, sometimes, two or more females accompany each other, in case a need arises. Married women can easily go to other houses within the village or to nearby village Younis Abad. The mobility of unmarried girls is however quite restricted.

## **6.2 Women's Activities and Empowerment**

In the past, women had been part and parcel of the fishing activities from fish catch to mending the nets and even preparing new nets. However, with the commercialisation of the fishing activities, modernization of the fishing boats and other equipments, women's role in fishing activities has reduced considerably. Presently, they do not go out for fishing. Similarly, the tradition of preparing nets by the women has almost vanished. Majority of women in village are housewives. However, a very small number of women go out for work in houses in Maripur and Clifton. Some also work in factories. These women earn Rs.1000 to Rs.1500 per month. Some of the women save the income of their labour. They utilise their income in the household affairs for instance, purchase cloths for themselves and for their children, treatment of ill family members and other activities.

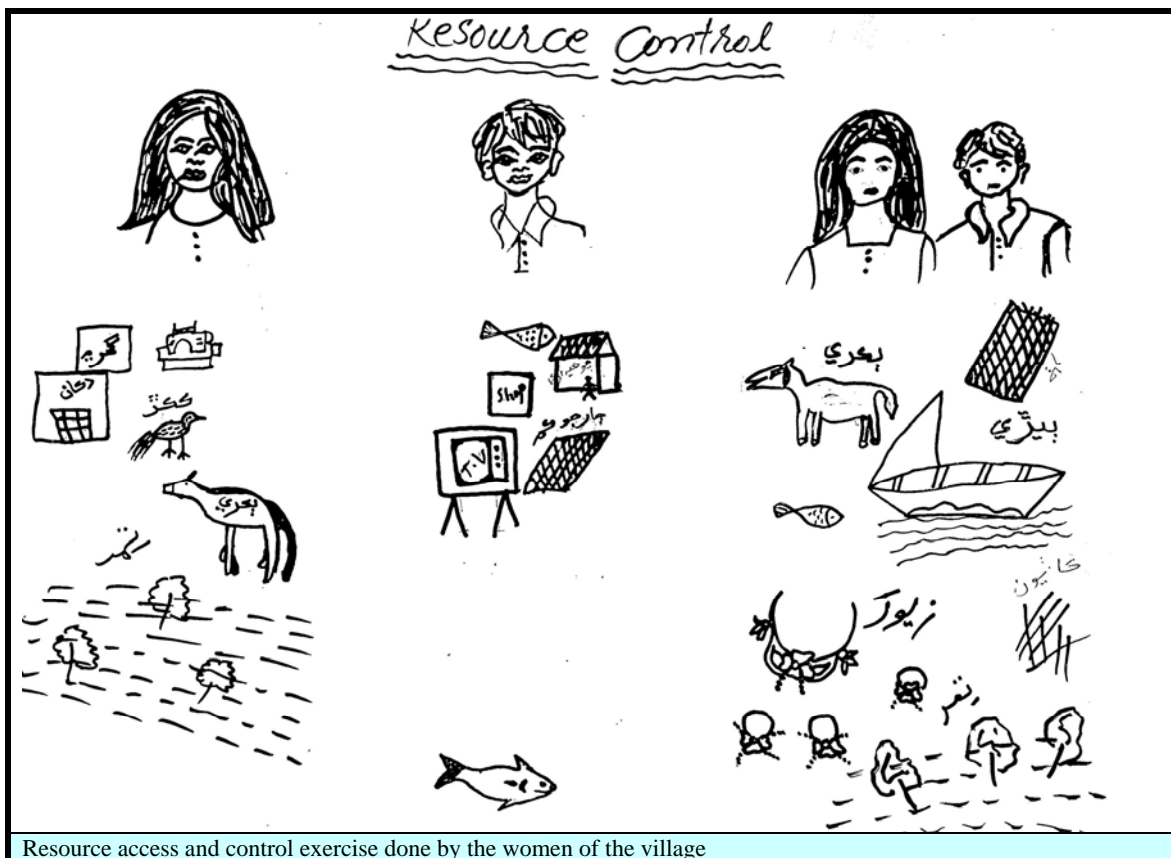
### 6.3 Women's Access to Physical Resources

Women of the village have little access to and control over family resources. They are usually deprived of key family resources on one or another pretext. Usually, the male family members control valuable resources, while, the women control insignificant resources, with little monetary values. Women usually own jewellery, small-scale livestock like goats, hens, etc. The women usually purchase these resources from their own savings. However, some widows enjoy ownership of boats and nets, previously owned by their late husbands. Divorced women are also allowed to own property in terms of house, land, jewellery etc.

Household activities	Field Activities
<ul style="list-style-type: none"> <li>• Cooking</li> <li>• Washing dishes</li> <li>• Washing cloths</li> <li>• Embroidery</li> <li>• Cleaning the house</li> <li>• Upbringing children</li> </ul>	<ul style="list-style-type: none"> <li>• Collecting mangrove fuel woods</li> <li>• Collecting animal dung</li> <li>• Separating crabs from the nets</li> <li>• Cleaning the nets</li> <li>• Mending the nets</li> </ul>

### 6.4 Gender and Natural Resources

Like male, female have great dependency on the natural resources of the area especially fish and mangrove resources. Fish / shrimp resources are the key livelihood resources for



Resource access and control exercise done by the women of the village

them and their families. Besides, some women earn their livelihoods by peeling shrimps, drying fish and mending fishing nets.

Similarly, women are also dependent on mangrove forests. Women use mangrove wood for fuel, which is the major source of energy for cooking as the village lacks gas facility. A



number of women usually go daily for collecting wood from the mangrove forests. As the women are mainly responsible for arranging fodder for animals, they largely depend on mangrove leaves, as there is no alternative for animal grazing. The mangrove cutting is the daily routine of many women. However, it is expected that the village would soon get gas connections through the efforts of WWF, which would benefit the women and would reduce their dependency on mangroves as fuel wood. This would also reduce cutting stress on the mangroves.

## 7. Key Natural Livelihood Resources of the Village

Fish, shrimp, crabs and mangroves are the key natural resources of the area. The other natural resources are birds; marine turtles and shells which support community livelihoods in one way or another. Similarly, salt pan near the village are also one of the natural resources. The influential people of Younisabad own these pans. In these salt pans the coastal water is collected into small plots of land through pumping machines. After two or three days the water evaporates leaving the accumulated salt on the pieces of land. This salt is collected and put into the bags and sold in the market. Details of the key natural resources of the village are as under:

### 7.1 Fishery Resources

The village communities exploit almost all commercially important fish and shrimp resources of Pakistan Coastal waters from the coastal waters. With the increasing export value of

1. Suo	2. All	3. Surmai	4. Seeri	5. Dangro
6. Sonap	7. Kakan	8. Heero	9. Pithoon	10. Pallo
11. Mushko	12. Boro	13. Gussar	14. Mooee	15. Malo
16. Gotilaro	17. Saafi	18. Kuwaar	19. Dand	20. Parori
21. Passi	22. Dothar	23. Gangro	24. Dandiyoon	25. Chanchin
26. Phookyoon	27. Sai	28. Kund	29. Koonee	30. Cahnyoon
31. Pital	32. Gogro	33. Sunyo	34. Funyoon	35. Viyaath
36. Dagi	37. Mengh	38. Looer	39. Kaareri	40. Chhano
41. Seam	42. Chodi	43. Phura	44. Ghrikni	45. Moree
46. Khaso	47. Matoon	48. Totee	49. Seehri	50. Bitan
51. Kori Mingro	52. Paplet			

shrimp, now the local fishermen give more importance to the shrimp than the fish species. There is variety of fish species in the coastal waters. The most common and important fish species identified by the villagers are shown in Table: 3.

The key shrimp species caught by the local fishermen are *Jaira*, *Kalri* and *Kiddi*. There are many other species of shrimp in the coastal waters.

Similarly, crabs are also important species for fetching export earnings. There are different species of crab. Blue crab is considered as best export quality crab. Other crab species is lobster, locally called *Kikat*. The list of key shrimp and crab species is given in Table: 4

### 7.2 Mangrove Forest Resources

Mangrove forests exist in the backwaters towards northwest and northeast of the village. Only one species of the mangrove *Avicennia marina* exists here. The satellite images show that the total area under mangrove vegetation cover is approximately 400 ha. The

area is owned by the KPT. The KPT has its own watch and ward mechanism. However, it is not very effective. The forest is under severe cutting pressure. WWF has played a key role in the awareness about the importance of mangrove forests, their conservation and rehabilitation.

### 7.3 Marine Turtles & Birds

The beach adjacent to the village known as Sandspit beach is one of the most important nesting sites of marine turtles. Two species, The Green Turtle and the Olive Ridley nest along this beach. Sindh Wildlife Department has conservation programme for this species, while WWF–Pakistan is supplementing their efforts by monitoring turtles’ population, creating awareness and capacity building of the local community for their conservation.

Similarly, mudflats, fish farms (ponds), mangrove swamps and the beach around the village are important feeding, roosting and nesting ground for birds. Thousands of migratory birds visit the area in winter months. The observations made by WWF-Pakistan in the recent years reveal that 50,000 to 60,000 birds visit the area during the winter season.

## 8. Resource Exploitation & Its Impact

### 8.1 Exploitation of Fisheries Resources

The villagers have access to coastal fishing grounds as well as backwater channel known as *Nae Nar*. The fishermen catch different kinds of fish and shrimp species.

The fishermen of the village have small and medium size boats. They do not own any big boat or trawler. The fishing system adopted by the villagers is called *Hello*. According to this system, fishing is completed within 24 hours.



Villagers are involved in preparation of daily activity chart

The nets commonly used by the villages are *Rachh*, *Thukri* and *Goal* nets. *Racch* is usually used in the open sea, while *Thukri* and *Goal* nets are used in shallow waters or in the backwater channel near the village.

The same fishing grounds are also exploited by the fishermen from outside, especially fishermen from Ibrahim Hyderi, Rerhi, as well as Bengalis of Chashma Goth and Machhar Colony. According to the villagers, the fishing methods as well as fishing nets of outsiders are unsustainable and are great threat to the fish stocks. Wire net, Boolo Gujo, Plastic net and other kinds of harmful nets are used by the outsiders. Similarly, they also regard Deep-sea trawlers as responsible for the depletion of fish species.

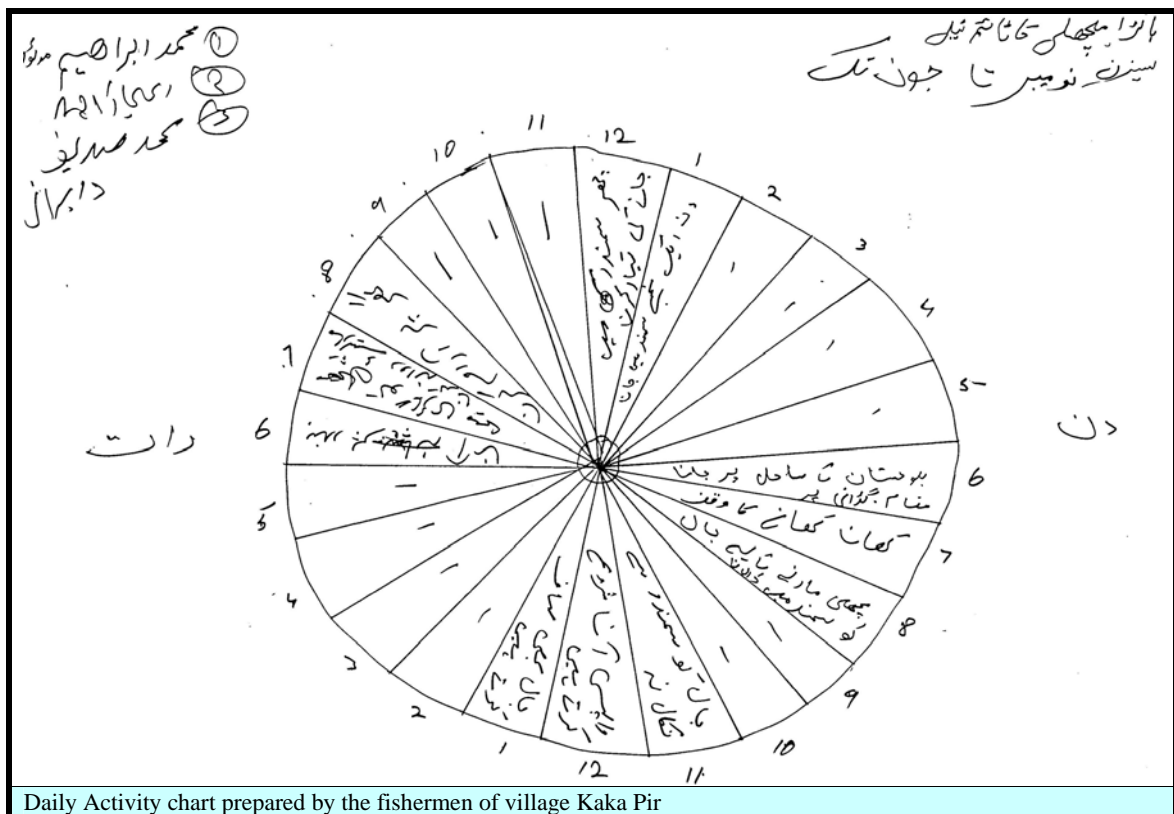
### 8.2 Impact of Fisheries Resource Exploitation

Local communities report major decreases in the fish catch. According to them a number of fish species, which were in abundance in the past have now become extinct. While reporting decreases in the catch of many priced fish species, the villagers say that the fish

catch has also drastically reduced. According to them, in the past they would catch 300 to 400 Kg of shrimps per fishing trip of 24 hours. But now despite the whole day fishing activity they can hardly catch 8 to 10 kg. The shark fish, which was in abundance in the past, has become almost extinct. The catch of many other fish has also decreased. Most other fish species which have become almost extinct or their catches drastically reduced include, *Paplet, Pallo, Kareri, Surmaee, Aal, Chanh, Dandio, Phir and Loowar*. The causes of reduction in fish catch according to the local fishermen are the increase in local fishermen population, use of harmful nets and deep sea trawling. The drastic decrease in the fishing catch has resulted in the decreased earnings of the fishermen and growing poverty among the fisherfolk communities.

### 8.3 Exploitation of Mangrove Resources

The villagers have access to the Mangrove forests of backwater channel known as *Nae Nar*. The mangroves are used as food and fodder for animal grazing as well as for firewood purposes. As the people of Kaka Pir village also keep a small number of different kinds of animals in their homes, they use mangrove leaves for fodder. Therefore, there is a persistent stress on the mangrove resources of the village, unless they are used sustainably. According to the estimates of the villagers each goat consumes about 4 to 5 kilograms of mangrove leaves daily. There are about 70 goats in the village.



The villagers also collect mangrove woods for using as firewood. The villagers usually do stock of mangrove woods for about six months. Each household consumes about 120 -160 kg of mangrove fuelwood in a month. The villagers usually go for mangrove wood collection/ cutting during the off fishing season or when there is ban on fishing in the seawaters. The villagers also go for the woodcutting / collection before the holy month of Ramdan so as to avert any fuelwood shortages.

Some villagers collect dry wood out of the mangrove forests. However, the villagers also cut green mangroves and then leave them to dry for the use in cooking. According to the village CBO, due to awareness now the trend of woodcutting has considerably declined and now they do not allow outsiders for commercial cutting of mangroves. WWF-Pakistan has been very helpful in the conservation of mangroves and has lobbied Sui Southern Gas Company for the supply of natural gas to the area to reduce pressure on mangroves.

Besides the villagers, the mangrove forests of the area are also exploited by the camel grazers living in the nearby hilly area as well as Bengalis of Machhar colony for commercial purpose. The camel grazers either leave their camels to graze in the mangrove area or cut the mangrove leaves to stall feed their camels at home. Bengalis of Machhar colony exploit mangrove resources for monetary purpose. They cut mangrove trees, and sell them in the city market. There are a number of mangrove wood *taals* in Machhar colony.

#### 8.4 Impact of Mangrove Resource Exploitation

The mangrove forests of the village are under constant threat of degradation and depletion due to variety of factors (Box.1). Mangrove tree cutting for the purpose of fuel wood has been one of the key factors as the village lacks gas facilities. However, with the increase in awareness about the importance of mangrove forests, some villagers have voluntarily shifted to the use of gas cylinder from the use of mangroves as firewood. About 5% households of the village use gas cylinder. There is a shop in the village for refilling of these gas cylinders to cater to the needs of the villagers as well as visitors staying in the Recreational Huts.

**Box: 1**

**Mangroves & Camels**

According to the villagers if the mangrove tree branch is cut with any sharp tool, it grows again. However, if it is manually uprooted or even if camel browses it, it never grows with the same intensity. It means the direct browsing of the mangroves by the camel is more harmful than cutting any mangrove branch with some sharp thing. Another negative impact of camel browsing is that the camels during the browsing trample the seedlings and mangrove root system resulting their degradation.

According to the villagers previously 80 % of villagers were involved in woodcutting and now their number has decreased to only 20%. Now villagers usually collect only dry branches. If the authorities provide gas facility the mangrove cutting can be decreased.

However, the major threats to the mangrove forests presently are from illegal cutting from outsiders who cut them during night hours, as well as pollution of Lyari River. Polluted water from Lyari River to the backwater channel is also key source of degradation of mangrove forests. The polluted urban sewerage brings with itself not only host of chemicals but also plastic bags. The grounds on which the mangrove trees are planted have been filled with filth and chemical residues, as such, the mangrove regeneration is impacted and their growth is stunted.

## **9. Community Practices towards Natural Resource Conservation**

### **9.1 Sustainable Fishing Methods**

The fishing methods of the local communities are generally sustainable, as most of fishing is carried out at subsistence levels. The villagers are aware to a greater extent of the impact of harmful nets and fishing methods and believe that such methods contribute towards reduction in the fish catch and subsequent poverty in the coastal communities. However, they find no way out to play their role in preventing the use of harmful nets, as well as harmful fishing methods because according to the villagers those using harmful nets are powerful and influential persons and villagers cannot challenge them on their own. They rely on the government departments and officials to take action in this regard.

### **9.2 Community Management of Mangroves**

As far as the mangrove resources are concerned the villagers have taken steps for management of mangroves at community level. The villagers with the efforts of the local CBO have formed a Watch & Ward Committee. The members of this committee are responsible for looking after the mangrove forest and preventing the illegal cutting of mangrove trees, especially from the Bengalis of Machhar Colony. They usually spot those cutting the mangrove forests and take such people to their influential leaders with the request to stop them from such illegal cutting of mangroves. With such efforts of the villagers, a considerable decline has occurred in the illegal cutting of mangrove.

## **10. Problems Analysis**

### **10.1 Key Social Problems**

Village Kakapir lacks many basic facilities despite the fact that it is in the vicinity of metropolitan city of Karachi. Some of the key problems of the village are as under:

#### **10.1.1 Health**

There is no government dispensary or hospital in village. The villagers take their patients to Maripur or Civil Hospital Karachi for treatment. In case of any health emergency especially during night, the villagers face host of problems and threat to the lives of their patients. There is no ambulance facility in the village. Similarly, due to non-availability of maternity home, women face extreme hardships. The village community has reserved a plot for the hospital.

#### **10.1.2 Education**

The village also lacks education facilities. There is only one primary school for the boys. There is no girls' school. However, WWF has taken initiative to start evening classes for the girls of the village in the premises of existing Boys' School. Due to the lack of facilities most of the girls are deprived of primary education, while the boys after

completing their primary school education face hardships in continuing their educational activities because there is not middle or high school in the village.

#### 10.1.3 Unemployment & Lack of Training Facilities

Unemployment is one of the key problems of Kakapir community. During the off fishing season majority of the fishermen become jobless, as they find no alternate livelihood. The villagers have no skills to be engaged in the non-fishing livelihoods. This, on the one hand increases the pressure on the fishing livelihoods and on the other hand exacerbates the level of village poverty. There is no training or vocational institute in the village where they can learn other skills and become able to earn their livelihood. The women of the village also do sewing and embroidery work at their homes. WWF has established a Vocational Centre for Women in the village. However, there is no proper marketing of their products.

#### 10.1.4 Non-availability of Natural Gas Facility

The village lacks natural gas facility. This results in stress on the mangrove forests to meet firewood needs. Similarly, this also increases the workload of the women and threatens their health. With the efforts of WWF-P Sui Southern Gas Company has approved gas connections for the village and the ground breaking has also been done.

#### 10.1.5 No Proper Water Supply & Sewerage System

Shortage of drinking water is one of the key problems of the village. Water supply is available to only 30% villagers while 70% of village population (majority is poor) obtain water either from public water reservoir or purchase it.

The village water supply system is old and insufficient for the villagers. Water is supplied to the village through a 2-inch diameter pipe. Besides, the village water supply is shared with Pakistan Navy's local headquarter. The use of modern and heavy pumping motors by Pakistan Navy takes a major share of water storage depriving the villagers of their due water share. This results in a constant water shortage problem in the village. The shortage is met by purchasing drinking water through private water tankers.

The system of waste disposal is also not well developed, resulting in spread of diseases in the community. Only 48% households have pit latrines, while others either use public latrines or open fields. As far as sewerage is concerned, only 30% houses have sewerage system (open sewers), 25% have gutter system (septic tank), whereas, 44% houses have no system at all.

#### 10.1.6 Violence against Women

Violence against women including wife-beating and other forms of violence are common in the village. According to the communities, those disgruntled of their reduced earnings from fishing usually resort to violence against women in the form of verbal abuse and beating. However, the worst form of abuse against women in the village is the increased ratio of divorce. The women are divorced on petty matters. Intentions of second marriage and many other basic causes are mainly behind divorces. This has created a sense of



insecurity among the women who have already been marginalized and disempowered due to growing commercialisation of fisheries sector.

### 10.1.7 Lack of Recreational Facilities

The village lacks recreational facilities such as, Community Park, playground and library. As a result, the children’s positive upbringing is hampered.

## 10.2 Key Livelihood Problems

### 10.2.1 Lack of Formal Credit System

There is no formal credit system in place in the fisheries sector. Resultantly, fisherfolk communities usually rely only on informal lending system. This informal lending system, controlled by middlemen and mole holders, is extremely exploitative (Table 5). It usually takes the shape of informal bondage as the fishermen who receive loans from the middlemen become bound to sell their fish catch to the same middlemen even on throw away prices.

<b>Deduction Source</b>	<b>Percentage</b>
Mole Holder	7-10 %
Factory Owners	10%
Transporters	10%

The villagers of Kakapir usually receive loan from the mole holders. Officially, the mole holders receive 6.5 percent commission on the fish catch. However, the mole holders, who lend advances to the fishermen, usually deduct 7 to 10 % commission from the fish catch sale. The exploitation does not end here. When the fishermen sell their fish catch to the fish processing factories, the factory owners also deduct 10% from their total catch. According to the factory owners, such deductions are made due to low quality of fish catch. Similarly, due to non-availability of cash to pay to the transporters to transport fish catch from the village to Karachi market, the transporters deduct 10 percent from their total cash as transportation charges. Thus, this exploitative system costs the fishermen 30% of their total catch. In addition, they receive lower value of their catch as determined by the mole holder. The informal credit system has been a major cause of the village poverty as those providing loans to the communities claim higher interest rates. According to the local communities they pay Rs.100 per month on the loan of Rs.1,000.

### 10.2.2 Lack of Jetty

The second major problem concerning fisheries resources is the lack of a Jetty (fish landing facility) in the village. The fishermen have no place to anchor their boats when they return from fishing. This causes problems in unloading fish catch, as well as local sale of the catch. It is because, wherever Jetties exist, facilities of proper unloading of fish catch are available along with small auction halls. Such facilities ensure local sale of the fish when it is fresh. However, the fishermen lack such facility.

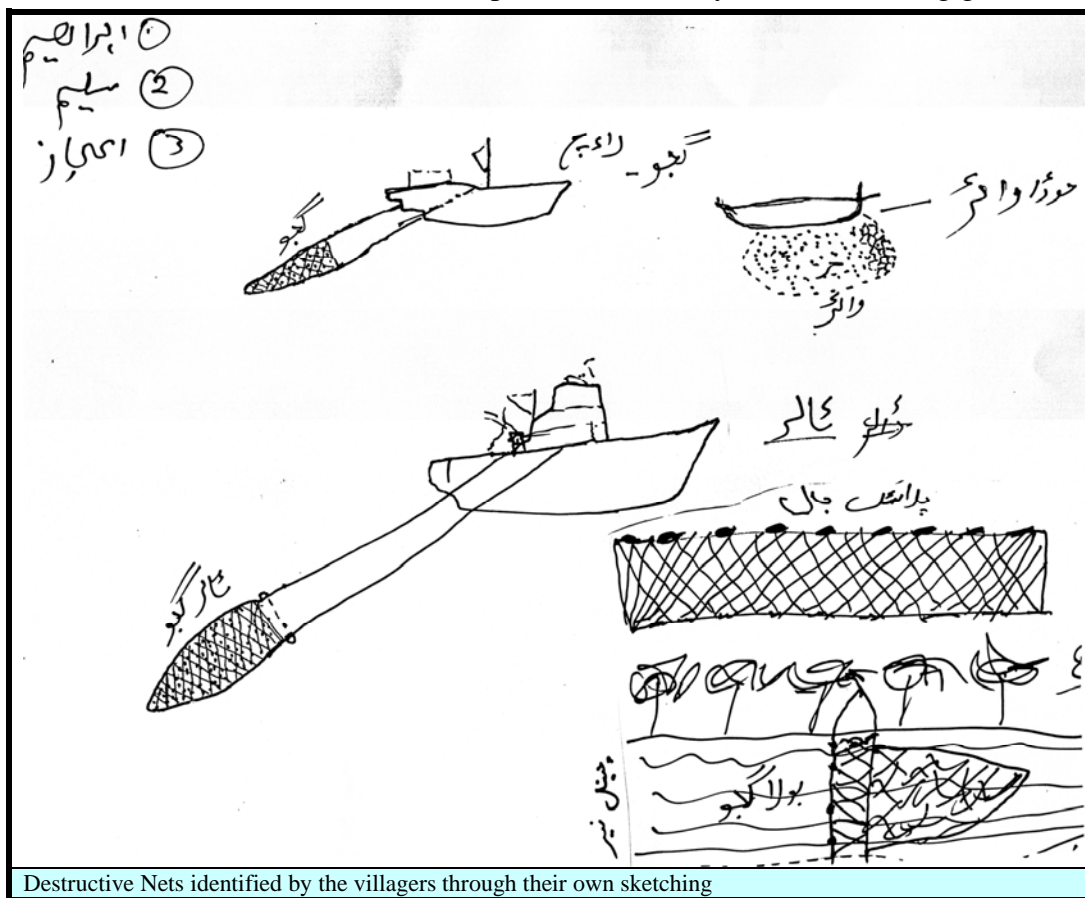


Fish landing Area of the village

### 10.2.3 Use of Harmful Nets

A number of fishing nets used in the local fishing grounds are harmful to the survival and growth of fish species (Box.2). According to the villagers, Bengali fishermen as well as fishermen from *Ibrahim Hyderi* and other areas use such nets. The local communities of *Kakapir* have declared the following nets harmful:

**Boolo Gujo:** *Boolo Gujo* net is usually used in the channels and creeks of the coast. Its both ends are fixed at both banks of any small creek or channel, almost blocking the whole channel. Fish and other species are trapped in this net. Its mesh size is so small that even juvenile fish cannot cross the net. It not only catches juvenile fish but also creates pollution as some of the fish caught in the net dies before the fishermen take it out. As the fishermen collect the fish catch from net after long intervals of time, the dead fish rots and pollutes the area. This causes other fish species to run away from that fishing ground.



Destructive Nets identified by the villagers through their own sketching

**Katra / Wire Net:** The mesh size of this net is small to the extent that the smallest fish are caught in the net. After throwing one end of the net in the sea, the rest of the net is rounded by 30-40 people. This net is used for fishing with the help of big boats. Silk thread is used in the preparation of this net. The Bengalis first introduced these nets. However, now the local influential people also use these nets.



**7Plastic Net:** The thread used in the plastic nets is very thin and invisible as compared to the other nets in which thread is visible and fish usually refrain from coming close to it. Another demerit of this net is that when it is torn apart in the water it never settles in the seabed. The pieces of torn net continuously catch and kill fish and pollute the sea. Thus, this net not only kills the small fish but also creates pollution in the sea.

#### **Box 2: Net Regulation in British Era**

There are some laws in place to restrict the use of harmful nets in the seawater. However, there is no monitoring system and these laws are not properly implemented. The villagers remember the old days of British Era when, according to them, there were strict rules with regard to the use of nets. Such rules were also implemented in letter and spirit.

**Citing example:** the villagers said that the British Policemen regularly visited the sea and brought with themselves a coin and checked the mesh size by crossing the coin from the mesh. If the coin could not cross the mesh, the net was declared harmful and subsequently confiscated.

#### 10.2.4 Unsustainable Fishing by Deep-sea Trawlers

Under the Deep Sea Fishing Policy of the Federal Government, licences have been issued to a number of medium sized and large sized deep-sea trawlers. The foreign companies own the large sized deep-sea trawlers whereas, the Joint-Venture Companies, as well as influential rich individuals own the medium sized trawlers. The deep sea trawlers are licensed to fish in the areas extending from 35 to 200 nautical miles, while the medium sized trawlers fish in the area between 12 to 35 nautical miles from the coast.

According to the communities, these deep-sea trawlers are responsible for over-fishing. Being fully mechanized and computerized, these deep-sea trawlers continue fishing unabated and in this process catch tons of fish with their lengthy trawl nets. These trawlers continue fishing day and night, leaving no option for fish recruitment. In this process, these trawlers also catch hundreds of tons of small fish, which is unmarketable in international markets. Considered as waste, these fish are again thrown back into the sea dead or dying thus, creating pollution in the coastal waters.

#### 10.2.5 Illegal Mangrove Lopping & Browsing

The key stress on mangrove forests of the village is illegal cutting by Bengali immigrants living in *Machhar Colony* Karachi. According to the villagers, the Bengali immigrants usually come to the forests during night time on their boats. They cut mangrove trees and load on the boats to take them to their colony, where mangrove wood is sold to the urban consumers as fuel wood and timber.

Although the villagers have no single camel, however, there are few camel owner families living in the huts close to the village. According to the villagers, they belong to Baloch tribes living in the hilly coastal areas. They occasionally settle close to the village to extract fodder from the mangroves of backwater channel. They not only collect fodder for their camels but also leave their camels in the mangrove areas for browsing.

#### 10.2.6 Resource Degradation due to Pollution

One of the key threats to the livelihoods of the local fishermen especially their coastal fisheries and mangroves are the urban pollution. The mangroves of backwater channel

close to the village are often filled with the urban waste, which flows to the area through Lyari River. The pollution, according to the villagers has created a number of health and livelihoods problems for them. The mangrove channel, which was clean and crystal in the past, has now become badly polluted. As a result of the pollution, quantity and quality of fish and shrimp has considerably decreased.

Similarly, as a result of accumulation of garbage, regeneration of mangrove forests is affected and their growth is stunted. The whole channel according to the villagers is blocked as a result of urban garbage. This garbage and sewage, which also carries chemicals of a number of industries is harmful for the health of the fishermen.

## 11. Village Development Plan: Community Based Planning

### 11.1 Stakeholder Analysis

The key stakeholders in the village include fishermen with no boats, with very small boats, influential fishermen with big boats and the middlemen providing loans to the fishermen and purchasing their fish catch etc.

Besides, *Kaka Pir* village is situated in the premises of Union Council 4 Keamari 1. However, there is no local government office in the village. The Union Council office is situated in *YounisAbad*. The villagers usually travel to *YounisAbad* to get their problems solved. Similarly, the district government, *Manora* Cantonment Board and Karachi Port Trust are also key stakeholders.

S #	Stakeholder
1	Fishermen
2	Middlemen
3	Influential Trawler Owners
4	Sindh Fisheries Department
5	Directorate of Marine Fisheries
6	Village CBOs
7	WWF-P
8	Manora Cantonment Board
9	Karachi Port Trust Authority
10	Union Council Younis Abad
11	City District Government
12	Provincial Health Department
13	Provincial Education Department
14	Fishermen Cooperative Society

In addition, the provincial Fisheries Department, Fishermen Cooperative Society and the Federal Marine Fisheries Department are also important stakeholders. There are two CBOs working in *Kaka Pir* village. Fisher Folk Development Organization (FDO) is headed by Haji Siddiq, which has strength of 127 members while Haji Abu Bakar who is also the elected councillor of UC Keamari heads *Shams Pir* Village Association.

WWF is the only national as well as international organization having its presence in the village since many years. WWF has been working for the conservation and rehabilitation of the natural resources of the area including, mangrove forests and marine turtles. WWF-P has established a Wetland Centre at Sandspit which is a hub for environmental education activities. The FDO is working for conservation of mangroves in collaboration with WWF-P.

## **11.2 Prioritisation of the Problems**

### **11.2.1 Prioritisation of the Problems by Male**

Following are the issues identified by male members of the village:

1. Reduction in fish catch
2. Lack of educational facilities including girls and boys middle school
3. Shortage of clean drinking water
4. Lack of health facilities
5. Degradation of Mangrove forests
6. Lack of alternate job opportunities
7. Lack of road facilities
8. Lack of sanitation and drainage system in the village
9. Exploitative informal credit system
10. No access to Balochistan's fishing waters

## Community Based Planning by Male

#	Problem	Solution	Community Role	CBO Role	WWF Role	Government Role
1	Reduction in fish catch	Ban on harmful nets & Deep-sea trawlers	Coordination among villagers	Awareness, Advocacy with government	Awareness, linkages, trainings	Proper Implementation of Laws by federal and provincial governments
2	Lack of education facilities	Boys Middle School, Girls Primary School	Will send their children to school	Awareness and motivation to villagers, contacts with government	Awareness and Linkages	Provision of school building and appointing teachers by provincial Education Department
3	Shortage of drinking Water	Separate pipe line of water for the village	Will provide labour	Linkages Awareness	Linkages and Awareness	Provision of Water Pipeline by the KW&SB
4	Lack of Health Facilities	Construction of Hospital	Will provide land for hospital	Health awareness	Training, awareness Linkages	Provision of hospital and appointment of doctor by provincial Health Department
5	Mangroves Resource Degradation	Plantation and protection of mangroves	Help in plantation, Protection of mangrove trees	Plantation and nurseries of mangroves	Training Awareness linkages	Cleaning of drainage lines
6	Unemployment	Alternate jobs and training for villagers	Will participate in the trainings	Help in training of villagers	Training Awareness, linkages	Provision of alternate jobs and skill development training by different provincial and federal government departments
7	Long halt in fishing activities due to rough sea and high tides	Construction of seawall	Provide labour for construction	Coordination Linkages	Linkages	Construction of seawall by the federal government
8	No link road to fish landing site	Construction of Road	Remove encroachments	Coordination, Contacts	Linkages	Construction of road by the city district government
9	Lack of sanitation facilities	Provision of staff for sanitation	Awareness, cooperation with sanitation staff	Awareness Donation	Linkages	Provision of sanitation staff by the city district government
10	Exploitative informal credit system	Easy credit from Banks	Collect Rs 10 from each house as per saving scheme. Repay loan	Launch saving scheme Provide guarantee for loan	Linkages	Provision of easy credit to fishermen by the Banks/MFIs
11	No access to Balochistan fishing grounds	Coordination with Balochistan government	Will join meetings, protests, delegations	Coordination, advocacy	Linkages	Ensuring equal access to Sindh fishermen in Balochistan waters by the provincial government of Sindh

### 11.2.2 Prioritisation of the Problems by Female

Women of Kaka Pir village identified and prioritised following issues:

1. Lack of health facilities
2. Unemployment
3. Lack of skill training centers for women
4. Lack of educational facilities
5. Lack of gas facility in *Kaka pir*
6. Transport
7. Shortage of drinking water
8. Poverty due to reduction in fish catch

9. Problems in boat anchoring
10. Lack of animal grazing grounds and increasing animal diseases
11. Violence against women
12. Lack of recreational facilities
13. Lack of sanitation facilities
14. Lack of marriage hall

### Community Based Planning by Female

#	Problem	Solution	Community Role	CBO Role	WWF Role	Government Role
1	Lack of health facilities	Construction of hospital/ lady doctor	Will Provide land	Awareness, Advocacy	Training, awareness, Linkages	Construction of hospital by the provincial Health Department, provide a female doctor
2	Unemployment	Training for different skills	Will provide accommodation facilities to the trainer	Awareness & contacts with government	Provide sewing machines	Vocational Training Center by the provincial government
3	Lack of girls education facilities	School Building and staff for girls education	Two matriculate girls would teach voluntarily	Linkages and Awareness	Provide books/ supervising	School Building and staff by the provincial Education Department
4	Lack of gas facility	Gas Connections	Cooperation with government functionaries	Linkages with the relevant department	Linkages with the government	Gas connection by Sui Southern Gas Company
5	Lack of transport facilities	Availability of more buses	Get route permit	Coordination and linkages	Linkages	Route permit orders by the City District Government
6	Shortage of drinking water	Availability of water pipelines	Separate waterline for village	Help in training of villagers	Linkages and initiatives	Separate water connection by KW&SB
7	Increasing Poverty	Provision of employment opportunities	Work hard in difficult conditions	Coordination Linkages	Take initiatives for alternative employment opportunities	Alternative employment opportunities by federal provincial and local city district government
8	Lack of Jetty	Construction of Jetty	Provide labour for construction	Coordination Contacts	Linkages	Construction jetty by the provincial fisheries department
9	Non- availability of grass for Animal grazing	Growing grasses, trees etc for animal grazing	Plant trees	Awareness Donation	Provide seed and nursery	-
10	Violence against women	Awareness and implementation of legislation	Will form committee to monitoring VAW	Awareness	Linkages with organizations working on violence against women	Implementing legislation by the provincial and federal governments
11	Lack of recreational facilities	Provision of recreational facilities including park	Take care of the Park	Coordination, advocacy	Linkages	Provision of a park by the city district government
12	Lack of sanitation facilities	Appointment of Sanitary staff	Will cooperatie with the sanitary staff	Awareness Advocacy	Linkages	Appointment of sanitary staff by the city district government
13	Lack of marriage hall	Construction of marriage hall	Will provide plot for hall	Awareness linkages	Linkages	Construction of marriage hall by the city district government

### 11.2.3 Training Needs Assessment

Adequate capacity and skills are a prerequisite to diversify livelihood opportunities for the fishermen and to accomplish the objectives of natural resources conservation. The research team after assessing the training needs of all the stakeholders suggests the following trainings:

S#	Stakeholder	Training Needs
1	Common Villagers	Traditional Birth Attendants Nursery Raising Plantation Techniques Fish Farming Grading, Packing and Marketing of Fish Apiculture: Honey Bee Keeping Poultry Management Vocational training Skills in Rural Marketing Community Based Natural Resource Management
2	Village CBO	Organizational Management Natural Resource Management Financial Management & Record Keeping Savings and Credit Scheme Management
3	WWF Staff	How to Link Conservation with Development? Social / Community Mobilization Field Research / Report Writing
4	Local elected representatives	Advocacy Communication Skills
5	Government Departments linked with fisheries / mangroves	Participatory /Community Based Resource Management Integrated Coastal Zone Management

## 12. Conclusion

Being situated in the proximity of the Metropolitan City of Karachi, *Kaka pir* village is a contrasting picture of development and deprivation. Frequent communication and linkages with urban Karachi and interaction of the villagers with the tourists visiting the area has exposed the village community to the modern day realities and needs. The living standards and the approach of some villagers reflects such reality. However, the deprivation level of the village could be gauged from the facts that the village lacks some of basic facilities such as, girls' school, health, sanitation and drinking water facilities in 21<sup>st</sup> Century of modernisation, information technology and globalization.

However, the positive fact of life in the village is that there is sensitisation among the villagers to change their present day miserable life and economic situation. Urge for a positive change and willingness to offer personal contributions for such a change is visible among both men and women. The basic need is to facilitate their journey towards this change with proper direction and guidance. There is a great prospect for WWF and other national and international organizations to seize such an opportunity and lead the villagers towards social and economic development.

The strategy of WWF- Pakistan of linking the conservation issues with social development of the local communities has won the hearts of many villagers. However, still the message

of change in WWF's development strategy seems to have not reached to each and every villager. A large number of villagers still have the opinion about WWF being an organization, which works in isolation only for conservation of natural resources while completely closing its eyes on the realities of the daily life problems of the communities. That is why still a large population of the village has not joined the efforts of Fisher Folk Development Organization (FDO), the village organization working jointly with WWF-P. There is a need to dispel the old concepts about WWF in the minds of such a major section of the village population and make efforts to take all the villagers collectively with the renewed conservation and social development efforts being carried out by FDO with the help of WWF. For this, WWF needs to initiate vigorous efforts for establishing linkages with the disgruntled section of the village and also increase the quantum of its efforts for the solution of the basic problems of the village, some of them suggested in the village development plan.

Given the increasing poverty profile of the village due to the resource degradation there is also a need for the diversification of opportunities for the livelihoods. In this connection a number of steps can be taken. For example, recreation being one of the key activities in the Sandspit area, there is a need that the skills of the villagers be diversified toward the tourism / ecotourism which has a great potential in the area to offer alternative to the fisheries sector. On the weekends, thousands of people visit the Sandspit and Hawks bay beach areas and villagers can not only be the potential facilitators to the tourists/visitors, but also can be engaged in the sale of sea / coast related products attractive to the visitors. For such activities there is also a need to develop skills of villagers in marketing of their services and products.

There is also potential of poultry farming in the area. Poultry farming can be promoted at large or small scale at the household levels. Similarly, the options of fish farming especially shrimp and crab culture can also be studied and implemented to reduce the stress over the natural fish, shrimp and crab resources of the coastal waters.

## **Annexure I: Study Team**

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## **Annexure II: List of Tools Used in the Field**

The teams used following key tools to collect data from the field:

- Observation
- Semi-Structured Interviews of individuals, key informants and groups
- Focus Group Discussions
- Village Social Maps
- Village Resources Maps
- Transect walks
- Timeline
- Trend Lines
- Venn Diagrams
- Institutional Profiles
- Wealth Ranking
- Daily Activity Clocks
- Seasonal Calendars
- Resources Picture Cards
- Income & Expenditures Matrices
- Pair-wise Ranking / Problem Ranking
- Flow Diagram
- Problem Analysis Chart
- Community Action Plan