

### Support

CBOs established to support fisher communities in the CIWC to effectively tackle poverty-environment related challenges.

### Enable

Diversified livelihood options enable fisher communities in the CIWC to augment their incomes.

### Empower

Ownership of alternative sources of sustainable energy in fisher communities reduces pressure on natural resources.

### Improve

Improved management of CIWC protected areas promoted in collaboration with stakeholders.



Why we are here:

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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UK Aid leads Britain's fight against global poverty delivering the aid around the world. This project is being implemented by WWF-Pakistan with the generous support of UK Aid under their Global Poverty Action Fund.



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# Stories of Hope

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This booklet is dedicated to the communities, especially the women and children, whose stories are chronicled here, and to their resilience in the face of so many odds.



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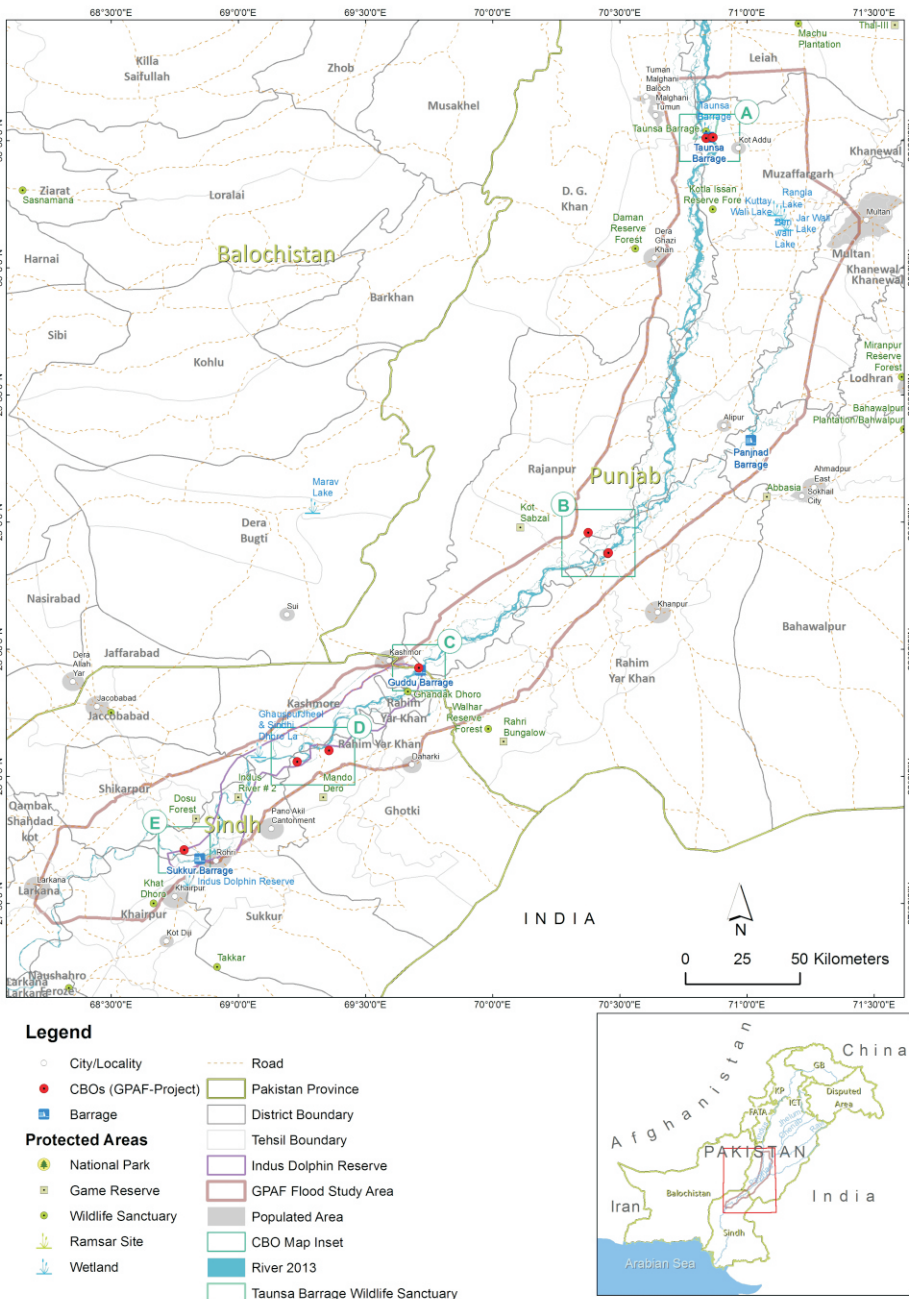
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## Acronyms

CBO	Community Based Organization
CPAF	Community Poverty Alleviation Fund
CIWC	Central Indus Wetlands Complex
DCO	District Coordination Officer
FES	Fuel-efficient Stoves
FDO	Firdous Development Organization
GMT	Gothani Maholiyati Tanzeem
GPAF	Global Poverty Alleviation Fund
IWF	Indus Welfare Foundation
IP	Implementing Partner
JDO	Jannat Development Organization
KFF	Khwaja Fareed Foundation
MDT	Mahol Dost Tanzeem
NGO	Non-Governmental Organization
NPO	Non-Profit Organization
NRSP	National Rural Support Programme
PA	Protected Area
SMGST	Sindhu Mallah Goth Sudhar Tanzeem
SYWO	Sindh Youth Welfare Organization
UN	United Nations
VTC	Vocational Training Centre
WWF-Pakistan	World Wide Fund for Nature-Pakistan



Map of Project Sites



# Director General’s Note

After 44 years of intensive and exhaustive work in the field, WWF-Pakistan knows and understands that, to achieve species conservation and environmental goals, it is also essential to work on the uplift and empowerment of human communities in target areas. Human settlements and expansion in our cities and growth in our population have pitted us directly in conflict with nature. However, it is up to us how we learn to co-survive, and thrive.

It is my utmost pleasure to note the very practical and straightforward success stories that have emerged from the perilous yet rewarding work the project team of ‘Improving Livelihoods of Fisher Communities of Central Indus Wetlands Complex, Pakistan’ is doing in the field. Turning poachers into protectors and encroachers into guardians is a Herculean task, yet the team present at all project sites has done a commendable job of interacting with their respective communities. They have built strong connections and have left a lasting impression that will carry on long beyond the project has concluded. The team, in partnership with key local persons and community based organizations (CBOs), has implemented project goals and targets like a mission.

The stories chronicled within this booklet shine a light on the good work that has been conducted, or is presently being conducted, at project sites around Taunsa Barrage, Guddu Barrage and in Rajanpur. These stories present a factual side of resilience of marginalized communities in the face of environmental disasters and how they are helping conserve key species in the Central Indus Wetlands Complex (CIWC). It is also interesting to note from the bulk of these stories how project interventions have led the communities to come up with creative solutions to local problems pertaining to health, hygiene, environment and gender. The project is evolving at the grassroots level, and it is exciting to see this positive change bearing practical results.

I commend the hard work of the project staff, Dr Masood Arshad and Dr Ghulam Akbar for collectively ensuring that the project brings meaningful change in the target areas, and I thank the communities and their respective CBOs for their continued participation and enthusiastic input.

May there be even more success stories to pursue and share.



**Ali Hassan Habib**

Director General, WWF - Pakistan



# Introduction

Poverty and environmental degradation are strongly interlinked, particularly in developing countries like Pakistan, and should be addressed together to achieve effective results. Pakistan's Poverty Reduction Strategy Paper (PRSP) states that the 'poor are most dependent on natural resources for their livelihood and most affected by environmental degradation.' WWF-Pakistan is working on improving management of the country's natural resources while ensuring better livelihoods for the rural poor through its different projects all over Pakistan. It has realized with experience that, in order to make conservation efforts sustainable and long lasting, working with local communities for their livelihood improvement and linkages with environmental management is essential.

The project 'Improving Livelihoods of Fisher Communities in Central Indus Wetlands Complex, Pakistan' aims to introduce varied options for livelihood generation, provide alternate energy and energy efficient units, and encourage sustainable practices among fisher communities residing in the Central Indus Wetlands Complex (CIWC). These interventions will help augment incomes and improve the quality of life for these disadvantaged communities, and conserve natural resources for future use through improved collaborative management of Protected Areas in the CIWC.

The CIWC is one of the most significant stretches of wetlands in the country. It includes braided and meandering river channels, islands, *dhands* or oxbow lakes and seasonally flooded depressions in the floodplain. This region covers three wetlands sites i.e. Taunsa Barrage Wildlife Sanctuary, Kot Mithan-Chacharan and Indus Dolphin Game Reserve. In addition, part of the CIWC is included in the Indus Ecoregion, a Global 200 Ecoregion and is an important migratory route, covering a major area of the famous Indus Flyway, and habitat for several threatened bird and animal species. The majority of the people living in the CIWC are below the poverty line without access to any basic facilities. Fishermen residing along the banks of the River Indus have a key stake in the sustainable use of these wetlands and associated biodiversity resources. They are organized in CBOs to provide them a platform to address their issues more effectively, and act as a catalyst to promote community participation in decision-making.

The interventions are appropriate to the needs of the target population. A well defined criteria was developed for all project interventions in order to involve the most marginalized segment of the communities such as people with disabilities, widows, orphans, households headed by widows, households with maximum number of children and, unemployed and with lowest income level. This was carried out with the aim to involve these groups to ensure equity and their participation in decision-making. The livelihood plans were developed in close consultation with members of CBOs, which were later endorsed, by the communities and line departments. Livelihood Development Plans contain skill enhancement trainings and the introduction of income generation models. A total of 909

## Introduction

community members (536 men and 373 women) have been trained in 52 capacity building and skill enhancement trainings at three sites. In addition, models of income generation including kitchen gardens, vocational training centres, livestock management including poultry rearing, etc. have been implemented especially benefiting women. Furthermore, fish restaurants, aquaculture, herbal medicine stores, and plant nurseries have benefited more than 170 beneficiaries. In order to reduce pressure on the natural resources, a total of 1,925 mud fuel-efficient stoves were introduced at the household level (approx. 15,000 beneficiaries). With the introduction of stoves, women's workload from fetching fuelwood, their exposure to indoor air pollution, and risk of other health problems is significantly reduced. In addition, a community poverty alleviation fund, has introduced solar energy interventions to 400 households (approx. 3,000 beneficiaries) at the project sites which has benefited all segments of society. A total of 100 livestock units, 110 kitchen gardens, 10 vocational training centres, 190 ice boxes, and more than 6,500 fruit plants have been provided to enhance their livelihoods.

A number of awareness raising activities have also been carried out at the three project sites including World Wetlands Day, World Environment Day, International Day for Disaster Risk Reduction, World Forestry Day, Earth Hour, World Water Day, World Fisheries Day, World Wildlife Day, Jashan-e-Baharan (spring festival) at the Taunsa site and Roohi festival (a local festival organized by Khwaja Fareed Foundation) at the Rajanpur site. Approximately 1,000 men and women participated in these events across three project sites. These activities provided opportunities to the locals to increase awareness about project interventions and wetlands conservation in general. Further, these activities have been given local, national and international coverage in print and electronic media. Exposure visits of communities of three project sites to other regions have benefitted 80 members of the CBOs (27 women and 53 men), which helped them to understand community involvement in managing their natural resources, CBO management, eco-tourism, home based cottage industries and market linkages with national markets.

All interventions introduced to the communities are not only reducing pressure on natural resources but also savings in terms of money, time, fuelwood, and health related expenditures. Community-based protected areas management, adoption of management plans, involvement of stakeholders, and developing disaster resilient communities has created a positive impact. In addition, raising awareness, protecting floodplains through plantations and the introduction of best management practices in agriculture and riverine habitats have been some of the key components of the project. As far as alternative livelihood opportunities are concerned, sustainable fishing practices and provision of livestock and poultry have effectively addressed poverty-environment related issues.

## Introduction

Capacity building of CBOs will further help in sustaining conservation and developmental efforts beyond the project deadline.

In this publication, we have collected information from communities through in-depth interviews about the impacts of interventions. Their gathered insights and comments have been compiled into these success stories, which will hopefully inform and inspire others.

  
**Dr Ghulam Akbar**  
Senior Director, WWF - Pakistan



# Gardens of Life

Kitchen gardens in the CIWC project communities are bringing communities together and helping women put organic food on their tables.



a. Basti Sheikhhan Wali, Kot Addu, Taunsa Barrage  
b. Muhammad Alam Meerani village, Guddu Barrage

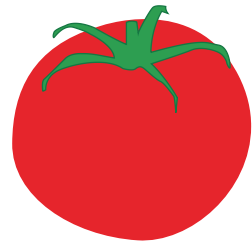
Rising food prices and lack of wholesome produce has become a matter of life and death. Through a socio-economic survey, the project teams were able to identify that lack of nutritious food affects people's health and ultimately their livelihood opportunities and aspirations. The survey was conducted at all project sites. Food laced with pesticides and grown with sewage water gives rise to diseases, ailments and avoidable medical expenses. It is also one of the main reasons why people choose to indulge in illegal overfishing: to provide sustenance for their family. In fishermen communities, seasonal vegetables, grown without harmful pesticides was a challenge. However, women associated with the local CBOs rose to meet the challenge head on and now proudly tell a tale of championing a cause close to their hearts, homes and hearths.

In Kot Addu, one of the pioneering kitchen gardeners is Haseena Mai of Basti Sheikhhan Wali near Taunsa Barrage. A stout, sturdy woman with bright eyes, Haseena has become the go-to person for fresh vegetables. Without a male member of the large family to earn a proper living, Haseena had to rely on her wits to keep the family going. When the project team approached her with the idea of starting a kitchen garden, she was initially reluctant.

"I had a 10 marla plot (253m<sup>2</sup>)," she says. "I was always in fear of land-grabbers encroaching upon it. I didn't know what to do. Then I was told by the CBO and the project team to use the plot for a kitchen garden. It sounded like a lot of work. I am not a farmer. But after receiving training and seed packets, I took a chance because I had no other source of getting food."

Starting with her own kitchen, Haseena now shares her fresh produce with neighbours and friends with an open heart. She also maintains that the quality of her vegetables has compelled people from Kot Addu to come over and buy it from her.

"I didn't want to sell it but some people insisted that I take money for it. Previously I used to spend around Rs. 250 per day to buy vegetables from vendors to cook a meal for my family. Now I don't have to worry about going anywhere or spending money. I just have to walk to my plot to get what I need."



Kitchen gardens have brought communities together through the barter of various vegetables for grains, pulses, wheat and rice.

Haseena has grown cucumbers, onions, tomatoes, mint, green coriander, green chillies, radishes, spinach, peas, bitter gourd and okra. She is especially proud of her green salad. Her's is one of dozens of families that have benefitted from the innovative idea of a kitchen garden. Apart from the 25 households selected to participate in the kitchen gardening component of the project from the communities around Taunsa Barrage, a similar number of households were selected from all the communities around Guddu and Sukkur barrages. In total, 10 communities in the CIWC now have more than 100 kitchen gardens of large and small sizes, depending on the pieces of land available to them. A projected saving of Rs. 6,000 per kitchen gardening household, per month, is a reliable figure. It is a comforting thought for the participating families, which often don't earn enough to eat three meals a day.

According to the project teams and the project manager, Dr Masood Arshad, this project component shows homegrown innovation that has become an extremely useful part of the project. It supports the commitment to provide diversified livelihood options to the fisher communities. Through training, the communities, especially women, have learned about wholesome vegetables that are nutritious and easy to grow. With emphasis on doing away with the use of pesticides, herbicides, and insecticides, the vegetables grown in the kitchen gardens have an intense taste, heady aroma and great nutritional value. The sustainability of these kitchen gardens also becomes obvious with each season.

In Muhammad Alam Meerani village near Guddu Barrage, there are three combined plots dedicated for kitchen gardening by the community. Their harvest has included fresh spinach, zucchini, tomatoes, ash gourd, okra, Indian round gourd, green chillies, onions and radishes. Abid Hussain, the president of the CBO Sindhu Mallah Goth Sudhar Tanzeem, stresses the importance of kitchen gardens in his community.

"Some of the families registered with our CBO could only afford rotten vegetables that were left behind at the end of the day with sellers. Now, at least they don't have to eat rotten food



Fresh, nutritious lettuce grown in the kitchen gardens without any pesticides or harmful chemicals.



Resilient Haseena Bibi is a pioneer kitchen gardener affiliated with the project that other kitchen gardeners look up to.

which only made them sick."

Apart from providing sustenance, the kitchen gardens also teach the communities about sustainability. In Kot Addu, where the communities have larger gardens and biogas plants, slurry from the latter helps in keeping the harvest healthy. Using indigenous tips and tricks to keep pests away from vegetables has also ensured that the vegetables are organic. Additionally, in a move to signify their commitment to the project, fisher communities residing in Muhammad Chuttal Meerani, Sher Dil Mahar, Muhammad Alam Meerani and Chachran Sharif have discarded their illegal nets. They are now using them to protect their kitchen gardens from stray and wild animals, and theft. The nets have a smaller mesh size and were previously used to capture even the smallest of fish, which had not reached maturity. What was once used by the fishermen to destroy the lifecycle of fish in the Indus now protects what's used to sustain their families.

A quick talk with the community will show how they believe with all their hearts, that this is a better deal.



Kitchen gardens are sustainable and environment friendly, providing an alternative livelihood to those who would otherwise partake in illegal fishing, hunting or logging.



## Something Fishy, Something Good

A fried fish roadside café is helping a community eat well, and aspire to better livelihood opportunities.



a. Basti Allah Wali, Kot Addu, Taunsa Barrage  
b. Muhammad Alam Mirani village, Guddu Barrage

Liaqat Hussain is a busy man. As the proprietor of a little roadside café that specializes in preparing fresh fish for its clientele, he is the go-to man for hundreds of people who visit Taunsa Barrage every day for recreational purposes. When we met him, he is getting a record of sales worth Rs. 100,000 computerized. This significant amount was earned over the winter holiday period when people eat fish the most. However, he remembers that it wasn't always this good for him.

A resident of Basti Allah Wali near Taunsa Barrage, Liaqat comes from a long line of fishermen. And as it was the case with most fishermen in his community, Liaqat also admits that he was involved in unsustainable fishing practices to earn just enough to support his family. This involved overfishing and using nets with a small mesh. The latter practice was doubly harmful as it resulted in even juvenile fish being caught, and the end result was lower catch for every fisherman in the area.

“It wasn't as if there wasn't enough fish to go around, just that we could all feel our share becoming smaller and smaller,” he admits.

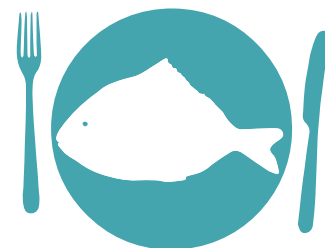
However, Liaqat was one of the lucky ones. His quest to find out why his livelihood was shrinking led him to become one of the pioneering supporters of WWF-Pakistan's work in the area. Initially, as part of the eco-tourism initiative, Liaqat was trained to give local and foreign visitors a guided tour of the ecologically rich area around Taunsa Barrage. It was this training that sensitized him about illegal fishing practices and the environmental degradation they caused. Fishermen needed their daily catch for livelihood, but the harmful way in which they conducted their work was further leading to economic destruction. It was also slowly chipping away at the environmental balance in his surroundings. He wanted to do something more to break free of the vicious cycle.

“I became a part of the CBO, Indus Welfare Foundation, in my area, which was started and registered with the help of the project team. I have been actively campaigning ever since,” he adds determinedly.

“The idea of a fried fish café didn't occur to me at all. But



Liaqat has managed to earn more than Rs.100,000 through his fried fish café that serves sustainably caught fish from the Indus.



Fried fish cafés are empowering fishermen to fish sustainably and then serve hygienic and delicious food to their patrons.

when the project team suggested it, I couldn't see a better way to link my ancestor's profession with a better livelihood opportunity. We catch fish anyway, why not prepare and sell it ourselves?"

The project team identified an ideal location for setting up the fried fish café, right next to the Taunsa Information Centre, under the shadow of the Taunsa Barrage. A simple set up with the necessities required to prepare the freshly caught fish was the first step. Starting out small, Liaqat only offered one variety of fish to his customers. As he kept adding more variety of fish dishes to the menu, the number of clientele kept growing as well. He started by earning a few hundred rupees and in the first quarter of 2014, his earnings were close to Rs. 80,000.

"The menu now includes fried fish, fish *kebab*, fish *kofta* and fish *pulao*," he proudly recites the menu. "People really love eating rice and fish together here!"

Once the customers started coming, Liaqat's entrepreneurial spirit also kicked in. Working closely with the project team, he further worked to get a deep freezer installed at his café which stocks soft beverages to accompany the delicious fish on offer. For children, he also has candies, biscuits and packs of chips. And while there are many fried fish stalls near the barrage, Liaqat is confident of the taste and quality of his establishment. Having been trained by the WWF-Pakistan staff about sustainable fishing practices, hygiene and health issues, Liaqat is adamant that he offers the most hygienically prepared fish in the area. His customers, local and foreign, agree.

Following in Liaqat's footsteps is Muhammad Ali, who has benefitted from a hike in his income by opening up a fried fish stall in Muhammad Alam Mirani village near Guddu Barrage. A jovial man who credits his initial success to the project staff, he has yet to match the wild success of Liaqat's stall, but he is hopeful that he will catch up when fishing season resumes. The initial income from the sale of his fried fish helped him earn Rs. 25, 000 per month – an amount which he wasn't expecting to get so early in his entrepreneurial venture.

Muhammad Ali is a member of the local CBO, Sindhu Mallah Goth Sudhar Tanzeem. He proudly follows the project



The concept of micro-economics is helping fishermen involved with fried fish cafés realize their potential beyond traditional wage labour.



Liaqat prepares his signature fried fish fresh for customers in his hygienic café located right next to the iconic Taunsa Barrage.

ideals of integrity, hard work and dedication. A simple innovation on an existing idea and nurturing the entrepreneurial spirit has led to the successful transformation of these simple fishermen into stable workers with a respectable income source. Their community members look up to them, and while not all want to get into the game of opening up a food stall, most agree that it is the sustainable fishing practices learnt via the project that have become the foundations upon which such delicious ideas stand.

# Flame of Hope

Rural fisher communities are using biogas plants as an alternative livelihood resource, as a clean energy resource, and as a community building component.



- a. Kot Addu
- b. Alam Mirani
- c. Chuttal Mirani
- d. Saeedabad

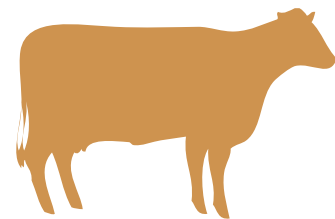
The CBO members in Kot Addu, Ghotki and Sukkur know exactly where the tons of dung their cattle produce each day are going: into biogas plants. Originally built under the aegis of the Alternate Energy-Early Recovery Programme after the 2010 floods hit, the biogas plants are a boon to energy starved communities and provide more than just an alternative energy resource to people. They also produce slurry as a by-product, hence giving those with farms and kitchen gardens a nutrient rich and cost-efficient alternative to traditional urea fertilizer. Originally, 6 to 8m<sup>3</sup> plants were installed, and bigger plants were built for people based on their capacity and usage. However, the biogas plants have been so successful in these areas that many people outside of the project communities have started constructing their own plants.

Building a biogas plant is an exact science. Specifications, location and construction need to meet a certain quality criteria for a fully functional plant. To ensure that the highest standards were set and met in plant construction, the project team selected and trained masons in Kot Addu, Alam Mirani, Chuttal Mirani and Saeedabad.

These masons are actively involved with their CBOs and engage with other community members. Most have been employed by landlords and large farmers to construct biogas plants for them on their land. The masons not only construct the plants, they also advise those willing to invest in biogas plants regarding size, location, expected outcomes and maintenance. These masons have been vocal about the installation of plants and have managed to earn up to Rs. 30,000 for the construction of at least four to six biogas plants in their communities or by helping in their maintenance.

A properly built biogas plant does not require much human input apart from the deposit of cattle dung and water. The masons know this, and ensure their creations are structurally so sound that they would not need further intervention for a very long time. The plants don't just take in waste matter, they also serve the dual purpose of giving respectable livelihood to the masons, and providing their users a clean energy source which





The ecological and environment friendly use of dung in biogas plants has changed the way communities address their energy needs.



Biogas plants produce a steady odorless flame that is beneficial in cooking and heating purposes.

doubles as a cost-efficient fertilizer as well.

Illegal logging of trees is one of the main reasons why riverine forests along the Indus are being lost. These areas play a critical role in soil and water conservation, floodplain management and are home to rich biodiversity. Their ecological importance is undermined due to stress on available vegetation for domestic use. People living within or close to riparian areas indulge in illegal logging and use wood as fuel to cook their food and build fires in winters. What seems like a small scale activity has a large scale impact. When confronted, most cite poverty and lack of alternatives as their defense. However, the communities working with WWF-Pakistan near Taunsa and Sukkur barrages do not use this excuse anymore.

A total of 40 biogas plants in Kot Addu and 45 in Sukkur project sites have helped communities cut their wood consumption by half. Community members now prefer procuring any additional wood through legal and sustainable means. Biogas is now used to cook food and heat water, which has significantly reduced the expenditure of community members on procuring other energy sources like wood and gas cylinders. The flame from biogas plants is also used as a smoke and odour-free alternative to burning wood or coal in winter for warmth. An additional benefit to those who believe in these plants as a suitable alternative energy resource is that their families now experience less respiratory irritation and ailments as they used to in the presence of smoke from wood. And for those who have kitchen gardens and small tracts of land where they farm, the slurry that is produced as a by-product of the production cycle is as good as gold.

Used as a cost-efficient and nutrient rich fertilizer, the slurry is plentiful and free. Members of the CBO in Kot Addu have reported a steady decline in the need for urea and other chemical fertilizers for their crops ever since they have started using the slurry in their fields. This has helped small to medium scale farmers in saving thousands of rupees worth of fertilizers. As one farmer reports, the money that they have saved from this whole process has gone into buying more cattle, which, in turn,



The biogas plants are an environment friendly and economical solution to fulfill energy needs of the communities.

produces more raw material for the biogas plant. The women of CBOs who tend to their kitchen gardens have also been successful in growing organic produce due to the slurry.

Homegrown innovations have also become a part of the whole procedure. In Kashmore, the members of the CBO Sindhu Mallah Goth Sudhar Tanzeem have reported that since they do not have enough space to utilize their slurry, they are now in talks with other villagers to take the slurry from them to use in their fields. This sort of enterprising behaviour is bringing the community together, and certifying the fact that when you put your mind to it, nothing goes to waste, even waste.



Biogas plants limit the need for illegally logging trees and burning firewood or coal to run stoves and heaters.



## Sustainability beyond the Project

Empowered communities have been organized and trained to ensure sustainability well beyond the official project deadline.



a. Sher Dil Mahar village, Ghotki  
b. Basti Miani Manchari, Kot Mithan  
c. all ten project sites.

To sustain a development and conservation effort, it is important to make all stakeholders realize their full potential. Taking ownership of the initiative can only happen when communities understand their critical role to save, conserve and promote similar values for others to learn from. In this spirit, all CBO members in the CIWC have been trained in various ways. The majority of these trainings pertain to the management of the CBOs. These trainings have been designed and delivered to ensure that even when the project ends, there is a tangible developmental outcome and the communities can take lessons from the project forward into the future for their own continuous betterment.

All CBOs are the focal point in the field for the conservation and community uplift ventures that are currently taking place at project sites. The very structure of the CBOs is based on transparency, integrity and involvement of the communities in which they function. However, once the CBOs were established and registered, the next step was to make the office bearers within the CBOs fully realize the worth and responsibilities of the roles they held.

Each of the 10 CBOs in the CIWC consists of a president, vice president, a general secretary, a joint secretary, and a treasurer and others. This senior official team is joined by a group of members. The entire body convenes regular meetings and problem-solving sessions. Workshops and trainings under the aegis of the project team are also organized to keep up the spirit of the community members. In a few cases, such as in Gothani Mahooliyati Tanzeem in Sher Dil Mahar village, the CBO also consists of a press secretary, Muhammad Ramzan Mahar.

Ramzan states that his job is to effectively communicate the work of the CBO to local authorities and to any journalists who find the work they are doing inspirational. And it is inspirational - theirs is the cleanest village in the area where sanitation and personal hygiene is taken very seriously. They are presently working to get their village certified by the local government as a model village that practices and promotes sustainable fishing.

This is the kind of proactive approach to owning project

## Sustainability beyond the Project



Basic computer literacy will help CBO members in organizing their ranks and chronicling their work.



Asadullah Mirani is a dynamic young CBO member who is actively coming up with new ways to improve his community and help others do the same.

interventions that stems from the trainings. CBO members have been trained in general office management, making rules and abiding by them. Basic human resource management, conflict resolution, speaking and presentation skills and project management have also been taught. The CBOs in Ghotki and Sukkur have also received training on report and project proposal writing, an essential skill that will help them seek further support from donor and funding agencies by stating their firsthand knowledge of the area and their needs.

The success factor of these trainings is already showing. CBO members now work efficiently and more closely with each other and other community members to find innovative solutions to local problems. The CBO in Basti Miani Manchari, Meerani Development Organization, is now planning to work on a proposal to seek funding to build a proper toilet attached to the vocational training centre (VTC) they have in their area. Wastewater discharge and lack of sanitation facilities is a grave issue for them. Untreated wastewater runs off into ponds and fields and impacts the quality of soil as well as mixes with river water, which most people rely on for drinking. Further, the girls and women receiving training in the VTC have no access to a proper toilet, as there is none available on the premises.

The proposal writing training CBO members have received has empowered community members to address local issues with zeal and clarity. In Goth Saeedabad in Sukkur, the CBO is thriving with various community uplift activities. One of the young members of the CBO, Asadullah Mirani, was so inspired by the office and project management training he received that he enrolled himself into a computer training course in an institute in main Sukkur city. He shares that despite hardships he has continued his education and his association with the CBO has kept him motivated to seek ways to enhance his skills. Once he completes his computer training course, which includes basic information about software, hardware, how a computer works and Microsoft Office, he will impart the same training to other members of his CBO. According to him, "computers are everything these days!"

## Sustainability beyond the Project



Boat-making training has compelled many CBO members to make decorative models of boats with legally sourced wood that they sell as souvenirs.

What was once lost or trusted to memory is now written down to ensure transparency and ease of access for people both on the inside and the outside. Now, community members report that they approach and execute even their fishing work methodically and record meeting minutes and workshop proceedings, as well as information about catch of the day, income driven from alternative livelihood sources, CBO community funds, livestock updates, milestones achieved and basic data entry.

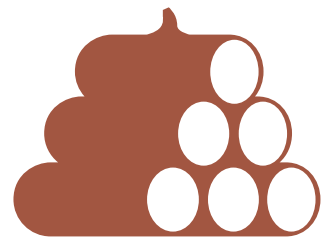
The president of the CBO, Syed Hakim Ali Shah, proudly adds that the CBO members have utilized their training by writing a proposal to seek a grant from an international donor agency for empowerment of women in fisher communities. Their proposal was approved for funding and they have been notified via email that they will be receiving the Rs. 30,000 grant. True to the spirit of conservation and building linkages, the grant will be used to organize three trainings in three different project areas, in Saeedabad, Chuttal Mirani and Guddu, showing that a multi-stakeholder organizational approach to conservation and development is the right way forward.

All members of the CBOs who were interviewed for the story



Adult literacy is one of the components of the project that has helped CBO members understand their environment better.

## Sustainability beyond the project



Awareness about the ecological importance of trees in riparian areas has empowered communities to halt illegal logging and discouraged others from doing so.

somberly relate how there were many projects initiated in their area, but lack of empowerment of local communities saw almost all of them ending when the project deadline approached and project staff left. With this project, however, the focus has always been on giving the local communities the power and the ownership of all project interventions and innovations. Ali Hassan Mahar, Site Coordinator for Sukkur, sums up the commitment to project sustainability. As someone who has previously worked for other international aid organizations, he finds that his and his team's role as mediators, facilitators and supporters is essentially to lay a foundation that the communities can build upon themselves.

## From Smoke to Sustainability

Fuel-efficient stoves are helping community women slowly move away from using fuelwood, which is usually illegally logged in riparian areas, damaging habitats and the environment.



a. All project sites

There is perhaps no one more vocal and joyous about the fuel-efficient stoves the project has installed in partner communities than Khadija Meerani of Sher Dil Mahar village. An old woman with an infectious smile, Khadija has been involved with the CBO in the village ever since she arrived here with her family after the 2010 floods. When asked about the benefits of fuel-efficient stoves, she gives a demonstration by holding up her pristine cooking pots and pans.

"Less smoke, less wood, that's what all the other women will tell you. For me, apart from the obvious benefits, these stoves have cut my water and soap usage significantly. Without the smoke and wayward flame, my pots are now cleaner and last longer!"

She goes on to further state other important aspects of fuel-efficient stoves as a user and why their communities badly needed the intervention. To her, cooking food on open fires or makeshift stoves was a health and safety issue, as well as a gender inequality issue. She explains that previously, women were forced to go out each day to collect fuelwood for stoves. They were then required to stoke fires, cook food, heat water, make tea and then repeat the process over and over again throughout the day according to the wishes and needs of their families. The heat and smoke from these open stoves was unbearable and caused many health issues, specifically respiratory ailments which, if left untreated, even targeted their lungs. Young children who were still dependent on their mothers were usually kept near the stoves and suffered a similar fate, but being more vulnerable, were unable to get well as easily as their mothers did. The cycle caused pain and cost quite a lot of money.

With the introduction of fuel-efficient stoves to the women of partner communities, four things were highlighted:

- i) Significant decrease in usage of illegally cut wood for fuel
- ii) Decrease in money spent on purchasing fuelwood
- iii) Reduced smoke and emissions
- iv) Reduced cost of healthcare for ailments occurring because of smoke and emissions





Fuel-efficient stoves use less firewood, cutting the dependency on often illegally logged wood that costs a lot.



The fuel-efficient stoves are economical and environment friendly alternatives to traditional stoves used previously in communities.

According to the record of CBOs, presently there are more than 1,900 fuel-efficient stoves introduced in villages associated with this project. The environmental and conservation component of the fuel-efficient stoves has also worked to help save each household hundreds of rupees they previously spent to buy fuelwood, which was often illegally cut. It also helped women save time which they usually spent collecting the fuelwood themselves, away from their homes and children. With more time at home and an efficient way to cook food, the women of the communities are satisfied and free to use the extra time for other beneficial activities such as tending to their livestock or attending classes at their respective CBO's VTC.

The simple yet ingenious design of the fuel-efficient stove makes it possible for women to cook two dishes at the same time, requiring only half the amount of fuelwood. Khadija insists that by making tea and flatbread at the same time for breakfast, and cooking food and making the accompanying flatbread for lunch and dinner at the same time has liberated women from the tedious task of sitting around the stove all day long.

To further make it a viable alternative to traditional stoves available in the villages, the fuel-efficient stove features a pipe that pumps the majority of the smoke quickly upwards and away from the women so the problem of there being too much smoke is also solved. Now, families can enjoy a meal together without hassle or delay. This has also reduced the number of accidental burns women and children previously received in the past because of metal stoves or open fires. Fuel-efficient stoves are made from indigenous clay and mud and can withstand high heat without cracking or being damaged.

Apart from the cost and fuel efficiency of these stoves, and the health standard they are setting, the very task of making the stoves has also empowered the women of the community. Women have been trained to expertly and confidently build these stoves in their homes. They have also received training to maintain and repair them, if the need arises. Sukkur Site Coordinator Ali Hassan Mahar adds that on average, the 12



Khadija Meerani shows off her neat kitchen and cooking utensils. The fuel-efficient stoves are economical and a clean source of comfort.

women most actively making and repairing fuel-efficient stoves in the four project communities earn Rs. 15,000 to Rs. 20,000 in three months. Collectively, their earnings are now close to Rs. 240,000.

With detailed training and encouragement, the women of these villages are now committed to avoid illegal logging, or supporting those who do it. They keep their fuelwood usage in check, enjoy being empowered with a useful skill, record their significant savings, and enjoy meal times with their families rather than rushing through them. They are, quite literally, no longer chained to the stove.



Fuel-efficient stoves keep the smoke away from the user, making it gentler on the women and children who are near them.



# United They Stand

Community based organizations (CBOs) are helping fisher communities live sustainably and overcome livelihood challenges.



a. All project sites

In most settings in a developing country like Pakistan, people regard poverty, disorganization, lack of education and opportunities not as problems, but as human conditions. For the success of any intervention regarding these in certain selected communities, it was perhaps the most important challenge to make people realize that they had problems, which needed homegrown and self-made solutions.

The fisher communities in this area have been settled here for many generations, but low industrial and socio-economic development, lack of governmental interventions and support from authorities and relevant departments have left them without a proper direction to take in terms of sustainable fishing practices, following modern fishing laws and trends. The prevalence of a fishing contract system further exploits poor fishermen. Traditional fishing methods using lines and small mesh nets are still used, while harmful fishing practices such as agrochemical poisoning of fish and freshwater turtles are also practiced.

After the 2010 floods, many fisher communities along the Indus River, especially in the CIWC, further found themselves bereft and devoid of proper livelihood opportunities. First it was displacement from villages that were traditionally built along the riverside, often in the riparian or riverbed areas, and then it was the low-catch. Interestingly, the massive flood did not cause the disruption in their routine catch. The environmental and economic impacts of the disaster revealed that overfishing, and unsustainable practices like using electric current to catch fish, agrochemical poisoning of water, or even using a net with a small mesh had significantly decreased the river's capacity to sustain fishermen's livelihoods. As the communities resettled in the CIWC and day-to-day activities resumed, the need for an intervention become more obvious with each passing day.

The project was started with a vision to end the conflict between fishermen and ecologically important habitats, to conserve species and natural resources by training the fishermen in sustainable fishing practices, alternative livelihood methods and other vocational and management skills that would empower



CBOs have developed a sense of camaraderie amongst the fishermen communities, making them partners in their own progress.



Muhammad Sajid is an active social worker. He, like many other men from various fisher communities, is leading his CBO, empowered by the project teams.

them. Poverty alleviation was the major target as it was the driving factor behind overfishing and illegal catch, killing stranded Indus dolphins, poaching freshwater turtle species and hunting migratory birds. Presently, the target population for the project is fisher communities around Taunsa Barrage Wildlife Sanctuary, Kot Mithan and Chachran region, Guddu Barrage, Ghotki and Sukkur Barrage.

To achieve the target of engaging communities and turning poachers into protectors, one of the first and foremost actions was to bring communities together in the form of an empowered and ultimately self-sustaining network of CBOs. It was identified that local problems of fisher communities needed tailor-made and homegrown solutions. It was imperative to support the target fisher communities. They needed to decide for themselves what their chief problems were in terms of livelihood options and poverty alleviation, and meet the project team half-way to achieve quantifiable success in terms of alternative livelihoods, safe and sustainable fishing practices, additional vocational trainings and capacity building.

To improve their quality of life and reduce pressures on natural resources and strengthen existing Protected Areas (PA) in collaboration with local stakeholders, the CBOs were an important link in the project chain. Today, there are 10 CBOs working in six locations in the CIWC. These CBOs are run locally by community members who have stepped up to help themselves. Various initiatives taken by the CBOs with the project teams have turned into advanced attempts at poverty alleviation and conserving natural resources and species in the designated areas.

Establishing CBOs has also brought communities together on a humanistic level. Through baseline studies and socio-economic surveys, community members are now more aware of the problems in their communities. To help a fellow CBO member who is less privileged, there are practical examples that show that the CBO members stand united against hunger and poverty.

The members of Chuttal Mirani Mahol Dost Tanzeem consist of a family which has hereditary blindness. The disability has reduced the entire family to rely on others for sustenance with no



CBO members hold regular meetings and discuss issues, successes and failures to achieve bigger targets in the future for collective betterment.

means of earning a livelihood. However, after the interventions of the project team and the certification of the CBO, this family enthusiastically joined the CBO and members of the family appear in monthly meetings and workshops regularly. They also contribute to the community welfare fund. Furthermore, other CBO members have taken it upon themselves to not leave this family without a chance of earning with dignity. When a needs analysis was carried out to distribute livestock in the community, it was a joint decision of the CBO to also allot two cows to this less privileged family. When concerns were raised about who would take care of the cattle, the entire CBO overwhelmingly stated that they would take it upon themselves to do it. Alternatively, the fishermen from the community take a male family member on their boat when they go out for the day and give a portion of the day's catch to the family.

The family, although blind, is skilled in making and repairing nets. After training to make legal sized nets, they not only make and repair fishing nets for the community, they have also used discarded illegal sized nets to weave and make beds with wooden



CBO members hold regular meetings to resolve issues and deposit money for the community welfare fund, which is used to help them in an hour of need.

frames. Such ingenuity and true regard for the combined welfare of the people is not possible in communities which are dispossessed by the authorities and do not know how to cope with multiple social and economic issues.

## Mission: Conservation

Fisher communities in the CIWC are adopting interventions to fish sustainably and enhance their livelihood.



- a. Basti Miani Manchari, Kot Mithan
- b. Basti Asgharabad, Chachran Sharif

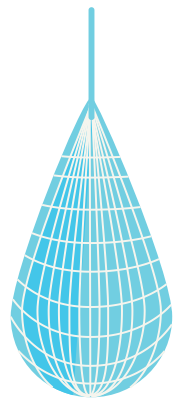
Consider this scenario: a fisherman casts a net with a small mesh, he will get a large catch. He will find fish of all sizes in his net: large, medium and small. However, he will not realize that the smaller fish are perhaps the juvenile spawn of the larger fish species, and in his haste to get a larger catch, he has, himself, damaged his future chances of a sustainable livelihood. The problem is a simple one, but one that was rampant in the fisher communities in the CIWC, where fisherfolk were increasingly desperate for larger catches to sustain their livelihood. However, the vicious cycle of supply versus demand was drawing them to become more and more unsustainable in their fishing practices, adding to their miseries. This aspect of the fishermen's life needed urgent and focused project-based interventions because of two reasons:

- a) The unsustainable fishing practices were damaging the river ecosystem, putting several fish species in danger of being wiped out, and,
- b) The direct impact of these practices was not addressing the issue of enabling the fishermen to earn a decent livelihood, hence making poverty a dire fact they all had to face.

The problem had such a grasp on the fishermen that they had resigned to their fate. Ahmed Said, Site Coordinator for Kot Mithan and Chachran in Punjab, described this phenomenon as, quite simply, "being too close to the issue to see the problem." The general consensus among the project team was sharing focused and action oriented sustainable fishing practices with fisherfolk in the project communities as a first step to address the issue. A thorough socio-economic survey was conducted at all the project sites to collect data to see the impact of the issue in a scientific manner. The data spoke for itself. The fishermen were then brought together via registered CBOs and next, trainings, capacity building workshops and door-to-door campaigning was carried out to help the fishermen maximize their catch without destroying the lifecycle of the most commercially viable fish species.



## Mission: Conservation



CBO members have learned to make legal sized nets and now make and repair most of their new nets themselves.

One of the main culprits in this whole scenario were the nets with small weave. A survey was conducted of the nets that fishermen owned and were using. It was identified that mesh and weave of the net was too small to allow juvenile fish spawn to pass through safely while still catching good sized adult fish. The fishermen were taught the life-cycle of fish species they usually caught for selling in the market. The educational aspect of this training was valued by the fisherfolk, who commented that it added to their previous knowledge of fish that they had inherited from their elders. All members of the CBOs were then finally convinced to discard their small mesh nets en masse and procure or make new legal sized nets which had larger weaves to catch only bigger fish, preferably of 6 inches or more in size.

This was not an easy task. Ali Hassan Mahar in Sukkur described how hard it was to convince the fishermen to throw away their illegal nets.

"We were challenging their way of life and it wasn't easy for them to understand that to some level, they were a part of the problem as well," states Mahar. "We just had to convince them that they had the solution within their grasp and they had the power to be a part of the solution."

According to project team members who regularly interact with CBO members, fishermen saw it as an affront to their way of life initially, but through practical examples and consistent mentoring, they were able to take the leap of faith. Many discarded the illegal nets entirely, while others chose to use the nets as protective barriers around project supported kitchen gardens and fruit tree saplings that they had received and planted with the help of the project teams. Others put them to even more creative uses, such as making vegetable carriers or sling bags for children out of them. In Rajanpur, a few CBO members used the nets to secure their chicken coops against predatory stray cats and dogs. In Ghotki, the CBO members used leftover illegal nets to weave seats in traditional chair frames. The uses were endless and true to their commitment, the fishermen families adopted practical ways to distance themselves from the problem. With the illegal nets out of the way, the project teams procured and helped



Discarded illegal nets have been used creatively in many different ways such as protecting fruit trees from stray animals.

## Mission: Conservation



Fishermen have been educated about legal sized nets to avoid catching juvenile spawn of the fish in the Indus.

community members make legal sized nets, which are now widely used, ensuring sustainability in fishing practices.

The project staff was sensitive to the needs of the fishermen and expedited the training to repair their new nets and also fix their boats as a further step towards empowering them. As the CBO president, Rasool Baksh, in Basti Miani Manchari states, the fishermen had to pay a heavy sum to get their boats fixed from repairmen, who had to be called over from as far as Sukkur to do the work. They charged the fishermen for their travel as well. Now, equipped with the skill to fix their boats themselves, they save the amount and do both major and minor repairs on their vessels. They also lend their expertise to help their fellow community members, in case they need help. Furthermore, after receiving boat-making training from master trainers in Basti Asgharabad in Rajanpur, the fishermen are now capable of making small scale boats.

President of the local CBO, Muhammad Sajid informs that a few members of the CBO have started making model boats after being involved in the boat-making training. The craft boats are attractive as decoration items and toys. The next step in enhancing the quality of the fishermen's work, the CBO members were trained



Provision of ice boxes on fishing boats to preserve the catch of the day is a concern for fisher communities.



## Mission: Conservation

to store their daily catch properly in ice boxes or in the shade so that the journey from boats to markets would not spoil the fish. Focus was on limiting waste to support a steady decent income.

With illegal nets out of the way, many elders in the families of fishermen are now weaving legal sized nets. Muhammad Sajid jovially states that it has brought the community together in new and unexpected ways, where, after receiving training from the project teams, the young are able to help the elders understand the need for these new nets. Awareness of the riches of the natural world around them has made the fishermen experience the real beauty of their surroundings in a remarkable way. Information about the preservation of the river they rely on for livelihood has led fishermen to understand that the Indus doesn't just sustain them, it sustains a whole chain of species that are interlinked and hence relies on a very precarious balance that should be respected and maintained at all times.

## Empowered Women, Agents of Change

Women's skills development was a challenge that has been turned into a livelihood opportunity at project sites.



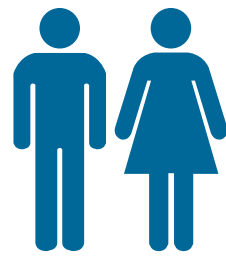
- a. Kot Mithan, Chachran Sharif
- b. Rajanpur,

In the CIWC, women work side by side with their male counterparts to support their households. While not all participate directly in fishing, they form a strong fringe that is engaged in other livelihood earning activities to help them help their families. At the very beginning of the project, the value of women as secondary breadwinners for their families was identified. According to the extensive socio-economic and household surveys conducted at each project site, it was deduced that women in the target communities are skilled and hardy. Their skill in managing and preserving the fish catch, making and repairing nets, procuring firewood for household and kitchen use and knowing simple home remedies using local plants was unmatched. They were also primary caretakers of livestock.

It was deemed important to involve women in fisherfolk households to contribute positively towards the development of their communities beyond general activities and for the betterment of livelihood opportunities. This manifested through active recruitment of women in CBO membership and making them the focal point when kitchen gardening trainings were conducted, and when livestock and fruit plants were distributed. Women were also the chief recipients of basic adult literacy training which included reading and numeracy skills, especially in Kot Mithan and Chachran Sharif. Banking on the women's creative flair and the will to achieve, female candidates from all project communities were selected for vocational trainings. These trainings included cutting, sewing, embroidery and making handicrafts using local materials such as reeds and date-palm leaves.

While conducting these activities within communities, several socio-religious and political factors were kept in mind. Cultural sensibilities were respected. Prompted by project staff members, CBO management reached out to communities in which they were working to get their input. They solicited advice and comments from elders about what the women wanted to do, and based on their advice, linkages were developed and trainings were designed that would achieve the targets. For all these activities, special female trainers and capacity building teachers were recruited.

## Empowered Women, Agents of Change



VTC members are partnering with CBO staff members to highlight their excellent handiwork in sewing and embroidery.



VTC members in Ghotki have lovingly embroidered a child's dress with WWF-Pakistan, signifying their appreciation for the project teams' support.

The 23 women in the VTC of Basti Jannat in Rajanpur are leading the way in this aspect. They are being trained to knit, sew and stitch, and they have made crochet, *ralli*, clothes and home textiles with traditional embroidery. Based on the collective outcome of their VTC work, they were provided support to set up a stall at the local Rohi Festival, Jhok Farid, Khanpur. A colourful festival of food and cultural importance, this event provides entertainment and respite for the masses at the edge of the Cholistan desert. The VTC's presence at the event proved to be a highly encouraging milestone for the community. The Rohi Festival hosted more than 50,000 visitors, and around 50 NGOs working in the local areas were present at the occasion. During the course of the festival, the women from Basti Jannat sold almost everything that they had made. They also got a chance to meet a well-established women's VTC from Haripur, whose products are being sent to, and sold in, England, Dubai, the US and Australia. Their encouragement was highly welcomed by the CBO members. At the closing of the event, the DCO of Rahim Yar Khan delivered a speech in which he mentioned the people of Basti Jannat and their hard work that was being represented by the VTC at the occasion. He also announced that a yearly event called Jashan-e-Farid will be held every year to bring the poorest communities from the area together to create livelihood opportunities for the creative people among them, and showcase their talent for others to see.

According to the project team, the one-day event was held in Chachran Sharif on 9 March, 2014. Based on the overwhelmingly positive feedback, it has been decided that the duration of Jashn-e-Farid will be extended from next year. The hardworking women of the area will be able to highlight their work for three days instead of one, giving them a better chance to interact with more people and share their stories of courage.

At this stage in the project, the women involved with other VTCs are just beginning to realize their full potential. Many have taken up the burden of sewing, mending and embroidering clothes for their own extended families who live together. This cuts the cost of going out to seek people who would do it for them.

## Empowered Women, Agents of Change

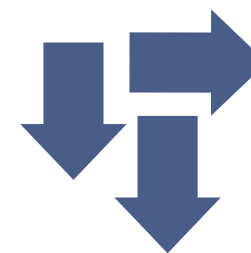


The handiwork of the VTC members is vibrant and striking, showcasing their enthusiasm for this decent livelihood option instead of illegal logging.

On average, the women of the VTC in Basti Miani Manchari in Kot Mithun report, they previously had to pay from Rs. 150 to Rs. 250 to get their clothes stitched. Getting to tailors and seamstresses was also a hassle and required effort, time and money. Now, through their training at the VTC and using sewing machines that have been provided, they are able to stitch clothes for their families and save at least Rs. 2,500 per quarter because of their talent and effort.

Nasreen, a young girl from the same community whose mother is a part of the VTC, is adamant that when you have very little money and so many mouths to feed, even this saved sum is essential for their survival. She hopes that with improved skill acquisition, her mother and her friends will be able to catch up with other VTCs and start earning from making beautiful clothes for others.

As far as selling clothes is concerned, keeping up with trends is essential and all women trainees realize that. According to Waheeda Bibi, the trainer at the VTC in Goth Sher Dil Mahar, Ghotki, the first step is to make the women realize the scope of their work and the worth of their talent. Nasreen adds that due to



Partnership between the project VTC and other government and private training institutes encourage women to do better work.

lack of exposure, women do not yet make the high fashion designs that so many people in big cities like Lahore, Karachi and Islamabad appreciate. However, Waheeda Bibi is hopeful and persistent, just like her students.

“We are helping younger girls learn about shapes, colours and basic numeracy skills to master simple sewing and embroidery projects,” says Waheeda Bibi. “We are refining their knowledge of ethnic embroidery skills. We have also pooled in some money to buy fashion magazines that illustrate the latest fashions. We will be mindful of these and hope to use these design techniques so our work will be appreciated far and wide.”

Looking at their work, their spirit, their enthusiasm and their commitment to earn a decent livelihood through their creative minds, it is not too hard to believe in this dream.

## Inter-species Harmony

**Project interventions  
are encouraging  
fishermen to see the  
mammals and birds in  
their area as allies in  
their progress.**



a. Taunsa, Guddu, Sukkur barrages,  
b. Indus River Dolphin Reserve

A direct result of awareness raising efforts has made fishermen understand the ecological importance of biodiversity in the CIWC. Traditionally, the Indus River dolphin found in the river was considered a useless species by most fishermen since it is a mammal and hence not consumable. According to CBO members, when it previously got caught in fishermen's nets or got hit by a boat, it was left to die. Dolphins also died because of the negligence of people and unsustainable fishing practices like agrochemical usage in river water to get a bigger catch and using electric current for the same purpose. Canal strandings of dolphins turned into spectacles and the traumatized animals perished before they could be saved.

Along with the ill-fated Indus River dolphin, the fate of other birds and animals within the project areas was also at stake in different ways. The eight freshwater turtle species (soft-shelled turtles) within the CIWC were illegally poached for their meat and parts, which were then sold on the black market for large sums or exported to countries like China. Myths were attached to their meat, giving them imaginary healing and curative powers.

These myths and legends only served to affect the species as their meat was used in traditional medicines. Through targeted interventions, the project teams onsite were able to separate myths from facts and make CBO members realize that these rumors were not true. Similarly, it was ascertained that many people supported the illegal poaching of these species because of extreme poverty; some regarded this as dirty work, but were forced to do it to earn a living. It was this point that made the project an essential asset in the area because it educates and empowers fishermen to earn a decent livelihood through other skill-based options, helping them become protectors of these species rather than staying poachers.

In the case of birds, many migratory birds were also hunted in the area. Often enough these birds belonged to the endangered, threatened or vulnerable categories on the IUCN Red List. Even when there was a decrease in hunters gathering from outside the area to poach the birds, there were instances where locals themselves hunted them for game meat, or simply to





Illegal hunting of local and migratory birds was rampant but now CBO members do not hunt unnecessarily and advise other villagers or visitors to stop illegal shooting and captures as well.

sell the dead birds to interested buyers. Vultures were viewed as ill-omens, signifying death and hence not hunted.

Persistent trainings and discussions with locals by the project staff have resulted in the people of the area viewing the species as co-habitants and essential links to the area's ecological stability. Dolphin identification and rescue trainings have been imparted in partnership with the Indus River Dolphin Conservation Project of WWF-Pakistan. Fishermen are now actively involved in not just sparing the lives of this unique and critically endangered species, but they also keep a look out for any dolphins in the area they patrol for fishing. They report any stranded animals immediately to WWF-Pakistan staff and this vigilant behavior has helped decrease the dolphin mortality rate. This is the reason why the 2011 Indus River dolphin survey showed a hopeful increase in dolphin populations in the Taunsa Barrage to Guddu Barrage stretch of the river. From 259 dolphins in 2001, the surveyors were able to find and report 465 dolphins in the survey conducted in 2011. Furthermore, fishermen now avoid using chemicals, electric current and explosives to get a bigger catch in the area, all of which has also helped spare the lives of the dolphins.

Haji Noor Muhammad, a senior member of the CBO in Chachran Sharif recalls how, in his childhood, the abundance of freshwater turtles used to delight the children in his area.

"We used to speculate what the turtles ate, where they slept and how they managed to live with other fish in the river," Haji Noor Muhammad reminisces. "Lack of understanding of the turtle species in the area led to their slaughter by illegal poachers, who often involved poor fishermen in their dark task by tempting them with large amounts of money."

However, Muhammad states, that has changed now for the better. Turtles are no longer seen as an exotic but useless species in the area. Fishermen now understand, through their training, that turtles act as filters within the river ecosystem and keep the water clean so that fish, their very source of livelihood, may thrive. This is why they not only spare the lives of the turtles but chase away anyone who tries to poach them. According to him,



Freshwater turtle species were previously hunted for sale on the black market, and sent to Far Eastern countries. This trend is now in decline due to awareness.



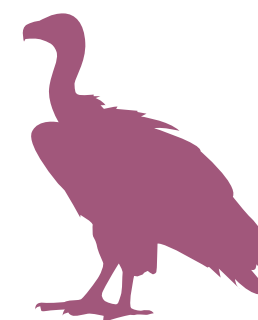
Fishermen have been sensitized towards species of critical concern such as the endangered Indus River dolphin and have been trained to rescue them.

there has not been a major turtle poaching event in the area since 2012, when the project was established here.

In Bela Forest in Kot Addu, Site Coordinator Umar Waqas is proud of the locals who have turned from poachers to protectors, ensuring that the hog deer and wild boars in the wildlife sanctuary are safe from hunting, and migratory birds relying on their restful stop on the Indus are spared a deadly fate.

Muhammad Sajid of the CBO Jannat Development Organization also recalls how lack of vultures in his area lead to the spread of rabies in the village. He understands that since the area has a lot of cattle, the drug Diclofenac sodium that was injected into sick cattle to relieve pain resulted in the death of vultures, which ate carcasses of the animals who still had the drug in their system.

"At first we did not understand what was happening to the populations of the vultures. We thought they were moving to other areas with more food. But we realized that the drug was killing them, and the illegal logging of tall native trees was taking away their nests, so they were dying faster than they could reproduce," Sajid admits, recounting the role of the project team



Vulture kept the areas germ free. Due to poisoning through diseased meat, their numbers have declined rapidly, giving rise to problems like rabies.



in making the villagers aware of the situation. He reports that a few cases of rabies led to deaths of women and children in his village and is adamant that the presence of vultures that clean diseases and viruses from the environment would have been helpful. He and his CBO members are hopeful that by avoiding cutting of trees and refusing to use Diclofenac sodium, perhaps the mighty vultures will return to their area.

"Now we know what's best for us and we're always hoping for the best," Sajid states with a confident smile.

The only sore point with fishermen in the project areas is the intrusion of hunters from outside during the migratory season, when birds flock to the river during their long journey from North to South, or from South to the North. Lack of interventions by the local Wildlife Departments is viewed as a disappointing trend, but the project team continues to build linkages and bring all stakeholders to the table to create a safe haven for not just human beings in the CIWC, but also for its feathered, scaled and winged residents and guests.

## Notes

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