



REPORT

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INDUS FOR ALL PROGRAMME

PROGRESS REPORT

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COMMUNITIES SPEAK



INDUS FOR ALL PROGRAMME
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PARTNERS PERSPECTIVES GOVERNMENT OF SINDH

It is a source of immense pleasure for me to see that the “Indus For All Programme”, being implemented by WWF-Pakistan in collaboration with numerous stakeholders, has successfully completed three and a half years of implementation (January 2007 – July 2010). It is encouraging to note that the Programme has smoothly steered its course towards making remarkable progress in all realms of its four fundamental goals.

Sindh faces a host of ecological, social and economical challenges, which can only be addressed through a pragmatic and integrated approach. As the Chair of Indus EcoRegion Steering Committee (IESC), I have been intimately associated with the Programme. It is pertinent to acknowledge the valuable guidance and profound support provided by the diverse IESC members to the Programme.

The crisis afflicting Sindh's natural capital is so intricate that no single organization can deal with it in isolation. I am therefore impressed by the effectiveness of the 3M approach adopted by the Programme, whereby the stakeholders representing micro, meso and macro levels are engaged in implementation throughout.

I am glad to learn about various interventions undertaken by the Programme including successful launch of Sindhi language manuals on best management practices for wheat and cotton, launch of a documentary titled 'Flowing Indus Forever' and a study on traditional ecological knowledge. These laudable achievements of the Programme will go a long way towards raising awareness about the importance of the Indus Ecoregion.

The Programme has also assisted the Sindh Wildlife

Department to revise their Sindh Wildlife Ordinance 1972 in light of evolving institutional, economic and social changes. This has also been recognized and appreciated by the Government of Sindh and we hope that such support to the relevant government departments continues in future.

It is worth noting that the adoption of a consultative process has added value to Programme, which led to the signing of partnership agreements with various partners such as government, academia, and civil society. The content of this report is evidence that much has been achieved in a short span of time, which would have not been possible without assiduous planning and careful implementation of the Programme activities. The Sindh Planning & Development Department is focusing on the overall coordination of the Programme to ensure maximum resource utilization for the achievement of the Programme's goals.

On behalf of the Government of Sindh, I assure full support and cooperation for the upcoming years of the implementation, especially in obtaining wide support from all stakeholders. I sincerely hope that in the coming years, the Programme will strive to bring about a lasting change for the local communities.

Muhammad Ishaque Lashari
Additional Chief Secretary (dev)
Planning & Development Department government of Sindh





EMBASSY OF THE KINGDOM OF THE NETHERLANDS

It gives me great pleasure to contribute to the opening chapters of the Indus for All Programme's 3rd popular annual report. These reports have been very useful in disseminating the Programme's success and achievements to a wider audience and it allows important stakeholders, including the Embassy of the Kingdom of Netherlands to follow the progress of the Indus for All Programme.

stakeholders including political will at all levels.

Staff of the Embassy of the Kingdom of the Netherlands also participated in one of the planning meetings held in November 2009. I was pleased to see so many stakeholders contributing and getting involved into setting the direction for Phase II of the Indus Ecoregion Programme. Ownership of the Programme at all levels, I feel, is key in making a difference in the Indus Ecoregion, starting from the communities living on the banks of Keenjhar Lake to the policymakers in Islamabad.

Finally, I was fortunate to be present at the de-briefing session of the second monitoring mission in the first quarter of 2010. The feedback from the monitor was very encouraging and I am happy to see that the Programme is on track. Some of the interventions such as the Better Management Practices have indeed brought monetary benefits to the communities, whilst at the same time improving the environment. Reducing the amount of pesticides whilst increasing the yield per acre is something that really underscores the poverty-environment nexus. I hope the remaining two years (July 2010 to July 2012) go well for the Programme and I look forward to seeing the Programme go from strength to strength.

Jan Willem Cools
First Secretary Development Cooperation Environment & Water
Embassy of the Kingdom of the Netherlands

I had the pleasure of visiting one of the Programme's priority sites, Keenjhar Lake in November 2009. It was heartening to see the Programme's activities having a positive effect on the local custodian communities of this important water body. During my visit I discussed the possibilities of scaling up these interventions at the ecoregion scale, something that is very important for the sustainability of this Indus Ecoregion initiative. It is also imperative that WWF Pakistan gets all stakeholders on board and plays an active role in bridging the gap between rural development and conservation of wildlife and habitat. The devastating floods of 2010 highlighted again the important role wetlands can and should play in managing water resources in an integrated manner. Such an approach requires the serious commitment from all

WWF - PAKISTAN



The Indus for All Programme is WWF - Pakistan's single most important programme in the province of Sindh. The Programme's success has been documented not only in various newspaper articles but also by an external reviewer selected by the Embassy of the Kingdom of the Netherlands to monitor and evaluate the Indus for All Programme's activities and interventions to date.

In light of the global economic and ecological crises the international community has come to realize that development must go hand in hand with conservation. In Pakistan too, our growing needs and demands have encouraged us to rely heavily on ecological resources and environmental services. However, both of these are finite. If we are to effectively combat the challenges of climate change, onslaught of natural disasters, water scarcity and increasing pressure on food resources we must re-orient the economics of our lives towards conservation efforts and valuing environmental services.

The Indus for All Programme demonstrates that economically motivated, socially charged and environmentally aware communities view the environment as a protected resource. Communities dependent on natural resources are aware of the fragility of their livelihoods and recognize the economic value of environmental resources. It is these communities who are partners in WWF – Pakistan's initiatives and who tirelessly work towards securing their economic and environmental futures. However, they cannot do it alone. Neither can we. Therefore, it is imperative that we continue our efforts to build an environmental lobby not only in Sindh but also in Pakistan. This environmental lobby will vigilantly protect and promote environmental conservation and reap the benefits of conservation now and in the future.

Ali Hassan Habib
Director General
WWF Pakistan



ACHIEVING PROGRAMME GOALS - A PROLOGUE

The Indus for All Programme has completed three and a half years of its implementation (January 2007 – July 2010). The Programme continues to make on-the-ground progress in all aspects of its four objectives. In livelihood improvement community-based organisation's (CBO) continue to implement natural resource management (NRM) and Livelihood Development Plan interventions such as mangrove plantation, micro-enterprises projects and natural resource based enterprises. Meanwhile, a second periodic wildlife habitat survey was conducted at all sites, laying the basis for an assessment of flora and fauna changes attributable to Programme interventions.

As regards to ecological footprints, use of water, pesticides, and fertilizers under best management practices are worth noting. The Programme assured the successful launch in June 2010 of a Sindhi-language manual on “best management practices for wheat and cotton”. The manual is now among the library holdings of farmer field schools, agricultural universities, and technical universities in Thatta, Sanghar, and Shaheed Benazirabad districts. This technical input accompanies the highly successful functioning of Programme-administered farmer field schools (FFS) in these districts. One gauge for their success is demand. In Shaheed Benazirabad, where two schools had already been catering to 6 villages, meeting the Programme's target, a nearby village requested and was provided an additional school.

With respect to improved NRM and livelihood outcomes through mainstreaming poverty-environment (PE) linkages, fisheries components of NRM plans were assisted by trainings of officials at Sindh Fisheries Department,

other departments, and universities by visiting Sri Lankan experts. Government departments dealing with livestock and fisheries as well as wildlife continue to review PE linkages proposals on fish culture, among others, for inclusion into their economic planning documents. Opportunities are being used to mainstream valuation, green accounting, and related initiatives into the budget-making process, e.g., the Programme's grant research on recreational use of Keenjhar Lake and its preparation of a Ministry of Environment forest valuation manual, is being pursued through minister-level presentations and project proposals.

Species and habitat are addressed principally through NRM plans, which in turn rely on species recovery and sustainable use levels set in 2009. Started in April 2010, based on a concept paper prepared by the Programme Implementation Unit at Pai, efforts are underway to build a hog deer sanctuary over an area of one acre. The sanctuary will not only help replicate hog deer, it will also enable sighting by visiting schools. As regards habitat-related activities in the NRM plan for Shaheed Benazirabad, the Programme is showcasing Hurri plantations, a type of agro-forestry project, in the vicinity of Pai forest. At Keti Bunder, over the past 12 months, it may be noted that 2,500 hectares of mangroves were planted over a three-month period up to August 2010, as compared to 850 hectares in the same period last year. Of the 2,500 hectares, 700 hectares were *Rhizophora* species, while the remainder were *Avicenna marina*. Also, fish juveniles are being protected by a recently implemented project that replaces illegal nets with legal ones purchased by the Programme from the open-market at Ibrahim Haideri. The project also includes the provision of pond culture in two villages, Tippon in Hajamro creek and Bhoori village in Khober creek.

A related break-through, for species conservation and habitat, is that the Programme spent the past year helping the Sindh Forest and Wildlife Department to up-date the 1972 wildlife Protection Ordinance and 1927 Forest Act in light of ground realities. In order to further strengthen the custodian departments, the Programme conducted a training workshop on 18 August 2009, the first of its kind, for District Game Wardens of Sindh, so as to enable them to support SWD's conservation and law enforcement agenda. To effectively manage the forest

resources, it is imperative that the concerned government departments clearly understand its magnitude and the forces affecting that resource. To achieve this, the Programme is helping SFD to assess the entire riverine forest cover using GIS based techniques and through the training of SFD's technical staff. The same approach is being applied to mangrove forests along Sindh's coast. The level of trust by the government of Sindh on the Programme is evidenced in the recent governmental notification whereby WWF – Pakistan Sindh has been entrusted as a monitor of the mangrove rehabilitation project being implemented by its SFD.

Work on institutional awareness and capacity includes the completion of trainings of different types, e.g., proposal development by women, or, monitoring of natural resource use by CBOs. Commitment has also been garnered through capacity-building exposure visits for journalists, students, and other stakeholders. Website development and newsletter distribution is ongoing, while statistics are being assessed for impact measurement in this area. Specific segments of society such as women and youth were engaged. The former received training in environmental health and hygiene issues, while the latter were engaged in celebrating environmental days, campaigns, spellathon, rallies and, importantly, in nature clubs/environmental societies that are being formed for the very first time as part of a network with active central hubs.

Rab Nawaz
Director/ Team Leader
Indus for All Programme, WWF Pakistan

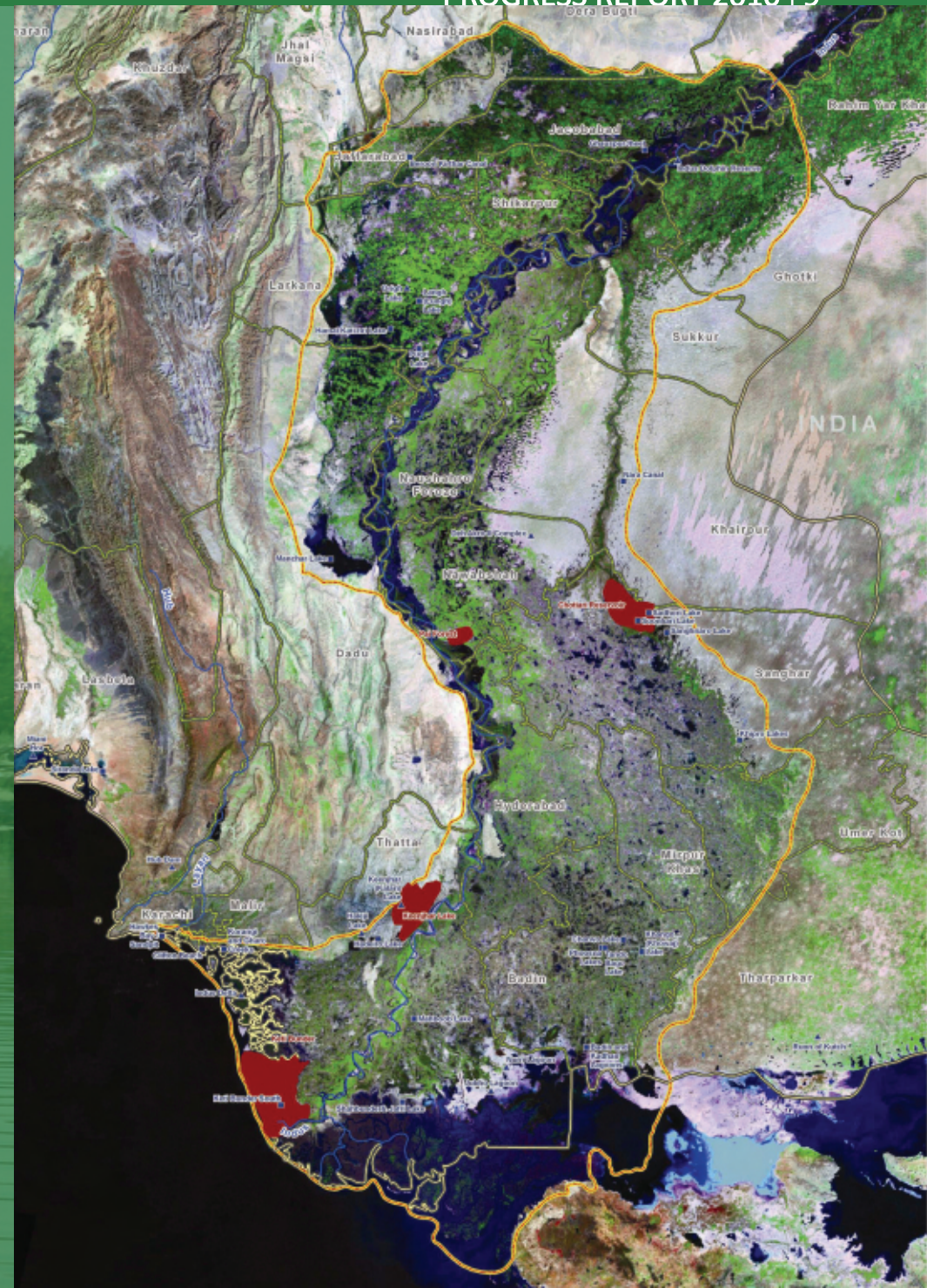


ECOREGION PROGRAMME - FROM VISION TO ACTION

In 1997, WWF – International in concert with the United Nations Environment Programme (UNEP), Birdlife International and the National Geographic Society launched the Global 200 Ecoregion initiative. The Global 200 or G-200 as it is otherwise known sought to identify and rank the planet's most biologically outstanding terrestrial, freshwater and marine ecosystems. The G-200 identified 238 biological hotspots. Of these 238 ecosystems, the Indus Ecoregion, lying solely within the borders of Pakistan, ranks amongst the top forty. An ecoregion is defined as “a large unit of land or water harbouring a geographically distinct assemblage of species, natural communities and environmental conditions”. Other transboundary ecoregions that fall within Pakistan include the North Arabian Sea, Rann of Kutch, the Tibetan Plateau Steppe and the Western Himalayan temperate forests.

In response to the G-200 ranking WWF-Pakistan, with the generous support of the Embassy of the Kingdom of the Netherlands, and in consultation with national stakeholders and international experts developed a 50-year Indus Ecoregion Programme. The Indus for All Programme is the first, 5-year, phase of this 50-year programme.

The Indus Ecoregion partially covers 18 districts in the province of Sindh. The ecoregion comprises of a range of diverse habitats including the Indus Delta, the main river course and riverine forests, fresh and brackish water lakes, deserts and rangelands, and mangrove forests. These habitats, in turn, support not only a rich variety of flora and fauna but are also home to over 20 million people many of whom are entirely reliant on natural resources for their livelihoods. Common livelihood sources include farming, fishing, logging and timber collection, and livestock grazing. However, this unsustainable dependence on natural resources coupled with increasing incidence of poverty prompted WWF-Pakistan to focus on poverty-environment linkages when developing the Indus Ecoregion Programme.





PHASE ONE: INDUS FOR ALL PROGRAMME

The 'Indus for All Programme' (referred to as the Programme) has been developed by WWF- Pakistan to implement the first five years of the 50-year Vision of the Indus Ecoregion Programme. The initial financial support has been provided by the Embassy of the Kingdom of the Netherlands (EKN). The Embassy has also been instrumental in supporting the long term development of the Programme. The vision statement of the Programme is "People coexist in complete harmony with nature and biodiversity of the Indus Ecoregion flourishes in its entirety." In phase one the Programme is concentrating on four priority sites at: Keti Bunder and Keenjhar Lake (District Thatta), Chotiari Reservoir (District Sanghar) and Pai forest (District Shaheed Benazirabad).

The Indus for All Programme proposes and implements interventions based on composite recommendations made by key stakeholders and proposed within official policy and economic planning documents geared towards conserving and improving habitats while reducing dependence on natural resource by diversifying livelihoods.

Objectives

The overall objectives articulated in phase one of the Programme focus on natural resource management in the Lower Indus Basin to improve livelihood and sustainable development of the region.

1. Community-based Natural Resource Management (NRM) in four priority areas contributes to improved livelihoods.
2. Improved natural resources and livelihoods through mainstreaming of poverty-environment linkages at policy, planning and decision-making levels.
3. Improved institutional capacity and awareness for sustainable management

at various levels.

4. Improved alignment and collaboration for stakeholder interventions.

Approach

Some of the main drivers addressed by the Programme are water scarcity, poverty and environment. The threats that fall within these drivers are species extinction, land degradation, soil and water salinity, climate change, deforestation, over fishing, and unsustainable agricultural practices etc. In order to tackle these drives in a coherent and integrated fashion, the Programme has developed a clear logic and implementation strategy: the 3M approach. This approach engages stakeholders at the micro, meso and macro levels. At the micro level the Programme engages with stakeholders at the village and union council levels; at the meso level, the Programme interacts with stakeholders at the district and provincial levels; and at the macro level, the Programme interfaces with stakeholders at the national and international level.

Its awareness raising and capacity building initiatives continue to build and strengthen collaborative ties and common interests with stakeholders, which contributes towards increased collaboration across stakeholders and partners, transparency and good governance. The Programme also promotes discussions around issues of water scarcity within its four priority sites. Efforts are being made to bring this issue to the forefront of the Programme's agenda.





Governance

Since the start of the Indus for All Programme, WWF Pakistan has worked closely with the government departments that are involved in activities similar to those undertaken by the Programme

The Indus Ecoregion Steering Committee (IESC), a body chaired by the Additional Chief Secretary (Dev.) of the Sindh Planning and Development Department, has primary oversight of the Programme and meets twice annually to assess interventions, review plans and approve future plans and strategies. Other members of the IESC include provincial secretaries of departments including the Forests and Wildlife Department, Environment and Alternate Energy, Livestock and Fisheries, Education and several others.

To ensure a good working relationship with the government of Sindh, the Programme in coordination with the district governments of Thatta, Sanghar and District Shaheed Benazirabad have set-up 'District Coordination Committees' (DCCs). These DCCs meet on a six monthly basis to review programme activities at the priority sites and strive to coordinate between both governmental and programmatic activities in the areas of natural resource management and livelihood improvement.





Ayub Dablo – Leading by example



Jhimpir Nature Club: Government High School, Jhimpir, Keenjhar Lake

Taking charge: Haji Musa village, Keti Bunder

The residents of Haji Musa village in Keti Bunder desperately needed to be protected from the sea. Their village was always at risk from the surging tides of the Indian Ocean, especially during the monsoon months.



A temporary embankment was all that lay between the village and the sea. After repeated requests the community of Haji Musa Jat were able to get support from the District Government of Thatta to build an embankment around their village.

Even so, none of this was possible until Haji Musa himself stepped in. Musa organised the building of the embankment using stones and village labour. Today, a pukka embankment, which protects the community from sea surges, is entirely the result of a community effort.

Nature Clubs: Building a future generation of nature lovers and conservationists

Jhimpir Nature Club, Government High School, Jhimpir, Keenjhar Lake

Before the nature club was launched here at the government high school in Jhimpir, the school's grounds were barren and colourless. Over time, inspired by leadership from the teachers and the school's principal, they have changed the appearance of the school grounds.

The large, open compound is now home to a variety of trees and plants. The children, who range in age between 10 and 16 years, take care of the plants, watering and trimming them as needed. They have also individually planted saplings

and are responsible for their care.

The high school's roster of 615 children – 100 of whom are girls – are in the midst of a hands-on learning exercise, one that is likely to stay with them after they have left school. “The big difference I see in the children,” said Mr. Ahmed Shoro, the school's principal, “is in awareness. The children then take that awareness back



into their homes. They now understand the concept that taking care of our environment is taking care of ourselves.”

Selected children at the school are members of the Jhimpir Nature Club, which has its own room on the school grounds. Inside, there is evidence of the children's knowledge and engagement with their environment. There are murals on the walls of otters and different kinds of birds, as well as crocodiles, and other local species.

“They have an agenda every school session,” said Mehboob Ali, the teacher attached to the club. “We do different activities. We go camping, bird watching and do other outdoor activities.”



Vocational centre, Ghulam Hyder Bhutto, Pai Forest



COMMUNITY-BASED ORGANISATIONS CHANNELLING LOCAL ENERGY TO RESOLVE LOCAL ISSUES:

Village Ghulam Hyder Bhutto, Pai Forest, District Shaheed Benazirabad

The CBO was set up in 2002. However, it was not until 2005 that Gulnaz, 25, joined the CBO at its present location. “There were other CBOs at the time but they hadn't done anything visible. We started working on literacy, which is a big issue here.”

The CBO, an all-women's organisation, got some assistance from the organisation AHAN (Aik Hunar Aik Nagar: one village one product), which provided training to them. Gradually they partnered with the Programme, and have since set up a raw materials shop and a proper training centre for sewing.

“We try and extend ourselves beyond our known abilities,” said the committed Gulnaz. “We don't have a lot of exposure but we'd like our girls to get more exposed so we know about design, colour, and current fashion trends.”

One of the biggest concerns for women like Gulnaz, Kareema and Rehana, who are all office bearers of the CBO, is the lack of educational facilities, especially for girls. “Actually,” says Kareema, “we don't even have a school. We have a building but we don't have teachers so they shut down the school. Some of us are trying to get training so we can fill the gaps.”

The CBO has been lobbying with the office of the district coordination officer to re-open the school. To date, their requests have fallen on deaf ears but the women have not given up.

“We'll open the school first, and then we'll start working on the health centre because people here need access to basic healthcare.”



Mangrove Plantation,
Village Meero Dablo, Keti Bunder

VILLAGE MEERO DABLO, KETI BUNDER

Living out on the sea sounds romantic enough but for the communities who live on these isolated creeks the reality is very different. Most people here live hand to mouth. But no period is tougher for them than the monsoons when the sea's turbulence is unleashed upon them with unadulterated force.

Working with the Programme, local CBOs have gradually understood why mangrove plantations are their best friends. Mangroves absorb between 70 to 90 percent of the energy of a wave, protecting coastal communities from tidal surges, and especially protecting exposed communities like the families living in Meero Dablo. The CBO here has become an active proponent of mangrove plantation. Over a short period they have planted over two hundred thousand mangroves, with the assistance of the Programme. Saleem Dablo is the president of the village council. At 30, his energy and determination are infectious, helping to encourage others in the village council to protect the mangroves.

“Before we started this work, others in the community didn't really understand the importance of the mangroves. Now, over time, they do, and equally participate in protecting them. We work together to chase away the camel herders who bring their animal here to feed.”

The community protects the mangroves. It helps that they planted the mangroves themselves and feel invested in nurturing their growth.

The men of Meero Dablo and its neighbouring villages are all fishermen who depend entirely on their catch of fish, crabs and shrimp for survival. As a result of their vigilant efforts, the area's mangrove cover is on the rise. Not only is it a buffer against sea surges, it is also providing a nursery for shrimp and crabs.



VILLAGE AMIRPIR, KEENJHAR LAKE

Where once hunters roamed happily in search of game, today there is a 13 square kilometre protected partridge reserve where a fiercely

enforced hunting ban is in place. The project is successful largely as a result of the efforts of a local CBO, and its leader, Mr. Hameed Palari.


Palari and kinsmen from his tribe had been hunting partridges since

childhood, but after much interaction with staff from the Programme, they began to reconsider their love of hunting.

“We realize today that it is much better to conserve the areas resources than destroy them,” said Abdul Hameed Palari, one of the members of the area's community managed conservation area. The area's Typha plantation is a sanctuary for partridges and other birds.

Nine villages collaborate to protect the community-managed game reserve. They collectively employ five eco-guardians from five different villages to guard the area from poachers and hunters. Each eco-guard earns Rs. 6,000 a month.





VILLAGE AZAD MOHAMMAD JAKHRO, KEENJHAR LAKE

Abdul Qadir puts his hat on his head, and his shades to protect his eyes from the rays of the mid-morning sun. It is immediately clear that he is a doer and he is taking charge. Qadir who is a teacher by profession, also heads the area's CBO.

“In exchange for what the Programme has provided the people of our community by way of biogas, we've planted some 7,000 trees, and we take care of them. Health and hygiene are our biggest concerns here but we're working hard to address these issues.”

During this visit, Qadir was overseeing the construction of 18 pit latrines in the area. “Apart from the hygiene concerns, [not having pit latrines] is also very dangerous and improper. It's tough for the women who have to walk distances to find privacy but also there are snakes here and every so often someone gets bitten. Pit latrines will be a great step forward for people here.”



Vocational centre, village Sohino Faqir Umrani, Chotiari Reservoir

CHANGING MINDSETS: VILLAGE SOHINO FAQIR UMRANI, CHOTIARI RESERVOIR

“When I first heard that my wife was going to join the training centre here, I thought, ‘Oh God, this woman will become too free,’” admitted Hub Ali, candidly, as he talked about his fears of breaking with social convention. The village had never had a training centre before, much less one for women. Women never worked in



professions where they might earn independent wages, and men feared what would happen to their family structures if the women became stronger.

Sitting in the CBO office, some ten men nod and laugh as Ali recounts how he came to terms with the change in culture.

“Then the social mobiliser Ms. Kubra Mangrio from the Programme came and explained things to me. I listened and I understood, and I let my wife go. Basically, our natural system died the day they built [the Chotiari] dam. The women used to look after the cattle and feed them water and food but the water shortage began to kill our animals. The training centre has offered us – our women – an alternative.”

Everyone in the room agreed. “You know, there has been a great change in the women of our village,” said Deen Mohammad Umrani, who heads the CBO. “They barely left their homes before and didn’t know much about the outside world. Now they have some skills and they are ready to learn more. They are looking to expand their marketing potential by improving colour selection and focusing more on modern design.”



YOUTH ORGANISATIONS MOBILIZING YOUTH IN URBAN CENTRES: NAWABSHAH CITY, NEAR PAI FOREST

The Nawabshah Youth Organisation (NYO) is a bit of a path-blazer in its area. Led by a team of dedicated young students and recent graduates, the organisation is motivated by a desire to improve the environment and the public's consciousness about that environment.

'I Clean Nawabshah' was one of its first activities. Teams of young students washed graffiti and political posters off walls, and planted trees in barren spaces in a one-kilometre stretch of Nawabshah. The campaign gained publicity and possibly some converts from among the public.

Two brothers, Bilal Nazar and Amar Nazar, founded the organisation in 2007 along with two other friends and a core team of 12 youth.

Over time they've even developed a flagship event, the Pakistan Youth Conference, which aims to empower youth and develop strong leadership qualities.

In August 2009, NYO also led a tree-planting initiative that resulted in the plantation of 1,500 trees in Pai Forest. The Programme provided the trees. In June 2010 they were the voluntary organizers behind the Pai Festival-2010 organised by the Programme.

NYO's other contribution to the Programme and to the area comes by way of brainstorming new ways of saving the environment and mobilising local interest in environment issues. Among their suggestions is the development of a camping culture in Pai Forest that will not only educate youth but also encourage them to enjoy being at home with nature.



CENTRES OF DEVELOPMENT AND EDUCATION



Keenjhar Conservation and Information Centre, Keenjhar Lake

Keenjhar Conservation and Information Centre has been constructed at the bank of Keenjhar Lake near the Sindh Fisheries Department (Community Hall). The centre comprises of four rooms, which include a conference hall, a fisheries resource room, an office/reception area and a guest room. A bird watchtower rises 23 ft above the ground with stunning views of the lake.

The centre is open to the public as a conservation information point and is accessible from Karachi (123 km) and Hyderabad (78 km).

Centre of development and education

Chotiari Conservation and Information Centre, Baqar, Chotiari Reservoir

The centre embodies the spirit behind all of the Programme's efforts in the area. Designed in the traditional style with a *Typha* thatch roof decorated on the inside by layers of ajrak and local block printed materials. The centre comprises of a conference hall, a fisheries resource room, an office/reception area and a guest room. It is both an education centre and a practical demonstration of good conservation practices.



The centre houses an information point, a conference room and training centre, a guest room, a small office, and a bird watch tower. A circular room exhibits murals and 3D models of the areas endemic species, such as otters, Wild boar, chinkaras, and Monitor lizards. The roof hosts a rainwater-harvesting system, and the centre runs on solar energy from a panel. The centre opened in August 2010 and has attracted many folks from both the immediate local community as well as other areas.



Ghulam Hussain Leghari

ON THE GROUND CONSERVATION

Makhi Development Organisation: Village Ghulam Husain Leghari, Chotiari Reservoir

Seven villages form the Makhi Development Organisation , an effort to conserve the area's natural resources. The CBO has 70 members who protect some 8,000 acres of no-hunting zone. Arriving here wasn't easy for some of the initiators of this project, who were seasoned and proud hunters for most of their lives. Chief among the conservationists are Khalid Leghari President of CBO and Ghulam Hussain Leghari , brothers in arms, who were famous hunters of their area. "Hunting is in our blood, you know," said Khalid candidly. "It wasn't easy to give up but this man," he laughed pointing at the Programme's Community Development Officer , Moula Bux Mallah "wouldn't leave us alone. We used to see him approaching from afar and escape into the plantations so that he wouldn't spot us!" Khalid paused then said seriously, " now, we understand him, and we understand that we are the ones who have the responsibility to protect what is ours."





Area Coordination Committees

The Indus for All Programme facilitated local communities living around the four sites to form CBOs. The purpose was to ensure community participation in effective management of natural resources and bring about an improvement in livelihood. These CBOs in creating Area Coordination Committees (ACCs) for each site. The aim of these ACCs is to network, build linkages and raise awareness through advocacy for each site. All four committees have elected their office bearers and each committee has been separately named. The following ACCs have been formed:

- Pai Forest Action Network, Pai Forest, District Shaheed Benazirabad
- Chotiari Conservation Forum, Chotiari Wetlands Complex, District Sanghar
- Keenjhar Conservation Network, Keenjhar Lake, District Thatta
- Keti Bunder Conservation Organisation, Keti Bunder, District Thatta

ENHANCED ROLE IN DECISION-MAKING

As a result of greater district coordination and the setting up of advisory committees, civil society organisations now have a more organized and direct platform from which to voice their concerns and advise the Programme. This also means that marginalized members of the community are able to voice their issues before district government officials. CBO representatives also have equal opportunities to participate in DCCs. Each CBO elects one member to be present in DCC meetings and raise issues of concern related to their site.

CBO maturity assessment

In July-August 2009, the Programme conducted an assessment study to gauge the institutional development of CBOs. For this purpose, Institutional Maturity Index (IMI) (used for Northern Areas Development Project in 2008) of the International Fund for Agricultural Development-Rural Support Programme Network was used. The study looked into three dimensions of institutional development: organisational motivation, organisational performance and organisational capacity.

A well-defined method of focus group discussions was used for the assessment. Out of total 41 CBOs, 33 CBOs were assessed. Out of these 33 one was found independent, 11 under development, 19 in infancy and two inactive.





Cost of solar panel per household: Rs. 25,000
Number of solar panels in Keenjhar Lake: 5
Community contribution: plantation and its maintenance

THE RESOURCE FACTOR - HARNESSING BENEFITS FOR ALL

Natural Resource Management (NRM) Plans

The NRM plans for four sites tackle site specific issues, largely at micro and meso levels, assisting communities reduce their dependency on the natural resources such as forest. The NRM Plans also deal with some of the important macro level issues such as revision of the 1972 Wildlife Protection Ordinance that has been revised after a province and nation-wide consultative process and has been re-named the 2010 Sindh Wildlife and Protected Areas Act. To ensure synergies between the natural resource management and livelihood development components, the two plans have been merged into a series of 'site strategic plans.'

SOLAR AND HYBRID RENEWABLE ENERGY

It's all in a night's work: Moldi Cluster (Lall Bux Manchari), Keenjhar Lake

Before solar energy came to Moldi, the women and children trekked long distances to fetch wood for fuel.

"The journey itself took us three to four hours, and then another hour or two to cook," remembers Nazira Mustafa, 40, and mother of 10 children. Not only are the days longer now, this community also enjoys the benefit of night light from the 10

solar panels that were set up 6 months ago.

"The children don't go to school," said Razia Mustafa, Nazira's eldest daughter, "because the teachers don't show up. At least now they read the Quran at night after they've done their chores."

After taking care of their families' needs during the day, the women gather around charpais at night and make rillis, traditional Sindhi patchwork quilts that are famed for their patterns and eye-catching hues. Rallis were made in the past as well, as they are made in most Sindhi homes, but lack of time and other pressures meant that one ralli took much longer to make.

Other crafts also come to life by night. Apart from rallis, the women here weave floor mats from *typha*.

SOLAR AND HYBRID RENEWABLE ENERGY

Where weather vanes meet King Rah: Village Khariyoon, Keti Bunder



Kharion is another of Keti Bunder's backwater hamlets. A collection of white plastic chairs make up the outdoor seating, and clothes hang on lines tied between the wooden huts. You wouldn't know it immediately but in recent times life has completely changed in this 14-household village. It all happened when a hybrid unit, a mix of a solar panel and a wind

harnessing system were rigged up in Kharion to provide electricity to its residents.

"The day it happened, it was something of a miracle," said Ghulam Hussain Dablo, the grey-haired leader of the area. "I never thought I would have electricity in my home, in my lifetime."



The day the Programme set up the hybrid system in Kharion, Dablo remembers neighbouring communities gathered in numbers to witness the event. "It was a mela! Since then, our lives have changed dramatically. We lived our lives by the rising and setting of the sun.

"We save money on oil, which we used previously to light. We can make nets by the

light so we save a lot of time, and our children are safer as a result because they can see their way around."

In return for the electric setup, the families of Kharion expressed their commitment to conservation by planting mangroves on 10 acres. In addition to planting them, they collectively nurture the plants, and also now demonstrate knowledge of their importance as nurseries for fish and shrimp.

Cost of hybrid solar and wind unit per community:

Rs. 375,000

Number of hybrid systems in Keti Bunder: 2

Community contribution: plantation of mangroves and their maintenance

AQUACULTURE - CREATING NEW OPPORTUNITIES FOR FISHERMEN

Village Nabi Bux Pallari, Keenjhar Lake

Out in the Nabi Bux Pallari village, among a tall field of Typha plants, is a 50 by 50 metre aqua culture pen. Seven months ago, the Programme gave Hameed Palari 5,000 finger size fish seed to release into the pond, in the hope that the seed would adapt to the local environment and grow into big, healthy fish. The types, if the project is

successful, should be plentiful: Tilapia, Snakehead, Silver-grass carp and Sole among them. A small feeding area in one corner of the pen is regularly replenished with fish food.

Pen culture is one way of offsetting serious pressures on the fishing community, which finds it difficult to survive in the absence of natural fish stock in lakes.

“In 15 months we ordinarily have 600 kg of fish, each fish weighing between 1-2 kg,” said Palari. “But we now have 660 kg in 16 months!”

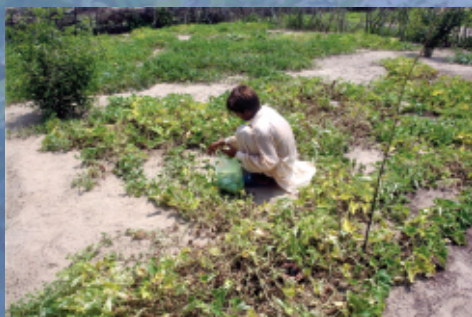


Project cost: Rs. 305,000

Community contribution: additional 500 fish seed

PITCHER IRRIGATION - SUBSISTENCE FARMING

Pitcher Irrigation, Village Abdul Majeed Mangrio, Chotiari Reservoir



"We'd never eaten vegetables until recently," announced Luqman Mangrio, 19, a tall and lanky youth who was tending to a vegetable garden growing in a sandy, seemingly inhospitable environment. The people of the Mangrio tribe are livestock herders who live in virtual isolation atop a sandy hill overlooking the majestic scrub and lake topography of the

Chotiari Reservoir region. As livestock herders their diet has been limited to dairy products. The closest market was difficult to reach without a pick up or similar vehicle and no supply trucks made their way over to sell or barter supplies to this tiny community.



Recently the Programme trained them on developing a pitcher irrigation system that would allow them to grow a variety of fruit and vegetables fed through clay pitchers buried just under the ground. "Our diet has changed radically," said Luqman. "We now make a watermelon salad, for example."

The women and children who are unaccustomed to travelling outside their area

especially feel the change. "We hadn't eaten roti before," explains Latifa Mangrio, 35.

Pitcher irrigation has worked like a charm with this community, which received about 400 pitchers from the Programme in March 2010. In addition to the pitchers, the community was provided with seeds for the fruits and vegetables. They have now added cucumbers, zucchini, squash, Bitter gourd, lemon, mud apple and pomegranate to their diet.

Project: Rs. 250,000

Number of pitchers given in Chotiari: 1,200

Community contribution: Fencing of plots and labour for installation of pitchers

Cost of biogas unit: Rs. 65,000 (approximately)
 Programme support: 75%
 Recipient's contribution: 25%

BIOGAS

Leading by example

The local engineer: Village Ahmed Saamo, Keti Bunder

Ghulam Haider is no ordinary resident of village Ahmed Saamo. Apart



from cultivating his 40 acre (mud apple) plantation, and 10 acre banana plantation, he is a self-taught engineer of sorts.

When the Programme's staff visited him in August 2009 suggesting that he reuse the waste from his ample

cattle stock – 7 to 8 animals would do – to run a biogas unit, Haider jumped at the idea.

“I was thrilled at the idea of using up all the waste. Now that I have it, it's great. It's much easier than I had imagined and it is so much cheaper.” Over the months since the unit was installed on his grounds, he has watched and improvised local solutions to get the best use out of his unit. “What I discovered was that this gas tank needs some pressure on top of it to really work more efficiently.” Haider got an old tractor tire and placed it on top of the tank. “This really works. It's much better, and you get more pressure.”

As if that wasn't enough, Haider decided the unit was missing a water condenser. So he created one and attached it to one side. “I'm still thinking of more ways to make this a more efficient device,” he grinned. Needless to say it's a partnership that's beneficial to the Programme as well. “We're learning from Ghulam Haider that there are ways to improve existing plants,” said Muhammad Zafar Khan, Manager Communications for the Programme. “If he discovers something that works better than what we have, we can adapt it for other plants as well.”



INDIGO PLANTATION

Recovering tradition and protecting the soil:

Village Haji Keerio, Pai Forest



Once upon a time the Sindhi ajrak or block printing tradition relied on an industry of natural dyes created from the indigo plant. This process of dying goes back centuries and has a rich heritage. Sadly, chemical dyes entered the market and gradually killed the tradition practice of nature dyes. Today, virtually all ajrak pieces in the

market are made of chemical dyes.

This may no longer be the case if the farmers of Haji Keerio are successful in restarting the indigo plantations of Sindh, a project that is supported by the Partnership Fund of the Programme.



To date, farmers have planted three acres of a five-acre field with indigo plants, their rich green leaves extending across the fields at heights of five feet. Kudos to the team behind this project, like Dilshad Ali, 23, who is the projects coordinator and can rattle off the tragic history of Pakistan's indigo plant. Ali also knows every expert in the industry, including

those who have studied the viability of the plant and its necessary growing conditions, and those who have been part of the country's attempt to revive cultural

traditions left behind by modernity.

In researching the best way to grow, then ferment the plants extracts for the dye, he has connected with farmers from the Muzaffargarh area where the plant is already grown, and with textile gurus like Noorjahan Bilgrami who has worked tirelessly for decades to revive the craft traditions of Sindh.

“Our goal,” said Ali, “is create a lobby group to put pressure on the textile industry to also use natural dyes by providing a natural, accessible market for them for liquid and powder dyes.” The dye is also used by other industries. It goes into the production of cone mehendi or henna, a cultural necessity in Pakistani weddings and festivals.

There is also a farmer field school run at the indigo plantation. Classes are held weekly for about 20 students per session. The teachers impress upon the farmers who attend the classes that indigo is a very good plant to grow to offset the impact on soil caused by the area's widely grown and production heavy cotton plant. Using rotational planting cycles, indigo can also help replenish the soil of nutrients absorbed by cotton growing, especially as indigo doesn't require pesticides and is only watered once every 20 days.

Project cost: Rs. 2,436,850

Programme support: The Partnership Fund is contributing Rs. 1,570,670 to the project. The Partnership Fund is also contributing in terms of publicizing the project in the private sector and building interest among potential buyers.
Community contribution: plantation, extraction and dying process, cash contribution

CONSTRUCTED WETLANDS

Keeping sickness at bay: Village Majeed Keerio, Pai Forest

The residents of Majeed Keerio often complained of illnesses. Men, women, children, everyone seemed to fall sick with alarming regularity. The residents didn't know what was causing the problem but after some investigation the Programme discovered that infections and sicknesses were water borne largely because of the absence of a filtration system and the mixing of sewage and drinking water.



The Programme's constructed wetlands initiative was inspired by a programme established by UN Habitat, in which constructed wetland projects were successful in treating wastewater for use in agriculture and other purposes. The various purification processes that take place include anaerobic reaction, nutrients uptake by wetlands vegetation such as Typha and Phragmites sp. and consumption of organic compounds by microbes in the filter beds. At the same time these wetlands aim to demonstrate environmental conservation through improved sanitation and greening of wastelands in the village.



The constructed wetland at Majeed Keerio lies just outside this village of 5,000 people.



Project cost: Rs. 3,000,000

Number of constructed wetlands at Pai Forest: 2

Partnership Fund support: 70% contribution: in-kind support, understanding the system, managing and maintaining it

MODEL WETLAND COMPLEX

**Model Wetland Complex: Villages Soheno Faqir
Umrani and Arain village, Sanghar**

Every house in this constructed wetland model is connected to a sewerage system which is set up like a grid chamber.

“We used to have a lot of problems before,” said Khalida Parveen, 36, mother of seven girls. “We had an open drain system and people were constantly falling ill. Our quality of life has improved a great deal. We're very happy.”

Project cost: Rs: 1,000,000

Number of constructed wetlands at Chotiari Reservoir: 3
Financially Supported by: the Planning and Development
Department, Government of Sindh

Technically Supported by: The Indus for All Programme, and
the Sindh Programme (WWF - Pakistan)

Community contribution: In-kind : provision of land and
share in labour



BETTER AGRICULTURAL PRACTICES

Organic cotton:

**Village Fateh Mohammad Arain,
Chotiari Reservoir**

Two fields stand side by side in this farming village. At first sight they appear to be one field but on closer inspection, it's clear that the colour, state and general health of one outstrips the other. Why the difference?



Both fields have cotton plants but the healthier cotton plant is being grown without the aid of pesticide and using the best in organic growing practices. The project here came out of a

request made by the farming community. "We had a lot of seepage issues," said Khadim Hussain. "We asked the Programme to help us with these problems, which started with the construction of the [Chotiari] dam here."

The Programme set up a Farmer Field School in the village. The school focused on teaching farmers about the negative impact of pesticide use and the impact of over-fertilizing their land. "We learnt that these problems resulted in less produce and poorer quality."

The pesticide-free cotton plot is a demonstration plot supported by the Programme. "The idea is to use a non-chemical approach from sowing to harvesting," explained Deen Mohammad Umrani. "We want big companies like Gul Ahmed to buy cotton directly from the farmers. It's more expensive but it's chemical free, and resource friendly."

Project cost: Rs. 30,000

Community contribution: (1) participating in the system and adopting best practices from farmer school classes; (2) provision of a one acre plot of land for demonstration purposes, and a room for the Farmer Field School.



The DCO Thatta, Mr. Manzoor Shaikh, inaugurating the boat engine repair shop at Keti Bunder

THE ECONOMIC FACTOR- IMPROVING LIVELIHOODS

Livelihood Development Plans

Livelihood Development Plans (LDPs) are a significant component of the Programme which comprise of the need assessment conducted by the local communities in close consultation with the stakeholders.. The LDPs provide opportunities to the community to implement their development aspirations and provide guiding mechanisms necessary to introduce alternate livelihood means without compromising vital ecological services. The plans address livelihood development either through existing CBOs or through a cluster of village organisations. Each site has its own plan covering: agriculture and livestock, fisheries, gender and social development.

BOAT ENGINE REPAIR WORKSHOP

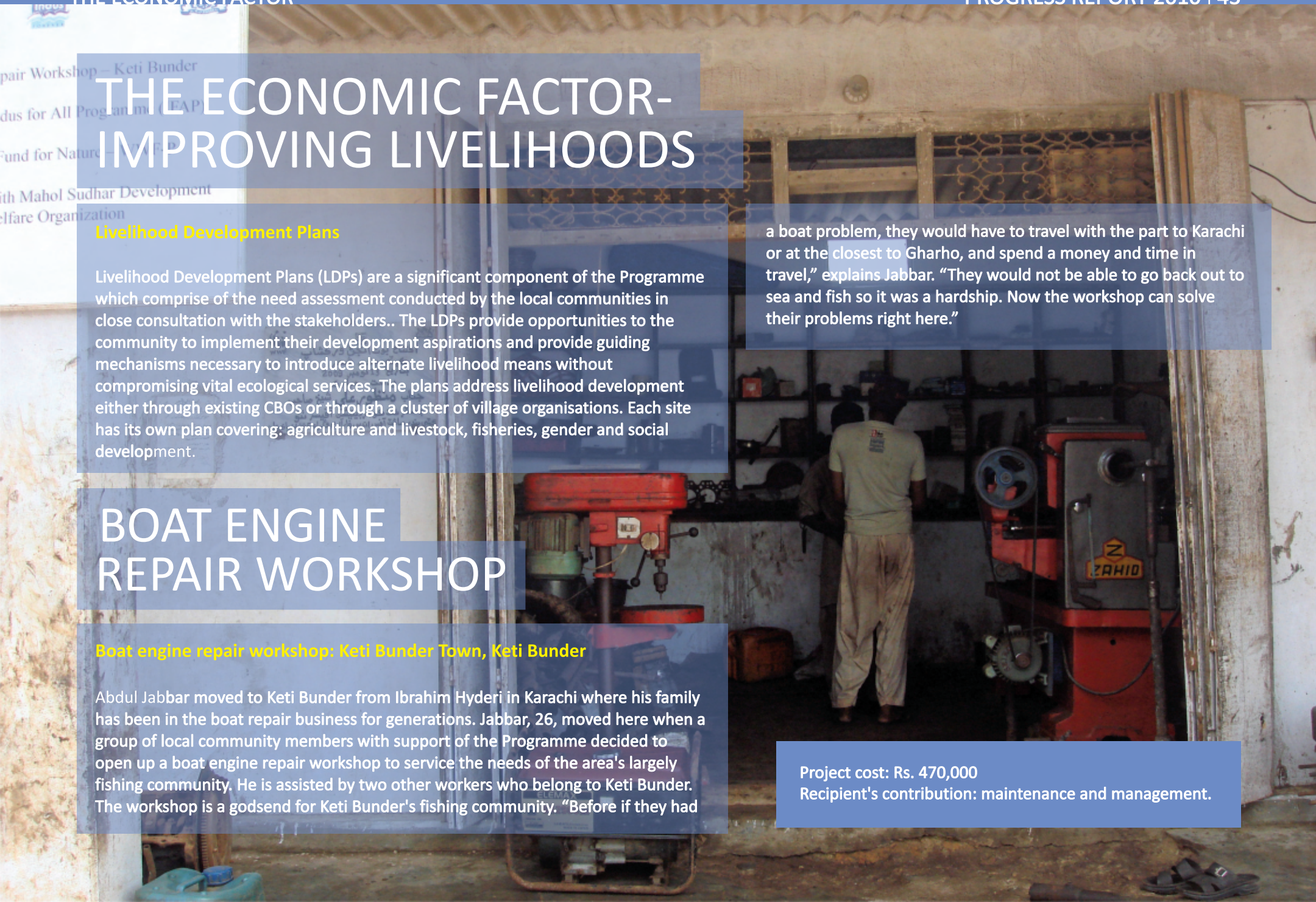
Boat engine repair workshop: Keti Bunder Town, Keti Bunder

Abdul Jabbar moved to Keti Bunder from Ibrahim Hyderi in Karachi where his family has been in the boat repair business for generations. Jabbar, 26, moved here when a group of local community members with support of the Programme decided to open up a boat engine repair workshop to service the needs of the area's largely fishing community. He is assisted by two other workers who belong to Keti Bunder. The workshop is a godsend for Keti Bunder's fishing community. "Before if they had

a boat problem, they would have to travel with the part to Karachi or at the closest to Gharho, and spend a money and time in travel," explains Jabbar. "They would not be able to go back out to sea and fish so it was a hardship. Now the workshop can solve their problems right here."

Project cost: Rs. 470,000

Recipient's contribution: maintenance and management.





Releasing fish seed into the lake

FISH POND-ALTERNATIVE LIVELIHOOD OPTIONS

Village Tippun, Keti Bunder

The Tippun Fish pond project was launched in February of 2010. The idea was welcome in the small island communities that are scattered across the inlets, where the Indus River meets the Arabian Sea. Apart from facing severe physical hardship because of their isolated locations, the folks of Tippun struggle to make ends meet.



The Programme's idea to transfer ownership of fishponds in the hands of women was immediately welcomed. In Tippun 500 fish seed were released into the fishpond

surrounded on all sides by a net. The men, who are primarily fishermen, collected the seed during their fishing voyages.

"It was going really well," said Hawa, one of the women charged with looking after the fish. "We were expecting to farm the fish after 10 months."

Sadly, this project was devastated when Cyclone Phet hit the coast of Sindh in June 2010. Phet missed the coastal city of Karachi but its aftermath hit the Keti Bunder coast. The Pakistan Navy evacuated the entire Keti Bunder area. "We were forced to leave our homes and therefore the fish. The cyclone didn't really damage the fishpond but when we returned to our homes the fish were all gone. We knew at the time that we had been robbed by some opportunists."

The women planned (at the time of reporting) to release additional fish seed. "We will go to work again and try this one more time," said Hawa.



FISH COLLECTION AND MARKETING POINT

Village Phulel, Chotiari Reservoir

Until recently you needed a boat to access Phulel, a small village of 200 homes. Today, however, a dramatic reduction in water levels means Phulel is accessible by road. In January 2010, with the Programme's support, a fish collection and marketing point was set up in Phulel. Before this the absence of freezers and cold storage tanks meant fishermen had little chance of marketing healthy fish.

The new centre in Phulel is a small cement construction, which houses four big freezers and cold storage tanks.

"Today, we're able to get the fish just before dawn and freeze it immediately without worrying about immediate transportation," says Gul Hasan. "Before [this] we had ice but it was out in the open so it would melt really fast and then our fish were ruined."

Phulel's community hires a local pickup to carry its fish catch to the Hyderabad fish market now. "Our profits have also increased manifold thanks to this point," says another community member.



Project cost: Building cost Rs. 145,190, cost of cold storage tanks Rs. 72,000

Programme support: Rs. 217,190

Beneficiaries: fishermen and their families, as well as fish consumers.

FISH ECO POINT

Village Sonda, Keenjhar Lake

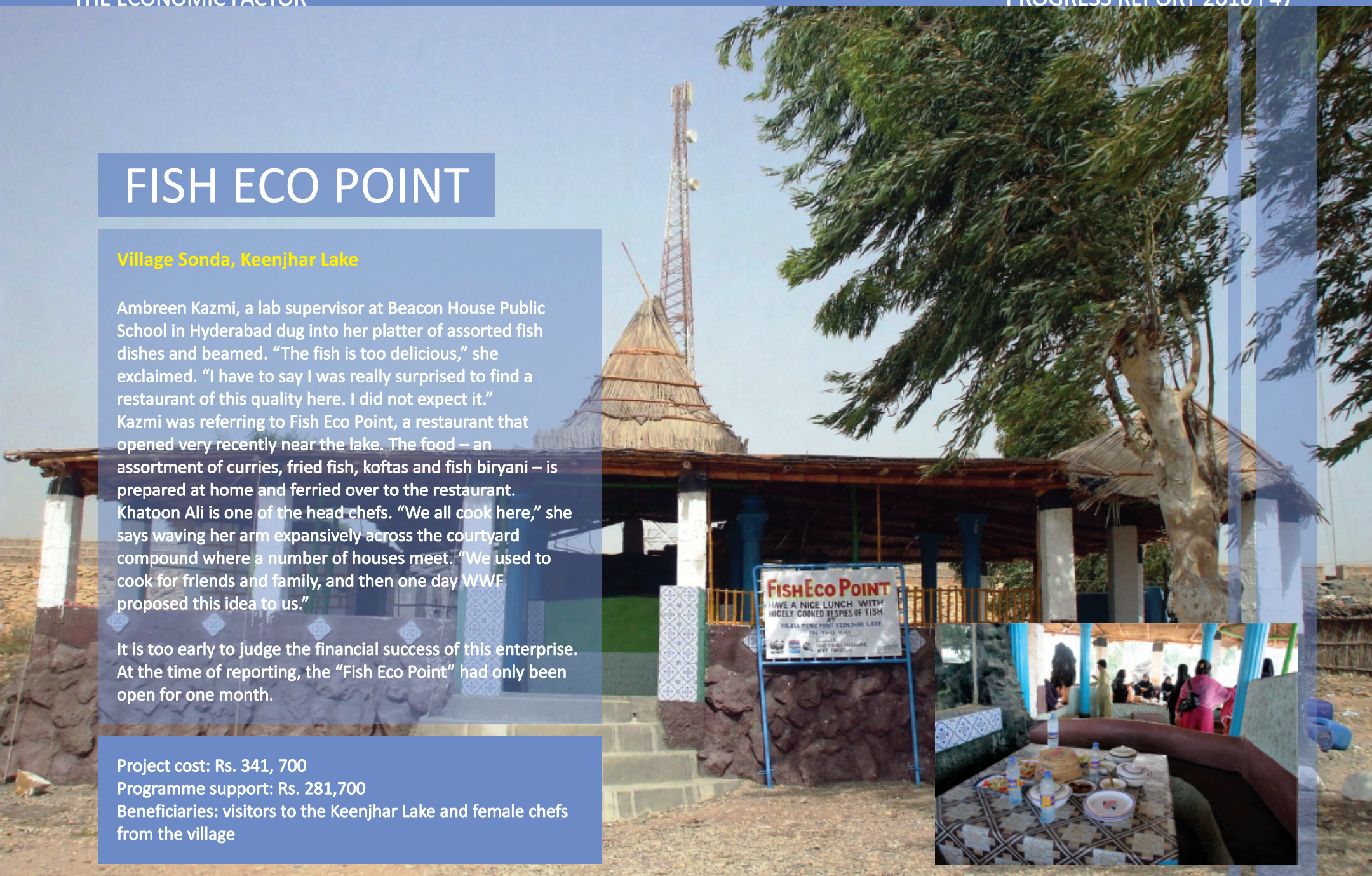
Ambreen Kazmi, a lab supervisor at Beacon House Public School in Hyderabad dug into her platter of assorted fish dishes and beamed. “The fish is too delicious,” she exclaimed. “I have to say I was really surprised to find a restaurant of this quality here. I did not expect it.” Kazmi was referring to Fish Eco Point, a restaurant that opened very recently near the lake. The food – an assortment of curries, fried fish, koftas and fish biryani – is prepared at home and ferried over to the restaurant. Khatoon Ali is one of the head chefs. “We all cook here,” she says waving her arm expansively across the courtyard compound where a number of houses meet. “We used to cook for friends and family, and then one day WWF proposed this idea to us.”

It is too early to judge the financial success of this enterprise. At the time of reporting, the “Fish Eco Point” had only been open for one month.

Project cost: Rs. 341, 700

Programme support: Rs. 281,700

Beneficiaries: visitors to the Keenjhar Lake and female chefs from the village



VOCATIONAL CENTRES

Village Ghulam Hyder Bhutto, Pai Forest

The women from Ghulam Hyder Bhutto for the most part had no exposure to tailoring. Stitching, sewing and embroidery were



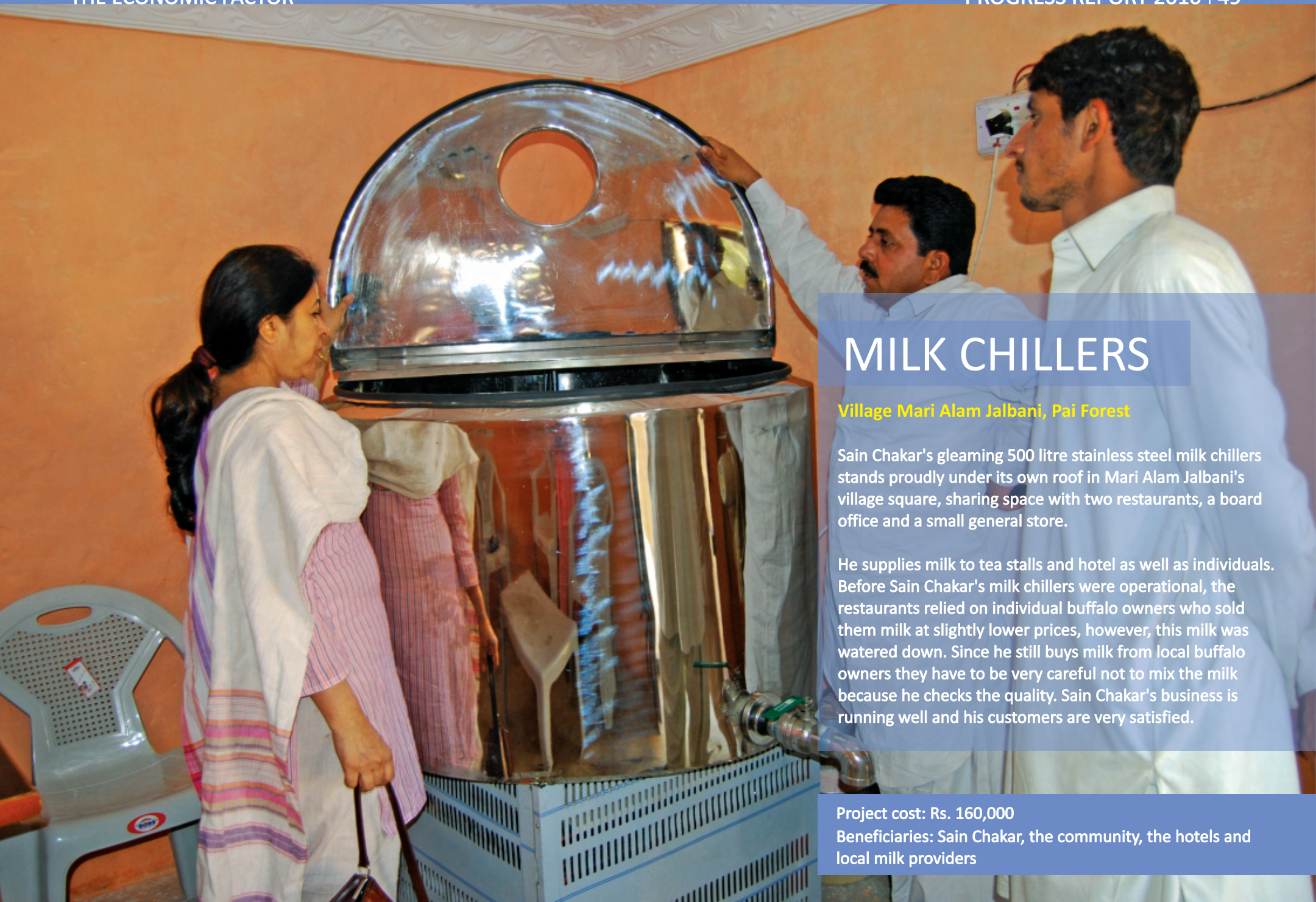
words alien to their daily vocabulary. Some 3,000 to 4,000 people live in Ghulam Hyder Bhutto but until now there wasn't a single tailor in the village. The vocational centre here started up in April 2010 but in two months a

large number of women have been trained here. In addition to stitching their own clothes, they will soon begin to offer tailoring services to their neighbours.

Before the vocational centre, women were not allowed to work. Many of the young women who have signed up for classes are emerging from their homes for the first time, excited by the opportunity to learn and earn.

In March 2010, the local CBO with the Programme's support, helped one of the women set up a shop to sewing materials from her home. The shop now supplies the centre, which is housed in the area's community centre.

Trainer's Salary: Rs. 3,000
 Trainees' Income: too early to assess
 Previous Income: Rs. 0
 Products: Clothes



MILK CHILLERS

Village Mari Alam Jalbani, Pai Forest

Sain Chakar's gleaming 500 litre stainless steel milk chillers stands proudly under its own roof in Mari Alam Jalbani's village square, sharing space with two restaurants, a board office and a small general store.

He supplies milk to tea stalls and hotel as well as individuals. Before Sain Chakar's milk chillers were operational, the restaurants relied on individual buffalo owners who sold them milk at slightly lower prices, however, this milk was watered down. Since he still buys milk from local buffalo owners they have to be very careful not to mix the milk because he checks the quality. Sain Chakar's business is running well and his customers are very satisfied.

Project cost: Rs. 160,000

Beneficiaries: Sain Chakar, the community, the hotels and local milk providers



Friends of Indus Forum's members celebrating Indus River Day 2010



THE AWARENESS FACTOR - COMMUNICATION, EDUCATION AND ADVOCACY

Friends of Indus Forum

The Friends of Indus Forum brings together concerned citizens, conservation activists, intellectuals and passionate individuals on a common platform for the protection of the Indus Ecoregion. The Forum aims to lobby stakeholders to ensure the flow of freshwater in the Indus Delta. The Forum recognises that the vicious cycle of poverty and destruction of natural resources has been exacerbated in recent years and that this trend first needs to be halted and then reversed to preserve Sindh's biodiversity.

The Forum has played an important role in lobbying government departments to improve the condition of wetlands in Sindh, particularly Keenjhar and Manchar Lake. It has focused on issues ranging from community dependence on wetland resources, and the conservation and protection of vulnerable wetlands. On 23 January 2010, the Friends of Indus Forum organized a rally and seminar to mark the Indus River Day in Thatta.

MEDIA OUTREACH

The Programme organized an exposure visit for a group of six journalists along with a senior officer of the Sindh Forest Department and three Programme staff to the Sundarbans in Bangladesh between 23 to 29 March 2010.



During this visit the group learned about various aspects of a deltaic ecosystem such as flow of freshwater from rivers into the delta, sea intrusion, effects of climate change, protected areas management, land use patterns, community

rights in forests among others. At the conclusion of the exposure trip, journalists from the group published articles in newspapers comparing both deltaic ecosystems.

The Programme's extensive media outreach was rewarded by strong print and electronic media coverage. This coverage includes 155 articles or media releases in newspapers and 657 minutes of air time on both local and national television channels.

Visit by the Forum of Environmental Journalists, Pakistan

A 17 member delegation from the Forum of Environmental Journalists of Pakistan (FEJP) visited three sites of the Indus for All Programme including Pai Forest, Chotiari Wetlands Complex and Keenjhar Lake. During the visit the delegation also met with the Friends of Indus Forum and Indus Journalists Forum in addition to meeting intellectuals, writers and academics. On their return, delegates highlighted issues affecting the three sites through their respective national media outlets.

SCHOOL AND YOUTH OUTREACH

As part of its school and youth outreach initiative the Programme has supported four school nature clubs, one at each site, to act as Environmental Education Model Schools (EEMS).



These include the Citizen Foundation School, Pir Dino Shah at Keti Bunder, Higher Secondary School Jhimpir at Keenjhar Lake, Government Boys High School Amin Keerio at Pai Forest and Government Boys High School Sanjoro in Sanghar. The Programme has provided these schools with equipment such as camping gear, audio-visual aids and awareness materials including books,

posters, brochures and flip chart presentations.

Nature clubs in these Environmental Education Model Schools have successfully demonstrated activities such as solid waste management, planting a school garden, murals proclaiming environmental messages, establishing “nature corners,” camping trips, among others. The host Environmental Education Model Schools have provided the space for these activities and have also engaged local communities in awareness campaigns.





LOCAL FESTIVALS

Hundreds of people thronged to the Pai Nature Festival, held in district Shaheed Benazirabad on 5 June 2010 to mark World Environment Day-2010. Held at the D.C. High School, the event was a mix of informative and entertaining activities. The Programme Implementation Unit at Shaheed Benazirabad organised this event in collaboration with the Shaheed Benazirabad district government, Nawabshah Youth Organisation, Bank AL-Habib Limited, United Bank Limited, Habib Sugar Mills and Sachal FM 105.

A large number of schools took part in the festival. They displayed 3D models, which highlighted different facets of biodiversity of the Indus Ecoregion, industrial pollution, wetlands, alternate energy sources and global warming. The event was attended by the Vice Chancellor of Quaid-e-Awam University of Science and Technology (QUEST), district officers belonging to the revenue and education departments, officials of other different local government departments, representatives of banks and media and community based organisations.



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PUBLICATIONS AND WEBSITE

The Programme produced a range of publications during the course of the year. These are available on the Programme's website at: <http://www.foreverindus.org/publications.php> . The number of website hits has increased from 1,878 in July 2009 to 13,486 in June 2010, an increase of 60% in one year.

ڪينجهر جھيل ڪي پڪار
ڪينجهر ڍنڍ جي پڪار





Participants of the exposure visit to China

THE GOVERNANCE FACTOR - INSTITUTIONAL STRENGTHENING AND PARTNERSHIPS

Strengthening Competencies of Government Departments Ecoregion Exposure Visits

As part of its initiative to build and strengthen alliances with government and community partners, the Indus for All Programme organizes exposure visits both within Pakistan and outside the country to neighbouring ecoregions. Members of the IESC, the apex decision making body of the Programme, visited China and Nepal.

A four member delegation visited Yunnan province in South-western China as an ecoregion exposure trip. Yunnan falls under the River and Wetland Ecoregion, famous for its Tiger Leaping Gorge and many other important wetland sites. Apart from visiting Erhai Lake the participants met with the officials from South-West Forestry University to explore the scope of collaboration between South-West Forestry University and a

university in Sindh.

A second ecoregion exposure visit to Nepal took place from July 20-25, 2009.

The Programme also organized an exposure visit to the Western Himalayas Ecoregion for the District Government Officials, or DGOs, of Sindh. The visit formed part of a capacity building initiative of District Government officials, who are working closely with the Programme. The officials visited the Pakistan Wetlands Programme (PWP), WWF Nathiagali Office and Environmental Recovery Programme for Earthquake Affected Areas of the United Nations Development Programme (UNDP) in Balakot and Kaghan Valley.

ENHANCING PARTNERSHIPS TO SUPPORT THE ECOREGION

Obtaining government support

The Government of Sindh has allocated substantial funds for ecoregion protection and conservation in its annual development plans up to 2010-11. Significant increases can also be seen in spending on NRM and in support of communities that reside in priority sites. Moreover, the last two years have also witnessed substantial allocations to livelihood improvement and development of fisheries. In addition to the above, a joint workshop between the Programme and the Sindh Fisheries and Livestock Department on Wetlands Day resulted in two major initiatives – the Sindh Wetland Management Authority and the Coordination Committee to oversee developments at Keenjhar Lake.

The Programme also signed MoUs with the University of Sindh Jamshoro and Aik Hunar Aik Nagar (AHAN) Sindh. AHAN is a public limited not-for-profit company under the Ministry of Special Initiatives, Government of Pakistan and a subsidiary of Pakistan Industrial Development Corporation (PIDC). The MoU with the former focuses on building collaborative research based opportunities, while the later fosters mutual collaboration for skill development among local communities in order to promote local craft.

Increasing conservation investment

Currently in Pakistan, forest and other ecosystems do not get the budgetary attention for sustainable management that they deserve. One of the key reasons for this is that many of their goods and services are not included in the list of benefits and are not valued in monetary terms. Not surprisingly Pakistan's 11 forest types are allocated a very low budget for afforestation and reforestation activities. This is directly responsible for a decline in forest cover.

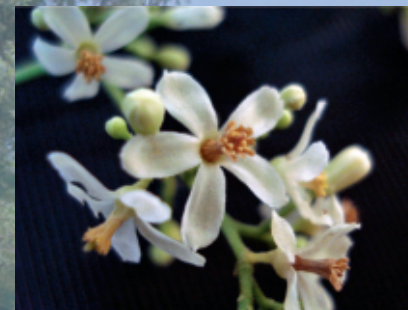
Often, ecosystem goods and services are taken as a source of revenue for the exchequer; this is the case for forests, mainly in the form of timber. The comprehensive valuation of goods and services helps to highlight the importance of environmental goods and services to governments at various levels, private sector, local communities and other stakeholders. This results in enhanced political will and investment, appropriate management objectives and approaches; and enhanced contribution of natural assets in poverty reduction.

The Programme completed five comprehensive valuation studies in 2008 (covering forest, agricultural, coastal, rangeland and freshwater ecosystems). It has supplemented the freshwater valuation study with yet another study on Keenjhar Lake that assesses visitors' recreational use values. In addition, the Ministry of Environment invited the Programme to prepare a set of national best practice guidelines on preparing valuation studies for the forest sector. The national guidelines and the recreational use value study were both completed in 2010.

All these initiatives are helping create a climate in which economic, environment and natural resource ministries are likelier to discuss and agree to increased budgetary allocations for the environment sector.

DECLARATION OF PROVINCIAL TREE

At the IESC meeting held on 6 July, 2009 headed by the Additional Chief Secretary Planning and Development Department, Government of Sindh, the Indus for All Programme presented a proposal to nominate a provincial tree for Sindh. Expert opinions were sought



from departments at four major universities in Sindh – Karachi University, University of Sindh, Sindh Agriculture University and Shah Abdul Lateef University Khairpur.

As a consequence of this consultative process in March 2010 the Government of Sindh declared Neem as the provincial tree of Sindh.



Conservation and Information Centre at Chotiari lake

JUSTIFYING ECOTOURISM INVESTMENT

Keenjhar is Pakistan's largest freshwater lake (14,000 ha), a wildlife sanctuary and a Ramsar site. It is one of fifteen priority sites in the Indus Ecoregion. The lake produces a number of valuable goods and services. Some of these are intangible, for example the diversity of Keenjhar's flora and fauna, and the fact that the lake is an important breeding, staging and wintering area for a variety of waterfowl. But there are a number of tangible benefits too. Besides the lake's recreational use, there is domestic and commercial use of the lake by Karachi as well as a local population of 50,000 persons, mainly inhabitants of the surrounding twelve large and twenty small villages. Among important sources of income or revenue are the fisheries, the Sindh Tourism Development Corporation's (STDC) tourism operation, and enterprise based on lake products (e.g., mats, woven baskets, fans, water lilies), while a staggering 80% of Karachi's water demand is met by supply from Keenjhar.

As mentioned above, a comprehensive study was undertaken of the monetary value of the lake. Besides measuring the worth of fisheries and water supply to the category of domestic users in Karachi, the study even assessed the intangible – the worth to Karachiites of conserving plant and animal species. This produced a substantial total rupee figure to present to planners and policy makers who are expected to use it to assess whether their budgetary allocation towards conservation of Keenjhar is providing commensurate returns. The figure was augmented recently, however, thanks to a grant from the prestigious South Asian Network of Development and Environmental Economics (SANDEE) based in Nepal. The grant enabled the Programme to place a monetary value on STDC's tourism operation at the lake. As expected, with an average of 1,000 visitors a day, this represented a far higher figure than for fisheries. This fact will be of interest to the government who partly finances STDC's operation. The study, and its dataset, is also expected to assist STDC to assess optimal fees to be charged for tourism at the lake. Revenue from higher fees, for example, can be used to maintain site quality and upkeep.

Despite these benefits, public awareness and a lack of information among policy makers has resulted in Keenjhar Lake being treated as a wasteland and neglected in budgetary allocations towards conservation. The Programme is confident that its valuation studies will help capture the interest and understanding of all stakeholders in the lake. The other way of generating awareness, interest and understanding, of course, is through the development of ecotourism, something germane to WWF-P as illustrated by its decade long patronage of the Wetlands Centre at Sandspit / Hawkesbay. In this regard, the Programme has established a Conservation and Information Centre (CIC) at Keenjhar. The CIC's ecotourism activities will be contributing to conservation, education, resource protection, and the involvement and empowerment of local people.

NATIONAL GUIDELINES FOR VALUATION

The word “valuation” refers to placing a Rupee value to an environmental asset, such as a lake, which does not already have a price, is not already bought and sold in the market. Even when the asset is bought and sold (e.g., forests are sold in the form of timber), a valuation can help place a fuller value so as to signal to managers the changing scarcities of the asset.

Because valuation studies involve considerable expertise it is important that those who commission studies are able to identify that expertise, ensure that best practices are followed, and the results are of a standard that facilitates policy uptake. Accordingly, several countries have already prepared national guidelines on selected valuation techniques, or, for selected environmental sectors.

In 2010, the Programme completed a set of national guidelines on valuation of forests products and services. The guidelines were spearheaded by a technical support group involving provincial forest departments, coordinated by the Ministry of Environment (MoE) and the National Forest Programme (NFP) Facility, with the financial support of the FAO. Civil society was invited, along with other stakeholders, to a national workshop in January 2010 to finalize the guidelines.

The final set of guidelines cover data requirements, choice of valuation techniques, survey instrument design, sampling and interpretation and presentation of results. Since April 2010 the Programme has engaged senior ministry officials to ensure that the guidelines are not shelved and are used to justify increased allocations to the forest sector. Besides presentations, WWF - Pakistan has offered to increase the existing capacity of line employees in environment, resource sector, and economic ministries to carry out such studies. The guidelines also contain pedagogical annexes that provide step-by-step guidance on how to calculate forest values using relevant computer software.

TOWARDS ENABLING POLICIES AND EFFECTIVE GOVERNANCE

Mainstreaming poverty-environment perspectives

An important focus of the Programme's policy work is the integration of poverty-environment linkages into government planning and policy documents. As part of this policy integration process, the Programme developed a publication titled "Recommendations for the 10th 5-year Plan." This publication offers specific recommendations on how to appropriately use allocations to the environment sector made by the federal government. Similarly, the Programme also assessed the extent to which the poverty-environment nexus is reflected in



the Government of Pakistan's primary poverty reduction scheme. As part of this assessment, we proposed several indicators that measure the extent to which environmental factors affect poverty and vice versa.

Similarly, at the provincial level, the Programme tried to incorporate links between poverty and the environment into sector plans developed by the Sindh Forests and Wildlife Department and the Sindh Livestock and Fisheries Department. These links will help improve coordination between activities undertaken by the Programme and the partner government department. Recommendations include supporting the Sindh Wildlife Department in piloting a game reserve, testing community managed ecotourism in conjunction with the government, promoting integrated aquaculture (fish and rice), improving income from fish production, and expanding the means of income generation.

Revising legislation: Sindh Forest Act 1927, Sindh Wildlife and Protected Areas Act 1972

The Programme in close collaboration with the Sindh Forests and Wildlife Department has been involved in extensively revising Sindh's Forest Laws. A reputable consulting firm experienced in environmental legislation drafted the revised legislation. The consultative process was very successful. The draft law was well received by the sponsoring wildlife department and, at the time of reporting, was being vetted by the law department. Once approved, the draft legislation will be presented to the Chief Minister and the provincial assembly for a final stamp approval. Sindh will then join other forward thinking provinces such as Balochistan and Khyber Pakhtunkhwa that have both successfully revised antiquated laws for the benefit of endangered and threatened species and communities that live in proximity to these species or depend on them for their livelihoods.

ENVIRONMENTAL FLOWS

Environmental flows: Balancing Resource Conservation and Development

Water security is a growing concern in the region, and conservation activities in the Indus Basin, particularly the



lower Indus Basin, are dependent on the sufficient release of water to meet the needs of the communities living in the Indus Delta.

Water security related initiatives will focus lobbying government to support release of water downstream of Kotri Barrage, building capacity among partner communities, particularly those living in coastal areas, to respond to disasters and working towards building resilience against water insecurity and climactic changes.

PARTNERSHIP FUND

Objectives

The Partnership Fund, a small grant programme under the aegis of the Indus for All Programme, was developed to improve alignment and encourage collaboration between



stakeholder institutions and the Indus for All Programme. It was also designed to support Sindh's grass roots environmental lobby by funding small-scale projects

focusing on biodiversity conservation and sustainable livelihoods.

The Partnership Fund's explicit objectives include:

- Encouraging government line departments and civil society organisations, including community based organisations, to play a stronger role in the successful implementation of the Indus for All Programme;
- Expanding the grass-roots environmental lobby in Sindh;
- Providing seed money for new or on-going projects that are tied to natural resource management, biodiversity conservation, diversifying livelihoods etc.;
- Improving the Indus for All Programme's partnerships at the community, district, provincial and federal levels.





Mr. Wim Giesen, meets with local community members near Chotiari Reservoir

MONITORING AND EVALUATION OF THE PROGRAMME

The Programme underwent its second external monitoring mission in March 2010. The Embassy of the Kingdom of the Netherlands (EKN) hired Mr. Wim Giesen, Senior Environmentalist from Euro Consults, to assess the Programme's progress. The exercise covered the full range of interventions and stakeholder consultations. Mr. Giesen visited the head office at Lahore, the Programme Management Unit (PMU) at Karachi and the four site offices.



During his visit, he also met with partners from communities, academia, senior officials from the government of Sindh and other key stakeholders including members of the Friends of the Indus Forum.

The monitor's report lauded the Programme's progress and performance. Mr. Giesen recommended that interventions such as Better Management Practice for Agriculture should be up-scaled and partner engagement should be intensified. These recommendations are particularly useful when planning for phase two of the Indus Ecoregion Programme.

During his visit, he also met with partners from communities, academia, senior officials from the government of Sindh and other key stakeholders including members of the Friends of the Indus Forum.





Participants of Ecoregion Programme phase two planning workshop, Karachi



Strategising for the Future

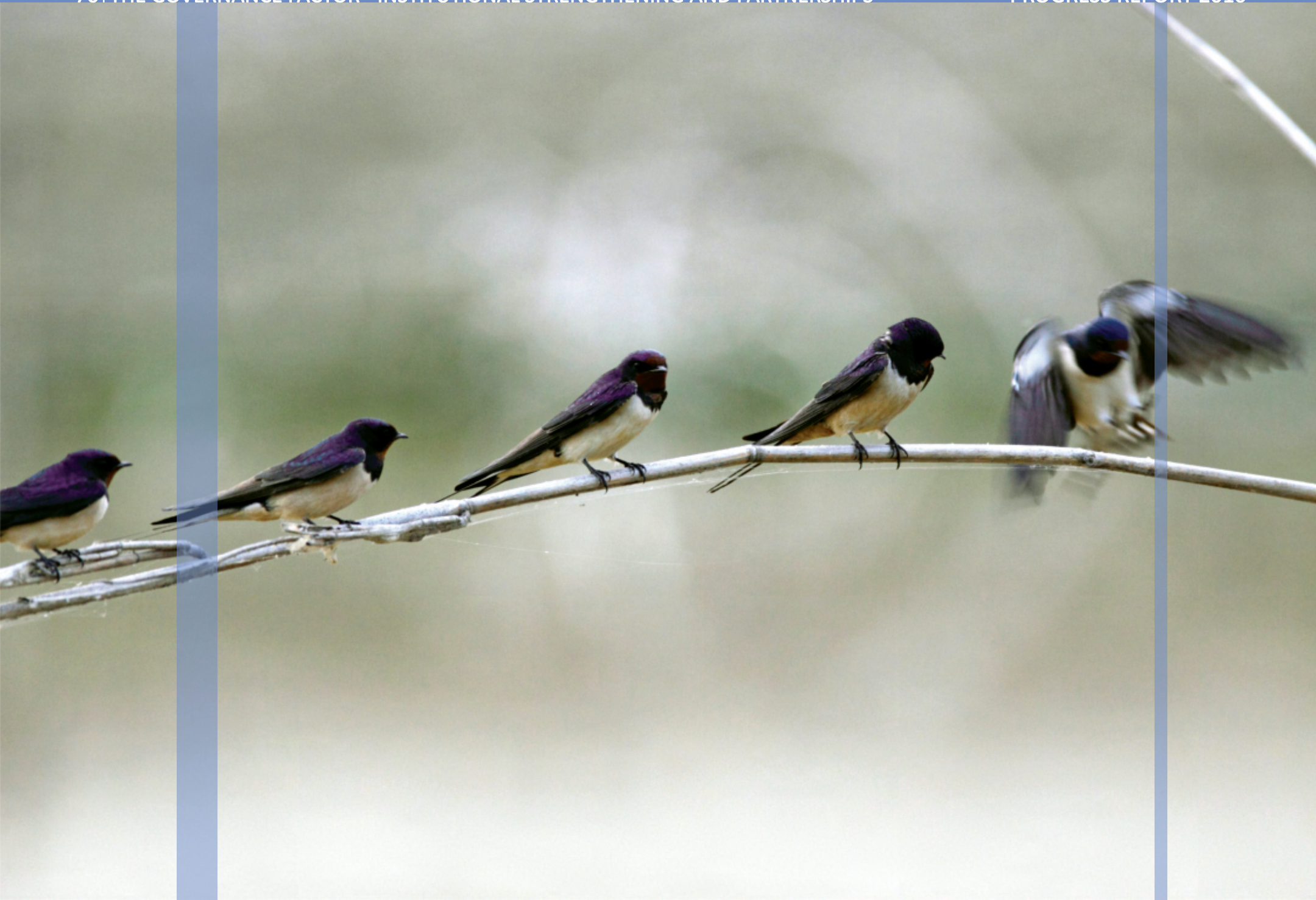
The Programme plans to conduct two separate planning workshops with stakeholders to plan for the remainder of phase one (2010 to 2012) and to select the priority sites for phase two. By December 2010, the Programme intends to conduct ecological and socio-economic assessments at Kharo Chhann, Nara wetlands complex, Khebrani forest, and Manchar Lake.

The Programme will use the new assessment studies as an opportunity to identify critical stakeholders, understand how they are connected, and evaluate the weaknesses and strengths in the chains linking them.

In the remaining years of the Indus for All Programme, especially if we are to safeguard our efforts against natural hazards and economic and political crises, beneficiaries must hold true that natural capital (in the form of natural resources) is worth accumulating. A parallel effort is required to ensure that natural resource based enterprises are sustainable. Highly successful demonstrations are needed to prove to local communities that they can harvest and profitably use renewable resources contained in the Indus Ecoregion.

Overall, at the village level, the onus on NRM interventions is to ensure sustainable use natural resources while assuring improvement in other assets such as physical infrastructure and alternative livelihood sources.

The same principle applies at the planning, design and implementation stages of public projects. By demonstrating how poverty-environment mainstreaming in development plans can improve the design and implementation of poverty and natural resource management operations, the Programme can renew governmental dedication to committing substantial resources needed over long periods of time to attain Indus Ecoregion resource management and conservation goals.



LESSONS LEARNT

The Indus Ecoregion has experienced decreasing living standards, rapid population growth, and severe environmental degradation. The ecoregion has also been repeatedly struck by natural calamities such as the cyclones that devastated coastal areas and, more recently, floods along the Indus River. In addition, the troubles of the past three years have been exacerbated by man-made calamities such as spiralling inflation and increasing cost of living. Growing concern over this vulnerability led WWF - Pakistan to initiate the Indus Ecoregion Programme.

By this – our fourth year of implementation – what lessons have we learned?

A first lesson is that the Programme is a successful blueprint on which future interventions in other priority site clusters may be modelled. A key feature of the Programme is its adaptive management, which allows it to address real-time changes and challenges. The Programme is effective in assessing the timely delivery of its targets. However, this needs to be taken a step further by assessing the rate at which stakeholders adopt these new approaches and technologies.

Another lesson is that changes in political climate can directly impact (either positively or negatively) the Programme's goals and objectives. For instance, as a result of a constitutional change in the first quarter of 2010, the entire environmental spending portfolio, previously administered by the Ministry of Environment (MoE), is now awarded by the provincial Planning and Development Departments against receipt of provincial department project proposals. This offers an opportunity to work intensively with the Sindh Planning and Development Department to influence environmental spending at the provincial level. Similarly, there are lessons to take away relating to institutional development. At the

site level, monitoring of physical interventions and monthly follow-up meetings with communities must be regular, particularly if CBOs are to be effective. At the government level, frequent transfers and changing policies require continual reassessment of capacity needs and how to address them so that elements that are supportive of the IER 50-year Vision statement become institutionalized in a sustainable manner. Posting Programme staff within government departments remains essential. Our Geographic Information System (GIS) analyst, for instance, played a key role in establishing the Sindh Forest Department GIS Lab in Hyderabad.

The Programme has learnt the importance of presenting its NRM interventions as a holistic package with its attendant implementation plan. It has also learnt that these NRM interventions must be popularised in partnership with the private sector. Installation of solar, wind and biogas units at sites would not have been possible without the collaboration of and sponsorship from the private sector. Phase two work must demonstrate the ability to build and maintain stronger ties with the private sector.

Our Mission

WWF - Pakistan aims to conserve nature and ecological processes by:

- Preserving genetic, species and ecosystem diversity
- Ensuring that the use of renewable natural resources is sustainable, both now and in the longer term
- Promoting actions to reduce pollution and the wasteful exploitation and consumption of resources and energy

Vision of the Indus Ecoregion Programme

“Mankind coexists with nature in complete harmony and biodiversity flourishes in its respective habitat”

Indus for All Programme, WWF - Pakistan

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