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Nasir Ali Panhwar  
Ali M. Khan Dehlavi  
Khadija Zaheer  
Badarunissa Tunio

### Editor

Muhammad Zafar Khan

### Design:

Nida Zarar Meyer

Indus Forever is the quarterly newsletter of the Indus for All Programme; the first five years (2007 – 2012) implementation phase of a 50 – year vision of the Indus Ecoregion Conservation Programme. Funded by the Royal Netherlands Embassy in Pakistan, the Programme is being implemented by WWF – Pakistan in close collaboration with the Government of Sindh. The Programme aims to conserve rich biological diversity of the Indus Ecoregion through livelihoods improvement of the local communities. The newsletter aims to keep stakeholders, other concerned organizations and individuals updated about the activities, progress and future endeavors of the Programme.

## Seeking Alternatives for Sustainable Use of Natural Resources

Rapid population growth places enormous pressure on the dwindling riverine forest resources in Sindh. Reduced freshwater flows, increased population and energy needs coupled with commercial logging has contributed to habitat loss, threatens key wildlife species and makes poor communities even more vulnerable to external shocks. Similarly, fish resources in freshwater lakes, canals and the River Indus are under threat from pollution of wetlands, reduction of freshwater flows, over exploitation of fisheries resources and unsustainable fishing practices. Declining productivity and job losses in the agriculture sector are also pushing people to adopt fishing as a livelihood.

The term "livelihoods" refers to activities, capabilities and assets (physical and social) used in day to day survival. The idea of a livelihood being "sustainable" requires that the natural resource base (e.g., a lake used for fishing) is not degraded during the time that people's capabilities, assets, shock and stress coping methods are being improved. However, the sensitive nature of livelihood improvement requires an appropriate strategy, which the Indus for All Programme has developed.

The strategy suggests ways of combining and using the following five livelihood assets to meet people's own livelihood objectives:

- 1) Human Capital
- 2) Natural Capital
- 3) Financial Capital
- 4) Social Capital
- 5) Physical Capital.

Access to the five asset categories identified above is limited for communities at the four programme sites. The Indus for All Programme aims to use improved natural resource management to identify important inter-relationships between asset categories. Vitalizing and redirecting these reciprocal linkages the Programme intends to improve livelihoods through improved natural resource management. It is important to understand that a single physical asset can generate multiple benefits. Realizing the importance of the linkages between poverty and environment the Indus for All Programme, through extensive multi-stakeholder consultations, has prepared Livelihood Development Plans for its four priority sites: Keenjhar Lake, Keti Bunder, Chotiari Wetland Complex and Pai Forest. The plans have identified interventions for improving and diversifying community livelihoods by building their capacities and skills; and enhancing the productivity of existing natural resources.

The consultative process resulting in the four site-specific Livelihood Development Plans included: identification and analysis of issues or threats; their causes; prioritization of issues and identification of solutions. The participatory strategies to address these issues evolved during the consultative process, which included various time-bound actions, roles and responsibilities of different stakeholders and possible sources of funding to implement livelihood improvement strategies. Monitoring indicators were also finalized. The Plans are now being implemented in collaboration with all stakeholders, followed by endorsement by the respective District Governments.



## Programme Highlights

### First RNE Nominated Monitor Assesses the Programme Interventions

From 28 February to 19 March 2009 the Indus for All Programme underwent an RNE sponsored monitoring mission. Mr. Willem Andel, the external monitor, was tasked with assessing the Programme's progress to date. After spending a few days in Karachi with the Programme Management Team where he was introduced to the Programme and its progress so far, Mr. Andel visited all the Programme sites. In Karachi he met with the Additional Chief Secretary P&DD Government of Sindh, who also chairs the IESC, Secretary Forest & Wildlife, Secretary Livestock and Fisheries, Conservator Sindh Wildlife and the Friends of Indus Forum.



Mr. Willem Andel meeting community members near Keenjhar Lake

### Partnership Fund Grants: Second Round

The Partnership Fund of the Programme provides grants for conservation projects in the Indus ecoregion and along the Indus Basin. The second round of funding commenced in the first quarter of 2009. Thirteen project proposals were presented before the Partnership Fund Technical Committee in its 3rd meeting held on 3rd March, 2009. The committee approved eight projects, deferred four and rejected one proposal. Earlier, the Project Review Committee reviewed 58 projects received in the period December 2008 to January 2009 and recommended thirteen for consideration by the Partnership Fund Technical Committee. Moreover, the Partnership Secretariat conducted its first quarterly monitoring of seven on-going projects in the period January and February 2009.



A view of the Second Meeting of the Partnership Fund's Technical Committee

### Projects Approved for 2nd Round of Funding

Project Title	Project Implementer	Thematic Area
1 Distribution and status of threatened species of freshwater turtles in selected Areas of Indus River System	Zoological Survey Department, Govt. of Pakistan	Conservation of Species
2 Improvement and rehabilitation of Haleji Lake	Sindh Wildlife Dept Govt. of Sindh	Conservation of Habitat
3 Upper Indus watershed management through sea buckthorn plantation and livelihood improvement, Ballistan	Northern Areas Forest & Wildlife Department, Gilgit-Skardu	Conservation of Species /Habitat
4 Sustainable reuse of drainage effluent in irrigated agriculture for increasing crop productivity	Institute of Irrigation & Drainage Engineering, Mehran University of Engineering & Technology, Jamshoro	Livelihood Support
5 Sustainable management of two threatened Indus Delta Dolphin Species, the Indo-Pacific humpback & Indo-Pacific bottlenose dolphins	Marine Conservation International (MCI)	Conservation of Species
6 Construction of wetland at Village Majeed Keerio, Shaheed Benazir Abad	Sindhica Reforms Society, Shaheed Benazir Abad	Livelihood Support
7 Integrated agriculture farming for improving water management, enhancing productivity and alleviating rural poverty	Research and Development Foundation (RedFound), Hyderabad	Livelihood Support

### Nature Carnival 2009

Thousands of people, including schoolchildren, thronged to the Indus Carnival-2009, organized by WWF Pakistan under the Indus for All Programme. Held at PAF Museum, Shakra-e-Faisal on 15 February 2009, the Carnival proved to be an informative and entertaining event to educate the masses, especially schoolchildren about the Indus Ecoregion and other related concerns. A large number of schools took part in the Carnival by preparing 3-D models on five selected themes including: animals and plants of the Indus ecoregion; the River Indus; the Indus Delta; importance of green living and the effects of climate change on human life.

Among the dignitaries attending the Carnival included Ms. Shehla Raza, Deputy Speaker Sindh Assembly, Ms. Fouzia Wahab, Member National Assembly, and Hussain Bakhsh Bhaagat, Conservator Wildlife Sindh. While speaking on the occasion the honourable guests appreciated the students for their efforts in understanding and portraying various environmental concepts. They also praised WWF Pakistan and other supporting agencies for organizing such an impressive and healthy learning event. Shields and prizes were distributed among the winners and runners up at the end of the day.



Ms. Shehla Raza, Deputy Speaker Sindh Assembly and Ms. Fouzia Wahab, member of the National Assembly along with other guests during the prize distribution ceremony.

### Keenjhar Conservation and Information Centre

WWF Pakistan's Indus for All Programme signed a Terms of Partnership (ToP) agreement with the Livestock and Fisheries Department, Government of Sindh, to build a Conservation and Information Centre at Keenjhar Lake, Thatta. On behalf of the Indus for All Programme, Mr. Nasir Ali Panhwar, Programme Coordinator, signed the ToP with Mr. Ghulam Mujtaba Wadhar, Director Fisheries, representing the department. Mr. Meer Mohammad Perhwar, Secretary Fisheries and Livestock Department, Government of Sindh was also present on the occasion. He hoped that the centre would go a long way to educate and sensitize the visitors of the Lake about the ecological significance of the area. He assured the department's full support. The Programme Coordinator said that the centre would be a state-of-the-art facility for awareness raising and training initiatives.



A view of the ToP signing ceremony

### Members of sub committee of the National Assembly's Standing Committee on Environment Visit Keti Bunder

The Convener of the sub-committee on Indus Delta for the National Assembly standing Committee on Environment Ms. Marvi Memon has said that the Indus Delta is a significant ecosystem and the release of 10 million acre feet water below downstream Kotri is essential to curb sea intrusion in the delta.



MNA Marvi Memon and MNA Tayab Hussain along with Mr. Nasir Ali Panhwar and site staff on their visit to Keti Bunder.

She was speaking at WWF Pakistan's Indus for All Programme site office in Keti Bunder during her visit to the area. MNA Tayab Hussain, member of the sub committee was also present on the occasion. Ms. Memon said that the socio-economic conditions of communities living in the Indus delta have also been badly affected as sea intrusion has both affected the ecology of the area as well as deprived people of their livelihood. She added that fast depletion of mangrove forest would further contribute in degrading this fragile ecosystem. Ms. Memon urged the banning of illegal fishing nets since poor fishermen are deprived of their only livelihood due to this. She announced the disbursement of Rs.5 million from her MNA fund for development schemes in Keti Bunder and Manchar Lake area. She said that the sea has invaded more than 1.2 million acres of fertile land of Thatta and adjoining areas and this was confirmed by the Sindh Revenue Department in 1992. She stressed the need to make every effort to avert the crisis and save the remaining delta. Nasir Ali Panhwar, Programme Coordinator of the Indus for All Programme and other Programme staff briefed Ms. Memon about the issues of the area and the interventions undertaken by the Indus for All Programme.

### The Policy Monitor

#### Accessing the Carbon Market

Pakistan is a signatory to the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC), an agreement that binds industrialized (Annex I) countries to reduce their emissions of greenhouse gases to below 1990 levels by 2012. These emission reductions should primarily be met through national measures. However, as an additional means of meeting these targets the Kyoto Protocol introduced three market-based instruments which together constitute the 'carbon market.' These Kyoto mechanisms include: Emissions Trading, The Clean Development Mechanism (CDM), and Joint Implementation (JI).

The Ministry of Environment, Government of Pakistan, under the Japan Policy and Human Resources Development Fund (PHRD) scheme of the World Bank is interested in promoting good quality carbon finance projects in Pakistan through CDM. CDM projects aim at facilitating industrialized countries to costeffectively achieve their emission reduction targets, while at the same time stimulating sustainable development in developing countries. Greenhouse gas emissions are measured in terms of reduced CO<sub>2</sub> emissions, termed Certified Emissions Reductions (CERs). CERs generated by CDM projects in developing countries like Pakistan can be made available in return for investment or sold to industrialized countries, thereby bringing in investment, transferring technology and generating revenue for the host or developing country.

The Ministry of Environment anticipates that CDM based projects will contribute to mitigating climate change and identify fruitful investment opportunities within high potential greenhouse gas mitigation sectors such as renewable energy, energy efficiency, afforestation and reforestation, among others.

In the coming quarter, the Programme plans to engage stakeholders in a series of workshops based on a working paper (annexed to the programme's TEV study) on this subject, authored by Dr. Ben Groom.

### The Poverty-Environment Watch

#### What is Green Accounting?

Why measure the performance of Pakistan's economy? Local banks will decide how much to lend to a company based on whether the economy is performing well. The bank will also be interested in whether the sector to which the company belongs e.g., textiles is performing well. In the same way, international creditors who bear Pakistan's debt, e.g., in the form of sovereign bonds, would be interested to know when they can expect repayment and the amount of interest that they may earn. Besides these two examples taken from Pakistan's financial system, economic planners are also interested in the performance of Pakistan's economy. Planners sometimes assess an improvement in welfare of the nation as a whole by dividing a rupee measure of total economic activity by the total population year after year and comparing years to see if there has been an increase or decrease in "per capita economic growth".

Planners now acknowledge a fundamental drawback of this way of measuring increases and decreases in the nation's welfare. In particular, before total economic activity (measured in billions of rupees) is even divided by total population, it would appear that national income accountants are mistakenly excluding a sometimes irreversible decline in Pakistan's natural capital stock from their measure of economic activity. In other words, year after year we are encouraged to grow, produce, and expand our economic activities since our national income accounts would have us believe that our growth is both positive and limitless. In reality, Pakistan's natural capital stock is made up of renewable resources (e.g., fish, forests) and exhaustible resources (e.g., minerals whose extraction costs grow exponentially as they become scarcer). The amount of this natural capital stock that is to be replenished must be reflected either within the measure of Pakistan's level of economic activity, also sometimes referred to as "economic growth, or, as part of separate or parallel measures". This in short is what is known as green accounting.

In Fiscal Year 1999, at a time when Pakistan's per capita economic growth was estimated to be both positive and high (8 per cent), others did not agree. Using a measure which takes into account decline of natural resources, "genuine savings", Kirk Hamilton, an environmental economist demonstrated that Pakistan was pursuing an unsustainable growth path. It may interest the reader to know that Kirk Hamilton contributed as a peer reviewer to the Programme's Total Economic Valuation (TEV) studies completed in December 2008. The calculation of the TEV is an important component of green accounting and the Programme's TEV study is expected to assist the planning commission's P&DD statisticians to test green accounting measures.

### Strengthening Partnerships

WWF - Pakistan's Indus For all Programme continues to strive for the creation of better working relationships through increased interaction with partners from different segments of society. In this regard some of the events, participated or facilitated by the programme staff are given as under:

- Secretary Livestock and Fisheries, Mr. Mir Mohammad Perhiar, visited PIU Keti Bunder and Keenjhar on 23rd January and 24th February 2009, respectively. He expressed serious concern over the use of illegal nets in Keti Bunder's creeks and directed concerned officials to take firm steps in that regard. He appreciated the interventions of the Indus for All Programme such as bio-fuel nursery and plantation at Keti Bunder and the planned Conservation Information Centre at Keenjhar Lake.
- The Indus for All Programme Keenjhar team organized a briefing session for the new DCO of Thatta, Mr. Manzoor Ahmed Shaikh on 3 March 2008 about the progress and achievements of the programme at Keenjhar Lake. Mr. Manzoor Ahmed Shaikh praised WWF-Pakistan's Keenjhar team and assured his full support through collaboration and funding for innovative ideas for the people of the areas.
- The Programme Coordinator, Nasir Ali Panhwar, Natural Resource Management Coordinator, Rab Nawaz participated in a Regional Conference on Climate Change: "Challenges and Opportunities for South Asia" organized by Ministry of Environment & IUCN at Islamabad on January 13-14, 2009.
- The Programme Coordinator, Nasir Ali Panhwar attended the Inauguration of Cultural Centre by Trust for Rural Uplift, Culture & Environment (TRUCE) at Hyderabad - January 24, 2009.
- The Regional Director WWF, Dr. Ghulam Akbar and Programme Coordinator, Nasir Ali Panhwar attended Corporate Summit on Climate Action by LEAD Pakistan on February 19, 2009.
- Programme Coordinator, Nasir Ali Panhwar delivered a presentation on the International Day of Action against dams and for the Restoration of Indus River organized by Pakistan Fisherfolk Forum at Jamshoro on March 14, 2009.
- Programme Coordinator, Nasir Ali Panhwar delivered presentation at a seminar on "World Water Day" organized by Hamdam Development & Welfare Organization in collaboration with WaterAid and OPP held at Hyderabad on March 21, 2009.

## Glimpses from PIUs

### Glimpses from the Programme Implementation Units (PIUs)

#### Grass Roots Level NGOs and CBOs in Sanghar Trained in Project Proposal Development

A three-day training workshop on Project Proposal Development for community members and other partner organizations District Sanghar was organized from 23 to 25 March 2009 in the Programme Implementation Unit at Sanghar. The training aimed to enable participants to develop project proposals for various grant programmes. The training focused on project cycle, stages of proposal development, concept and definition of monitoring and evaluation. Zahida Detho facilitated the training sessions. Twenty participants from different Community Based Organizations (CBOs)/ Non Governmental Organizations (NGOs) of the district, including three women attended the workshop. Mr. Nasir Ali Panhwar, Programme Coordinator, along with other programme staff attended the concluding ceremony and distributed certificates among the participants.



Group photo of training participants with Resource Person and PMU Staff

#### CBO Training on "Monitoring Natural Resource Use"

The PIU at Chotiari Reservoir, held a two day training on "Monitoring Natural Resource Use" for CBO representatives from District Sanghar on 19 and 20 March, 2009. The training was aimed at enhancing the knowledge and skills of selected community members in monitoring the existing status and future trends of available natural resources.



Mr. Jahangir Durrani, Natural Resource Management Officer PIU Keenjhar, conducting a session during the training

Twenty-one representatives from ten local CBOs attended this training which was facilitated by Mr. Jahangir Durrani, Mr. Aslam Jarwar from PIU Keenjhar and Naveed Ali Soomro from PIU-Chotiari Reservoir. In the closing session Mr. Faqeer Noor Hassan, Union Council Nazim (Administrator), Mr. Mushtaque Soomro, District Officer Agriculture, Mr. Majeed Mangrio, President Sustainable Development Foundation and Mr. Muhammad Saleh Mangrio, Site Manager PIU-Chotiari Reservoir shared their views and distributed certificates among the participants.

#### Farmer Field School Established Near Chotiari Reservoir

The PIU at Chotiari Reservoir has successfully initiated a mobilization and awareness campaign to engage farming communities in sustainable agricultural practices. In this regard, a Farmer Field School in collaboration with the District Agriculture Department and Chotiari Development Organization has been established at Chotiari Town. A three-year Action Plan has also been developed to demonstrate Best Management Practices (BMPs) in agriculture. A group of 25 farmers were trained in better agro practices for wheat crop vis-a-vis establishing a BMP Demonstration Plot. Mr. Habib Baig from District Agriculture Department was the visiting subject specialist while Mr. Liaquat Ali Mallah and Mr. Dilbar Keerio served as Master Trainers.

Other practices like Integrated Pest Management (IPM) and efficient irrigation systems for different crops and types of lands, awareness raising activities such as farmer exposure visits and an agriculture festival are also part of the action plan.



Farmers during a demonstration session at field site

#### Bio-fuel Initiatives at Keti Bunder.

WWF Pakistan and Qarshi Industries Private Limited, Pakistan signed a Memorandum of Understanding (MoU) on 24 January 2009 for a bio-fuel plantation on 10 acres of land. Dr. Ghulam Akbar, Regional Director, represented WWF Pakistan while Dr. Altaf Hussain, on behalf of Qarshi Industries Private Limited, Pakistan signed the MoU. Dr. Altaf Hussain inaugurated a plantation on a demonstration plot near Keti Bunder's site office. The initiative promotes the plantation of Jatropha and Castor Oil on marginal lands of Keti Bunder as part of an alternate income generating opportunity for local communities. Producing bio-fuel is a step in the right direction to reduce dependence on non-renewable natural resources to meet ever increasing fuel needs.

## Glimpses from PIUs



The secretary Livestock and Fisheries visiting a demo plot at Ketu Bunder.



Dr. Ghulam Akbar from WWF and Dr. Altaf Hussain from Qarshi Industries signing the MoU.

### Community Festivals

The PIU at Ketu Bunder organized a local festival on 31 March 2009, to spread the message of conservation through folk music, comic sketches and interactive theatre. The chief guest of evening was Ms. Humera Alvani, Member Sindh Assembly. She appreciated the efforts of WWF Pakistan for saving the biodiversity of the Indus Delta and acknowledged local community support for the Programme's interventions at Ketu Bunder. Approximately 1500 community members, both male and female from numerous villages of Ketu Bunder participated in the event.



Ms. Humera Alvani alongwith other guests during the local festival at Ketu Bunder

### Community Perception of Climate Change Adaptation at Ketu Bunder

Mr. Aneel Salman of the Rensselaer Polytechnic Institute, New York, led a survey from 12-15 March 2009, in Bhoori Village, Khobar Creek and Tippun Village, Hajamro Creek. The survey consisted of detailed interviews about community's perception of climate change adaptation. Community members shared their experiences of extreme climatic events and prevalent coping strategies. They also raised concerns about increasing sea level, cyclone frequency and freshwater scarcity in the Indus Delta and their associated environmental problems such as loss of livelihoods, water logging, salinity and degradation of natural resources i.e. mangrove forest and marine fisheries. The survey results would be helpful in designing community-based adaptation strategies for climate change in the area.



Mr. Aneel discussing climate change with community representative

### Caring for Wildlife at Home



Partridge chicks hatched and reared at home before release

One of the communities of Keenjhar behaved in a unique way by providing refuge to desolate partridge eggs. This is the story of a member of Keenjhar Marooara Welfare and Development Organization Amirpir (Indus for All Programme supported CBO). The CBO is struggling to provide safe haven to partridges through habitat protection and working for a ban on hunting of partridges in their area. A CBO member found partridge eggs abandoned by a female partridge that had been hunted. He incubated the eggs under a hen at his home. After hatching the partridge chicks were released into their natural habitat. This was an encouraging act showing both creativity and a caring attitude towards wildlife.

## Glimpses from PIUs / HR News

### World Wetlands Day Celebrated at Keenjhar Lake

World Wetlands Day (WWD) is celebrated internationally on 2 February every year. The purpose of celebrating this day is to highlight the importance of wetlands and spread awareness regarding threats to wetlands and means of overcoming these issues. The Programme celebrated WWD at Keenjhar Lake in collaboration with local schools, communities and students from Karachi University. The celebration consisted of four sub events: a seminar, an awareness raising walk, lake cleaning and the installation of a dustbin at Keenjhar Lake picnic point.



A view of Awareness Raising Walk at Keenjhar Lake on World Wetland's Day. (2.2.09)

### Pai Forest communities experience Other Conservation Initiatives in the Ecoregion

In order to share and learn from the experiences of the communities belonging to two other programme sites, 23 community members, both male and female, from Pai Forest visited Keenjhar Lake, Keti Bunder & Kirthar National Park during 25-28 March 2009. One of the objectives of the visit was to learn from each other's experiences of community-based natural resource management initiatives. The group consisted of CBO representatives, teachers, youth leaders, and journalists. At the Kirthar National Park, the delegation was facilitated by Sindh Wildlife Department. The major objective achieved at Kirthar National Park was the clarification of community practices about trophy hunting, while wildlife sighting was also an interesting activity.



Pai Communities being briefed by Keenjhar Lakes' CBOs

At Keenjhar, the group met with CBOs, youth groups and women groups in which experiences were shared by both communities. Community based interventions such as energy plantation, and vocational centre initiated under the Indus for All Programme were also observed

In Keti Bunder, the visiting community observed nurseries of Jatropha and Castor oil, which have been raised to demonstrate the extraction of bio-diesel as an alternate, and environment friendly fuel. The delegation then, traveled to Hajamro Creek and held a meeting with the local CBO. They observed interventions such as solar panels, wind turbines, community school, boat water tanker, freezers for fish storage and mangrove plantation carried out by the local community.

In their feedback, most participants said that the visit was an eye opening event for them to be familiar with other communities and their efforts in conservation. The visit clarified their concept of trophy hunting.

## HR News

### Staff Orientation at WWF Pakistans' Head Quarter in Lahore

Staff members recruited by the Indus for All Programme from June 2007 onwards attended an orientation workshop to the WWF Pakistan's Head Quarter in Lahore from 28 – 29 January 2009. Seven members of the Programme team took part in the orientation five of which were from the Programme Management Unit: Nasir Panhwar, Programme Coordinator, Jamal Shoro, Policy Analyst, Khadija Zaheer, Manager Policy, Shahid Panhwar, Manager Monitoring and Evaluation, and Meherunissa Hamid, Programme Management Officer. Two members namely Nadeem Sheikh and Kulsoom Memon, Community Development Officers represented the PIU at Keti Bunder. During the two-day orientation, presentations were given by various departmental heads of WWF Pakistan and Mr. Ali Hassan Habib, Director General, WWF – Pakistan.

### International Orientation:

Mr. Rab Nawaz, NRM Coordinator, participated in the "Introduction to WWF" course, Gland, Switzerland, designed by the People Development Team of WWF-International from 16 to 20 March 2009.

### Welcome Onboard

1. Ms. Nida Zarar Meyer joined as Graphic Designer from 26 Feb 2009.
2. Ms. Latifan Maznani joined as Community Mobilizer from 3 March 2009.
3. Mr. Piyar Ali Jakhro joined as Finance and Administration Assistant from 3 March 2009.

## Other News

### Internships:

1. Mr. Zulfiqar, a student at University of Sindh, interned at PIU Sanghar from 14 October 2008 to 15 January 2009. He provided research assistance to the team.
2. Mr. Muhammad Hanif Chandio, from University of Sindh, worked from 17 November 2008 to 17 February 2009. He conducted research on shrimps in Keti Bunder.
3. Mr. Rameez Khan, a student at University of Karachi, interned from 27 October 2008 to 28 January 2009 to assist in HR functions at the PMU Karachi.
4. Ms. Nuzhat Rizwan, a student from Bahauddin Zakariya University, interned with the Director of the Indus for All Programme from 12 November to 12 February 2009. She provided research assistance in compilation of floral guide-book.
5. Ms. Fatima Khalid, a student at University of Karachi, interned with the communications department of the Programme from 19 January to 19 March 2009. She provided assistance in various awareness campaigns.

### Dolphin Stranded at Gadani Beach, Balochistan Coast

It was Friday 11 March 2009 when about 200 Spinner dolphins (*Stenella longirostris*) came ashore Gadani beach on Balochistan coast. The group consisted of adult males and females. The Spinner dolphin is an offshore species and not usually found so close to the shore.

According to the local fishermen, they have never been spotted in such numbers near the shore before. The dolphins were stranded at 11:00 A.M. Local fishermen and picnickers began rescue work immediately so that the dolphins could be returned to the sea. The electronic media also reached the place and covered the event. The rescue team of WWF – Pakistan comprising of Babar Hussain and two other members reached the site at 3:00 P.M. once they heard the news. The sea was rough and tide was high at the time. The team rescued eight stranded dolphins and released them into deep sea using the Balochistan Fisheries Department's motor boats. All the dolphins were rescued by 8:00 P.M.

The actual reason of stranding could not be ascertained. However, there are a number of reasons that may have caused them to come ashore:

- Multinational Naval exercise titled Aman - 09 was going on in the Arabian Sea in which Navy fleets from different countries were taking part. Explosions in the sea may have made the dolphins nervous and they reached ashore in confusion;
- Sonar from the Navy or Seismic survey boats. Sonar activity could have caused a disturbance and confused dolphins who consequently traveled in this direction;
- The dolphins may have been chased by a predator, e.g. a killer whale;
- Toxic food related to a red tide offshore. Red tide is a phenomenon caused by algae blooms during which algae become numerous and are associated with the production of natural toxins, depletion of dissolved oxygen and other harmful impacts; and
- Chasing food into shallow water.

On the very next day, Saturday 12 March, the information was received about one dead dolphin stranding at Gadani. WWF – Pakistan's team rushed there again and found a dead specimen. The dead specimen was 7.7 ft long and 1.9 ft wide. Mishandling by fishermen and picnickers may have been the cause of death. A sample from the dead specimen was collected for analysis.



Dolphin Stranding at Gadani Beach, Balochistan Coast.

### Indus For All Programme, WWF - Pakistan

#### Programme Management Unit (PMU)

606, 607 Fortune Centre, Block-6 P.E.C.H.S, Shakra-e-Faisal, Karachi.  
Tel: 021-4544791-92, Fax: 021-4544790  
www.foreverindus.org, www.wwpak.org

#### Programme Implementation Units (PIU)

##### Chotiari Wetlands Complex

House # 129/2, Housing Society, Near Government Boys High School,  
Nawabshah Road, District Sanghar, Sindh.  
Tel: 0235-542837, Fax: 0235-542791

##### Keenjhar Lake

House # B/112, Hashimabad Society Makli,  
District Thatta, Sindh.  
Tel: 0298-772318, 772319, 610426.

##### Keti Bunder

Keti Bunder Town, P.O. Keti Bunder  
via P.O. Mirpur Sakro, District Thatta, Sindh.  
Tel: 0298-607685, 620291

##### Pai Forest

House # A-3, M.U.C.E.T Employees  
Co-operative Housing Society, District Nawabshah, Sindh.  
Tel: 0244-366364, Fax: 0244-282496

**"Ecology and Economy are becoming ever more interwoven - locally, regionally, nationally and globally - into a seamless net of causes and effects" - Steven H. Arnold**