



# Sindh Coastal Communities Development Project

Annual Progress Report 2010



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## **1. Introduction**

The Sindh Coastal Community Development Project (SCCDP) is being implemented by the Sindh Coastal Development Authority (SCDA) in coastal areas of Thatta and Badin districts through government agencies (Sindh Forest Department, Sindh Fisheries Department, and District Governments), the National Rural Support Programme and IUCN with their respective roles and responsibilities. The objectives of the project are:

- i. Diversify household income generation options and access to service in ways sustainable to the fragile ecosystem
- ii. Improve coastal zone management by stabilising environmental degradation, protecting coastal areas from accelerated erosion
- iii. Strengthen institutional capabilities for coastal zone planning and development and management of fisheries resources

The complex nature of the project demands effective cooperation between organizations for successful implementation of the project in order to achieve the following outputs:

- i. Sustainable community managed income generating mangrove stands, pond/raft fisheries, and shell fisheries established
- ii. Transparent and accountable community driven mechanisms for identification, implementation and operations and maintenance of civil works and public services in place

In this context, IUCNP has been working very closely with NRSP and Sindh Forest and Fisheries departments for the implementation of SCCDP.

Under the sub-component “improved coastal management”, IUCN is tasked with the planning and implementation of community planting and management, monitoring departmental plantation, and environmental assessment of aquaculture in the coastal areas of the Thatta and Badin districts. IUCN Pakistan’s key responsibilities in the project are:

- i. To implement the Community Mangrove Planting over 350 ha through community participation.
- ii. To monitor and evaluate both the 350 ha area planted by community and the planting of 3000 ha of mangrove by the Dept of Forestry on government owned land.
- iii. To monitor environmental impacts of the aquaculture related activities to be undertaken as part of the project.

The following sections describe the progress made under the relevant two sub-components of Improved Coastal Management.

## **2. Mangrove plantation and restoration**

The sub-component for mangrove planting provides for planting of 3350 ha mangroves in the inter-tidal zones on government land of which 3000 ha will be new plantings and 350 ha planted under community managed schemes to enable infill and community management/oversight of sparsely planted areas.

## **2.1. Community mangrove plantation**

IUCN Pakistan is responsible to facilitate establishment of community managed mangrove plantation over 350 ha in the project life in coastal areas of Thatta and Badin districts. The target for 2010 was plantation on 70 ha. In order to undertake this, the fishing communities living in the creek villages had to be mobilised and engaged in mangrove restoration by highlighting importance of the mangrove ecosystems to their livelihoods. The mangrove restoration is linked to local community livelihoods in two ways: (1) directly by providing goods and services that contribute to community livelihoods such as wood, fuel, fodder, and (2) indirectly by contributing towards fisheries production and protecting community against disasters such as cyclones, storms and tsunamis.

As per project strategy, the coastal communities were to be organised and mobilised by NRSP and trained and engaged by IUCN and the Coastal Forest Division (CFD) in mangrove restoration work under the project. So far the following progress has been made:

### **2.1.1. Site selection**

The potential sites for community mangrove plantation were identified through field visits and in consultation with the local communities. The suitable planting sites were identified keeping in view general physical conditions and ecological factors such as, soil and water quality, tidal characteristics of the site, floral characteristics, proximity to community, and existing level of motivation of community to participate in mangrove restoration activities. For achieving community plantation target for 2010, the new site was selected at village Haji Doongar Jat, Taluka Jati, District Thatta.

### **2.1.2. Community consultation**

The community organizations (COs) formed by NRSP and the existing community based organisations (CBOs) were involved in the mangrove restoration and nursery establishment. Several meetings were held with the participating communities to negotiate terms of partnership for mangrove restoration activities. Support of NRSP was solicited in organisation and mobilisation of communities, and negotiating terms of partnership with them.

### **2.1.3. Community mangrove plantation and monitoring**

Community based restoration approach has been widely used and much popular approach in restoring mangroves. Fishing communities that are located around the mangrove area are generally aware of the importance of the presence of mangroves. Hence, it is better to get their participation by imparting basic training in silviculture, to restore/ replant mangroves. This will bring special attachment between the local fishing community and the mangrove ecosystem for long term mangrove conservation.

During 2010 the community planting was established over 70 at village Haji Doongar Jat, Taluka Thatta in collaboration with local community. One of the purposes of raising new plantation at the single site was to tackle virgin intertidal area which will improve the micro and macro environment of the cluster of villages in the vicinity.

In addition, regular and participatory monitoring of the community mangrove plantation raised at Bhoori village, Keti Bundar) and the village Haji Doongar Jat in Jati was carried out. The community is

protecting the plantation regularly. The overall success percentage of raised plantation is above 72% at Bhoori village site and around 76 % at village Haji Doongar Jat in Jati.

#### 2.1.4. Establishment and monitoring of mangrove nurseries

In order to supplement supply of mangrove saplings off-season, mangrove nurseries were established in different coastal villages. These nurseries were established with the objective of sustaining seed supply for community planting activities and motivating local communities towards mangrove conservation. The nursery stock available in nurseries at Bhoori and Haji Doongar Jat is being regularly monitored. The nursery stock was utilised for establishing new plantation at Haji Doongar Jat village and restocking of failures. At present around 85,000 stock is lying in nurseries at the following locations.

#	District	Location	Species	No of Saplings		
				Total	Consumed	Balance
1	Thatta	Bhoori Village, Keti Bundar	<i>Avicenia</i> <i>Rhizophora</i> <i>Ceriops</i>	58,000	13,000	45,000
2	Thatta	Haji Donger Jat Village, Jati	<i>Avicenia marina</i>	43,000	Stock consumed	40,000 (Estb. 2010)
<b>Total</b>				<b>101,000</b>	<b>56,000</b>	<b>85,000</b>

The nursery and plantation establishment activities by the community were continuously supervised by the field staff as a backstopping support.

#### 2.1.5. Community protection incentive

The negotiated terms of partnership with CO/CBO essentially focused on sustainability of established plantations through a community level protection mechanism under an incentive mechanism which entailed 'payment for environmental service' approach rather than conventional approach of hiring community members as 'watchers' on a fixed monthly salary basis. Under this approach, the periodical payment incentive to CO/CBO is subject to number of surviving plants planted by the community member at the selected site. This incentive mechanism is efficiency-based. The protection payment to CO/CBO decreases with each of the non-surviving plant, thereby motivating the community to adopt effective measures for their protection and restocking. The rationale of this approach is to inculcate sense of responsibility and community ownership to sustain mangrove planted sites. However, it is important that the Social Mobilisers of NRSP during their mobilisation process also keep the community motivated towards managing mangrove resources sustainably by highlighting their importance to community livelihoods.

## 2.2. Monitoring mangrove plantation and restoration by the Sindh Forest Department

### 2.2.1. Monitoring framework

IUCN has been assigned role of third-party monitor for mangrove plantation and restoration over 6,000 ha assigned to the Sindh Forest Department under the project. In order to fulfil this responsibility, IUCN developed a monitoring framework with support from its regional experts. This monitoring framework provides clear guidelines for monitoring of the above mentioned activities.

### 2.2.2. Field monitoring

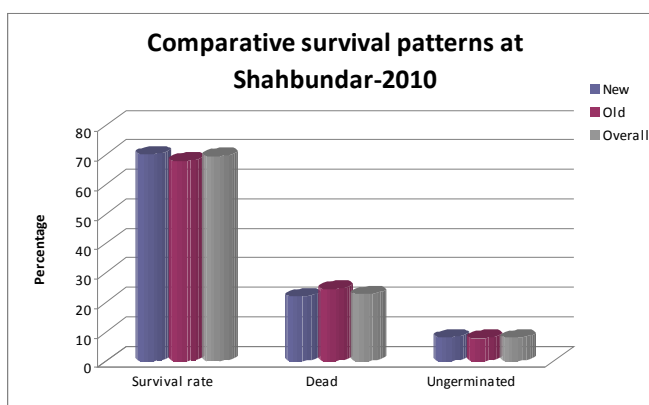
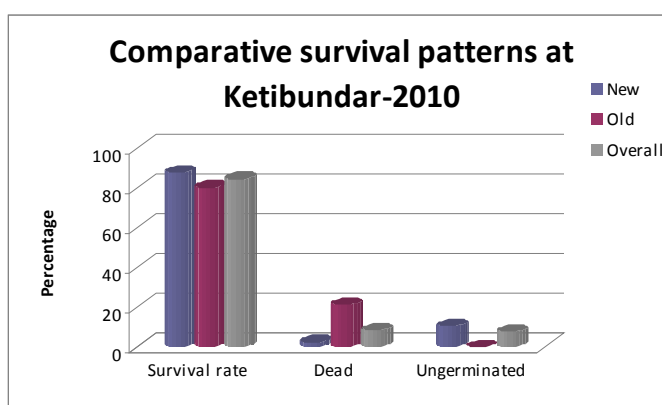
Monitoring of mangrove areas is a daunting task in terms of their inter-tidal characteristics, remoteness which are subject to tidal phenomenon which limits access to these areas. Besides this year the activities were influenced by the impeding effects due devastating floods in the lower Indus Nevertheless, the monitoring by IUCN remained continue throughout the period during which several joint visits of planted sites in project areas were carried out.

These visits were carried out during the various phases of implementation of mangrove component of the

project by the Sindh Forest Department including site selection, area mapping and assessment of survival percentage in the planted areas. The purpose of these visits was to record GPS coordinates of planting sites for preparation of GIS maps of the planted areas and to ensure conformity of planted areas with the already identified sites. Further, the GIS maps were also used to assess the quantum of planted areas.

The monitoring of 1288 ha of newly planted mangrove areas in Shah Bundar (671 ha) and Keti Bundar (617 ha) tackled by Coastal Forest Division (CFD) till October 2010 was carried out through post planting data collection from 6 to 10 December 2010 at both the sites by the field teams constituted by IUCN Pakistan. During these visits, the staff of CFD accompanied the field teams. In addition, monitoring of the mangrove plantations over 1800 established during 2009 and container plant nurseries of 0.2 m plants was also carried out.

Based on field data, a detailed monitoring report was prepared and shared with the Project Director, SCCDP and SCDA. The estimated overall survival percentage at both locations i.e Shah Bundar and



Keti bundar showed remarkable improvement with the overall representation of 76 %. Comparing it with the prevalent conditions this may be regarded as satisfactory. The breakup of two locations, Ketibundar with 84% and Shahbundar with 70% survival rate, apparently presents 10% and 6% improvement in survival rate respectively. The variability in survival percentage between the two locations are reflective of the conditions majority of which falls beyond the control of implementation manager, such as variability in physical characters, natural disaster, relative difference of available logistic facilities etc.

### 3. Monitoring environmental impact of aquaculture

The second sub-component entails developing simple aquaculture ponds and trials of simple methods of bivalve and crab cultivation which can be later replicated by households. Oyster and mussel cultivation on ropes attached to simple rafts will be undertaken on trial basis. There will be 20 pilot ponds and 20 pilot rafts, with expansion of an 80 additional ponds and rafts at the proposed sites – Keti Bundar, Shah Bundar and Zero point.

IUCN has also been assigned monitoring of aquaculture ponds established by Sindh Fisheries Department in the project areas. IUCN is responsible to establish environmental baseline and measuring effects of pilot ponds and rafts with proposed mitigation measures on how to mitigate environmental concerns if ponds expand. The environmental assessments would mainly involve undertaking rapid environmental assessment of the pond/raft sites identified by the Sindh Fisheries Department.

For this purpose, the monitoring framework developed by IUCN Pakistan with support from regional experts provides guidelines for environmental monitoring and feedback on proposed pond/raft establishment activities. Further, a protocol for rapid environmental assessment of the identified sites has been developed for data collection and analyses.

Joint field visits with the officials of Sindh Fisheries Department to the identified site for establishment of ponds near village Mehaar Kapoorani, Taluka Ghora Bari, District Thatta were conducted to undertake rapid environmental assessment of the identified site. The assessment was conducted by a multidisciplinary team of experts, comprising of IUCN Aquaculture / Fisheries Specialist, Coastal Ecosystem Expert and the Natural Resource Management Specialist. The Initial Environmental Examination (IEE) report of the pond site has



qualified the pond site for setting up of the aquaculture facility. The activity will include establishment and operation of 10 community managed ponds to be used for shrimp and crab farming on equal land use basis stretching collectively over an area of approximately one hectare.

### 4. Capacity building and awareness-raising of community and partners

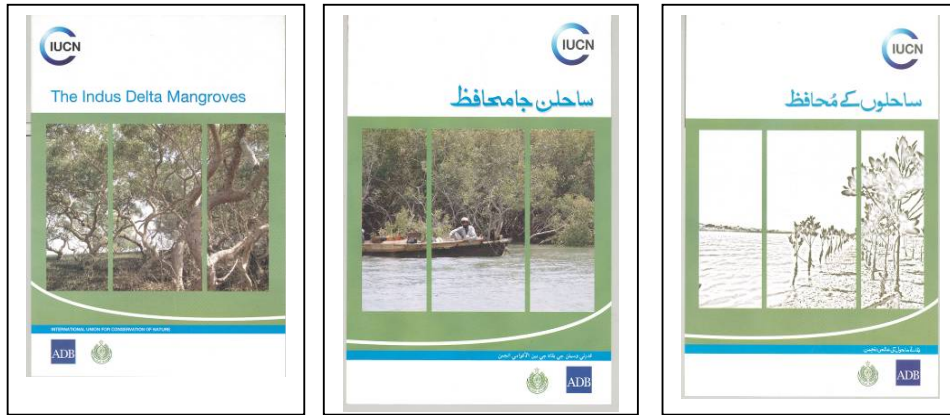
The capacity building on ecosystem restoration and project implementation of implementing agency is vital to the success of restoration activities. The capacity building of local communities, CBO's , VO's will maximize their efficiency, achieving ecological sustainability, and project models that can be replicated elsewhere for future restoration projects. For this purpose a separate capacity building and awareness raising framework has been designed which includes a plan of formal trainings and awareness-raising of the coastal communities in mangrove restoration and management.



Under the project, both informal and formal training programmes have been designed for the project communities and the partners. The informal training to the community members involved on-site field training to the CO/CBO members in mangrove plantation and nursery establishment



In addition, out-reach material in the form of brochures and stickers having information about mangroves for general audience/ communities has been developed and initially printed in Sindhi (3,000), Urdu (2,500) and English (1,500).



During 2010, the following capacity building and awareness raising activities were implemented.

#	Event	Location	Communication Objective	Participants
1	Community mangrove training	Village Shaikh Karhiyo, district Badin	Highlighted issues of mangrove conservation and rehabilitation techniques	40 participants belonging to local community, NRSP and SCCDP-PMU Thatta
2	Community mangrove training	Village Haji Doongar Jat, Taluka Jati	Mangrove nursery establishment Viewing documentary on mangroves	30 members from community and representatives of NRSP
3	Exposure visit	Gawadar Jiwvani, Ganz, Shabi, Pushkan, Sapat bunder and Pasni.	Expose PMU staff to mangrove restoration work and approaches of IUCN	Seven (7) members of PMU staff Karachi and Thatta participated
4	Participation in electronic media and other forums	Karachi	Highlighted issues of Indus Delta and mangrove conservation on Earth day, Biodiversity day, World Environment day and World Ocean day.	Presentations made at GEO, Hamdard University and Rotary Club-East. The project activities highlighted in various media programmes (Geo, KTN, Sindh TV & Sama TV).
5	Environmental Talks in Schools	Karachi	Highlighted environmental issues with main focus on mangroves as Carbon Sink	Participants included students from eight different schools in coastal belt of Karachi
6	Field Visit 22 June 2010	Bhoori village Keti Bundar	To assess post PHET situation	Deputy Director NRM

## 5. Project reporting

Monthly, quarterly and annual reports of the physical and financial progress were submitted to the Project Director, SCCDP and the Executing Agency as per agreed schedule. The project has also been monitored internally by IUCN Pakistan.

## 6. Conclusion & Suggestion

In its role as one of the project partners and monitor, IUCN Pakistan with support from NRSP has been able to engage local communities in establishment of community mangrove plantation in the project areas and provide technical support to the Coastal Forestry Division in selection of potential mangrove planting sites.

During the year 2010, SFD has successful raised new plantation over 1288 ha in Shah Bundar and Keti Bundar areas besides maintaining 1800 has raised during the year 2009. Based on established monitoring methodology, the overall estimated survival percentage of 76 % was observed at both locations. The breakup of two locations, Ketibundar with 84% and Shahbundar with 70% survival rate, apparently presents 10% and 6% improvement in survival rate respectively over the previous years. However, the new mangrove plantations would require continuous protection and maintenance. Also, mobilising and capacity building of the local communities in mangrove plantation and protection to the achievement of desired results. The capacity building and awareness raising framework being implemented by IUCN Pakistan and SFD would prove useful to this end.

Lately, the Sindh Fisheries Department has identified a site for establishment of ponds near village Mehaar Kapoorani, Taluka Ghora Bari, District Thatta which has been found fit for the proposed intervention based on the findings of rapid environmental assessment. It is essential that the Sindh Fisheries Department shall take efforts to implement this intervention as quickly as possible to ensure positive project benefits for the local communities under a participatory approach.

## 7. Photographic Glimpses



Local school students planting mangroves



Community planting at Haji Doongar Jat Village



Community Training at Village Sheikh Karhiyo



Community Training at Haji Doongar Jat Village



Mangrove plantation at Keti Bundar



Community nursery at Haji Dongar Jat Village



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