



*for a living planet*



# **Implementation Strategy**

**for**

## **Indus for All Programme**

**Prepared By: Indus for All Programme Office**



**World Wide Fund for Nature - Pakistan (WWF - P)**

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## Context and Overall Framework for Implementation

### 1.1 Introduction

This implementation strategy outlines an approach for meeting the Indus for All Programme targets as defined in the logical framework. Apart from an overall framework for implementation, called the '3M Approach' the implementation strategy is composed of three components, namely Natural Resource Management, Livelihoods Improvement and Social Mobilization.

Changes in the political and socio-economic context and lesson learning from past interventions will require annual review and update of the implementation strategy. Necessary adjustments to the implementation mechanisms will be made in response to new influences that may impact community participation, natural resource conservation and stakeholder commitments. The present implementation strategy is an outcome of internal discussions amongst WWF-Pakistan experts, consultations with various stakeholders and input from the WWF network. Additional documentation that supports the overall framework for Indus for All Programme implementation and complements this strategy includes the Communications and Awareness Strategy, Capacity Building Framework, Institutional Assessment and Collaboration Study and the Monitoring and Evaluation protocols.

### 1.2. Background: Indus Ecoregion and Indus for All Programme

The Indus for All Programme is the first phase of a 50-year Indus Ecoregion Programme that identifies conservation targets and milestones to be achieved for sustainable management of the Lower Indus Basin. The 5-year Indus for All Programme interventions are focused on 4 of the 15 priority sites identified in the long-term integrated Indus Ecoregion Conservation Plan. The four sites selected for the first phase of the Indus Ecoregion Programme are Chotiari Reservoir (complex of wetland and desert ecosystem) in Sangarh, Kinjhar Lake (freshwater ecosystem) and Keti Bunder (mangrove ecosystem) in Thatta, and Pai Forest (irrigated plantation) in Nawabshah.

Both the Indus Ecoregion Programme and the Indus for All Programme are outcomes of several consultations, workshops and international reviews from 1999-2006 involving a broad range of stakeholders from relevant line departments, civil society organisations, academic and research institutions, the private sector as well as local communities belonging to different parts of Sindh. Developed vis-à-vis WWF's global focus on ecoregion conservation, the 50-year Indus Ecoregion Programme is guided by four long-term objectives:

- Maintenance of a viable population of **species**
- Representation of all distinct **natural habitats** within protected networks that are resilient to large-scale disturbances and long-term challenges
- Maintenance of **ecological processes** that sustains biological diversity
- **Sustainable natural resource use** that contributes to conservation and healthy livelihoods

In line with the long-term conservation objectives for the Indus Ecoregion, the Indus for All Programme interventions are driven by four core objectives:

- ❖ Community-based natural resource management in four priority areas contributes to improved livelihoods.
- ❖ Improved natural resources and livelihoods through mainstreaming of poverty-environment linkages at policy, planning and decision-making levels.
- ❖ Improved institutional capacity and awareness for sustainable management at various levels.
- ❖ Improved alignment and collaboration for stakeholder interventions.

### 1.3 Brief Descriptions of Indus for All Programme Sites

**Keti Bunder** (Thatta District) is one of the major towns along the Pakistan coastline that is facing environmental degradation and loss of livelihood opportunities for the locals. Seawater has encroached into the creeks, delta, and channels causing soil salinity of adjacent lands to exceed cultivable limits. The natural vegetation is also under stress due to hyper salinity and change of habitat. Out of eight species of mangroves six species have been lost from Indus Delta including Keti Bunder during the past 70 years.

**Kinjhar or Kalri Lake** (Thatta District) is a freshwater lake covering about 14,000 ha area. It is a wildlife sanctuary and a Ramsar site. The livelihood of about 50,000 people rests on the Lake, however, fish resources are declining due to overexploitation. It is an important breeding and wintering area for a wide variety of birds. About 65 species of waterfowl have been recorded from the lake. Few mammal and reptile species have also been reported from the area. The lake is also an important tourist place.

**Chotiari Reservoir** (Sanghar District) occupies an area of about 18,000 hectare and the reservoir exhibits a complex of terrestrial and aquatic ecosystems. The aquatic features of the reservoir area comprise diversity of small and large size (1-200 ha) freshwater and salty lakes. The open wetland, the deep and shallow pools, the aquatic margin vegetation, the reed bed swamps, the sand dunes and surrounding deserts and wood lands are habitats for variety of fish, mammals, birds and reptiles. Important mammal species include Hog Deer, Chinkara, Jungle Cat, Fishing Cat, Caracal, Smooth coated Otter, etc. More than 100 species have been recorded from the area including globally threatened species of the Marbled Teal.

**Pai Forest** (District Nawabshah) covers an area of 1933 hectares (4,777 acres) of irrigated plantation. Due to its ecological importance the entire area of Pai forest has been declared as a Game Reserve by Sindh Wildlife Department. The forest provides a natural habitat for different wildlife species which include Hog deer, partridge, Asiatic jackal, jungle cat, porcupine, wild boar, snakes and others.

## 1.4 Context: A Dynamic Political and Socioeconomic Environment

Pakistan is predominantly an agricultural country as 46 percent of its labor force earns its living from this sector and roughly 60 percent of the population lives in rural settings. With changing methods of agriculture such as mechanization, increasing use of chemical inputs, emphasis on cash crops and new marketing phenomena have all resulted in loss of top soil, land degradation and habitat fragmentation. All four project sites are located in rural areas of southern Sindh province of Pakistan. Only Keti Shah that represents riverine ecosystem of upper Sindh in Sukkur district ( 5<sup>th</sup> site added for detailed socio-economic and ecological assessment) Rural economy in Sindh mainly depends on natural resources which include agriculture, fishing, livestock, and forestry. The majority of people's livelihoods hinge on one or mix of these resources.

Rapidly rising population has created tremendous pressure on small forest resources in the Sindh province generally and project sites particularly. Mostly forests in Sindh may be found in the riverine belt. Reduced fresh water flows, increased population and energy needs coupled with commercial logging has shaved the forests. This situation is leading towards habitat loss of key wildlife species and making poor communities more vulnerable.

Similarly fish resources in sweet water lakes, canals and river Indus are under threat due to several causes including pollution of wetlands, reduction of fresh water flows, over exploitation of resources and non-sustainable fishing practices. The productivity and job losses in agriculture sectors are pushing peoples to enter into the fishing sector.

The Indus for All Programme is being implemented in a dynamic political and socio-economic climate that will continue to shape the implementation strategy throughout the lifetime of the programme. The next Pakistani elections are scheduled for the end of 2007 while the Local Government System introduced by General Pervez Musharraf's Government continues to mature. Major investments have been planned for the energy sector including development of big dams and laying of trans-boundary gas pipelines. Pakistan's population is increasing at a rate of 1.9%<sup>1</sup> while the headline inflation rate of 8%<sup>2</sup> is adding to the gap between the rich and the poor. Infact, WWF-Pakistan's analysis of inflation data indicates that city wise inflation is relatively high in cities near the Indus for All Programme sites and compared to other provinces, food inflation is much higher for cities in Sindh.<sup>3</sup>

At the same time that changes may be expected at macro and meso levels, micro level dynamics can also impact the implementation strategy. Local communities function in line with particular cultural and social norms that could become a hurdle for the introduction of certain interventions, while conflicts amongst different communities may require introduction of new approaches and tools. Natural disasters and climatic changes are yet another range of external factors that will put pressure on existing natural and social capitals and dramatically impact the Indus for All implementation mechanisms.

The indicators and risks articulated in the Indus for All Programme logical framework have been identified to minimize the repercussions from micro-meso-macro level influences. However, keeping in mind this dynamic context, the Indus for All Programme must be flexible enough to incorporate new tools and approaches without losing sight of the core

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<sup>1</sup> *Population Growth Rate and its Implications*, National Institute of Population Studies, September 2005.

<sup>2</sup> *Ensuring a Demographic Dividend: Unleashing Human Potential in a Globalized World: Draft Summary of the Poverty Reduction Strategy Paper-II*, Ministry of Finance, Government of Pakistan, 25<sup>th</sup> April, 2007.

<sup>3</sup> *Inflation Analysis Brief*, WWF-Pakistan Indus for All Programme, March 2007.

objectives of the programme. Adaptive management, will therefore, be critical to overcoming new challenges, harnessing new opportunities and sustaining programme interventions beyond the first phase.

## **1.5 A 3M Approach: The Overall Framework for Implementation**

Numerous projects on environmental improvement and poverty reduction have failed to deliver on their promises; the limited successes that have come about have also been short-lived. This is true not only for Pakistan but projects in developing nations around the world. Unipolar economic policies and institutional arrangements that neglect the rural poor and the environment have largely contributed to these circumstances. The World Wide Fund for Nature's experience from hundreds of poverty-environment projects the world over has concluded that addressing economic and policy scale factors is essential for sustaining project benefits beyond the implementation stage.

More recent programmes of the WWF and partners therefore recognize that supportive policies and institutional arrangements are essential ingredients for environmental protection and poverty reduction. Failure of past approaches that did not address field-policy dynamics has led to the development of the 3M approach. Developed by WWF's Macroeconomic Programme Office, the 3M approach links changes at the local level (micro) with changes at the subnational (meso) and national levels (macro) in an effort to synchronise field-scale lessons and community aspirations with policy-level decisions.<sup>4</sup>

The four basic principles of the 3M Approach that guide implementation of the Indus for All Programme are summarized as follows:

- Social, Ecological and Institutional analysis carried out at micro, meso and macro levels are necessary precursors to bringing about change in poverty-environment dynamics
- Addressing obstacles at the local level that prevent the empowerment of the poor and limit their involvement in economic and political processes is an essential starting point for changing poverty-environment dynamics
- Political and institutional structures and processes that allow for changes from the local level (bottom-up as opposed to top-down) require synchronisation at local, subnational and national levels
- Partnerships amongst stakeholders at all three levels is required to bring about necessary changes to the existing political and institutional framework

Development in Pakistan is staggered due to conflicting perceptions and interests of a diverse range of stakeholders. Using the 3M approach helps tackle this complexity and minimize the political economic and institutional disconnects that exist between the micro, meso and macro levels. WWF-Pakistan has refined the 3M approach according to the Pakistani context for implementation of the Indus for All Programme.

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<sup>4</sup> *The 3xM Approach: Bringing Change Across Micro, Meso and Macro Levels*, WWF Macroeconomics Program Office, May 2006.

**Figure 1: Micro-Meso-Macro Levels Defined in Pakistan’s Context**



Figure 2 illustrates application of the 3M approach to the Indus for All Programme. Selected interventions of the Indus for All Programme have been grouped into micro, meso and macro levels.

Micro-level interventions focused on baseline studies, poverty-environment assessments, and community-based initiatives will provide lessons to be incorporated in sectoral plans at the meso level and policy documents at the national level. At the micro level, economic valuation studies will contribute towards integration of environmental values into national accounts at the macro scale. Lessons from studies and assessments at the micro level will also contribute towards the development of Natural Resource Management and Livelihood Development Plans. Capacity building of representatives from provincial and district governments will support the implementation of lessons learned at the micro level and formulation of plans and policies at the macro level.

**Figure 2: The 3M Approach in the Context of the Indus for All Programme**

<b>Micro</b>	<b>Meso</b>	<b>Macro</b>
<ul style="list-style-type: none"> <li>▪ Baseline socioeconomic, ecological and environmental awareness assessments</li> <li>▪ Site-based poverty-environment assessments to establish poverty-environment linkages</li> <li>▪ Community mobilization and empowerment initiatives</li> <li>▪ Economic valuation studies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lesson learning and dissemination from micro level</li> <li>▪ Mainstreaming of poverty-environment linkages in sectoral plans at the provincial level</li> <li>▪ Capacity-building provincial and district level departments</li> <li>▪ Development of Participatory NRM and Livelihood Development Plans</li> </ul>	<ul style="list-style-type: none"> <li>▪ Up scaling of lessons at micro and meso levels to influence decision making processes</li> <li>▪ Integrate lessons from poverty-environment assessments into key policy documents (PRSP, MTDF, etc)</li> <li>▪ Integration of environmental values into national accounts</li> <li>▪ Exchange and Exposure Visits for decision-makers</li> </ul>

## Natural Resource Management Strategy

### 2.1 Introduction

The Natural Resource Management (NRM) strategy provides an integrated planning framework for management of natural resources within the Indus Ecoregion. The focus of the strategy is the nexus between environment (land, water and biodiversity resources) and poverty (livelihood standards, dependence on natural resources). The strategy tries to demonstrate that improved natural resource management has a strong linkage with regional economies and social well-being of communities settled in both rural and urban areas.

Studies have shown that natural resources in the Indus Ecoregion have undergone degradation since recent developments, especially after the construction of the vast and complex irrigation system upstream in the last one and a half century.

Habitat loss, sea intrusion, water salinity and desertification are all conspicuous and significant threats to natural resources, associated values and the livelihoods of local communities living in Sindh.

The Indus for All NRM strategy provides a mechanism for improving the environmental knowledge base and ecological health of the four priority sites. It also provides guidance for managing a Partnership Fund for conservation and sustainable use of natural resources within the region. The implementation of this strategy over the next five years can be considered a milestone towards the coordinated effort that makes up the 50-year Indus Ecoregion Vision.

### 2.2 Vision for the Indus Ecoregion

The 50-year Indus Ecoregion Vision has been formulated through consultations from a broad spectrum of stakeholders. The vision serves to inspire all stakeholders for coordinating efforts and mobilizing resources for an ecologically healthy Indus Ecoregion. The vision provides a sound platform for articulating the Natural Resource Management strategy for the Indus for All Programme.

#### ***Vision for the Indus Ecoregion***

*Humans coexisting with nature, in complete harmony, a network of interlinked wetlands where Dolphins and Otters thrive in their river habitats and birds inhabit lakes and lagoons. Aquatic flora and associated biodiversity flourish on the banks and mouth of the River Indus and the newly hatched marine turtles safely return to the sea*

## 2.3 Core Aspects of a NRM Future for the Indus Ecoregion

The essential ingredients for effective and sustainable natural resource management in the Indus Ecoregion have been filtered from an analysis of various workshops, consultations and reviews during the development phase of the Indus Ecoregion Programme. WWF-Pakistan considers achieving these core aspects a challenge that must be met and the fulfilment of which will no doubt give the Indus Ecoregion a iconic status in the area of river basin management and biodiversity conservation. These core aspects may be considered the key prerequisites of natural resource management for a healthy Indus Ecoregion. These core aspects are:

- Sufficient water is released from upstream to support vital ecosystem processes and sustain a diverse and expanding livelihood base;
- Sustainable rural livelihoods is encouraged by combining natural resource based best management practices with new enterprise initiatives;
- Communities involved in farming systems have the financial capacity to invest in natural resource management in the region;
- Sea intrusion to the costal areas is reduced and even halted;
- Water logged lands are managed in productive in ways that contribute to the income of farmers in the area;
- Surface water is managed with the collaboration of stakeholders to increase land production, water supply and reduce drought risk and dependence on irrigation systems;
- The Indus River is managed as a functional ecosystem that sustains life and social values, resilient to droughts and floods;
- Creeks that have been significantly altered during land reclamation development are reconstructed as functional waterways with increasing ecological values;
- Wetlands are scientifically and culturally understood, valued and managed as functional water bodies (including their flood detention capacity) and ecosystems;
- Private and public capacity is combined to privately manage reserves of natural vegetation and wildlife populations on farms to produce biodiversity corridors and ensure the intrinsic values of regional ecosystems;
- The loss of natural species (especially Palla fish, Hog Deer, Otters and Crocodiles) and ecological communities is reduced due to effective public and private (government and community) efforts;
- Heritage values are recognized and maintained and further threats to these values through development is minimized and
- Statutory planning arrangements and policies that influence land tenure and natural resource management are flexible to the requirements of landscape change and innovative investment in regional asset protection.

## 2.4 Assumptions for Sustaining Natural Resource Management

Sustainable natural resource management is only possible if certain key assumptions related to an enabling political and socio-economic context are fulfilled. The assumptions relate to NRM related interventions that the Indus for All Programme plans to introduce over the next five years. Some of these key assumptions are listed below :

- Local communities are sufficiently empowered to take efficient and effective action through consultation and capacity building processes;
- Partners are committed to make productive contributions to NRM management within the region according to the Indus for All Programme work-plan and implementation strategy;
- NRM related decisions of the Indus Ecoregion Steering Committee and Site Coordination and Advisory Committee are adhered to;
- Management of natural resources is based on Indus for All goals and targets that should ideally be derived from international policies and frameworks e.g. Convention of Biodiversity, National Conservation Strategy, Biodiversity Action Plan, CITES etc;
- Decisions for regional NRM are:
  - a. based on social, scientific, technical and economic analysis where feasible, or otherwise on precautionary judgments,
  - b. addressing the causes of problems rather than the symptoms,
  - c. transparent and understood by community and partners,
  - d. adaptive to management performance measures.
- Consideration is given to environmental, social, cultural, traditional and economic values when assessing the impact of threats to NRM assets, or of proposed interventions of Indus for All Programme;
- Proposed activities and interventions are replicable in other parts of the Indus Ecoregion;
- Planning and implementation is undertaken recognizing the importance of involving partners in general and communities in particular;
- Monitoring and evaluation undertaken within a transparent systems-management context.

## 2.5 NRM – Backbone of the Indus for All Programme

Natural resource management is embedded into the framework of the Indus for All Programme. Three of the four outcomes strongly encompass NRM into the outputs, perhaps with the exception of output 4. Table 1 below shows the four outcomes against the 50 year biodiversity objectives. Outcomes are further described below.

**Table 1: Comparison of Indus Ecoregion and Indus for All Objectives**

#	5-Year Indus For All Programme Objectives	50-Year Biodiversity Objectives
1.	Community-based NRM in four (Keti Bunder, Kinjhar, Pai forest and Chotiari) priority areas contribute to improved livelihoods.	Viable population of species is ensured Sustainable natural resource use contributes to improved livelihood security
2.	Improved natural resources and livelihoods through mainstreaming of poverty-environment linkages at policy, planning and decision-making levels	Ecological processes that benefit biodiversity and sustainable development are maintained
3.	Improved institutional capacity and awareness for sustainable management at various levels	Improved capacity and alignment among stakeholders for effective implementation of IEP
4.	Improved alignment and collaboration for stakeholder interventions	Mangroves, riverine forest and wetland habitats improved, and representative areas conserved

**Outcome 1:** *'Community-based CNRM in four (Chotiari, Keti Bunder, Kinjhar and Pai forest) priority areas contribute to improved livelihoods'* – under this outcome there are three main mechanisms that address NRM issues in the region:

**a) Understanding the ecosystem** through a series of detailed ecological assessments in the four programme area that will give managers sufficient information to make decisions about what resources are available and what is their status. This will include defining sustainable use levels for some of the key components of the natural ecosystems in the programme area.

**b) Livelihood development plans** that give communities opportunities to identify their development aspirations and the mechanisms necessary for introducing alternate livelihood means without compromising vital ecological services. These plans will address livelihood based NRM development at community level either with existing and mature CBOs or through a cluster of Village Organizations and will aim to tackle the issues thematically.

**c) Natural Resource Management Plans** that are site specific and provide guiding principles to District Governments on streamlining NRM issues into local planning and development. The plans will highlight the biodiversity conservation needs of the area as well as community's livelihood improvement needs. The programme sites have been chosen on the basis of their biodiversity potential as well as their historical importance as a natural resource base for freshwater, forest and rangelands. These NRM plans will not only envisage the reduction of environmental degradation but also a reversal of anthropological impacts on the natural resources.

**Outcome 2:** *Improved natural resources and livelihoods through mainstreaming of poverty-environment linkages at policy, planning and decision-making levels* – under this output there are 6 main outputs that address NRM issues in the region, namely,

**a) Capacity Building of the Provincial Forest Department** to effectively monitor the forest cover by GIS application and capacity building of staff within the Sindh Forest Department GIS Lab based in Hyderabad;

**b) Technical Support to the Sindh Fisheries Department** to demonstrate ways to improve the income of poor fishing communities in District Thatta, to an extent that their income is raised 2% above the inflation rate. This will be achieved by building the capacity of the Fisheries department as well as in-situ demonstration of methods to improve the storage, processing and marketing of fish catch;

**c) Ecological assessment of five ecosystems** which even though is primarily an economic exercise has significant impact on how to manage the natural resources in light of a market driven economy that we communities struggle to survive in. These assessments will also contribute to the Payment for Environmental Services.

**d) Studies on Payment for Environmental Services (PES)** will outline areas of environmental services i.e. provision of water to Karachi City from Kinjhar Lake that will be ultimately be demonstrated. The PES concept is a relatively new one in Pakistan but Indus for All Programme is the perhaps the first such initiative in the WWF Pakistan network.

**e) Implementation of PES** will demonstrate on example at each of the sites. The implementation of the schemes will be based on the studies mentioned above.

**f) Digital Social and Environmental atlas** for the entire ecoregion **and Decision Support System** for three districts will provide a mechanism to initially provide a basis for all our baseline data, allow managers and scientists to update it regularly and then gradually build up the ability to use the system to make the right decisions and plans.

**Outcome 3** *Improved institutional capacity and awareness for sustainable management at various levels* – under this output there are 3 main outputs that address NRM issues in the region, namely

**a) Capacity Building of civil society for monitoring natural resource** so that they have a deeper understanding of the external and internal influences that govern the production rate and regeneration of natural resources. The long term objective of this capacity would be communities being able to plan and manage their natural resource based on the lessons learnt that are an integral part of monitoring;

**b) Capacity Building of local governments built for planning, implementation and monitoring of NRM programmes** which will allow them to confidently assess and measure the success that NRM projects and programmes are having in the region. Presently NRM and conservation projects are dealt with a great deal of caution by the local and provincial government, not because they do realize the need for them but their inability to actually understand the concepts and approaches that are widely applied. Once local government understand the concepts of NRM programmes, they will be in a much better position to plan and regulate them within their areas;

**c) Capacity of District governments built in assessing environmental impact (EIA) of large infrastructure projects and development plans** which will allow various levels of district government to understand the importance and use of undertaking EIA according to the laws of Pakistan. In addition to this they should develop an enhanced overall understanding of environmental and development issues

In addition to these NRM related activities, there is a comprehensive environmental awareness and outreach programme that will compliment the NRM interventions.

## 2.6 NRM Outputs and Activities for Indus for All Programme

The following are the NRM related outputs and subsequent activities that are part of the Indus for All Programme's five year operational plan.

**Table 2: NRM Outputs and Activities for Indus for All Programme**

LF Code	Core Outputs and sub-outputs
<b>A.1.2</b>	<b>Ecological baseline established using Indus Ecoregion Conservation Objectives in four sites</b>
A.1.2.1-5	Conduct ecological survey for five sites
<b>A.1.3</b>	<b>Environmental Awareness Baseline established</b>
A.1.3.1	Conduct a sensitivity survey (year 1)
A.1.3.2	Conduct a sensitivity survey (mid-term)
A.1.3.3	Conduct a sensitivity survey (end of programme)
<b>A.1.5</b>	<b>Sustainable use levels are defined for key natural resources (e.g. forest, rangelands, wildlife) keeping in mind the local traditions, right holders and limitations of local managers and users</b>
A.1.5.1-4	Develop sustainable use levels in four sites
<b>A.2.3</b>	<b>Participatory Livelihood Development Plans developed and endorsed</b>
A.2.3.1-4	Develop Livelihood Development Plans for four sites
A.2.3.5-8	Facilitate endorsement of LDP for four sites
<b>A.3.1</b>	<b>Participatory natural resource management plan developed giving priority to four major ecosystems and at least two species of concern</b>
A3.1.1-4	Develop participatory situational and threat analysis reports for four sites
A3.1.5-6	Develop recovery plans for two species over four sites
A3.1.7	Develop participatory CNRM plans for four sites
<b>A.3.2</b>	<b>Implementation of CNRM plans for four priority areas</b>
A.3.2.1	Implement NRM plan at four sites
A.3.2.5	Install Participatory Ecological Monitoring Mechanism at four sites
<b>A.4.1</b>	<b>Livelihood Development Plans implementation for four sites</b>
A.4.1.1-4	Implement Livelihood Development Plans at four sites
<b>A.4.4</b>	<b>Natural-resource based enterprises established for four sites</b>
A 4.4.1-4	Establish natural resource based enterprises at four sites
<b>A.4.5</b>	<b>Better management practices demonstrated</b>
A 4.5.1-4	Demonstrate better management practice models at four sites
	<b>Improved natural resources and livelihoods through mainstreaming of poverty-environment linkages at policy, planning and decision-making levels</b>
<b>B.1.1</b>	<b>Support provided to Sindh Forest Department in maintaining existing riverine and mangrove cover</b>
B.1.1.1-3	Conduct Forest Monitoring training at three districts
B.1.1.4	Provide GIS Satellite Data to SFD
B.1.1.5	Revive GIS Lab
B.1.1.6	Train and deploy GIS expert

B.1.1.7	Conduct upper and lower Indus riverine habitat surveys
<b>B.1.2</b>	<b>Support to Sindh Fisheries Department to enhance income by 2% above inflation for poor coastal fishing communities of Thatta and Sanghar</b>
B.1.2.1-2	Conduct trainings for Sindh Fisheries Departments at Thatta and Sanghar
B.1.2.3	Develop plan to enhance Fish Income for Coastal Fisher folk communities
B.1.2.4	Implement pilot interventions to improve income from fishing
<b>B.2.1</b>	<b>Economic valuation studies for at least 5 selected ecosystems</b>
B.2.1.1-5	Conduct ecosystems-based economic valuation reports for five eco-systems
<b>B.2.4</b>	<b>Concepts related to incentive-based natural resource management promoted</b>
B.2.4.1-4	Conduct PES Feasibility Studies for four sites
B.2.4.5-8	Develop PES plan for four sites
<b>B.3.3</b>	<b>PES Schemes Implemented at selected districts</b>
B3.3.1-3	Test pilot PES schemes at three districts
<b>B.3.4</b>	<b>Interactive social and environmental digital atlas developed for all Indus Ecoregion districts and designed as a decision support tool for three districts (Thatta, Nawabshah, Sanghar)</b>
B3.4.1	Develop Indus Ecoregion Environmental and Social Atlas
B3.4.2-4	Develop Interactive District Decision Support Systems (DSS) for three districts
<b>Prog Obj 3</b>	<b>Improved institutional capacity and awareness for sustainable management at various levels</b>
<b>C.1.3</b>	<b>Capacity of civil society for monitoring natural resource use built</b>
C.1.3.1-4	Train selected CBOS/LNGOs members in monitoring natural resource use for four sites
<b>C.2.1</b>	<b>Poverty-environment manual developed by adopting existing ones to the Pakistani context</b>
C.2.1.1	Develop a poverty-environment (P-E) manual
<b>C.2.2</b>	<b>Capacity of local governments built for planning, implementation and monitoring of CNRM programmes</b>
C.2.2.1-3	Build capacity of local government to plan, implement and monitor NRM programmes at three districts
<b>C.2.3</b>	<b>Capacity of District governments built in assessing environmental impact (EIA) of large infrastructure projects and development plans</b>
C.2.3.1-3	Train the District government's staff in environment impact assessment (EIA) for three districts
<b>C.3.1</b>	<b>Traditional Knowledge on CNRM documented for awareness raising in four priority sites</b>
C.3.1.1	Collect Information on Traditional Ecological Knowledge
<b>C.3.2</b>	<b>Awareness raising programme for at least 8 social groups</b>
C.3.2.1-75	Implement environmental awareness strategy

## 2.7 Essential Components for Indus for All NRM Strategy

Natural Resource Management provides a broad canvas for managers to influence current resource management regimes. However, in the past, a focus on short-term results without sustainability considerations and exclusion of local communities has actually resulted in further damaging the natural resource base. More recently, NRM approaches have evolved to account for the socioeconomic influences that impact natural resource management interventions. Contemporary natural resource managers now focus on landscape management as a holistic approach to conserving ecosystems. This is also an important and prominent feature of ecoregion conservation. However for the purposes of Indus for All Programme which is the first implementation phase of the Indus Ecoregion Programme, basic demonstration of NRM to the communities and major stakeholders, especially the key decision makers will be a vital step towards reaching the vision. The following activities represent some of the proven components of NRM. Very rarely are they applied in isolation:

- **Improved processing** which can usually be applied to existing systems that communities are following but are not receiving the maximum return on the yield. The reasons for this are various such as low capacity to process products,

individualism and poor access to markets. By improving the collection, processing and markets of products, communities can increase their income whilst conserving the natural resource base.

- **Alternative livelihoods** in the form of income generating activities that have not been explored before by communities. Alternative livelihoods can be derived from enterprises, innovation and initiatives adopted by the community and supported by the programme. One example may be handicraft production and exporting to major cities. Although alternative incomes can bring exciting cash incentives into the community; main-streaming them into social culture and guiding acceptability over a wider social strata can be challenging. Introducing alternate livelihoods based on an existing and widely accessible natural resource can have a better chance of success.
- **Habitat and species population rehabilitation** which is widely considered as in-situ conservation is a traditional approach to conservation, often through activities such as plantation, habitat management and manipulation. It may also encompass increased protection by state department and/or community. Conservation of species can approach in many ways from status protection, propagation (captive breeding) and reintroduction.
- **Raising awareness** in the community and stakeholder is often a cross cutting programme of most NRM approaches. Now usually this is implemented under the auspices of an environmental awareness or outreach programme. Activities often involve trainings, capacity building and exposures for communities and stakeholders. This is often supplemented by awareness raising material and media to spread the conservation message to the masses.
- **Diversification** (which is firmly linked to alternative livelihoods) is a widely accepted approach to decrease community's dependency on one source of natural resource. In many instances communities solely rely on a single type of resource to meet their financial and often nutritional needs. When the demand on this source is greater than the production, incomes are threatened and in most cases communities constantly live in a state of disaster and are constantly under threat of starvation. By diversifying the number of natural resources they are dependant on, it is possible to introduce an element of resilience against such disasters happening. This may mean exploring various unexplored sources or introducing new sources of income deriving from and existing natural resource.
- **Sustainable Use Levels** is an important element of natural resource management, setting levels of extraction for users. Regeneration of resource can only take place if there is a minimum viable population that is free from extraction disturbance and that the minimum required number of individuals is available in the gene pool. For many resources, sustainable use levels have been researched and defined. In Pakistan, the trophy hunting initiative introduced in the northern areas of the country is a good example of setting SULs and then justifying extraction, even if the species e.g. Markhor is category I on the CITES list.
- **Zonification** both spatial and temporal is probably the oldest type of natural resource management adopted by custodians and managers. Rotational grazing, forest zoning and sustainable harvesting are all traditional ways that communities have managed their natural resource over the centuries. Unfortunately concepts

such as protection from the state and change in the land tenure system have eroded the community's sense of ownership towards the natural resource and in many cases the tragedy of the commons has occurred. Attempting to demonstrate

- **Trade-off** is often required to come to a consensus between two parties i.e. between the programme and the communities or between communities. Trade-offs can be expressed in the form of concessions, relaxation of rules and regulations, financial compensation etc and usually are the result of negotiation. A trade-off is usually considered the third option when direct or in-direct NRM interventions don't succeed or bring the desired change. Sometimes trade-offs can be applied when there is insufficient time for a process approach.

## 2.8 Role of Partners and Stakeholders for NRM

There are many partners and stakeholders that will contribute to natural resource management at micro, meso and macro levels. Some are tabulated below with an indication of their role and responsibility and the 3M level they will work at for the programme. One of the key achievements of the Indus Ecoregion Programme could be that all stakeholders from local communities to federal government representatives coordinate for introducing integrated NRM interventions.

**Table 3: Roles of Partners and Stakeholders for NRM**

<b>Partners and Stakeholders</b>	<b>Role and responsibility</b>	<b>3M Scale</b>
NRM related line departments (forest, wildlife, fisheries irrigation)	NRM implementation, technical input	All three levels
Service providing line departments	Support, incorporation of NRM into sectoral policies and plans	Micro and Meso
Local government	Coordination of NRM activities, monitoring of progress	Micro and meso
Communities	Partner in programme NRM interventions, recipients	Micro
Formal and non-formal CBOs and CCBs	Implementation partners, monitoring, recipients	Micro
Provincial government	Monitoring and steering, trouble shooting, technical advice	Macro and meso
Federal Government	Policy revision, technical input, national representation	Macro
National partners (IUCN, SRSP etc)	Participation, technical guidance, interventions collaboration	Micro and meso
International partners	Funding, monitoring, international representation	Macro

## 2.9 Site-wise NRM Interventions

The natural resource management interventions are categorised site-wise and according to the essential NRM components identified (section 2.7) in Table 4.

**Table 4: Site-wise Natural Resource Management Interventions**

<b>Area</b> <b>NRM focus</b>	<i>Chotiari</i>	<i>Keti Bunder</i>	<i>Kinjhar Lake</i>	<i>Pai Forest</i>
<i>Improved processing</i>	Fisheries	Fisheries	Fisheries	Forest and NTFPs
<i>Alternative livelihoods</i>	Handicrafts, eco-tourism,	Agriculture	Eco-tourism	NTFPs, energy production, handicraft
<i>Habitat and species rehabilitation</i>	Reintroduction of otter and crocodile,	Mangrove plantation and species recovery plans for fish (Palla)	Fish stocking	Plantation of natural forest, hog deer recovery plan
<i>Awareness</i>	Education outreach	Education outreach	Education outreach	Education outreach
<i>Diversification</i>	Improved agriculture return, improved livestock production, added-value on livestock and agriculture	Value-added on fish catch,	Value added activities for fish, ecotourism and handicrafts	NTFPs, handicraft, sustainable trophy hunting programme
<i>SULs</i>	Fish catch, rangeland carrying capacity	Fish catch, mangrove conservation	Fish catch	Sustainable forestry
<i>Zonification</i>	Zoning of lakes, rangelands	Zonification of fish catch areas and mangrove extraction	Fish catch zones, periphery grazing zones	Community forest management

## 2.10 Monitoring

Monitoring, evaluation and effective reporting follow from the adaptive management approach adopted in the Indus for All Programme. The following structures and processes will support monitoring of NRM activities.

- A collaborative and coordinated approach between the Indus for All Programme the Indus Ecoregion Steering Committee, sub-committee, Site Coordination and Advisory Committee and the programme partners. The Indus for All Programme will wherever possible use existing monitoring programs and systems;
- Development of an information management infrastructure using proven models either within the province or the region;
- Use agreed protocols and templates for collection data and reporting NRM initiatives and successes to the Indus Ecoregion Steering Committee and sub-committee;
- Develop and agree on evaluation procedures for NRM driven activities and progress for the Indus Ecoregion Steering Committee.

## Livelihoods Improvement Strategy

### 3.1 Introduction

Livelihoods improvement is both part and parcel of the Indus for All Programme. Not only is livelihood improvement one of the key objectives of the Indus for All Programme, but, for many rural communities in Sindh, it is an essential prerequisite for empowering local people to actively take part in ecoregion conservation. The following key features are part of the livelihoods improvement strategy:

- What is meant by “livelihoods improvement”
- Livelihood improvement and natural resource management
- List and break-up of Indus for All Programme activities by livelihood type
- Types and purview of livelihood interventions
- Proposed site-wise interventions

### 3.2 Defining “Livelihoods Improvement”

The term “livelihoods” refers to activities, capabilities and assets (physical and social) used in day to day survival.

The idea of this 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, and shock and stress coping methods are being improved.

Livelihood improvement is by reference to people’s own livelihood objectives and requires a strategy.

The strategy suggests ways of combining and using the following 5 livelihood assets to meet people’s own livelihood objectives:

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

In line with the core objective of the Indus for All Programme mentioned in section 1.2, the Indus for All Programme will rely on a combination of the following methods for bringing about a change in the livelihoods of local communities living in the periphery of the four programme sites:

- Better management of and more secure access to NR (asset 2 with direct impact on 3 and indirect impact on 1)
- Improved access to basic and facilitating physical infrastructures (asset 5 with direct impact on asset 1 and pass-on impact on asset 2)
- A more organized and supportive social environment (asset 4 with direct impacts on assets 2 and 1)

- A supportive policy and institutional environment and improved alignment / collaboration of stakeholder interventions (direct impact on all 5 assets)

The transformations identified above are intended to reduce the shocks (e.g. sudden food inflation), trends (e.g., rapid population growth) and seasonality (e.g., of prices or production) that comprise the vulnerability of communities in Pai, Chotiari, Kinjhar and Keti Bander.

In so doing, the desirable livelihood outcomes may be identified as increased income, improved well being, reduced vulnerability, improved food security, and better management of natural resources.

### **3.3 Livelihood improvement and Natural Resource Management**

Access to the 5 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 (asset 2 which communities have at 4 sites and face little choice but to find ways to nurture and combine with other assets) to bring to life important inter-relationships between asset categories – i.e., processes generating environmental degradation are often dominated by declining real income, population pressure, or other compounding factors including: government policies and practices, property rights, illiteracy, nature of public and social institutions, carrying capacity of resource base, resource distribution between poor and non-poor, established resource use practices and laws of the land. Through bringing to life and redirecting these mutually reinforcing linkages it aims to improve livelihoods through improved natural resource management.

It is important to understand that a single physical asset can generate multiple benefits. Indus for All Programme will follow the following steps at each of the 4 sites to bring about asset status changes (i.e., improved livelihoods):

- Gather information on trends in overall asset availability, which groups are accumulating assets, which are losing, and why (Indus for All Programme ecological and socio-economic baselines will be designed to state the situation at the 4 sites before our activities start. Analysis will be included, case studies recommended and progress in livelihood improvement will be periodically checked against the baseline)
- Establish relationships among the assets; between assets and trends, shocks and seasonality in the vulnerability context; and between assets and external factors that shape asset creation, access and accumulation (Indus for All Programme Poverty-Environment Linkage reports will determine focus of interventions -- in Year 1, with periodic reviews thereafter -- by answering which assets are substitutable and which sub-sets of assets are necessary or sufficient to improve livelihoods, and which basket or combination of assets is associated with those whose livelihoods are comparatively higher among community members. Indus for All Programme's Sustainable Use Levels analysis will assist this process. The focus of programme objective 2 on mainstreaming poverty-environment linkages at policy, planning and decision-making levels and programme objective three's focus on improved institutional capacity for sustainable management at various levels will assist the process as concerns external factors).

- Based on the above trends and linkages, refine strategy for livelihoods improvement and implement micro field-level NR interventions (e.g., participatory Natural Resource Management plan, Livelihood Development Plans, energy efficient infrastructure) and socio-economic interventions (e.g., sanitation, potable water, PES schemes).
- Continuously refine the complementary meso / macro interventions that often begin at the field-level, e.g., valuations at 4 sites.

### 3.4 Livelihood-focused Interventions for Indus for All Programme

Table 5 above lists the Indus for All Programme livelihood activities (numbered by the codes in the logical framework) in the Sustainable Livelihoods Framework.

**Table 5: Livelihood Focused Activities for Indus for All Programme**

LF Code		LF Code	
	<b>Baseline / Trends / Vulnerability Context Analysis</b>		<b>Transforming Structures and Processes</b>
A.1.1	Socio-Economic Baseline	B.2.1	Valuation studies
A.1.2	Ecological Baseline	B.2.2	Green Accounting
A.1.3	Environmental Awareness Baseline	B.2.3	PE Linkages in Sectoral Plan
A.1.4	P-E Assessments	B.2.5	Environmental Issues into PRSP & MTD District Development Plans Integrate PE
A.1.5	Sustainable Use Levels	B.3.1	lessons
	<b>Social Capital / Human Capital</b>	B.3.2	District Monitoring Protocols for Env. Indicators
A.2.1	New CBOs	B.3.4	Digital Atlas (Decision Support Tool)
A.2.2	Organizational Management Training for CBOs	C.2.1	PE Manual
A.2.4	Exchange Forums	C.2.2	Local Govt Capacity for NRM Dist. Govt. Capacity for EIAs of mega / dev. projects
A.4.7	NRM Enterprises	C.2.3	
C.1.2	Project / CCB Formation Capacity	D.1.1	Site Coordination and Advisory Committees
C.1.3	NRM Monitoring Capacity	D.1.2	Indus Ecoregion Phase II Proposal
C.3.1	NRM Traditional Knowledge Awareness	D.2.1	Annual Planning of the Programme
C.3.2	Awareness Raising	D.4.1	Programme and Field Offices
C.3.3	Traditional Communication Methods	D.4.2	Staff Capacity Building
	<b>Natural Capital</b>		
A.3.1	Participatory NRM Plan		
A.4.1	Livelihood Development Plans		
A.4.8	Best Practices		
B.1.1	Riverine and Mangrove Cover		
	<b>Physical Capital</b>		
A.4.5	Potable Water & Sanitation		
A.4.6	Energy Efficiency		
	<b>Financial Capital</b>		
B.2.4	PES Plans		
B.3.3	PES Schemes		
C.1.1	Legislation Awareness		
B.1.2	Coastal Fisherfolk Incomes		

It should be noted that field site management and involvement is not restricted to the left panel of the table and is required in varying degrees for items listed in the right panel (“Transforming Structures and Processes”).

### 3.5 Types and Purview of Livelihood Improvement Interventions

This section selectively examines the purview of livelihood interventions. It looks at baselines, physical capital and financial capital interventions only.

Under the heading of “**Baseline / Trends / Vulnerability Context Analysis**”, field staff will be required to facilitate and strategize assessment of the following (which will be included in consultants’ ToRs and refined through subsequent discussion with consultants and regular review of consultants’ reports):

- **Shocks**  
Categories: economic, human health, crop and livestock health  
Assessment: matching crops to communities, access to credit, share of crops / other income sources in community earnings, portion of output marketed, revenues fetched, opportunities to improve earnings, allocation of revenues by category, livestock dependence and usage, health profile and access to health facilities.
- **Trends**  
Categories: population, resource use, technological and governance  
Assessment: demographic trends, linkage of these to poverty and environmental degradation, etc.
- **Seasonality**  
Categories: prices, production, health, employment  
Assessment: intensity and duration of hungry period (and its health and productivity impacts), cropping patterns and land tenure, variation in crop prices over the year, predictability of seasonal price variation, link to cash requirements over the year, correlation in price cycles of all crops

Under the heading of “**Physical Capital**”, potable water supply and sanitation schemes will be established. This is complemented by the Livelihood Development Plans which envisage a water tanker for potable water for Keti Bandar and pit latrines for Kinjhar, Chotiari and Pai.

Due to the lack of expertise within WWF-Pakistan for carrying out these activities, partnerships with organizations such as Aga Khan Building and Planning Services (AKPBS), Indus Earth (IE), National Rural Support Programme (NRSP), Sindh Agricultural Farmers and Workers Coordinating Organization (SAFWCO) and Pakistan Poverty Alleviation Fund (PPAF). Partnerships with these organizations will provide the relevant technical knowledge and expertise for developing the baseline and forming a consensus around the 30% improvement target.

Indus for All Programme’s total sanitation budget can buy 20 double vault compost latrines per site (based on estimates provided by AKBPS).

Estimates of potable water supply units are not available at this time, but the discussion with AKBPS suggests the cost is much higher. As many as 1k BioSand filters per site may be accommodated in our budget. These which have a flow rate of 60 litres per hour and a lifetime of 2 years (see <http://www.cawst.org>).

Again, to illustrate the necessity of careful baseline setting (esp. for scale) and partnership required to meet targets of 30% improvement, Indus for All Programme's total energy efficiency budget can in fact purchase as many as 800 solar fish dryers per site (these could complement solar energy units) or as many as 2.5k smoke free iron stoves per site (based on estimates provided by AKPBS).

Included under the "**Financial Capital**" heading is PES schemes with which WWF-Pakistan has longstanding experience. The main components of a PES, in which field management input would be required, are environmental assessment, valuation, ground / community assessment, legal aspects, and property rights.

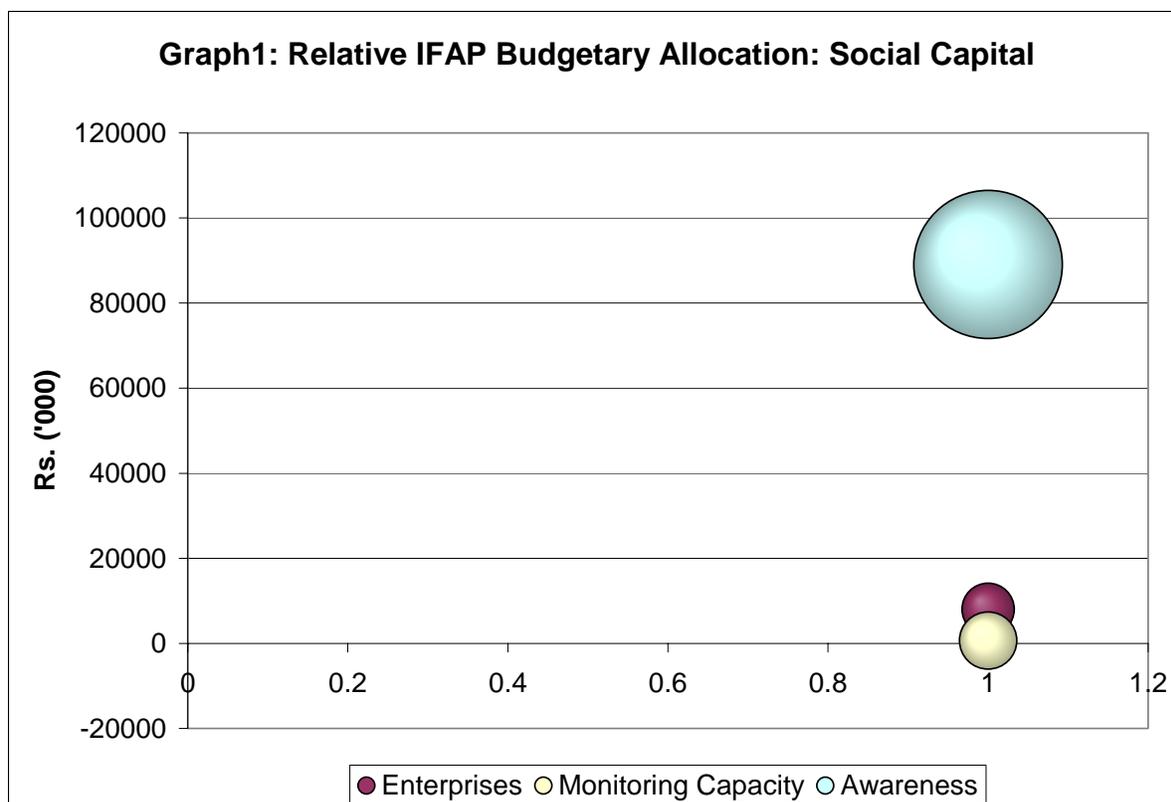
Awareness of "environmental legislation and civil rights under the Devolution Plan" is included under the heading of "Financial Capital". Tenure rights to land and related productive factors may be covered in such legislation and is crucial for the landless or near landless. These rights are, according to the International Land Coalition, essential pre-requisites to poverty reduction, food security and sustainable natural resource management. They attribute the following benefits as stemming directly from improved access / user rights: reduced levels of food insecurity; income gains; safety net effects; investment effects; income distribution effects stimulating wider economic growth; reduced levels of conflict; physical quality of life effects measurable by nutrition levels, access to sanitation, educational participation of children; and, adoption of more sustainable resource practices.

Also under the heading of "Financial Capital" is the improvement of incomes of coastal fisher folk by 10% above inflation. This intervention will require delineation of communities to include (baseline) and pre-testing initiatives, regardless of scale (e.g., with 1-2 households, 10-12 individuals), within shorter time frames (Yr 1) for demonstration and guidance purposes.

In this regard, consultants and field staff in consultation with communities will be required to assess the break up of physical (e.g., faro cement, fiber glass and wood boats, fish cold storage – costs approx. 12k to 14k depending on the size, according to AKBPS estimates) and non-physical components (e.g., training in marketing of produce).

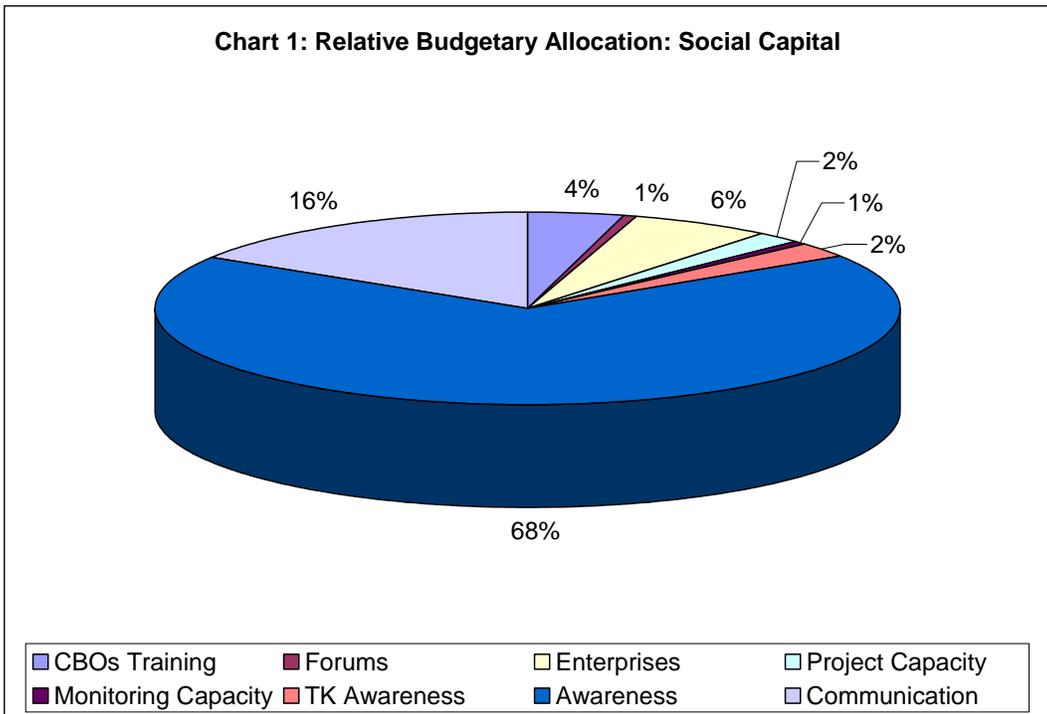
### 3.6 Proposed Site-wise Interventions

As a starting point, relative Indus for All Programme output budgetary allocations using the livelihood headings are provided in Graph 1 below.

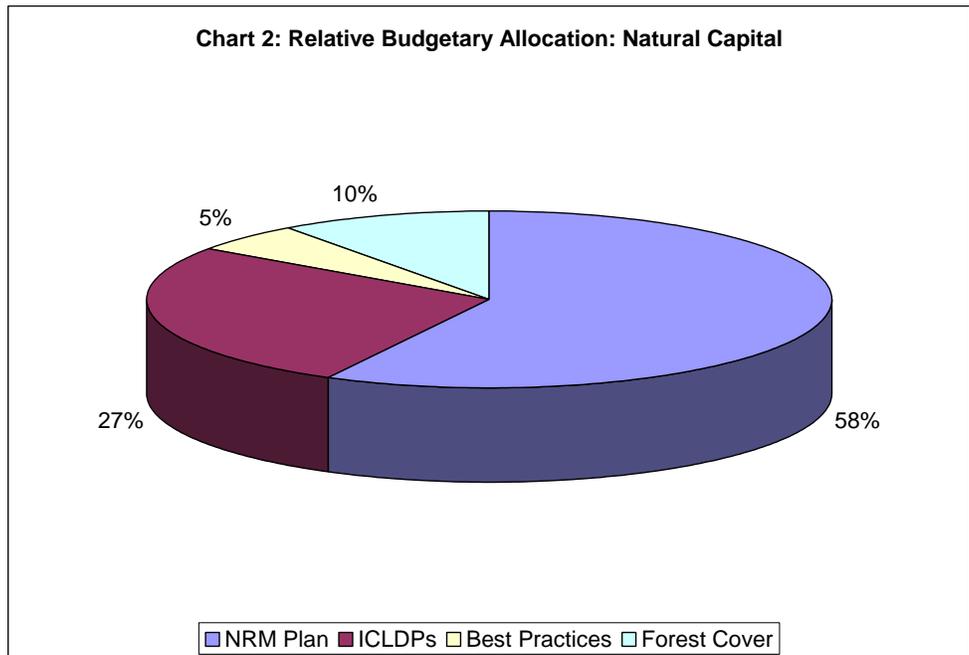


In Graph 1 above, the relative emphasis of awareness raising programmes for 8 communities can be seen as compared to establishment of Natural resource based enterprises and, another output, training of LNGOs/CBOs for monitoring natural resource use. However, representation of absolute amounts using a bubble graph is insufficient. Charts 1 to 4 (below) provide detailed percent allocations for outputs also using the headings provided in table 5 above.

Our Human and Social Capital strategy departs from a project portfolio (see Chart 1) with an in-built focus on awareness and communications, followed by establishment of NR based enterprises and organizational management training of CBOs, partly reflecting the large scale nature and cost of the interventions. A few strategic points emerge from this observation: (1) in focus outputs, activities are needed to understand which social networks exist for particular social units and at what scale, the extent to which these networks yield tangible resources and services that support livelihoods, and which affiliations if any prevent achievement of livelihood outcomes; (2) outputs of 1-2% allocation may require greater partnership; and, (3) existing physical infrastructure should be used to support networks and connectedness where possible.

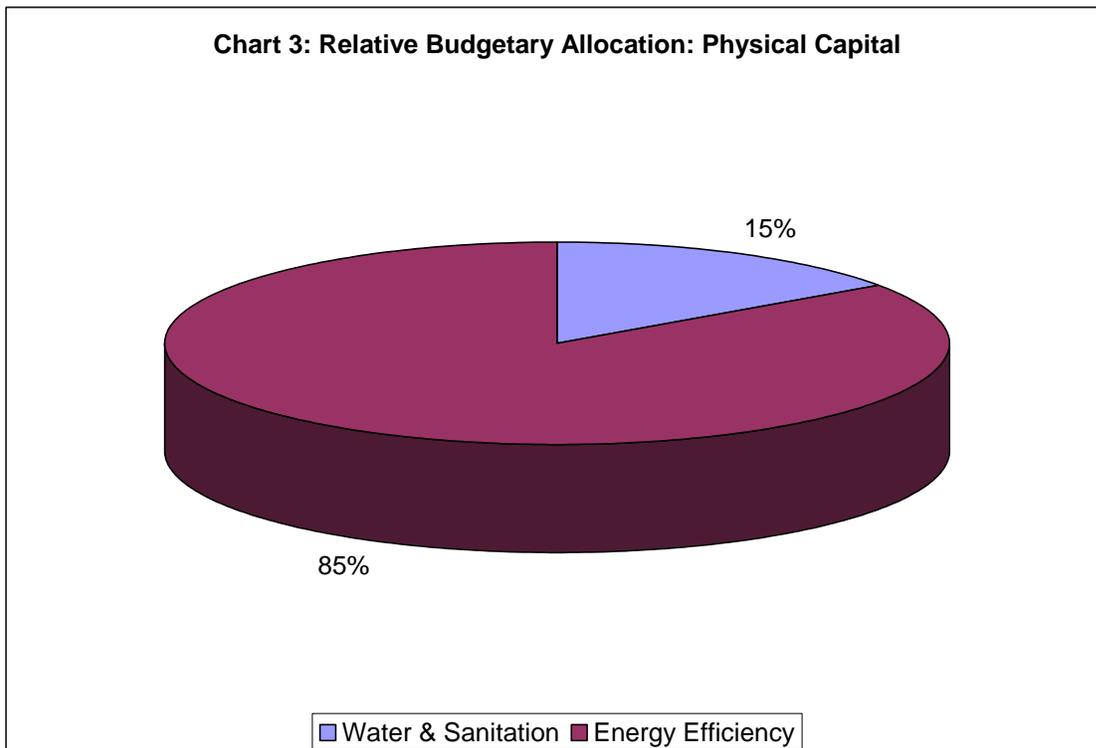


As concerns the natural capital strategy, the project portfolio's (see Chart 2) modest share towards maintaining existing riverine and mangrove cover in fact reflects the Forest Departments focused request for support only in the areas of GIS and monitoring training. However, as regards our strategy, this emphasizes the need to follow up the Forest Department to facilitate the realization of the objective.



The first thing to note about the Physical Capital project portfolio is that it targets “essential services” as opposed to other physical capital types, e.g., “items that enhance income” (e.g., sewing machines) or “household facilities” (e.g., roof construction, cooking utensils).

Our strategy requires us to involve partners since our budget cannot by itself sustain both the physical infrastructure itself and the accompanying allocations needed to ensure the infrastructure is functional, appropriate, and accessible (i.e., training in maintenance, feasibilities for assessing demand and coverage). Realistic baseline setting is needed to ensure the 30% improvement in access to potable water supply and sanitation facilities relative to 2007 and methods are required to clearly delineate WWF's contribution as separate from partner agencies. Based on Shirkat Gah (2007), with regards to need for water and sanitation, priority should be given, in descending order, to the following villages by each site: Pai (Mari Jalbani, Nangar Chandio, Jaffar Jamali); Chotiari (Awadh, Haji Ghulam Hussain Leghari, Phulel, Padhrio, Dubi Khamiso Gaho); Kinjhar (Haji Jaffer Hillaya, Sonheri, Jhampir); Keti Bunder (all villages purchase cooking and sweet water at Rs. 100 / drum, latrine coverage from AKPBS is 100 houses).

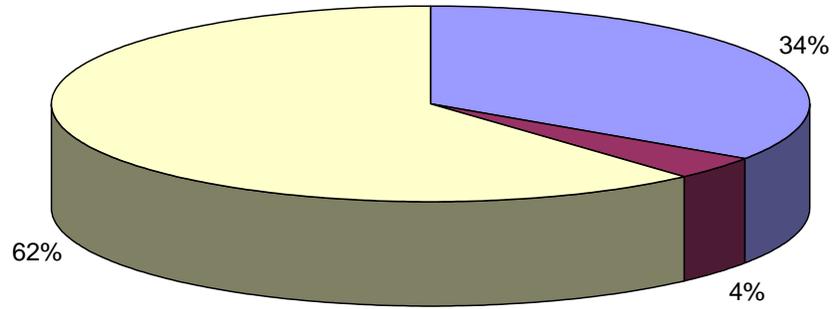


The Financial Capital portfolio clearly is concerned with livelihoods of coastal fisherfolk (i.e., Keti Bunder and possibly surrounding coastal area to be determined – according to Shirkat Gah (2007), 2-3 villages may be selected for implementation and multiplier effects, e.g., from contract system reform can be expected, but so may the entire area. They recommend Ayub Diablo as a good entry point since WWF has already worked there).

An initial exercise, as recommended by Shirkat Gah, would be analysis of fish markets in Karachi, Thatta, and Ibrahim Hyderi for their respective significance, the dynamics of markets' operations, the role of the contractor and its various dimensions (as creditor, middleman, employer), as well as the logic of the rates paid to the fishermen.

In order to raise incomes by 2% above inflation while maintaining fish catch volumes at 2007 levels, besides planned value addition activities planned, our strategy must address introduction of alternative occupations and disentanglements from loans.

**Chart 4: Relative Budgetary Allocation: Financial Capital**



■ PES ■ Legislation Awareness ■ Fisherfolk Incomes

## Social Mobilization Strategy

### 4.1 Rationale for social mobilization strategy

Establishing and strengthening grassroots institutions has helped to achieve sustainable development goals worldwide. Social mobilization is a technique used to nurture local institutions for community participation, empowerment and to generate local ownership of development and conservation programmes. It is a powerful instrument in decentralizing and deepening democracy, aimed at strengthening human and institutional resources development at local level. Social mobilization practices ensure effective participation of rural poor in local decision-making, improve their access to social and productive resources and enhance opportunities for asset-building.

For the implementation of Indus for All Programme, WWF-Pakistan realized to develop this concept into a concrete strategy that would expand and sharpen understanding of complex rural settings for the wider dimension of sustainable management of different ecosystems mentioned above.

The rationale of the Indus for All Programme's Social Mobilization Strategy stems from the experience of WWF-Pakistan's, success stories and lesson learnt in conservation initiatives throughout the country. The Section 2 describes the context for this strategy, Section 3 outlines guiding principles, objectives and approach and Section 4 presents strategy implementation.

### 4.2 Context for Social Mobilization

Compared with the country's human development indicators which are also not good, the human development picture of the selected sites is very dismal. The literacy figures, number of primary schools and enrolment rates are not very encouraging in these rural settlements, thus having no hope for alternative livelihood resources in near future.



Because of very low availability of safe drinking water, contaminated food items and absence of hygienic environment, majority of the population is facing serious health problems.

There is a long way to go for gender justice and equality in Pakistan and particularly in rural settings such as those of programme sites. Women play very important role in all the sectors of economy and conservation including collection of fire food, fetching drinking water, assisting male members in fishing, intensively engaged in agriculture and livestock management. Women face gender

discrimination at legal as well as customary laws, practices and social norms level. Low literacy level, domestic violence, unpaid work, over burdened, malnourished and lack of participation in decision making are critical problems faced by the rural women in Sindh.

There is a clear social stratum among the rural population in Sindh. People are divided in segments based on castes, tribes and there is a certain amount of religious division. The strong clan and caste bonds keep people together for taking major decisions. The skewed land ownership pattern, created by colonial rulers is very much intact and even strengthened rather reformed. The client-patron relationship among land owners and peasants, spiritual leaders and followers is also a common social phenomenon. The *biradari* system which is dominant trait of relationship and traditional institute still exists and influences decision making and thinking patterns.

There has been a religious harmony in rural Sindh, however the low caste Hindus face discrimination. Historically large number of Hindus lived in Sindh and dominant mysticism practices have not created a major division on religious basis, however after 1980 the trend has been changed but still religious tolerance is a positive feature of rural Sindh.



community meeting in a rural village in Johi Dadu, Sindh

The processes of change and transition in economic, political and social systems have impacted on the traditional institutions and the community forums and collective thinking and vision. There is no more community owned or managed resources. The community institutional set up is either weak or non-existent except for key political decisions which people take on the basis of *biradari*.

Social mobilization and establishing rural institutions has never been an easy task due to these complexities and transitory nature of rural societies. Historically, in rural Sindh, groups have been organized either on interest or profession basis, such as literary societies, peasant groups, fisher folks etc. The other major demonstration of collective activities could be found on local cultural as well as spiritual festivals. The cooperative mechanism for assisting each other has prevailed, but diminishing now. The cooperative models such as collective agriculture activities, joint fire wood collection and animal grazing in village settings were intact up until recently.

In comparison to these traditional institutions and cooperative mechanisms, the thinking to establish more formal institutions with defined rules and regulations was intensified in 1980s. Nurturing viable social institutions for joint actions through social mobilization processes in rural settings is not an easy task. Several organizations both government and non-governmental have been endeavoring in this direction since last quarter of the 20<sup>th</sup> century. However there are few success stories which could be quoted that to a large extent helped the mobilization of communities towards common cause. The model of rural support programmes and farmers organizations are worth mentioning. But there is no single blue print that has worked. Depending on the area, community characteristics and the programme objectives, flexible social mobilization strategies would be adopted for promotion of grassroots community based institutional development.

### 4.3 Strategic Framework for Social Mobilization

#### 4.3.1 Goal

Establish and strengthen viable grassroots level community based institutions which will cater for conservation of natural resources for their socio-economic well being.

#### 4.3.2 Objectives

The social mobilization activities will be carried out at two tiers: that of new settlements/villages, where no village or community organization exists and at a second tier working with the existing community based organization.

##### Objective 1:

- To establish Community Based Organization (CBOs) where deemed appropriate.

##### Objective 2:

- To identify existing CBOs and develop their maturity index for subsequent mobilization

##### Objective 3:

- To facilitate Community Development Officers (CDOs) in performing their role of strengthening, mobilizing, interacting and monitoring activities of CBOs.

#### 4.3.3 Guiding Principles

The broader guiding principles originate from the basic guidelines of WWF-programmes, fundamental values as well as from the local context. The principles and values upon which the strategy is based would be inspirational and legitimized by moral system. Generating momentum for value -based morally guided principles will be a challenging task, but a rewarding. The guiding principles for Indus for the All Programme social mobilization are listed below:

- **Mutual Respect:** Mutual respect is essential element for winning the trust. Listening, learning, respecting the local culture, people and their way of life will reciprocate positively. Mutual respect principle recognizes the worth of all people and value of diversity.
- **Building Trust:** There is no more social capital than winning the community trust. It seems very simple idea, but challenging due to several historical and contextual factors. Developing and sustaining the trust worthy relationship with community will be a pre-requisite for successful implementation and meaningful achievements of the programme. This will require both passion and time.
- **Solidarity with poor:** The programme will work closely with all the stakeholders, but the participation of poor and vulnerable, which solely depends on natural resources, will be essential. Solidarity with poor and marginalized communities in programme

areas will receive more attention as a guiding principle as well as a tool for their active involvement.

- **Gender equity:** Women face discriminatory laws and practices in the political, social and economic spheres of the life due to deep rooted patriarchy. Increased focus is needed for assuring their effective participation in livelihood and conservation efforts, which will further bring social equity and status of women.
- **Community empowerment:** This refers to the social mobilization process. Entire process would be initiated with the underlying principle of community empowerment, which for simplicity infers to believing in people's un-tapped potential and power just need to be unlocked. The process would build on and lead to the available potential rather generates whole new system.
- **Partnership:** Principle of partnership in relationship is different from concept of donor. This understanding refers to build common vision, values, and principles and mutually extend cooperation. Sharing of responsibilities is fundamental in this and it divorces from dependency syndrome.
- **Equity:** Principle of equity and inclusiveness requires ensuring equal opportunity to everyone, irrespective of race, age, gender, class, ethnicity, disability, location and religion. Equal opportunity to participate will legitimize the local institutions and promote democratic values.
- **Sustainability:** All the initiatives for promotion of local institutions should be approached by keeping in mind their social, financial and institutional durability. The conservation efforts require long time for recovery, thus sustainable functioning of local institutions will not only guarantees the future protection but recovery of degraded environment and species.
- **Integration:** One of the essential elements in social mobilization strategy is vertical and lateral integration of target communities. This very important because, while the VOs/CBOs should be representative of various interest groups at village level, essentially they should be integrated vertically around a collective vision/interest(s) for the entire ecosystem to be able to advocate for the same at meso level.

#### **4.3.4 Approach**

WWF-Pakistan will use two different approaches for community mobilization and involvement. **Approach A:** As mentioned earlier there are two broadly different categories or tiers of villages and settlements. One where some form of formal organization exists such as Village Organizations (VOs), Citizen Community Boards (CCB), Community Organizations (COs) or those communities are linked with a larger community based organization at district or provincial level. Different approach will be used for this category to seek their effective involvement in programme activities.

**Approach B:** The second category defines the settlements, communities and groups which are not part of any formal organization. There are many villages and hamlets where the process of social organization will require more time and efforts to bring these groups on board. There will be no further classification of communities on their profession, because all groups and their activities are interconnected and affect the use pattern of

natural resources such as fisher folk, farmers, herders or forest dwellers. So the primary purpose of both the approaches is to be bringing all groups together to think collectively.

***Core steps/actions for approach A***

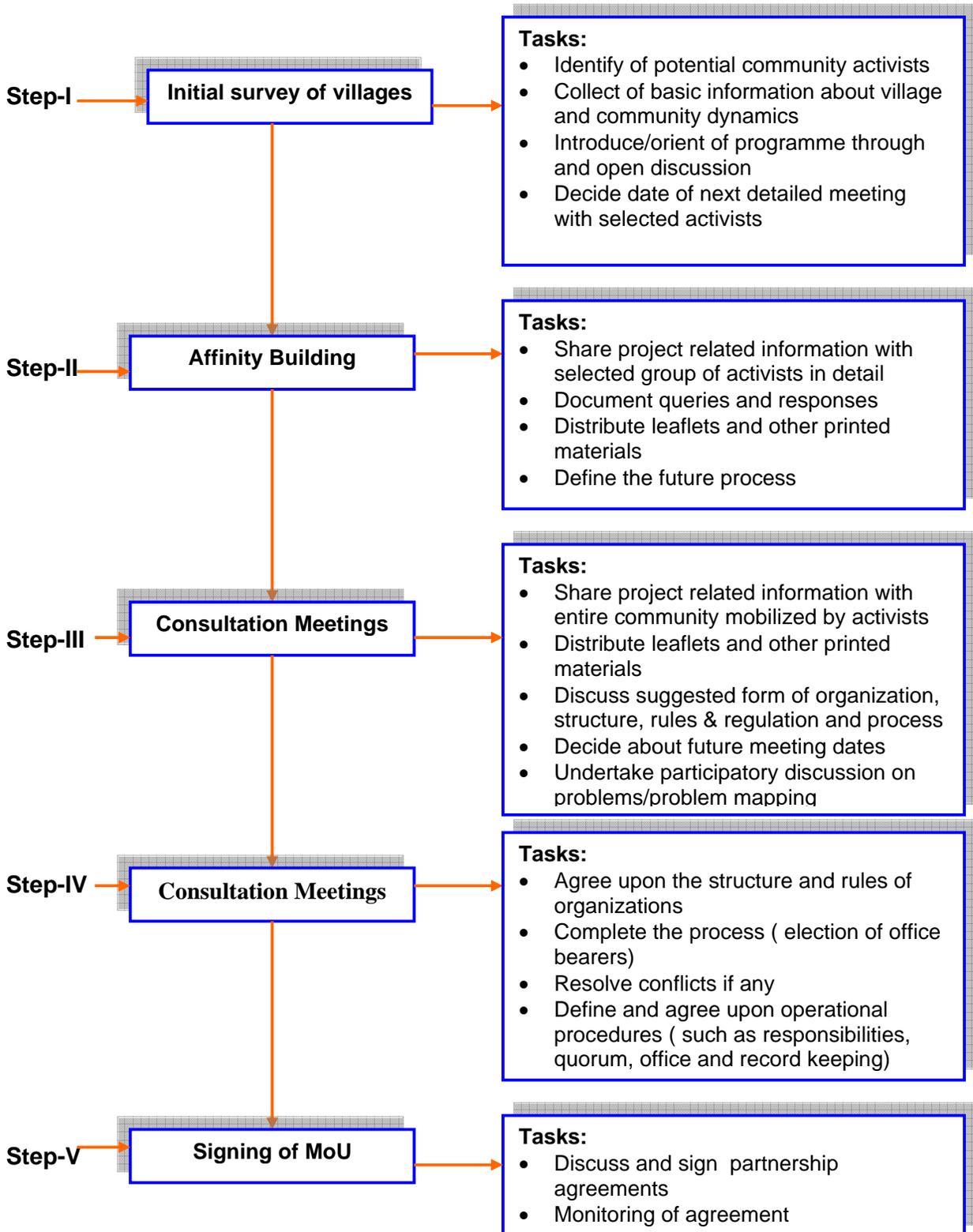
This approach deals with the case in which formal organization exists. Following are the key actions for this approach that aims to bring existing groups into the programme loop:

- Mapping of all existing formal organization such as Community Citizen Boards, Village Organizations, Community Organizations and Community Based Organizations etc.
- Develop maturity index of these organizations for filtration in case there are more than one organization to be worked with or
  - Develop mechanism for creating a cluster for joint actions and enabling environment for working together
- Rating of these groups according to the maturity index
- Signing of memorandum of understanding or partnership agreement to spell out the responsibilities of each party
- Developing and signing general code of conduct which will spell out key principles defined in the outset of this strategy
- Jointly prepare and implement time bound action plans for mass mobilization of community
- Jointly develop a monitoring plan

***Core steps/actions for approach B***

Approach B mainly deals with the communities who are not part of any formal groups or do not have collective platforms from which to negotiate their interests. There are several hamlets, villages and settlements where communities are extending cooperation with each other without any formal mechanism but lack the collective vision, formal institutions and collective voice. This will be a great opportunity as well as challenge to mobilize and involve these communities in programme activities by intensive mobilization efforts and skills. This approach requires different time frames, methodologies and skills. The following chart defines the process undertaken under approach B:

## Step-wise process



## 4.4 Social Mobilization in Action

### 4.4.1 Programme Management

The programme sociologist of Indus for All Programme based in Karachi office will be overall responsible for the implementation of social mobilization strategy, while the management of field level activities will be responsibility of site managers. Programme sociologist will work very closely with programme coordinator and NRM coordinator. This nature of effective coordination will be agreed upon and made effective for conceptualization and smooth implementation of strategic plan. Some of the elements, which provide support and coordination, are outline below:

### 4.4.2 Field Operations

- **Community Development Officers (CDOs):** Each site office will hire two CDOs, male and female. These CDOs will be trained and deployed to interact intensively with diverse communities in the programme area. The main task of CDOs will be to develop field level operational plan for social mobilization. Site manager will provide over all support and guidance to CDOs.
- **Natural Resources Management Officers (NRMOs):** Each site will hire one NRMO. Community development officers will work very closely with NRMO at field level to sharpen their understanding on NRM related issues and prepare him/her to address the NRM issues while interacting with communities. Effective social mobilization should translate into better management of natural resources.
- **Environmental Education Officers (EEOs):** Each site will hire one EEO. The basic role of EEOs will be to create environmental awareness, sensitization and education. In addition, they can facilitate the social mobilization process at grassroots level through education and sensitization efforts.

## 4.5 Monitoring and Evaluation

Monitoring being a continuous process will be carried out periodically to assess that social mobilization activities are within time and budget limitation and are maximally focussed on the overall objective of the Indus for All Programme. Most of the monitoring related activities will be carried out at Micro and Meso levels as discussed by the social mobilization strategy.

Participatory monitoring methods will be used by the programme involving CBOs, community groups and field level staff. Methods to assess quality of social mobilization initiatives in the programme may include; direct observation (key informants), case studies, semi-structured interviews, focus groups, Strengths, Weaknesses, Opportunities and Threat SWOT analysis etc.

Programme has a key monitoring and evaluation post based at Karachi. However, the monitoring of social mobilization, as discussed above, will have to involve field personnel at the four sites.