



GOVERNMENT OF SINDH
Irrigation Department

PROJECT MANAGEMENT TEAM
SINDH RESILIENCE PROJECT
(IRRIGATION COMPONENT)

CREDIT NO. 5888-PK

ABBREVIATED RESETTLEMENT ACTION PLAN (ARAP) FOR MS, SH, BU AND INDO EMBANKMENTS OF INDUS RIVER



PROJECT IMPLEMENTATION SUPPORT AND SUPERVISION CONSULTANT (PISSC) FOR
SINDH RESILIENCE PROJECT (SRP)

FINAL

**26th FEBRUARY
2018**



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DOCUMENT ISSUE AND REVISION RECORD

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Document History:

Job Number:	JB 094-S-MS
Project:	Sindh Resilience Project (SRP)
Client:	Government of Sindh, Irrigation Department
Consultants:	Associated Consulting Engineers–ACE (Pvt) Ltd
Document Ref:	SRP – RAP-02
Document Title:	RESETTLEMENT ACTION PLAN (RAP) FOR MS, SH, BU AND INDO EMBANKMENTS OF INDUS RIVER

Revision	Purpose Description	Originated	Checked	Review	Authorized	Date
0	Document prepared under DACREP	Naimtullah Kakar, Farooq Memon, Naeem Samoon	Sardar Kakar	Ibrahim Samoon	Ibrahim Samoon	23-01-16
1	Revision in Abbreviated Resettlement Action Plan (ARAP) MS, SH, BU and Indo Embankments of Indus River	Niamatullah Khan	Rana Muhammad Ashiq	M. Ibrahim Samoon	M. Ibrahim Samoon	15/12/2017
2	Revision in Abbreviated Resettlement Action Plan (ARAP) MS, SH, BU and Indo Embankments of Indus River	Niamatullah Khan	Rana Muhammad Ashiq	M. Ibrahim Samoon	M. Ibrahim Samoon	8/2/2018

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LIST OF ACRONYMS

ACE	Associated Consulting Engineers (Pvt) Ltd
ARAP	Abbreviated Resettlement Action Plan
BP	Bank Policy
BU	Bughar Ucheto
COI	Corridor of Impacts
DACREP	Disaster and Climate Resilience Enhancement Project (the previous name of Sindh Resilience Project)
DC	Deputy Commissioner
EIA	Environmental Impacts Assessment
ESIA	Environmental and Social Impacts Assessment
ESMECs	Environmental/Social Monitoring and Evaluation Consultants
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMU	Environmental and Social Management Unit
ESU	Environmental and Social Unit
GoS	Government of Sindh
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
MS	Mulchand Shah Bunder
NGO	Non-Government Organization
OP	Operational Policy
PAP	Project Affected Person
PC-I	Pakistan Planning Commission Form – 1 Appraisal of Development Project
PD	Project Director
PISSC	Project Implementation Support and Supervision Consultants
P&D	Planning and Development Department
PKR	Pakistani Rupee
PDMA	Provincial Disaster Management Authority
PMT	Project Management Team
PSC	Project Steering Committee
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SH	Sunda Hilaya Bund
SID	Sindh Irrigation Department
SRP	Sindh Resilience Project
WB	World Bank

EXECUTIVE SUMMARY

Background

The Government of Sindh through the Sindh Irrigation Department is undertaking rehabilitation and improvement of Mulchand-Shah Bunder (MS), Sunda Hilaya (SH), Bughar-Ucheto (BU) and Indo embankments along Indus River under the World Bank financed Sindh Resilience Project (SRP). The present Abbreviated Resettlement Action Plan (ARAP) has been prepared to address the resettlement impacts of the proposed embankment rehabilitation works in compliance with the project RPF and World Bank safeguard policies.

Environmental/Social Management Framework and Resettlement Policy Framework (ESMF/RPF)

The SRP envisages a number of interventions including improving / rehabilitating the degraded reaches of embankments / levees of Indus River, construction of small detention dams in water scarce districts of the province, and construction of office buildings. As the list of sub-projects and locations is not finalized, therefore a framework approach has been adopted. Under this approach, an Environmental and Social Management Framework and Resettlement Policy Framework (ESMF/RPF) has been prepared to identify the potential but generic adverse environmental and social impacts of the project, propose mitigation measures to address these potential impacts, and finally, to provide basic screening criteria for selecting the subprojects to be undertaken under SRP.

Subproject Categorization

The implementation of this sub-project may cause resettlement issues due to clearance of Corridor of Impact (Col). For execution of civil works, partial demolishing of permanent structures (residential), dislocation of small business structures of the Squatters/Informal Settlers and felling of trees within the RoW. Therefore, the resettlement plan is prepared to address the resettlement issues within the RoW and to take care of the affected persons in order to execute the sub-project in a sustainable manner. The sub-project is likely to cause low to moderate level of environmental and/or social impacts therefore, this sub-project falls under category B in accordance with characterization criteria as specified in the ESMF/RPF. The present Abbreviated Resettlement Action Plan (ARAP) has been prepared accordingly to meet the Category "A" project requirements. In addition to this ARAP, an Environmental and Social Impacts Assessment (ESIA) Report is also prepared separately in line with the World Bank guidelines.

Implementation Schedule/Plan

A tentative implementation schedule is prepared. The implementation plan for the assistance for affected persons described in this Abbreviated Resettlement Action Plan (ARAP) is to be synchronized with the implementation schedule, including the procedure of assistance to the Project Affected Persons (PAPs) and complete disclosure of project documents to the public.



Consultation

Consultations were made with the stakeholders and general public. Consultative meetings and focused group discussions were held to learn about the views and concerns of the local community on the proposed rehabilitation works. The concerns raised by the stakeholders were considered in developing the environmental and social mitigation plan, in order to enhance the projects acceptability for the general public on socio-economic considerations. The main objectives of the consultation were to provide a platform to the stakeholders, to voice their concerns or suggestions to the project team and to develop a sense of collective ownership for the activities of the project

Main Findings

The main conclusions drawn from the ARAP studies are outlined below:

- Minimal resettlement of squatters/informal settlers in the form of dislocation of business structures, residential structures, religious structures, community fixtures and a limited loss of income sources.
- The structures which will need to be dislocated for construction include two wooden huts, two wooden mosques, 13 wooden shops and two wooden animal sheds owned by 14 household.
- On completion of rehabilitation work reliability and efficiency of Indus River embankments will be increased which will control the flood damages in the area in future, thus making positive impacts on the incomes of the farming and business community of the project area.
- To mitigate the adverse impacts due to the felling of trees the provision for replanting through the respective contractor has been proposed.
- Cut-off date for the proposed sub-projects was 7th January 2016.

Time Table and Budget

Total estimated cost for the implementation of this Abbreviated Resettlement Action Plan (ARAP) is expected to be 1.355 million. This includes compensation cost of affected houses and other structures within RoW. In addition, the livelihood allowance, shifting/transportation allowance, subsistence allowance are allocated in the resettlement budget.

Monitoring and Evaluation of ARAP

Smooth and transparent implementation of the project requires that both internal and external monitoring and evaluation will be conducted according to the project activity schedule. The services of Environment/Social Monitoring and Evaluation Consultants (ESMECs) shall be hired by PMT to monitor and evaluate implementation and impact of project in light of project design. Their reports will be submitted to PMT and World Bank.

1. PROJECT DESCRIPTION

1.1 Background of SRP

¹Pakistan is exposed to a number of adverse natural events and has experienced a wide range of disasters over the past 40 years, including floods, earthquakes, droughts, cyclones and tsunamis. Exposure and vulnerability to hazards is further exacerbated by a rapid population growth, growing urbanization, environmental degradation and shifting climatic patterns that can result in the occurrence of increasingly severe natural disasters. Over the past decade, damages and losses resulting from natural disasters in Pakistan have exceeded USD 18 billion; as the population and asset base of Pakistan increases, so does its economic exposure to natural disasters.

The Government of Sindh has undertaken a project to enhance disaster and climate resilience; increase the technical capacity of Government entities to manage natural disasters and climate variability; construction of small dams and support restoration of flood protection infrastructure on Indus River. The project designated as Sindh Resilience Project (SRP) is financed by World Bank and will be completed in five year period. The location plan of SRP project is shown in **Figure 1**.

In year 2015-16, project preparatory studies were carried out under the name of Disaster and Climate Resilience Enhancement Project (DACREP) Sindh which was later changed to Sindh Resilience Project (SRP). Under project preparation M/S ACE Pvt. Ltd. was appointed as consultants to carryout environmental and social studies for the project. The Consultants collected the baseline data for all subprojects and prepared the document of Environmental and Social Management Framework/ Resettlement Policy Framework (ESMF/RPF) for the project. Also the for three priority subprojects the ESIA and Abbreviated Resettlement Action Plan (ARAP) were prepared in January 2016 The ARAP for 3 priority document is now updated as per site conditions.

¹ Sourced from the World Bank DACREP PID/ISDS.

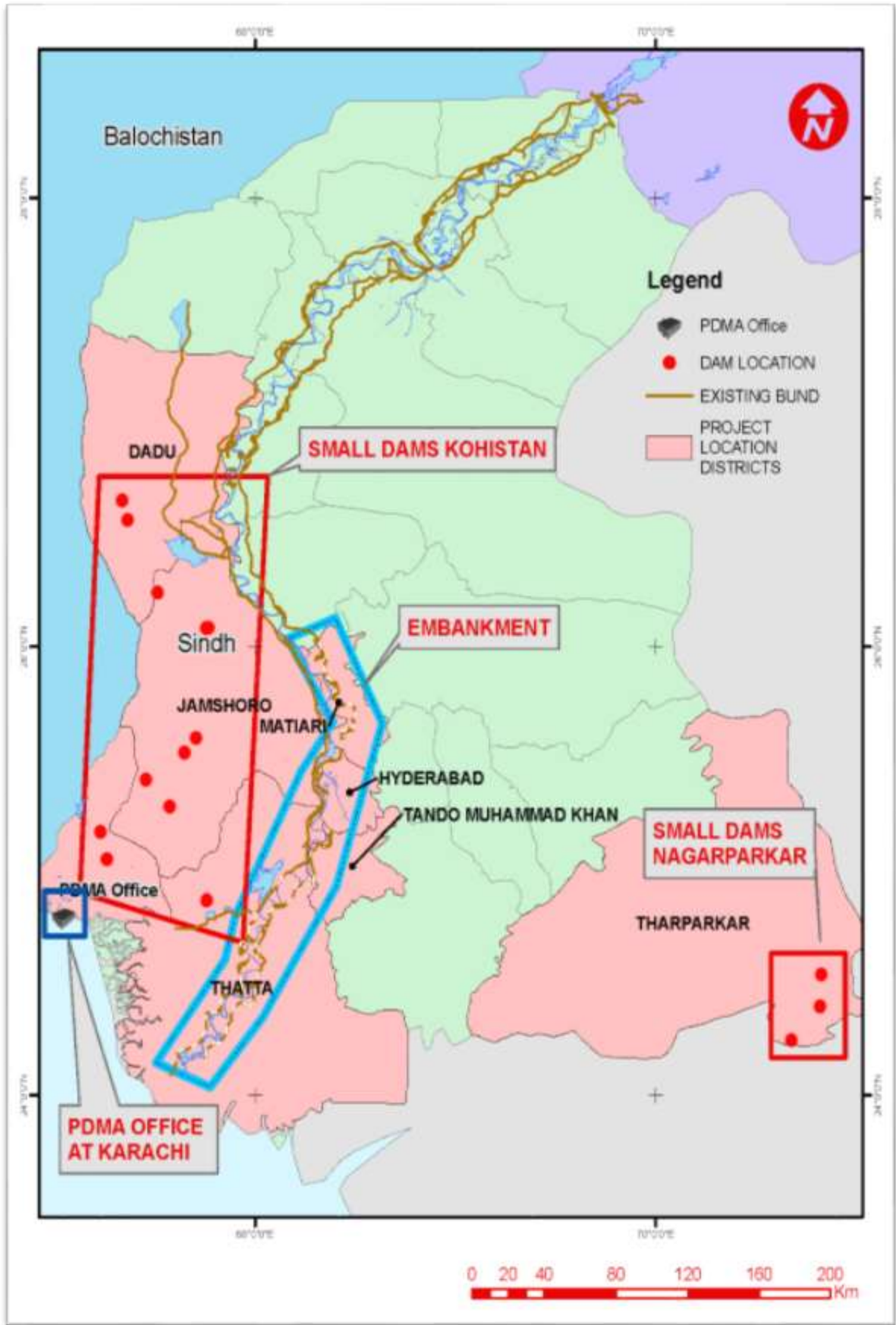


Figure 1: Location of the SRP Project Area

1.2 SRP Components

SRP is being implemented through the Provincial Disaster Management Authority and Sindh Irrigation Department and have the following components:

COMPONENT 1: STRENGTHENING DISASTER AND CLIMATE RISK MANAGEMENT

The Component will primarily focus on key disaster management institutions in terms of strengthening operational systems and capacities at the provincial and district levels. In addition, the Component will support other departments at the Government of Sindh – through the Provincial Disaster Management Authority (PDMA) Sindh) to develop greater ‘fiscal resilience’ through strengthening financial capacity and risk financing mechanisms, and mainstream disaster risk reduction in development planning and budgeting processes. The following are its sub-components:

- Subcomponent 1.1: Improving Risk Identification and Using Risk Information for Development Decision-making
- Subcomponent 1.2: Strengthening Disaster Risk Management Agencies
- Subcomponent 1.3: Enhancing Fiscal Resilience
- Subcomponent 1.4: Project Implementation Support to PDMA Sindh

COMPONENT 2: IMPROVING INFRASTRUCTURE AND SYSTEMS FOR RESILIENCE

This Component will primarily support restoration and improvement of embankments at high risk sites along the Indus for protection against riverine floods as well as construction of small rainwater-fed recharge dams in drought prone regions in Sindh. In addition the Component will assist the Sindh Irrigation Department towards implementing project interventions and increasing operational efficiency. The following are its sub-components:

- Subcomponent 2.1: Flood Protection Works
- Subcomponent 2.2: Construction of Small Recharge Dams to Address Drought and Flash Flooding Risks
- Subcomponent 2.3: Technical Assistance to Sindh Irrigation Department
- Subcomponent 2.4: Project Implementation Support to Sindh Irrigation Department

COMPONENT 3: CONTINGENT EMERGENCY RESPONSE COMPONENT

Following an adverse natural event that causes a major natural disaster, the government may request the Bank to reallocate project funds to support response and reconstruction. This component would allow the government to request the Bank to reallocate financing from other project components to partially cover emergency response and recovery costs. This component could also be used to channel additional funds should they become available for such an emergency.

1.3 Background of Sub-Projects

The Government of Sindh through the Sindh Irrigation Department is undertaking rehabilitation and improvement of Mulchand-Shah Bunder (MS), Sunda Hilaya (SH), Bugar-Ucheto (BU) and Indo embankments along Indus River under the World Bank financed Sindh Resilience Project (SRP). The present Abbreviated Resettlement Action Plan (ARAP) has been prepared to address the resettlement issues over the proposed embankment rehabilitation works in compliance with the World Bank safeguard policies.

The MS embankment (bund) is located in District Sujawal while SH, BU, and Indo embankments are located in Thatta District. The main activities involved in the rehabilitation works include obtaining soil from borrow area and transporting it to the embankments, strengthening the existing embankments with the soil, soil compaction, and stone pitching on slopes. The contractor will also need to establish some temporary facilities as well including material yard and construction camp for workforce.

1.4 Environmental and Social Management Framework and Resettlement Policy Framework (ESMF/RPF)

The SRP envisages a number of interventions under its Component 2 including improving / rehabilitating the degraded reaches of embankments / levees of Indus River, construction of small detention dams in water scarce districts of the province, and construction of office buildings. As the list of sub-projects and locations is not finalized, therefore a framework approach has been adopted. Under this approach, an Environmental and Social Management Framework and Resettlement Policy Framework (ESMF/RPF) has been prepared to identify the potential but generic adverse environmental and social impacts of the project, propose mitigation measures to address these potential impacts, and finally, to provide basic screening criteria for selecting the subprojects to be undertaken under SRP.

1.5 Subproject Categorization

The project ESMF/RPF defines that: i) a full EIA/ESA including an ESMP and RAP will be carried out for subprojects requiring new construction or having significant irreversible and widespread impacts or involving significant degradation of forests of sensitive areas, requiring land acquisition or dam height more than 15m; ii) an ESMP (and a RAP if needed) will be prepared for medium-sized sub-projects involving rehabilitation of existing structures, potentially causing low to moderate level of negative but reversible and localized impacts; and iii) Environmental and Social Checklists will be filled for smaller subprojects resulting in low / negligible impacts.

The proposed project is a rehabilitation of the existing embankments along the Indus River downstream of Kotri Barrage. Based on the Social Assessment, it is anticipated that the project may have some adverse social impacts associated with the displacement of a limited number of

settlements, structures as well as their sources of income. The present Abbreviated Resettlement Action Plan (ARAP) has been prepared accordingly to meet the Category A subproject requirements in line with the project Resettlement Policy Framework (RPF) and World Bank's Operational Manual (OP-4.12).

1.6 Sub-Projects Location

The location of three embankments to be undertaken under the proposed sub-project is shown in **Figure 2**. The MS embankment is located in District Sujawal while SH, BU, and Indo embankments are located in Thatta District.

1.7 Project Proponent

The sub-project will be implemented under a sector loan agreement between Government of Sindh (GoS) and the World Bank. The Sindh Irrigation Department (SID) will be the project proponent and will execute the project under the supervision of Project Director Project Management Team (PMT) for Irrigation Component.

The overall responsibility for implementing the SRP project as well as the present ARAP rests with the Project Management Team (PMT), Irrigation Department, to be headed by the Project Director.

1.8 Engineering Baseline and Details

1.8.1 Existing Condition and Problems of the Sub-Projects

The Indus flood protection bunds (levees / embankment) are designed, constructed and maintained according to Sindh Irrigation Bund Manual. The bunds are constructed of soils from river bed which are mostly sandy silts and clays. In many reaches fill and foundation material is highly erosive. The bund crest is kept 20 feet wide with a freeboard of 4 to 5 feet above the maximum observed flood level slopes are quite gentle the upstream face is protected with stone pitching. Upstream stone aprons (launching aprons) are provided in the reaches where river bed erosion is expected. There is no slope protection on the downstream face. The embankment face damages during high floods. Animal and human activity is other source of disturbance. The typical cross-section of embankment indicating project works is shown in **Figure 3**.

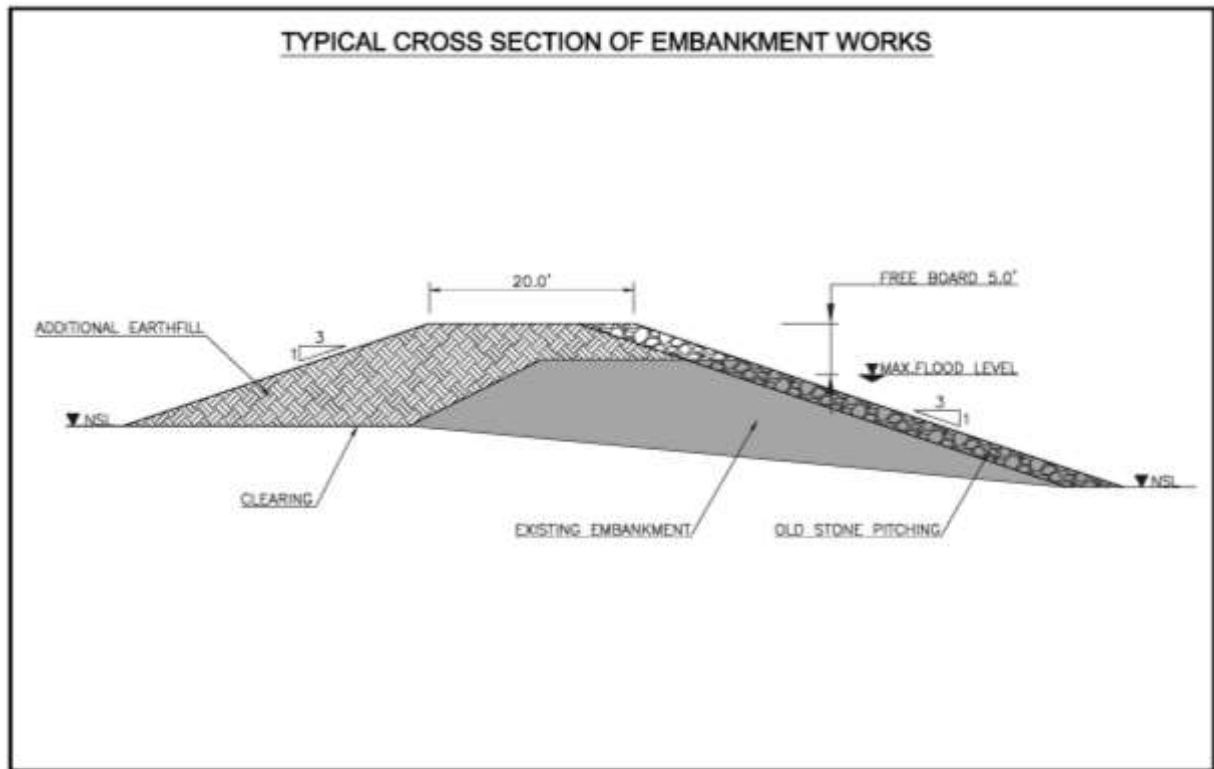


Figure 3: Typical Cross-Section

1.8.2 Mulchand-Shah Bunder (MS) Bund

MS Bund starts at end of Hajipur bund (HP) and stretches to length of 58/2 mile near Chuhar Jamali. Mulchand was renowned forest in Katcha (river flood plain) in which now land is heavily cultivated and forest is no more. Throughout its history the embankment has remained under severe threat. Its various portions are totally eroded and new bunds named 1st Surjani and 2nd Surjani were constructed from mile 24/7 to 29/2 and Gungri Chord Bund at mile 44/4 ends 45/3. Monarki site has remained under severe erosion attack many years.

Geographically due to hills on right side up to Thatta town Indus has tendency to exert its pressure on left side.

MS Bund is lying in the same location which is called wind corridor. Wind blows from south west to east and plays great havoc with earthen bunds during floods. As already described there was a thick forest at these locations but now there is only barren area and in case of high flood a wide body of water is created where huge wave wash is developed due to wind action.

Recently when water level was maximum during 18 to 23 August 2015 and gusty wind blow for many days, continuously, serious situation was created all along earthen bunds. Dashing waves eroded the bund severely from mile 29/2 to 29/5, 36/0 to 40/0, 45/5 to 49/5, 54/0 to 55/4

and 57/0 to 58/2, pre flood fighting was carried throughout in these reaches where wind erosion occurred.

Thousands of labour was engaged and Abklani material was used to control the situation. At these bunds are heavily eroded and thus need stone raising, strengthening and stone pitching protection.

1.8.3 Sonda – Hilaya (SH) Bund

The Sonda Hilaya Bund (SH Bund) is an important bund line as directly under heavy thrust of river water. The water touched the bund all the way during flood 2015.

The Sonda Hilaya Bund is the first line of defence, which protects National High way, Keenjhar Lake, Link Canal, Sonda Distributary and bridges as well as valuable government and private property from the river flood.

During flood 2015, when peak discharge was passing from dated August 18 to 21, 2015 the seepage and leakage observed at outside slope of SH bund at different places, which damaged almost the outer slope from mile 0/4 to 3/2, resultantly acute emergency was created. All the efforts were made i.e. stone dumping, earth work and providing Manglies (coffer dams / ring bunds) at different places to control the situation from any mishap or loss to bund.

Due to direct current of flow all along the SH Bund during the flood 2015, serious situation was faced along mile 1/6 to 2/1 where the launching of stone apron was observed and remained only 8 ft. instead of 38 ft. Therefore dumping of stones was started along the reach on emergency basis day and night times to restrict it from further launching and keep it away from the body of Bund. Also stone pitching was damaged from mile 1/0 to 3/0. There is need to widening of bund where it is eroded, repair of damaged stone pitching and recoument of stone apron.

1.8.4 Baghar-Uchito (BU) Bund and Indo Bund

The Baghar-Uchito (BU) bund is located on right side of Indus just below Thatta, city to Babda town. During flood the BU and Indo Bund faced severe wave wash actions that started eroding slopes of the Bunds. Luckily the tide was low and the wind was in opposite direction.

Even them the extent and magnitude of the damage was enormous that slopes of the Bunds converted to 3:1 and became vertical 2 to 5 ft. Consequently these Bunds become vulnerable and susceptible to upcoming floods. Wave wash action as assessed by the SID, has significantly inflicted bruises to Bund slopes on different reaches of the BU and Indo Bunds.

1.9 Proposed Interventions under SRP

The rehabilitation and strengthening of embankments mostly include following type of works:

- Widening of bunds in reaches where embankments were eroded during past floods
- Reconstruction of stone pitching with gravel bedding
- Recouping of stone aprons
- Construction of gabion groins
- Construction of huts (landhis) for inspection and monitoring staff

1.9.1 MS Bund

The PC-I of the MS Bund sub-project, prepared by Irrigation Department Government of Sindh proposes the following interventions:

- Stone Pitching on reaches from Mile 29/2 to 19/5; 36/0 to 40/0; and 45/0 to 58/2.
- Raising and strengthening of MS Bund from Mile 55/4 to 58/2.

1.9.2 SH Bund

In order to cope with the problem described earlier, it is proposed for strengthening, widening and raising of Bund and recouping of stone apron, so that upcoming flood may pass safely and to save this important Bund from future flood damages. The proposed works on this embankment include stone apron along bund from 1/6 to 2/1 Miles and repair to damaged stone pitching along bund from 1/0 to 3/0 miles (different reaches) and widening of bund from 0/4 to 3/2 miles.

1.9.3 BU and Indo Bund

In order to cope with the problems with the existing structure as described earlier, it is earnestly essential to provide stone pitching along above badly affected miles of BU and Indo Bund so that upcoming flood may pass safely and causing no damage to Bunds.

The rehabilitation works for the BU Bund are stone pitching along bund from miles 13/3 to 14/7, 15/5 to 16/1, 16/2 to 16/4, 18/2 to 18/7, 19/0 to 20/7, 21/4 to 23/4, 23/7 to 24/1, 24/1 to 24/2, 28/0 to 29/6 , 30/3 to 32/1, 33/5 to 33/6, 35/2 to 35/3.

The works for Indo Bund are to provide stone pitching along bund from miles 0/0 to 1/0 and 5/0 to 10/0.

1.10 Need of the Study

World Bank funded projects require a Resettlement Action Plan for any project that result in either physical or the economic displacement of people. The scope and level of detail of resettlement planning will vary with circumstances, depending on the project's complexity and the magnitude of its effects. As a minimum requirement in RAP must ensure that the livelihood of people affected by the project are restored to pre-project level. As the proposed sub-projects

have minimum social and resettlement issues; therefore an Abbreviated Resettlement Action Plan (ARAP) has been prepared to address these issues.

1.11 Alternative Options

Efforts have been made by using all appropriate options of engineering design in finalizing the alignment to minimize the resettlement impacts. The implementation of this sub-project can cause resettlement issues like clearance of RoW for execution of civil works, partial or full demolishing of permanent structures (residential), relocation of temporary small business structures and felling of trees within the RoW.

1.12 Objectives of the Abbreviated Resettlement Action Plan

The Abbreviated Resettlement Action Plan for the sub-projects envisages addressing the adverse socioeconomic impacts as a result of implementation of this sub-project under SRP. Thus, the main focus of this plan is to set out strategies for mitigation of adverse effects and to maintain living standards of those affected by the sub-project activities. It includes the parameters for the entitlement package for affectees, the institutional framework, and the mechanisms for consultation, grievances resolution and the timeframe. The following are the specific objectives of this ARAP:

- To have design for compensation and other settlement assistance to be provided before the starting of civil works (if any).
- To consult with affected persons about acceptable alternatives including measures which will ensure the orderly and timely shifting of severely affected households (vulnerable) and small business owners;
- To define institutional arrangements for implementation and grievance redressal mechanism
- Monitoring and evaluation, and
- Timeframe and financial implications.
- To obtain information about needs and priorities of the affected people.
- To obtain the cooperation and participation of the affected people in resettlement planning and implementation.

2. SOCIO-ECONOMIC ASSESSMENT AND CENSUS SURVEY

2.1 Background

This sub-project will need to clear certain measurements of land on both sides of the Indus River Embankment sub-projects defined as corridor of impact mostly falling within the Right of Way for civil works execution. In some areas of this sub-project, the RoW is occupied by squatters who are doing their business and/or using that land for residential purpose and have constructed religious structures/community fixtures.

2.2 Scope of Land Acquisition and Resettlement

The proposed works under the subproject comprise rehabilitation of the existing embankments along the Indus River. The execution of the sub-projects (as discussed in section 1.8) is to rehabilitate the existing embankments and the proposed works will be confined to the already available RoW. As earlier discussed, these embankments are to be rehabilitated through stone pitching along the river side slope, raising and widening of the embankments susceptible to breach. Since the land for the existing embankment is already owned by the Irrigation Department, the acquisition of land is not needed for the sub-projects. No land shall be acquired beyond RoW and also; entire RoW will not be got vacated rather only the land directly involved in the civil works execution within the RoW is entitled for impact assessment. Hence, no major physical resettlement of the affected families is involved. The project, however, has minor resettlement impacts on squatters/informal settlers (which is in fact, illegal encroachments) such as dislocation of businesses, residential, religious structure and community fixtures as well as loss of income sources. For the assessment and evaluation of these impacts, the following methodology has been adopted.

2.3 Approach and Methodology

In order to have comprehensive and detail information the following techniques and tools of data collection were used.

2.3.1 Census Survey

Approximately 100 per cent census of the impacted area was conducted.

2.3.2 Village Profile

A comprehensive village profile was prepared to document the socio-economic and demographic data of each sample village in the study area. The findings are illustrated in the ESIA report of the sub-projects.

2.3.3 Pretesting of Questionnaires

In order to test the validity and reliability of the developed questionnaire, interviewing guides were pre tested in the study area and questionnaire was reviewed to assess whether questions need to be clarified, changed.

2.3.4 Women Survey

A separate questionnaire was developed covering various aspect issues of women in the area. Female Sociologist of the Consultants conducted the field survey in the sub-project area and hold meeting with the affected families. The findings are illustrated in the ESIA report of the sub-projects.

2.3.5 Collection of Secondary Data

Data/information relating to the some socio- economic characteristics of the sub-project was collected from the concerned local government offices, Bureau of Statistics and agriculture departments. The findings of the data are reported in the ESIA of the sub-projects.

Official Websites of the concerned departments were also searched. The population census reports for the concerned districts were also consulted.

2.3.6 Collection of Primary Data

The preparation of Resettlement Action Plan required the collection of data/information from the real field settings. To achieve this end, comprehensive questionnaires for data collection were prepared. The questionnaires were filled during the consultative meetings and during field visits. Four types of questionnaires were developed for data collection, as described below:

- Village profile for the collection of macro level information relating to the existence of socioeconomic infrastructure in the villages/rural settlements falling within Col.
- Census survey to document the Project Affected Persons (PAPs), their assets, family profiles and economic status.
- Consultations were made with the stakeholders and general public. Consultative meetings and focused group discussions were held to learn about the views and concerns of the local community on the proposed rehabilitation works. The concerns raised by the stakeholders were considered in developing the environmental and social mitigation plan, in order to enhance the projects acceptability for the general public on socio-economic considerations. The main objectives of the consultation were to provide a platform to the stakeholders, to voice their concerns or suggestions to the project team and to develop a sense of collective ownership for the activities of the project.

2.4 Sub-Project Resettlement Impacts

Keeping in view the structural integrity of the embankments, their right of way (RoW) has been kept as 45m (150 feet) and accordingly the structures located within RoW were recorded. These comprise 61 residential structures (57 wooden made and 4 brick masonry), three mosques (one brick masonry and two wooden), 38 wooden commercial structures, three hand pumps and two animal wooden sheds. These structures are owned by 87 households. These structures are located along the inner and outer slopes of the embankment. See **Figure 4** for some photographs of the structures built on the embankments.

While, the structures that will need to be dislocated for construction include two wooden mosques, thirteen wooden shops, and two wooden animal sheds - owned by 12 households located at MS Bund. The details of the above-mentioned structures are given in **Annex-A**.



Shops and tea stall at MS Bund 49.4 (River Side)



Shops and tea stall at MS Bund 49.4 (River side)



Shops and tea stall at MS Bund 45.4 Mile
(Community Side)



Mosque at MS bund 37.25 Mile (Community Side)



One Mud house at BU Bund 29.1 Mile
(Community Side)



Shops and tea stall at BU Bund 23/7 Mile
(Community Side)



Otaq at BU bund 29 Mile (River side)



Tea stall at Indo bund 6.4 Mile (Community Side)



Mud houses at Indo Bund 7.1 Mile (Community Side)



Otaq (Guesthouse) at Indo bund
6.4 Mile at the river side

Figure 4: Structures Built on the Embankments

2.5 Methodology for Census Survey

A census of all affected households (AHs) was carried out based on the entitlement matrix given in the ESMF/RPF. The Census has determined the exact number of AHs/PAPs and how they will be affected by the specific impacts of a subproject.

The impact on community and property due to proposed project interventions were assessed through field surveys conducted during the period December, 2015 and January, 2016. The surveys included a Census where household level data of all affected households were collected.

A separate checklist was used to establish an inventory of losses of each affected household which included details of potentially affected structures and other assets belonging to each household. Similarly, a separate inventory of losses was prepared in regard to commercial property and public and community structures. The census was conducted and inventory of losses was prepared for all of the potentially affected households. The results of the census survey are presented in **Annex A**.

2.6 Affected Persons

Any person, whose land, asset /infrastructure, source of income or access to resources is likely to be affected by the project's operations is defined as affected person. These include mainly the owners of structures and assets located on the embankments. The following Table indicates that about 12 households with 2 residential structures, 2 animal sheds, 02 mosques and 13 wooden kiosks (cabins).

Table 1: Categories of Affected Structures

S#	Category of Affected Person Structure	No
1	Residential Houses (Wooden Huts)	02
2	Animal Sheds (Wooden Made)	02
3	Public/Community Structures (Mosques)	02
4	Business Structures (Wooden Kiosks)	13
Total		19

2.7 Eligibility Criteria

All affected persons will be entitled to compensation and resettlement assistance based on entitlement matrix devised in the ESMF/RPF and severity of impacts and ownership status. Lack of legal documents for customary rights of occupancy/titles shall not affect eligibility for compensation and assistance.

Entitlements of PAPs are considered fewer than two broad categories: (i) entitlements for loss of physical property including houses and (ii) entitlements for loss of income. In the first case PAPs will receive the following compensation:

- i. assistance in cash amounting to the negotiated value with the communities which is the assessed and agreed value structures at the time of payment and would include cost of titling;
- ii. Cash grants and resettlement assistance such as shifting allowance.

2.8 Construction Type of Affected structures

Most of the residential structures are comprise of katcha houses (wooden and bushes made) except four rooms are made of brick masonry. Similarly, all the commercial structures and animal sheds are wooden made. There are two mosques in the RoW and both are wooden made.

2.9 Affected Trees

As earlier discussed, an estimated 120 trees will have to be cut down due to the proposed rehabilitation works. These assessments were based on walks through survey along the embankments. These trees are the ownership of the Irrigation Department Government of Sindh and compensatory tree plantation is proposed in the ESIA of the sub-projects.

2.10 Anticipated Crop Losses

During construction period, it is anticipated that standing crops within RoW may be damaged, if in case there was not another accessing route or option to avoid the anticipated impacts. For the cost estimate purpose, the team has held initial discussions with local communities over the rates to get their feedback and obtained the prices as well production per acre from Sindh Agriculture, Supply and Prices Department as well as other concerned agencies.

However, these rates are not final and they will be updated and presented for consultation and agreement with local communities during implementation of the project. Only the final agreed rates with local communities will be used to finalize and payment of the final compensation. The cost (as contingency cost) estimated for compensation of crops based on the entitlement matrix is given in the following Table 2.

Table 2: Approximate Cost (Contingency Cost) for Crops Compensation

S#	Name of Crop	Approximate Area likely to impacted (in acres)	Approximate Cost (in PKR)
1	Sugarcane	04	360,340
2	Banana	02	119,700
3	Cotton	05	227,205
Total		11	707,245

2.11 Valuation of Assets

A valuation survey was undertaken for estimating the unit rate for compensation of different types of losses, such as residential and, commercial structures, community owned and religious structures and other such asset. The rates were arrived at, in consultation with the local community/ affected people. Using these data, the unit rates used for valuation of affected structures was determined. However, the following procedures/ methods were used for the proper assessment of unit compensation values of different items/ assets located within the RoW as standard for valuation of assets as follows;

- i. Houses are valued at replacement value/ cost based on cost of materials, type of construction, labour, transport and other construction costs.
- ii. The relocation cost is the amount needed to displace and relocate temporary assets at prevailing market prices without adding costs for transaction.
- iii. the damage sustained by the person by the loss of any standing crops or trees which may be on the land during construction period;

As discussed earlier that most of the structures are houses and wooden kiosks (cabins). Therefore the houses and other structures were valued at replacement cost plus labour and transfer cost based in the area, type and material of the affected item. No deductions will be made for depreciation, salvageable materials or transaction costs and taxes.

2.12 Cut-off Date

Eligibility to receive compensation and resettlement assistance will be limited by the “cut-off” date. The cut-off-date is the start of the census of the affected communities which was concluded on 7th January, 2016. This census survey was jointly carried with the representatives of the Sindh Irrigation Department. This cut-off date was shared with the affectees and informed them that any person entering the project area after the cut-off date is not eligible to receive the agreed upon entitlements.

2.13 Entitlement Matrix

Public consultation was carried out with the affectees and they have provided good feedback from the project area and helped define the policy and entitlement matrix for the project.

Entitlements for different categories of losses and their corresponding PAPs have been given in the entitlement matrix. Eligibility of PAPs will be governed by the entitlement matrix and cut-off dates. **Table 3** provides an entitlement matrix for different types of losses and dislocation, based on the Inventory Census.

Table 3: Eligibility and Entitlement Matrix

Description	Specification	Affected People	Compensation Entitlements	Estimated Rates
Houses (may have more than one hut) and Structure	Wooden huts	Squatters	Cash compensation against the area covered by each house structure for affected person/household and other fixed assets free of salvageable materials, depreciation and transaction costs. In case of partial impacts full cash assistance to restore remaining structure. In addition, living/subsistence allowance shall be paid for three months to the affectees whose houses are relocated.	PKR: 120/square foot Subsistence Allowance per affectee house PKR: 15,000/Month and total PKR: 45,000 shall be paid to each Affectee house.
Relocation	Transport and transitional livelihood costs	All PAPs affected by relocation	Provision of sufficient allowance to cover transport expenses.	PKR: 5,000 for each affected person/household.
Community assets		Mosques	Rehabilitation/substitution of the affected wooden mosques	PKR: 120/square foot
Loss of Standing Crops	Applicable for all crops standing on land within the RoW at the time of construction.	All PAPs including squatters	Crop compensation in cash at full market rate for two harvest or project periods by default for impacts caused by the rehabilitation of the embankments. All other crop losses will be compensated at market rate based on the actual losses.	Wheat: PKR: 1,050 40/kg (Per Acre Yield: 1367.85kg) and per acre compensation is PKR: 35,906. Sugarcane: (Per Acre Yield: 20.95 M.Tons) and per 40kg prices is PKR: 172, therefore; per acre compensation rate is PKR: 90,085. Banana: PKR: (Per Acre Yield: 1.71 M.Tons) and per 40kg price is PKR: 1,400. Therefore; per acre compensation rate is PKR: 59,850.

Description	Specification	Affected People	Compensation Entitlements	Estimated Rates
				² Cotton: PKR/Bale is 22,950 (Per Acre Yield: 1.98 Bales) and per acre compensation is PKR: 45,441.

2.14 Timeline of Relocation by Project Component

The relocation time of the affectees would be before the commencement of the physical works on the sub-projects.

2.15 Procedure for Payment

As discussed earlier, the Project will pay the negotiated/replacement amount to the PAPs through the Project Director PMT SRP and PAPs will be allowed to take away the materials salvaged from their dismantled houses and shops at no costs, despite the compensation paid. The cash payments will be made through crossed cheque in the name of the recipient PAP.

2.16 Updating the ARAP

This section of the ESIA considered as resettlement action for the sub-projects may need to be updated to take into account changes in the final designs or any unforeseen or additional impacts during the construction phase. The RAPs should be updated (i) on the completion of detailed engineering design but prior to the award of civil works contracts and (ii) during the subproject civil works where design changes during construction result in changes to the resettlement impacts. The structures reported in **Annex-A** will not be removed until all amended RAPs or addendum to a RAP get approved by the World Bank, payments made and PAPs vacate the land within the agreed notice period.

2.17 Socio-Economic Profile of Project Corridor

The socio-economic profile of the Project Corridor includes the description of the area/villages for the entire length of the selected sub-projects. The socio-economic characteristics of the project corridor are based on the village profile, focus group meetings and information collected from the secondary sources. The results of the survey are furnished in the ESIA report of the sub-projects.

² Average per acre production in Sindh is 6.5 Bales (Source: Sindh Agriculture, Supply & Prices Department Government of Sindh, 2013). One Bale in Pakistan is equal to 170kg.

2.18 Cropping Pattern

The project area being the fertile land and irrigated by canals, is very rich in growing of cotton, wheat, sugarcane. Major cropping pattern are given below. The main agricultural crops are banana, betel leaf, wheat, cotton, rice, sunflower and sugar cane together with vegetables grown for local consumption. There are two main cropping seasons; "Kharif" and "Rabi". The Kharif season starts from April-May and ends in October-November while the Rabi starts from November-December and ends in April-May.

2.19 Mechanism of Conflict Resolution

During the field survey of villages it was observed that most activities are carried out under the instruction of the head of brotherhood (clan). Caste system in the rural area of the Sindh is very rich, and decision about conflict, right of vote, marriage settlements and other matters usually resolved by the head of caste/brotherhood. Most of the conflicts in the sub-project were mutually resolved within the caste/brotherhood. Sometimes the conflict in between castes/ brotherhood if not resolved by the parties the matter may go to the police/court. The nature of conflicts is thefts of water, theft of cattle and murder.

2.20 Impacts on Vulnerable Group

No vulnerable professional groups like working boys in shops, tea stall, and elderly, the mentally and physically disabled, at-risk children and youth, religious and ethnic minorities have been found in the project area.

2.21 Impacts on Women Headed Household

During the surveys of the sub-project area, it was found that no Women Headed Households exist in the Corridor of Impact of sub-project.

3. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

3.1 Introduction

To comply with World Bank requirements and policies on environmental and social assessment of projects and, all the sponsors of the projects resulting in involuntary resettlement required to prepare and publicly disclose a resettlement action plan. The ARAP/RAP must be prepared through a process of public consultation with all interested and affected parties. Proper consultation with affected parties can increase the effectiveness and reduce the cost of ARAP/RAP implementation for the sponsor or other responsible parties. As discussed earlier, the proposed sub-projects will impact the local environment of the area as well as communities living in and around project area to some extent. This chapter provides details of consultations carried out with stakeholders during the preparation of this Abbreviated Resettlement Action Plan (ARAP).

3.2 Objectives of Consultation

Public consultation plays a vital role in studying the effects of the Project on the stakeholders and in the successful implementation and execution of the proposed projects. Public involvement is a compulsory feature of resettlement plan, which leads to better and more acceptable decision-making. The important general objectives of the Consultation process are:

- Provide key project information to the stakeholders, and to solicit their views on the project and its potential or perceived impacts,
- Information dissemination, education, and liaison,
- Identification of problems and needs,
- Collaborative problem solving,
- Develop and maintain communication links between the project proponents and stakeholders,
- Reaction, comment and feedback on proposed Project; and
- Ensure that views and concerns of the stakeholders are incorporated into the project design and implementation with the objectives of reducing or offsetting negative impacts and enhancing benefits of the proposed project.

3.3 Consultation with Project Affected Person

As per Bank Policy, at the second stage of consultation community members and their representatives were consulted to introduce the project formally to local community and to obtain their views on development project. Group discussions were also carried out on

consultation process. Various focus group meetings /discussions /scoping sessions carried out with all expected project affected persons during months from December, 2015 to 7th January, 2016. The meetings were held at various locations. In the meetings affected people were informed about the plans for rehabilitation of the selected embankment sub-projects. A question answer session was initiated such as:

- Demographic characteristics of the village, such as population, number of households, housing characteristics, availability of social amenities, ethnic groupings etc.
- Livelihood activities of the project affected persons.
- Women's role in socio- economic life.
- Existing health and education facilities in the village.
- Feeling about the project.

Following issues were also discussed:

- Project introduction and suggestions
- Structures losses
- Compensation for lost structures
- Mutually consensus on acceptable compensation
- Where to be shifted from existing location.
- Consultation with host community.
- Dislocation of religious structures.

3.4 Consultation with Affectees

The public consultation process in the project area was commenced during the scoping sessions of the ESIA and ARAP study completed in January 2016. Several meetings were held in the project area to consult the potential affected communities. The project-affected persons were consulted in conducting the census surveys for preparing the resettlement aspects of the ESIA and ARAP. The consultation process was further intensified through formal and informal meetings, including one workshop in Thatta for disclosure of project impacts – social and environmental – to stakeholders for their inputs and feedback. The key issues discussed during the consultation process are given in the in the following sections;

- The affectees expressed concern that they have no land in other areas for settlement.
- In case of relocation, they have requested to settle them in the same area.
- In case of compensation, the affectees agreed to shift their huts and shops to some other areas rather than on the embankments.
- They have expressed concern that they for not relocating them far away from the Indus River, as there are their livelihoods like fishing and working as tenant or wage labour.

3.5 First Round of Community Consultations

The conduct of the community consultations involved a program of structured discussion in communities in the vicinity of primary impact as well as secondary zone of the embankment sub-projects was carried out. **Table 4** shows the public consultations carried out on the embankment sub-projects.

Table 4: Summary of Stakeholder Consultations with Male Community Members

Sr. Nr.	Name of Village	Date	Number of Participants
1	Pasand Maheshwari	25-11-2015	8
2	Malik Shareef	25-11-2015	3
3	Syedpur	27-11-2015	23
4	Manaro	27-11-2015	5
5	Muhammad Yaqub	27-11-2015	10
6	Muhammad Ishaq	27-11-2015	5
7	Haji Ramzan	27-11-2015	4
8	Muhammad Ali Khosa	27-11-2015	3
9	Gul Muhammad Mallah	27-11-2015	5
10	Haji Saleh Muhammad Khoso	27-11-2015	20
11	Syed Burhan Shah	27-11-2015	7
12	Muhammad Arab Saharo	27-11-2015	5

3.6 1st Round Findings of Public Consultation with Male Community Members

Key findings of consultation with male community members on sub-projects are summarized below;

3.6.1 MS Bund-Wadero Ghulam Thenga Goth

- The villagers were happy about the widening, raising and stone pitching of Bunds. They think that proposed rehabilitation works is necessary for the safety of their villages, agriculture land and crops.
- They understood that they will not face any loss or problem after the project work.
- They reported that they face lack of potable water and health facilities.

3.6.2 MS BUND- Saeedpur Village

- The villagers were very happy with the project.
- They believed that project will protect village from flood.
- They demanded that since there is availability of local labor in the area, they should be given priority in doing unskilled work during project works.

3.6.3 MS Bund- Sonda Goth

- The villagers expressed willingness and satisfaction that impacts of the proposed project are positive for the safety of village and agricultural land.
- They expected that project will create many employment opportunities for unskilled villagers.

3.6.4 MS Bund- Goth Saleh M. Khoso

- Laborers and farmers of village think that project impacts would be positive for them and project will safeguard them during flood seasons.
- They expect that project will also provide them job opportunities.

3.6.5 MS Bund- Goth Malik M.Sharif

- Villagers think that project impacts are positive for them; project will safeguard them from the floods during monsoon seasons.
- They expect the employment opportunities for them from project.

3.6.6 MS Bund- Goth Muhammad Hassan

- They told that project is most important for their safety and it will protect village from flood.
- They told that project must be started as soon as possible because currently Indus river bund is away from the reach of water and it will be easy to work.
- They demanded that many employment opportunities of project must be provided to unskilled villagers.

3.6.7 MS Bund- Rod Mori

- The villagers told that project will leave positive impacts on village and agricultural land.
- They expected that project will create many employment opportunities for unskilled villagers.

3.6.8 MS Bund- Chohar Jamali Town

- The People of town are very happy with the project.
- They believed that project will protect town from flood.
- The person of town shown their willingness for the volunteer works on the project.
- They demanded that since there is availability of local labor in the area, they should be given priority in doing unskilled work during project works.

3.6.9 SH Bund- Village Ghulam Shah

- The villagers were happy that finally their demand has been accepted by the government and the bund widening and pitching is being approved.
- They reported that they were at very risk in 2010 and 2015 flood.
- They told that project will protect village and our property.
- The villagers expressed their willingness to work as laborers during the project works.

3.6.10 BU Bund- Goth Yar Mohammad Girano

- The villagers told that this project will give protection to their houses and agricultural land.
- They demanded that during project work, labor jobs must be given to villagers.

3.6.11 BU Bund: Gora Bari Town

- The people of town appreciated project and shown their willingness for the project.
- They believed that project will protect villages of town and main city from flood.
- The peoples of town had shown their willingness for the volunteer works of the project.
- They demanded that since there is availability of local labor in the area, they should be given priority in doing unskilled work during project works.

3.6.12 BU Bund-Qasim Khan Khushk

- Villagers told that this project will leave positive impacts in the area. Project will provide safety to their village and property.
- They also offered their volunteer services for the project.
- They demand that labor jobs from project for unemployed villagers.

3.6.13 BU Bund: Goth Abdullah Khan Hamro

- The villagers told that project has positive impacts; it will protect our village and agricultural land.
- They demanded that during project work, labor jobs must be given to villagers.

3.6.14 BU Bund- Goth Essa Mehar

- The villagers told that this project will provide protection to their houses and agricultural land.
- They told that they appreciate this project and they don't have any concern with this project.
- They demanded that during project work, labor jobs must be given to villagers.

3.6.15 BU Bund- Goth M.SumarShoro

- Villagers told that this project will leave positive impacts in the area. Project will provide safety to their village.

- They also offered their volunteer services for the project.
- They demanded that labor jobs from project must be given to unemployed villagers.

3.6.16 BU Bund: Goth haji Ibrahim

- Villagers were happy about the project. They think that project will safeguard them from flood.
- They also offered their volunteer services for the project.

3.6.17 Indo Bund- Goth Muhammad Sumar Jonejo

- The villagers were happy about the project.
- They believed that project will protect their village from flood.
- They demanded that since there is availability of local labor in the area, they should be given priority in doing unskilled work during project implementation.

3.6.18 Indo Bund- Goth Noor Mohammad Junejo

- The villagers told that project has positive impacts. It will provide safety to their village and agricultural land.
- They expected that project will create many employment opportunities for unskilled villagers.

3.6.19 Indo Bund- Dandari

- The villagers told that their village and agricultural land will be protected due to the project intervention.
- They told that they appreciate this project and they don't have any concern about this project.
- They think that their business will also be improved.
- They demanded that during project work, labor jobs must be given to villagers

3.7 1st Round Findings of Public Consultation with Female Community Members

Key findings of consultation with female community members on sub-projects are summarized below;

- During the consultation with the female community members, most of the women were in favor of the sub-project and also having expectations to get benefits.

- The female community members requested for the installation of hand pumps in the area as they are facing shortage of drinking water.
- The female community members also requested for the provision of buffalo passage routes/tracks over the embankment.

3.8 Consultation Workshop

Second round of public consultation was carried out when the draft ESMF/RPF and ESIA was prepared. A Disclosure/Consultative Workshop on the project ESMF/RPF and for this ESIA was organized in the Irrigation office in Thatta on 30th December, 2015. The executive summaries of the draft ESMF/RPF and ESIA (MS.SH, BU and Indo Bunds) were translated into Sindhi Language, uploaded on the Sindh Irrigation Website and printed copies were distributed among the participants. Invitations were given by individual invitation cards and on Irrigation Department's SRP website.

The irrigation department also sent invitation letters to Sindh Wildlife and Forest Departments, WWF, IUCN and Sindh EPA. A presentation about the ESMF/RPF and ESIA was prepared by the DACREP Consultants. In describing the engineering aspects of the sub-project or overall project, the DACREP consultant team was assisted by concerned PMT irrigation Additional Directors/XENs.

The **Table 5** is showing the list of participants of Consultative/Disclosure workshop organized for disclosure of ESMF/RPF.

Table 5: List of Participants in the Consultative/Disclosure Workshop

Sr. Nr.	Name of the Participant	Organization	Designation	Contact Number
1	Zahoor Ahmed Sehito	Small Dams	Assistant Executive Engineer	0300-3400114
2	Nadeem Jokhio	Small Dams	Assistant Executive Engineer	0333-1313666
3	Ali Muhammad	Small Dams	Assistant Executive Engineer	0346-1139024
4	Muneer	Irrigation Department	Assistant Executive Engineer	0343-3504128
5	Mujeeb Rehman	Irrigation Department	Assistant Executive Engineer	0344-8222863
6	M. Usman Malik	Irrigation Department, Sonda Sub-division	Assistant Executive Engineer	0300-8905893
7	Balram Dodani	Irrigation Department	Assistant Executive Engineer	0308-3224117
8	Dr. Ali Asghar Mahesar	PMO	Deputy Director (Env)	0301-3561195
9	Shoaib Ahmed	Irrigation Department, Kalri	Executive Engineer	0321-2886807

Sr. Nr.	Name of the Participant	Organization	Designation	Contact Number
	Sughrio	Baghar Division		
10	Shafqat Hussain	Irrigation Department, Pinyari Circle	Superintendent Engineer	0322-3331726
11	Ibrahim Samoon	Associated Consulting Engineers (ACE)	Regional Head	0315-2008133
12	Ghulam Mohiuddin Mughal	Irrigation Department	Executive Engineer	0300-3066693
13	Sardar Muhammad Kakar	Associated Consulting Engineers (ACE)	Team Leader	0333-2211179
14	Rubina Aziz	Associated Consulting Engineers (ACE)	Sociologist	0333-4119410
15	Attaullah	Associated Consulting Engineers (ACE)	Ecologist	0331-8480862
16	Muhammad Ramzan	-	Landlord	0321-3060993
17	Ghulam Rasool	-	Landlord	0321-3448682
18	Ali Muhammad Hingoro	-	Social Worker	0303-2535141
19	Nisar Ahmed Junejo	Irrigation Department	Assistant Executive Engineer	0301-2224091
20	Wasi Ahmed	Irrigation Department	Assistant Executive Engineer	0321-2125313
21	Fareed Ahmed Memon	Irrigation Department, Baghar Sub-division	Assistant Executive Engineer	0300-3692699
22	Azimullah	Irrigation Department	Assistant Executive Engineer	0345-3667605
23	Ali Hassan Behrani	Irrigation Department	Assistant	0321-3713850
24	Eijaz	DACREP	Assistant	0301-3618174
25	Shafi Muhammad	Irrigation Department	Pesh Imam	0322-2028817
26	Ghulam Abbas	Irrigation Department	Sub-Engineer	0312-3750310
27	Ghulam Rasool	-	Landlord	0302-2704917
28	Abdul Rasool	-	Landlord	-
29	Muharram Solangi	-	Landlord	-
30	Khamiso Khan Shar	Education Department	Teacher	0321-2874887
31	Ghulam Muhammad Shar	Education Department	Teacher	0321-3718366
32	Angario Samo	-	Landlord	-
33	Manzoor Ali Soomro	-	Landlord	03113639360
34	Mir Ali Solangi	Irrigation Department	Darogo	0321-3473460
35	Ziarat Hussain	-	Landlord	0324-3091170
36	Nasir Ahmed	Irrigation Department	Darogo	0321-3275113
37	Asif Ali Siddiqui	Irrigation Department	Darogo	0320-4672110

Sr. Nr.	Name of the Participant	Organization	Designation	Contact Number
38	Sagheer Ahmed Walhari	Irrigation Department	Sub-Engineer	0321-3718921
39	Tanveer Ahmed Walhari	Irrigation Department	Sub-Engineer	0321-3288828
40	Shanker	Irrigation Department	Clerk	0342-3341732
41	A. Sattar Bahrani	Irrigation Department	Sub-Engineer	0321-2467274
42	A.Khalique Soomro	-	Landlord	0321-3872926
43	Nazir Ahmed Walhari	-	Landlord ,BU Bund	0333-2722725
44	Hyder Ali	Irrigation Department	-	0321-2635921
45	Asif Ali Solangi	Irrigation Department	-	0322-8500137
46	M. Yakoob Jalbani	-	-	0310-3013910
47	Khan Muhammad	Irrigation Department	Clerk	0321-3281926
48	Muhammad Essa	Irrigation Department	Naib Qasid	0321-8968620
49	Haji Mallah	Irrigation Department	-	0322-3081545
50	Muhammad Suleman	Irrigation Department	Darogo	0333-2594180
51	Akram Khan	Irrigation Department	Darogo	0300-2952651
52	M. Ilyas	-	Landlord	0321-8734109
53	M. Hussain Katyar	APCA, Thatta	Jr. Clerk	0321-3160171
54	Abdul Hameed Shaikh	APCA, Thatta	Jr. Clerk	0321-3711342
55	Farooq Memon	Associated Consulting Engineers (ACE)	Environmental Engineer	0300-3120793
56	Sajid Abbas	Irrigation Department	Assistant Executive Engineer	0300-8376509
57	Kashif Channa	Livestock and Fisheries Department	Assistant Warden (Fisheries)	0312-2652144
58	Adnan Khalid Soomro	Livestock and Fisheries Department	Assistant Warden (Fisheries)	0300-3092811
59	Fareed A. Memon	Irrigation Department	Executive Engineer	0300-3049279
60	Abdul Qadir Palijo	Irrigation Department	Superintendent Engineer	0300-8258091
61	Ghukam Mohiuddin Soomro	-	Landlord	0301-2960926
62	Ghulam Mustafa Memon	Irrigation Department	Sub-Engineer	0321-3063297
63	Muneer Ahmed	Associated Consulting Engineers (ACE)	Environmental Engineer	0333-7037134
64	Javed Ali	Associated Consulting Engineers (ACE)	Computer Systems Incharge	0314-2767722
65	Naeem Samoon	Associated Consulting Engineers (ACE)	Senior Environmentalist	0312-3945753

3.9 Findings of 2nd Round Consultation Workshop

Khuda Bux Social Mobilizer: He expressed concern that in development works; advocacy campaigns are not carried out to inform the local people about the project objectives and involving them in the project cycle.

He pointed out that the districts of Thatta and Sujawal are vulnerable to the effects of climate change like floods and drought. He was glad that a project has been launched to mitigate the effects of these climatic disasters.

He pointed out that without community participation development can never be sustainable. He questioned whether people residing near proposed dam sites have been consulted by the consultant team?

He inquired that how it will be ensured that mitigation measures mentioned in the environment assessment reports are implemented by the Contractor.

He proposed that stone pitching be carried out along PB bund so that people residing in nearby villages are protected from the flood.

Response of DACREP Consultant and SID: The DACREP Consultant team has carried out detailed primary stakeholder consultation at SH, BU, Indo and MS bund the details of which are provided in the ESIA document.

Detailed environmental and social survey for proposed small dams has not been started by the team as yet. Along with other members the team comprises of two male sociologists and a female gender specialist. They will carry out detailed consultation sessions both with the male and female stakeholders during the environmental and social survey of the proposed small dams.

To ensure the implementation of the mitigation measures mentioned an institutional arrangement is proposed in the ESMF/RPF for transparent and effective implementation of the ESMF/RPF and ESIA. Different institutions will be involved in the implementation of the ESMP having different roles. The Contractor's environmental team will be responsible for implementation of the mitigation measures. They will be supervised by the project implementation consultants. PMT will hire environmental and social experts who will monitor the performance of the consultant's environmental team. In addition third party monitoring will also be carried out to check environmental compliance status. With participation of large number of institutions there is transparency.

Contractor staff will be strictly prohibited from entering forests and causing cutting of trees there. The proponent is well aware of the need to carry out pitching work along PB bund in view of its vulnerability to floods and it has been included in the scope of works under SRP.

Abdul Khalique Soomro Landlord: He pointed out that PB Bund was heavily damaged during the floods. He questioned whether pitching along PB bund has been included in the proposed works under SRP?

He also pointed out that 'Landhi' (flood monitoring stations established along the Indus river bund) play an important role in flood monitoring. Unfortunately in the past no maintenance work was carried out on these structures. He suggested that additional landhis be constructed along bunds.

He raised the concern that Keenjhar Lake is being contaminated by discharge of untreated wastewater. He proposed to take measures to prevent discharge of untreated wastewater into Keenjhar Lake.

Response of SRP Consultant and SID: The Superintendent Engineer explained in detail all bunds below Kotri Barrage which have been damaged during 2010 floods have been included under the scope of works which also includes PB Bund. Also previously established flood monitoring stations will be rehabilitated and more flood monitoring stations will be established along Indus River bunds.

His concerns regarding deterioration of water quality in Keenjhar Lake have been noted. Moreover a proposal for the activation of Hadero Lake has been sent for approval.

Ghulam Mohiuddin Soomro Landlord: He pointed out that Monarki bund was damaged during 2010 floods. Can the irrigation officials explain the reason for the damage to Monarki bund?

Response of SRP Consultant and SID: The quality of steel plating carried out at Monarki bund was of good quality which is evident from the fact that those portions of the bund where steel plating was carried out resisted the 2010 floods. The steel plating got damaged in some portions due to corrosion of steel plates accelerated by high concentration of salt in the soil constituting the bund.

Ali Muhammad Hingoro Landlord: He pointed out that he belongs to Ghora Bari which is near to BU bund. Along the bund, there are access routes which are used by the locals during their daily routine. It is proposed that rehabilitation of these access routes be included in the scope of works.

The purpose of this project is to enhance the environmental resistance to climatic disasters. Will tree plantation be carried out in this project to achieve this objective?

Response of SRP Consultant and SID: In reaches of the bunds where stone pitching/ widening works are proposed your proposal for repair/maintenance of access ramp will also be included. Tree plantation has been proposed in the ESMP. For every cut down tree five trees will be planted by the contractor.

Ghulam Rasool Dal Teacher: He proposed that repair/maintenance of access routes along bund is included in the scope of works.

Response of SRP Consultant and SID: In reaches of the bunds where stone pitching/ widening works, the SID ensured that this proposal for repair/maintenance of access ramp will also be included.

The reports of Disclosure / Consultative workshop were published next day in local newspapers Ummat, Front Line, Kalyan, Dunya, Pak, Halchal and Awami Aawaz.

4. COMPENSATION, RELOCATION AND INCOME RESTORATION

4.1 General

On the basis of the findings of the Census Survey; and adopting the legal and policy framework of Government of Pakistan & World Bank Guidelines, Abbreviated Resettlement Action Plan for the sub-projects has been prepared. The Abbreviated Resettlement Action Plan focuses on providing assistance/compensation for the lost assets due to dislocation and suggests measures to restore their livelihoods to former living standards of the PAPs.

4.2 Relocation Options

Entitlement provisions for affected persons for losing their houses, structures and sources of income will include under the entitlement matrix according to the project ESMF/RPF. The project team has reviewed explored various potential resettlement options for the project affectees. The team also looked at possible settlements out of the embankments and inners side of the Indus River, as some local residents have suggested relocating them in Katcha (riverine area) but this option is not feasible as the risk of flood cannot be ignored in future. Therefore; this option was ignored and some other options were discussed with the communities as given in the following **Table 4.1**.

The Project will adopt a combination of resettlement approaches. But all resettlement options, requests and agreement will be subject to careful technical assessment, review, consultation and agreement with the concerned communities.

Table 4.1: Key Resettlement Options

Option	Strategies
Community-based Relocation to Sites in Upper Elevation or on suitable location	Relocation to Sites in Upper Elevation or the areas where settlement exist (if the already settled communities have no objection) within close vicinity of the sub-project area;

Option	Strategies
	Relocation to sites of their own choices in higher elevations within close vicinity of the sub-project area.
Self-managed Relocation to “other parts of the Thatta District”	<p>Self-managed individual and/or families to identify destination and or site in the close vicinity;</p> <p>Project will pay all eligible compensation (determined in the eligibility and entitlement matrix) and benefits prior to relocation;</p>

4.3 Compensation for Affected Assets

As all the structures are built at government land and almost owners of the houses, shops/cabins and other structures are squatters/Informal Settlers. Data regarding structures/houses has been collected through physical inspection and measurement of the structures along with its category. A single unit house may consist of more than one room, veranda and shed/kitchen etc. All the 19 structures are scattered and located along the embankments. Details of structures are given in **Annex-A**. In this regard compensation as admissible to squatters/Informal settlers in line with World Bank Policy will be provided to affected persons for shifting to any suitable place.



5. INSTITUTIONAL ARRANGEMENTS

Organizational structure required for implementation of Abbreviated Resettlement Action Plan of the proposed project is given below. The roles and responsibilities of the various role players during the project defined in this section.

5.1 Project Management Responsibilities

Implementation of the ARAP will be responsibility of the ESMU of PMT SRP. The PMT shall engage full time technical staff capable of carrying out the monitoring activities as proposed in the project ESMF/RPF.

PISSC in coordination with ESMU-PMT will carry out monitoring activities related to the project during the construction phase by using check lists and notify the Contractor of any violations of the ARAP, check the progress reports, advise the client and contractor regarding any violations which require further action, and maintain a record of events and surveys for reference.

In addition, ESMEC as independent consultants will annually monitor the environmental and social aspects of ESMP and ARAP/RAP implementation including those associated with the Contractor's activities as and when required.

The overall responsibility for ESMP and ARAP/RAP implementation under SRP project will rest with the Project Management Team (PMT), Irrigation Department Government of Sindh to be headed by a Project Director. The PD is supported by Additional Director Dams, Additional Director Bunds/Flood Levees, Additional Director Coordination and Technical Assistant. In addition, the PMT will be supported during Environmental and Social Management Plan (ESMP) and Resettlement Action plan (RAP) implementation by Environmental and Social Management Unit (ESMU) to be established within PMT and Project Implementation Support and Supervision Consultant (PISSC) respectively. The specific responsibilities of the institutions involved in the ESMP and RAP implementation are shown in the **Figure 5.1** and described below.

5.2 Project Management Team

The overall responsibility for the supervision of ESMP and RAP will rest with the Project Management Team (PMT) under Irrigation Department that will act as apex body of the project to take care of Social/Gender and environmental issues and to take policy decisions at project level. An Environmental and Social Management Unit (ESMU) shall be established within PMU under the supervision of Additional Director Coordination and Technical Assistant (AD). Key positions within the ESMU shall include: Environment Specialist; Social and Resettlement Specialist; Gender Specialist; and Ecological specialists.

The ESMU shall be responsible for supervision of implementing and monitoring the ESMP and RAP. The Staff of ESMU shall be answerable to the Project Director (PD) SRP. The ESMU shall be responsible for the monitoring defined in the ESMP and RAP as part of their overall monitoring of the social and environmental management.

5.3 Project Implementation Support & Supervision Consultant (PISSC)

The Project Implementation Support and Supervision Consultant (PISSC) is to be engaged by the project proponent and shall be responsible for day to day monitoring of the ESMP and RAP on behalf of the Client (PMT) during execution of the Civil Works for sub-projects under the SRP and shall submit periodic reports to the PMT regarding the ESMP and RAP implementation status. The ESMPs prepared or to be prepared shall be part of the Contract documents. In general the PISSC has the following responsibilities pertaining to the environmental aspects of the project:

- Prepare the required documents, review and update the available documents relevant to the Project (including ESA, ESMPs and RAP) and those to be prepared by the Contractor.
- Monitor the implementation of ESMPs and RAP on a regular basis during execution of civil works by the Contractor. An Environmental and Social Unit (ESU) within PISSC shall be established and include the following key positions:
 - a. Environmental Specialist
 - b. Environmental Inspector(s)
 - c. Social and Resettlement Specialist
 - d. Gender Specialist
 - e. Assistant Sociologist (s)

The ESU of PISSC shall be responsible for monitoring the contractor's compliance with the ESMPs and RAPs. The role of the ESU-PISSC shall day to day monitoring of the provisions of the ESMP/RAP with the assistance of social and environmental staff of the Contractor and reporting any non-compliances to the PISSC Chief Engineering and Resident Engineer as well as PMT.

5.4 Environmental/Social Monitoring and Evaluation (ESMEC) Consultant

The ESMEC shall be an independent body responsible for external environmental monitoring for the ARAP/RAP on behalf of PMT. The ESMEC will have environmental and social experts and shall carryout intermittent third party monitoring of the project as well as ARAP/RAP.

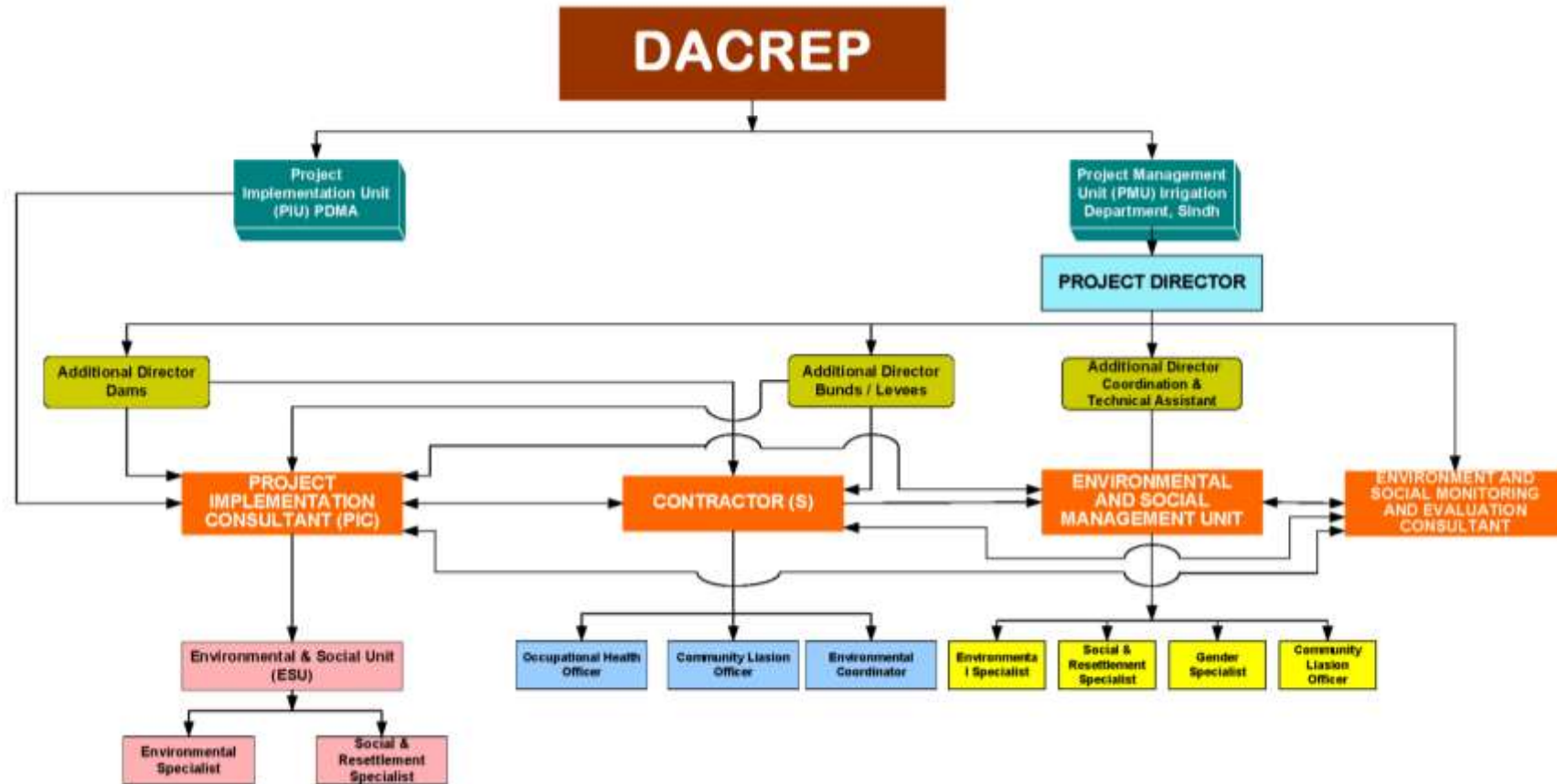


Figure 5: Institutional Arrangement for Implementation of ARAP / RAP



5.5 The Contractor

The Contractor will be responsible for the on-field implementation of the ESMP as well as maintaining responsibility for environmental protection liabilities under Sindh Environmental Protection Act (SEPA), 2014, World Bank safeguard policies, ESMF/RPF, sub-project specific ESMPs and other applicable national as well as provincial policies and regulations.

The Contractor will also be responsible for training his crews in all aspects and implementation of the ESMP. The bid should include an environmental and social mitigation budget as part of the engineering costs of the respective works. The key positions to be filled within the contractor's staff for implementation of the ESMP include: Environmental Coordinator(s); Occupational Health and Safety (OHS) Officer; and Community Liaison Officer.

5.6 Grievance Redressal / Compensation Mechanism

A Grievance Redressal Mechanism has been devised in the project ESMF/RPF which is providing a mechanism to mediate conflict and cut down on lengthy litigation, which often delays development projects. It will also provide a forum to people who might have objections or concerns about their compensation raise their objections and through conflict resolution address their issues adequately.



6. RESETTLEMENT BUDGET AND FINANCING

6.1 Introduction

This section gives the glimpse of compensation and assistance cost estimates for the buildings /structures, income disturbance and shifting for the affected persons. On the basis of the cost estimation, after consultation with the affected persons and mutually agreed/prevaling rates, compensation cost includes the cost of building /structures etc., livelihood assistance in shape of disturbance allowance for three months, transfer and subsistence allowance and assistance in shape of shifting charges.

6.2 Resettlement Budget

Total estimated cost for the implementation of this Resettlement Action Plan is expected to be in the amount of **PKR: 1,355,045 (1.355 million)**. The details of estimated resettlement budget are given below in Table-6.

Table 6: Detailed Cost Estimates for ARAP Implementation

Sr. Nr.	Category / Type of Structure or Assets	Estimated Cost (in PKR)
1	Crops compensation	707,245
2	Residential Structures/Animal Sheds	194000
3	Public/Community Structures	60,400
4	Business Structures	393,400
Total Estimated Cost		1,355,045





7. IMPLEMENTATION SCHEDULE

7.1 Introduction

A cut-off-date has already been announced as 7th January, 2016 during the stakeholders' consultation process. After final identification of PAPs list, the necessary assistance shall be paid by the concerned PMT SRP. The civil works contractor shall not be mobilized prior to successful implementation of ARAP in concurrence with World Bank polices. PMT of Sindh Irrigation Department reserves the right of demolishing such unauthorized structures without paying any compensation simply by serving a notice of eviction for a maximum of two weeks, provided it gets established that those structures were constructed in the Col after the "cut-off-date".

The tentative implementation schedule reflects the sequencing and duration of activities planned, the schedule recognizes that activities will be taking place simultaneously and allows within reason for staggered starts. The implementation schedule is designed to avoid conflicts, but as a contingency, time is allowed for mediation, and the impact this may have no payments is recognized in a certain period allowed for grievance resolution process. Nonetheless, in the spirit of the ARAP, the aim will be to have the process finished within specified time frame.

7.2 Implementation Schedule

The basic resettlement related steps for preparation and implementation of this Abbreviated Resettlement Action Plan are summarized in Figure 6.

Sr. Nr.	Activity/Scope	Responsibility	Time Frame (in Months)														
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Preparation of draft Abbreviated Resettlement Action Plan and submit to SID	DACREP Consultant	█														
2	Preparation of final Abbreviated Resettlement Action Plan after incorporating comments.	DACREP Consultant		█													
3	Establishment of Social Task Force	PMU			█												
4	Assessment of loss if required and inventory preparation	PMU and PIC				█											
5	Grievance Resolution	PMU and PIC					█										
6	Implementation of ARP	PMU and PIC						█									
7	Assistance/ Disbursement of Compensation	PMU and PIC							█								
8	Award of contract for rehabilitation work	PMU								█							
9	Possession of land/settlement areas making clearance	PMU, PIC and Contractor									█						
10	Demolition of affected structures and assets, after the award of contract	Contractor										█	█	█	█	█	█
11	Rehabilitation works begin	Contractor											█	█	█	█	█
12	Monitoring and Evaluation	ESMECs															█

Figure 6: Implementation Schedule





Abbreviated Resettlement Action Plan (ARAP)
for SH, BH, INDO, and MS Embankments of Indus River



8. MONITORING AND EVALUATION

8.1 Introduction

Monitoring involves periodic checking to ascertain whether activities are progressing as per schedule while evaluation is essentially a summing up, at the end of the project assessment at the actual achievement in comparison to those aimed at during the implementation. ARAP implementation will be monitored both internally and externally.

8.2 ARAP Implementation

The Abbreviated Resettlement Action (ARAP) shall be implemented by the PMT with the support of PISSC and ESMECs.

8.3 Monitoring of ARAP

As discussed in the ESMF/RPF, the objective of monitoring and reporting of RAP implementation is to identify implementation problems and successes as early as possible so that the implementation arrangements can be adjusted. Two types of monitoring are suggested in the ESMF/RPF one is internal and the other is external monitoring. The internal monitoring is to be carried out by the Project Administration i.e. the Social and Resettlement Specialist of PMT, ESMU-PMU and to be assisted by the PISSC. The external/independent monitoring is to be carried out by Environmental and Social Monitoring and Evaluation Consultants (ESMEC) to be hired by the PMT for the project.

Monthly, quarterly and annual RAP implementation reports will be produced by the ESMU-of PMT and PISSC while ESMEC will be responsible to carry out regular external monitoring beginning at about the same time as implementation activities and continuing until the end of the project. It may continue even beyond project completion period if the standards of living of all PAPs have not at least been restored.

8.4 Internal Monitoring

PMT of Sindh Irrigation Department being the proponent of the project will be responsible for interval monitoring through its ESMU of PMT will prepare monthly progress report on the implementation of this ARAP. In addition to that, project will need to have a Resettlement Specialist to provide necessary technical assistance and monitor the implementation the ARAP activities. Monitoring framework is given in the ESMF/RPF of the project.



8.5 External Monitoring

External monitoring will be initiated the beginning of the ARAP implementation by the Environment/Social Monitoring and Evaluation Consultants (ESMECs) to be hired by PMT as independent consultant, and its results will be communicated to all concerned APs, the PMT and the Bank through quarterly and annual reports. If required by the Client, monthly reports may be produced. The external monitoring will be done through verifying the internal ARAP implementation reports of the ESMU of PMT and PISSC, interviewing a random sample of APs in the field, observing the functioning of the resettlement operation at all levels, to assess its effectiveness and compliance with the ARAP, checking the type of grievance issues and the functioning of grievance redress mechanisms, surveying standards of living of the APs and advising PMT regarding possible improvements in implementation of the RAP.

The ESMECs will also carry out a post implementation evaluation of the ARAP about after completion of its implementation. The compelling reason for this study is to find out if the objective of the ARAP has been attained or not. The benchmark data of socioeconomic survey of severely affected APs conducted during the preparation of the ARAP will be used to compare the pre and post subproject conditions. The ESMEC will recommend appropriate supplemental assistance for the APs. The outcome of the study will show if the objectives of the RAPs have been attained or not.

8.6 Grievances Redress Mechanism (GRM)

The communities and individuals who believe that they are adversely affected by the World Bank (WB) financed project may submit complaints under established project-level grievance redress mechanism (GRM) which is given in the ESMF/RPF.

8.7 Reporting

Monthly, quarterly and annual ARAP implementation reports will be produced by the ESMU of PMT and PISSC while ESMEC will be responsible to carry out regular external monitoring.



Abbreviated Resettlement Action Plan (ARAP)
for SH, BH, INDO, and MS Embankments of Indus River

ANNEX-A:

Sr. No.	Approximate Referenced Mile	Name of Head of household	Father's name	CNIC #	Tribe	Family Size			Type and No of Impacted Assets/Structure						Location	Entitled Cost Per (Sq.) PKR	Subsistence Allowance Per Affectee whose house is to be relocated (PKR: 15000/Month & Total for 3 Months)	Relocation Cost per Affectee	Total Resettlement Cost		
						Male	Female	Total	No and Type of Rooms Residential			Public/Community Assets		Shops							
									Brick Masonry Huts	Animal Shed	Approximate Area (Sq.)	Wooden Huts	Approximate Area (Sq.ft)	Shops						Approximate Area (Sq.ft)	
1	MS Bund 46/6	Gul Hassan	Somar Khan	Not available	Bhurgari	0	0	5	0	2	2	1200	0	0	0	0	Inner Slope	120	45,000	5,000	194,000
2	MS Bund 48/0	Ghulam	Maso	496-56-053142	Sahro	1	3	6	0	0	0	0	0	0	1	300	Inner Slope	120		5,000	41,000
3	MS Bund 48/1	Mosque				0	0	7	0	0	0	0	1	210	0	0	Inner Slope	120		5,000	30,200
4	MS Bund 48/3	Mashooq Ali	Ramzan	41402-3228428-1	Khoso	2	4	8	0	0	0	0	0	0	1	210	Inner Slope	120		5,000	30,200
5	MS Bund 48/4	Kirshan Jee	Khetujee	44302-5126341-1	Thakur	3	3	9	0	0	0	0	0	0	1	210	Inner Slope	120		5,000	30,200
6	MS Bund 48/5	Noor Mohammad	Hamzoo	41402-2358338-3	Khoso	2	4	10	0	0	0	0	0	0	1	210	Inner Slope	120		5,000	30,200
7	MS Bund 48/4	Mosque(Mouli.G.M ustafa	Ghulam Mohammad	Not available	Khoso	2	5	11	0	0	0	0	1	210	0	0	Inner Slope	120		5,000	30,200
8	MS Bund 49/0	Qadir Dino Shah	Sajan Shah	41404-3113289-5	Syed	3	6	12	0	0	0	0	0	0	2	420	Inner Slope	120		5,000	55,400
9	MS Bund 49/1	Rajab Shah	Umeed Ali Shah	Not available	Syed	4	5	13	0	0	0	0	0	0	2	420	Inner Slope	120		5,000	55,400
10	MS Bund 49/2	Allah Dino	Bachal Shah	41402-7101329-7	Syed	4	6	14	0	0	0	0	0	0	1	210	Inner Slope	120		5,000	30,200
11	MS Bund 49/3	Hassan	Mir Mohammad	41402-7468336-9	Khoso	1	3	15	0	0	0	0	0	0	1	210	Inner Slope	120		5,000	30,200
12	MS Bund 49/4	Ali Mohammad Shah	Jalal Shah	Not available	Syed	2	4	16	0	0	0	0	0	0	1	210	Inner Slope	120		5,000	30,200
13	MS Bund 49/5	Sain Dino Shah	Allah Dino Shah	41402-4740892-9	Syed	1	2	17	0	0	0	0	0	0	1	210	Inner Slope	120		5,000	30,200
14	MS Bund 49/6	Gulab Singh	Bhupa Singh	44302-2642283-1	Hindu	2	4	18	0	0	0	0	0	0	1	210	Inner Slope	120		5,000	30,200
Total						27	49	161	-	2	2	1,200	2	420	13	2,820		45,000		647,800	