

**SINDH BARRAGES
IMPROVEMENT PROJECT
(SBIP)**

Social Management Framework

**Updated in December 2017
for Additional Financing to
Rehabilitate Sukkur Barrage**

**Sindh Irrigation Department
Government of Sindh**

SINDH BARRAGES IMPROVEMENT PROJECT

Social Management Framework

List of Abbreviations

Abbreviation	Definition
AF	Additional Financing
BHU	Basic Health Unit
CGRM	Community Grievance Redress Mechanism
CoI	Corridor of Impact
CSC	Construction Supervision Consultant
DC	Deputy Commissioner
ESIA	Environmental and Social Impact Assessment
ESMP	Environment and Social Management Plan
ESU	Environment and Social Unit
GoSindh	Government of Sindh
GRM	Grievance Redress Mechanism
ID	Irrigation Department (Government of Sindh)
LAA	Land Acquisition Act (1894)
MEC	Monitoring and Evaluation Consultants
NGO	Non-Governmental Organisation
NRP	National Resettlement Policy Pakistan
O&M	Operation and Maintenance
OP 4.12	World Bank Operation Policy 4.12 on Involuntary Resettlement
P&D	Planning and Development
PAPs	Project Affected Persons
PCMU	Project Coordination and Monitoring Unit
PGRM	Procurement Grievance Redress Mechanism
PMO	Project Management Office
PSC	Project Steering Committee
RAP	Resettlement Action Plan
RoW	Right of Way
RPF	Resettlement Policy Framework
S/he	She or he
SAP	Social Action Plan
SMF	Social Management Framework
SID	Sindh Irrigation Department
SIDA	Sindh Irrigation and Drainage Authority
SBIP	Sindh Barrages Improvement Project
WSIP	Water Sector Improvement Project

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SINDH BARRAGES IMPROVEMENT PROJECT
Social Management Framework
Executive Summary

Introduction. Guddu Barrage, located in the district of Kashmore in the north of Sindh Province, was constructed during 1957-1962 and has shown deterioration in the superstructure, weakness of barrage gates and corrosion of head regulator gates. In addition, the current configuration of the barrage is resulting in sedimentation upstream of the barrage which has reduced the capacity of the barrage to pass flood waters resultantly sediment being conveyed to off taking canals affecting their capacity to carry irrigation supplies.

In order to address these issues, a feasibility study for the rehabilitation of Guddu Barrage was recommended under the Sindh Water Sector Improvement Project (WSIP Phase 1), which aims to improve the efficiency and effectiveness of irrigation water distribution in Sindh. WSIP Phase 1 is funded jointly by the Government of Sindh (GoSindh) and the World Bank (WB) and implemented by Irrigation Department (ID). As a result of the feasibility study, Sindh Barrages Improvement Project (SBIP) was developed to rehabilitate Guddu Barrage. SBIP is also jointly funded by GoSindh and WB and implemented by ID.

During SBIP feasibility phase, Environment and Social Management Plan (ESMP) and Social Management Framework (SMF) were prepared for Guddu Barrage rehabilitation. SMF is to provide overall planning and implementing guidance to address social issues that would arise during the course of the project planning and implementation, including possible land acquisition and resettlement, disruption of water supply due to possible extended canal closure and overall communication with stakeholders. The original SMF was composed of (a) Resettlement Policy Framework (RPF), (b) Social Action Plan (SAP), and (c) a Communication Strategy. SBIP has been under implementation since 2015.

In 2017, GoSindh requested WB for rehabilitation of Sukkur Barrage, which is 85 years old and is located near Sukkur and Rohri towns. The rehabilitation was prosed as Additional Financing (AF) to the on-going SBIP. The SMF, therefore, has been updated for the proposed AF. The key revisions include: (a) updating RPF, including revised entitlement matrix which is consistent with the recently updated WSIP matrix and (b) upgrading SAP to a standalone component (new Component E – Integrated Riverine Management Plan) under the proposed AF, which has resulted in a removal of SAP from this SMF.

Civil Work under the Original Project: Civil work for Guddu Barrage rehabilitation comprises mainly: (a) replacement of barrage gates and minor structural repair to regulators, (b) reconfiguration of left pocket divide wall, (c) Electromechanical equipment replacement, (d) River Training Works, (e) Renovation and construction of Staff and O&M Offices / control rooms.

A labour camp is constructed to accommodate up to 200 staff. The Contractor shall also establish a construction camp (including storage and batching plant), offices and a workshop. Following completion of the project, the Contractor shall hand over the workshop to the Client. The staff colony will be constructed on the right bank of Guddu Barrage. Replacement works will include the replacement of gates and hoist gears and associated electrical switch gear along with minor civil works including patching concrete over exposed reinforcement, resealing of joints and minor repairs to cracks on bridge piers. Gates on the head regulators shall be replaced one at a time, and/or during the canal closure period, leaving the remaining gates operational to reduce disturbance of irrigation supplies. Regarding the reconfiguration of divide wall, it is proposed that before the construction of Left Pocket Divide Wall, the existing divide wall in front of Rainee Canal will be removed by

using waterborne plant during the 2nd year of construction. The site will be restored after completion of construction works. During the project design, it has been identified by the project team that there may be a possibility of private land acquisition or resettlement due to project activities.

Civil Work under the Proposed AF. Under the proposed AF, the rehabilitation of Sukkur Barrage includes: (a) civil works to improve the strength of the barrage structure to enhance the life of the barrage; (b) mechanical works for improvement of gate operations for improved flood protection; (c) electrical works and monitoring systems for improved reliable operations of the barrage; (d) removal of sediments from the upstream of the barrage to prevent conveyance of sedimentation to the canals and improved flood control; and (e) removal of sediments from the heavily silted up right bank canals for improved irrigation flows.

No land acquisition or resettlement is anticipated under the current design. Desilting of Sukkur Barrage would remove about 1.5 million m³ of sediments from left and right pockets. About 50% of the excavated materials will be placed in river, while the remaining will be transported and placed on downstream left bank placement areas. There is no cultivation or resident on these areas. In the upstream, there are middle bank island and silt-formed outer bank bela (shoal) and left bank bela. These three areas are cultivated by 40 squatters (about 170 acres), 5 of whom live on the island with their families. The de-silting, however, would have no impact on their livelihoods. A small piece of left bank bela will be removed, but this piece is not cultivated. De-silting will be carried out around the island, thus, the middle bank island and outer bank bela will remain intact. Because squatters and residents are accessing the island or the outer bank bela by boat, contractor/PMO will provide their safe access either from the Barrage or through a dedicated access route marked by buoys. During the AF implementation, a location study may, however, identify removal of middle bank island and/or outer bank bela required. If so, an abbreviated RAP will be prepared according to the updated RPF.

Civil work also includes de-silting of about 4.24 million m³ of sediments from three right bank canals: 25km from canal offtake for Rice canal and 7km from offtakes for Dadu and North Western canals. Because the first 7km of canal embankments are encroached by about 300 households, de-silting work will be confined within canals during regular closure to minimize social impact. The materials will be transported to downstream right bank placement area. There is no cultivation or resident on the area. In Rice canal, the materials after first 7km from offtake will be used to strengthen the embankment, as there is no encroachment.

Socio-economic Baseline under the Original Project: The project area of Guddu Barrage rehabilitation (original project) comprises districts of Kashmore and Ghotki (parts). The estimated population of the project area is 37,410. They live in joint family units. Major tribes are Mazari (50 percent) and Mirani (30 percent). Sindhi is the primary languages in the project area, while the literacy rate is as low as 6 percent. Tribal loyalties are strong in the area, and tribal leaders in the project and surrounding area, many of whom are politicians, are well respected and influential amongst the population. The area was troubled by a conflict between the Mazari and neighbouring Khosa tribes in 2010 and 2011, but following collaboration between the tribal leaders at the end of 2011, the situation has improved.

The major employment in the area is from agriculture sector and as general labourers. As a result of industry on the right bank of Guddu Barrage, a large number of unskilled labourers are available within the project and surrounding area. The education and income level in the project and surrounding area is typically low.

Agriculture is commonly practiced in the project and surrounding area, with a number of small farmers working on owned or rented land growing sugarcane, rice, cotton and vegetables as well as grazing livestock. Women and girls are commonly involved in all aspects of agriculture.

Access to social amenities in the project and surrounding area is low. Electricity supply is available however access to gas supply, drinking water (other than from ground water pumps installed by communities), sewerage, drainage and health care facilities is very limited. A number of schools are available in the project and surrounding area but are generally lacking staff and/or resources.

The command area of the Ghotki and Desert Pat Feeder Canals depend on Guddu Barrage for the supply of irrigation water year round, other than for a scheduled annual maintenance period of up to four weeks. As the ground water in the command area of Desert Pat Feeder is saline and not suitable for drinking, much of the command area also depends on the canal water as their source of drinking water. Guddu Barrage also maintains a supply of irrigation water to the command area of Beghari Sindh Feeder Canal from May to October only.

Socio-economic Baseline under the Proposed AF. The project area for Sukkur Barrage rehabilitation under the proposed AF is Sukkur and Rohri towns with a total population of 1.4 million. Sukkur is the third largest city in Sindh Province, after Karachi and Hyderabad. The total gross commanded area (GCA) of Sukkur Barrage is 3.33 million ha (8.24 million acres) in middle and lower Sindh Province, served by the seven off-taking canals: Nara, Khairpur East, Rohri and Khairpur Western Canals on the left bank, while Dadu, Rice and North Western canals on the right bank. In Sukkur and Rohri towns, the biggest segment of population is Sindhi (71%), followed by Muhajir (16%), Pashtoon (3%), Seraiki (1%) and Balochi (1%). Sindhi is the most common language spoken in the command area (96%), and majority of the population are Muslims (96%). According to the socioeconomic survey in the command area, the literacy rate is 36%, and its ratio between male and female is 1.3:1. Primary sources of household income include agriculture (77%), government employment (13%), and labor/daily wage (10%). 58% of these households also have secondary sources of income, such as labor, livestock, and trade. In terms of agriculture, wheat is a dominant crop, followed by cotton, rice and sugarcane. 29% of surveyed villages have orchards, such as dates, mango and banana. In 10 to 15 km radius of Sukkur Barrage, there are three traditional fishing villages of about 500 households. Because of overall reduction in fish in Indus, number of households stopped finishing and depend on labor on farm or at fish ponds.

Updated Resettlement Policy Framework (RPF): Under the original project, the project design team carried out detailed screening and assessment of project potential impacts of land acquisition and resettlement. They indicated that the original project was designed to include rehabilitation and repairing works of the barrage structure and replacement of mechanical works and there would not be any civil works involved. These would not require any land acquisition or resettlement. Therefore, a RPF was prepared in compliance with World Bank policy to guide resettlement planning for any unanticipated land acquisition.

The RPF is prepared in compliance with the laws of Pakistan and the Bank's safeguards policy on involuntary resettlement. In the event that involuntary resettlement issues are identified, Resettlement Action Plans (RAPs) will be prepared consistent with this policy framework and will be submitted to the Bank for approval.

RPF specifies that implementation of any works requiring a RAP shall not commence before necessary measures for resettlement and compensation are in place according to steps

identified in this RPF. These measures will include provision for compensation and other assistance required for relocation, prior to displacement, and preparation and provision of resettlement sites with adequate facilities, where required and livelihood restoration measures. RPF also provides details of eligibility criteria, categories of affected persons and methods to establish cut-off dates. An entitlement matrix has been included in RPF to elaborate the types of losses, application, definition of entitled person and entitlement policy. Calculation for compensation payment and provision of different types of allowance i.e. transportation, livelihood, and vulnerable allowances has been specified in RPF.

Following completion of the final designs, a re-assessment of resettlement requirements shall be required. Should this assessment identify any involuntary resettlement, WB Operational Policy (OP) 4.12 calls for the preparation of individual RAPs that must be consistent with this RPF. RPF sets out complete procedures and guidelines for screening of involuntary resettlement and preparation and approvals for RAPs. Thus far, an abbreviated RAP has been prepared under the original project, for river training works to resettle 16 affected households from embankment. The RAP is under implementation.

Under the proposed AF, the SBIP RPF has been updated, in case land acquisition or resettlement may be required. Planned civil work for Sukkur Barrage rehabilitation does not anticipate land acquisition or resettlement. The revised RPF includes an updated entitlement matrix, which has been made consistent with that of WSIP, which is also carrying out canal rehabilitation in the command areas of Guddu and Sukkur Barrages.

Updated Communication Strategy: A communication strategy was included in SMF and updated for the proposed AF, with objectives to facilitate the project implementation by engaging populations in project and command areas (primary stakeholders) of Guddu and Sukkur Barrages through regular consultations. Government departments, private sector, and NGOs are secondary stakeholders that are important intermediaries in the project delivery process or those who influence or are indirectly affected by the project. Under the original project, government departments include Baluchistan Irrigation Department, as the command area extends to Nasirabad and Jafarabad districts of Baluchistan Province. Communication matrix was developed and updated to include stakeholders for the proposed AF. The matrix specifies information and message to be conveyed, communication means, timings and the corresponding frequency. Under the original project (Guddu Barrage rehabilitation), considering low literacy rate in the project area and diversity of spoken languages in command area (Sindhi, Balochi, Urdu and Siraki), consultation is the most effective means of communication, which also ensures feedback from these populations. Likewise, consultations will be most effective in command areas of Sukkur Barrage. However, the project area is in Sukkur town with higher literacy rate and better access to media, mobile, and internet. The updated Strategy considers use of various media for communication outreach, such as traffic management.

Implementation Arrangements: The PMO established under the Secretary of the Irrigation Department (ID), Government of Sindh monitors and coordinates all project implementation activities under the original project, including implementation of the SMF and the abbreviated RAP. PMO has offices in Karachi and Sukkur. Environment and Social Unit (ESU) has been set up in Sukkur and is responsible for SMF implementation with a dedicated communication specialist to implement the Communication Strategy. The RAP has been prepared and implemented by PMO as per the RFP with support from Construction Supervision Consultant (CSC). The implementation arrangements remain the same for the proposed AF.

Grievance Redress Mechanism: SBIP has developed a Grievance Redress Mechanism (GRM) with procurement and community tracks. While Procurement GRM specifically addresses project-level procurement related complaints, Community GRM (CGRM) handles all other project-related complaints, including the implementation of environment and social safeguards, mainly from communities in project and command areas of Guddu Barrage and other stakeholders. CGRM has established a Complaint Cell to address complaints that may arise from Guddu Barrage rehabilitation at PMO in Sukkur. The Cell is chaired by Deputy Project Director. If a complaint is not resolved locally, it could be escalated to a state-level Grievance Redressal Committee and could further be escalated to the SBIP Project Steering Committee (PSC). CGRM will be expanded to cover the proposed AF.

Monitoring and Evaluation: Monitoring shall be carried out both internally and externally. Internal monitoring will be undertaken by PMO and Project Coordination and Monitoring Unit (PCMU) under Planning and Development Department (PDD). External, third party monitoring is provided by the Monitoring and Evaluation Consultant (MEC) of the Project. During internal monitoring, the information will be collected from the project site and assimilated in the form of a monthly progress report to assess the progress and results of the SMF implementation, and adjust the work progress, where necessary, in case of any delays or problems. The report shall be submitted to the Head of PMO. MEC will be appointed under the project and will have environmental and social experts. It shall carryout intermittent third party monitoring of the implementation of the SMF, any RAP against the proposed programme, and the Environmental and Social Management Plan. The MEC shall complete reports on independent audits, circulated to the PMO, ID, GoSindh, WB and CSC, where appropriate. The evaluation of the MEC shall be in the form of a single final report to be issued to the PMO one year following the completion of civil works on the project. The arrangements remain the same under the proposed AF.

Cost Estimates: The indicative cost estimates for the updated SMF is US\$ 1.5 million for both the original project and the proposed AF.

1. INTRODUCTION

1.1 General

Sindh Barrages Improvement Project (SBIP) is a World Bank financed project, currently focusing on rehabilitation of Guddu Barrage, which was constructed between 1957 and 1962. Major works under the original project include: (a) replacement of barrage gates and canal head regulators, and some structural repairs to enhance the life of the barrage; (b) strengthening and extension of river training works for modification of river flows and for Improved flood protection; and (c) construction of a new left pocket divide wall to prevent conveyance of sedimentation to the canals. Sindh Irrigation Department (SID) is the executing agency of SBIP. It prepared and is implementing Environmental and Social Assessment (ESA) and Social Management Framework (SMF) for Guddu Barrage rehabilitation.

The proposed Additional Financing (AF) is to expand the SBIP scope to also rehabilitate Sukkur Barrage, which is located about 170 km downstream of Guddu Barrage and is near the towns of Sukkur and Rohri in Sindh province. Sukkur Barrage is 85 years old. The AF is to enhance its useful life to safeguard the reliable supply of irrigation water to about 3.33 million ha¹. Major interventions proposed in the AF are: (a) civil works to improve the strength of the barrage structure to enhance the life of the barrage; (b) mechanical works for improvement of gate operations for improved flood protection; (c) electrical works and monitoring systems for improved reliable operations of the barrage; (d) removal of sediments from the upstream of the barrage to prevent conveyance of sedimentation to the canals and improved flood control; and (e) removal of sediments from the heavily silted up right bank canals for improved irrigation flows. This SMF has been updated for the proposed AF.

1.2 Objectives and coverage

The objective of the updated SMF is to provide an overall planning and implementing guidance to address social issues that would arise during the implementation of the original project and the proposed AF, including possible land acquisition and resettlement and overall communication with stakeholders. The SMF complements Environment and Social Management Plans (ESMPs) for both the original project (Guddu Barrage rehabilitation) and the proposed AF (Sukkur Barrage rehabilitation). The updated SMF is composed of revised Resettlement Policy Framework (RPF) and a communication strategy.

SID, in collaboration with the design consultants, carried out detailed screening and assessment of social risks and impacts for both the original project and the proposed AF. While no land acquisition or resettlement was expected under the original project, a RPF was prepared in compliance to the World Bank policy to guide resettlement planning for any unanticipated land acquisition and resettlement impacts during the course of the project implementation. The RPF establishes the resettlement and compensation principles and design criteria, planning requirements and implementation arrangements in such eventualities. The RPF is prepared in compliance with the laws of Pakistan and the Bank's safeguards policy on involuntary resettlement.

¹ The potential command area of Sukkur barrage is about 3.34 million ha, but actual irrigation area is about 3.08 million ha. About 600,000 farming households are directly benefitted by the barrage.

In the event that involuntary resettlement issues are identified, Resettlement Action Plans (RAPs) will be prepared consistent with this policy framework and will be submitted to the Bank for approval.

The SMF also includes communication strategy, which is to increase project awareness, provide key project information, including potential resettlement actions, and establish a feedback mechanism, such as consultations. The original SMF also had Social Action Plan (SAP), which was designed to include proactive interventions to offset potential adverse impacts in the command area with possible extended canal closure in case the barrage rehabilitation works are delayed. Under the proposed AF, SAP has been upgraded as a standalone component (new Component E - Integrated Riverine Management), which will support environment management and social development in the 170km stretch of Indus River between Guddu and Sukkur Barrages. This is a designated Ramsar site, with a significant environmental importance. Activities under this Component will include alternative livelihood development for fishing communities and communication outreach. SAP, therefore, has been removed from the updated SMF.

This framework also describes updated implementation arrangements, project-level Grievance Redress Mechanism (GRM), and cost estimates for SMF implementation.

2. PROJECT DESCRIPTION

This section provides revised project description under the proposed AF, including planned civil works for both the original project and the proposed AF.

2.1 Revised Project Development Objective

With the proposed AF, the project development objective (PDO) will be revised “to improve the reliability and safety of the Guddu and Sukkur barrages and strengthen the Sindh Irrigation Department’s capacity to operate and manage the barrages”. This will be achieved through proposed rehabilitation and modernization measures and additional studies proposed under the proposed AF and the original project. The proposed AF is to safeguard the reliable supply of irrigation water to about 3.34 million ha thus benefitting directly about 0.6 million farm households and about 6 million population.

2.2 Revised Project Components

The revised six components, including two new components, are as follows:

(a) Component A: Rehabilitation of Barrages (USD329 million). This component will support all civil and mechanical works proposed for rehabilitation of the barrages and its associated structures. It also supports implementation of SMF and environmental and social management plans (ESMPs) for both the original project and the proposed AF. The component finances the following civil works:

(i) Guddu Barrage Rehabilitation

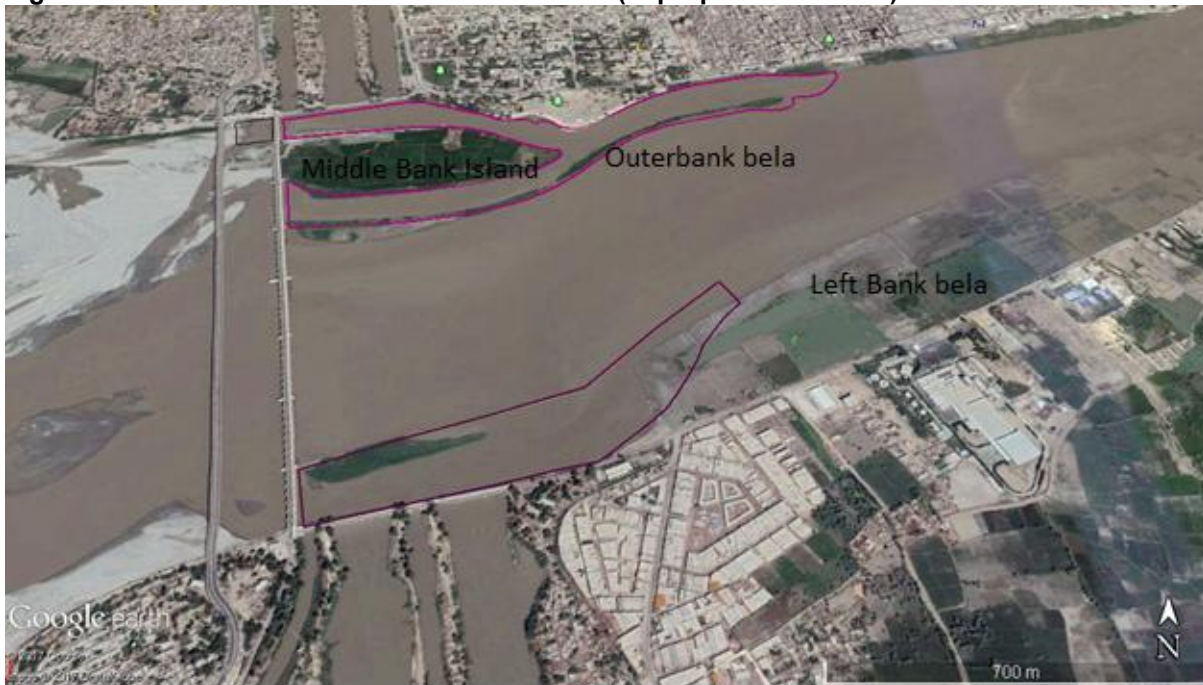
- **Barrage improvements.** The works include gate replacement works to improve the regulation and the flow of the barrage. This includes replacing all 65 main barrage steel gates (the gates are 18.3 m wide and 6.6 m high and weigh 55 tons each), 25 main canal head regulator gates (the gates are 7.3m wide and 3.8m high and weigh 25 tons each) and hoist gears. It also includes providing new standby generators, electrical cabling and switch gears, replacement of barrage lighting, repairs to the barrage lifting bridge and safety barriers.
- **Construction of a new left pocket divide wall.** A 455 m length of new left pocket divide wall will be constructed at gate 7 to control the passage of sediments in to the canals. The length of the wall on upstream of the barrage is 350 m and downstream is 105 m. The existing divide wall located away from the barrage near Raine canal will be no longer required and will be dismantled.
- **Extension of a spur.** The existing river training structure located about 4 km upstream of the barrage will be extended for another 2 km in to the river.
- **Construction of office and staff colony.** A new office, a laboratory, a guest house, 32 residences and associated water supply and sanitation structure and social facilities, including a primary school, a dispensary and a mosque, will be built for the barrage operation staff in the premises of barrage colony site located 200 m away from the right bank of the barrage. In addition some temporary facilities such as construction yard, labor camp will have to be constructed by the construction contractor.

(ii) Sukkur Barrage Rehabilitation

- **Mechanical improvements and Repairs.** The works will include gate repair works to improve the regulation and the flow of the barrage. This includes increasing of Gates Height by 61 cm (2ft); increasing of freeboard for fully opened condition; replacement of Roller Trains, Bottom & Side Seals and other Components; removal of Counterweights and Installation of Required Powerful Lifting Motors; and remote gate operation from Central Control Office and from Gate Deck as well as hand wind facility for manual operation. Detailed list of activities to be carried out under this component are:
 - Barrage Gates:
 - Minor Repairs and Epoxy Coating
 - Increasing of Gates Height by 61 cm (2ft)
 - Increasing of Freeboard for Fully Opened Condition
 - Replacement of Roller Trains, Bottom & Side Seals and other Components.
 - Removal of Counterweights and Installation of Required Powerful Lifting Motors.
 - Remote Gate Operation from Central Control Office and from Gate Deck as well as hand wind facility for manual operation.
 - Canal Head Regulator Gates:
 - Minor Repairs and Epoxy Coating
 - Replacement of moving parts
 - Pontoon Mounted Caisson Gates:
 - for Main Barrage (4 Nrs)
 - For Canal Head Regulators (2 Nrs)
 - Complete replacement of electrical works
- **Repairs to Barrage Structure.** The works included repairs of (i) RCC arches of the barrage at about 200 locations; (ii) minor stone reconstruction of broken stone edges of head regulators, (iii) complete replacement of gate deck flooring, (iv) inspection of foundations and carrying out necessary repairs, and (v) improvement of storm water drainage. Details of works to be carried out under this component will include:
 - Repair works to structure:
 - RCC Arches of Barrage (200 Nrs)
 - Stone Arches of Head Regulators (165 Nrs)
 - Stone Piers, Barrage (128 Nrs) and Head Regulators (110 Nrs)
 - Stone Filling above Arches of Barrage and Head Regulators
 - Complete Replacement of Gate Deck Flooring
 - RCC Jacketing of Canal Head Regulator Piers
 - Isolation of weir foundations for inspection and required repairs.
 - Road works:
 - Replacement of Road Surface and Stormwater Drainage.
 - Foundation and inspection repairs
 - Isolation of foundation for Inspection
 - Repairs, as required.

- **Desilting of the Barrage.** About 1.5 million m³ of sediments will be removed from both the left and right pockets of the barrage through dredging (about 0.75 million m³) during high flow season and through excavation (about 0.75 million m³) from dry river bed during low flow season. The locations of the areas where desilting will be carried out are shown in the Figure 2.1.

Figure 2.1: Locations of the areas to be desilted (in purple boundaries)



- **Desilting of the Right Bank Canals.** About 4.24 million m³ of sediments will be removed from the right bank canals. The details of sediments to be removed from the right bank canals are given in Table 2.1 and locations are shown in Figure 2.2.

Figure 2.2: Locations of right bank canals to be desilted

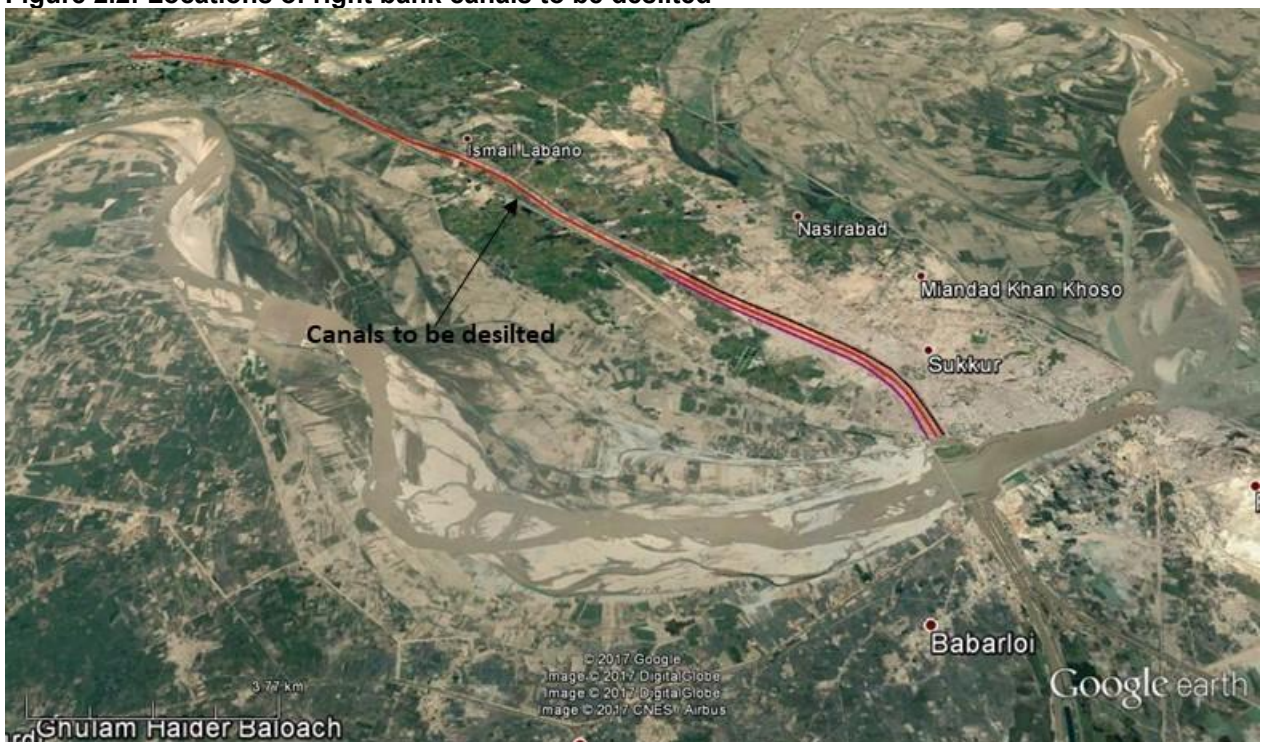


Table 2.1: Details of silt removal from right bank canals

Name of the Canal	Length of the Canal to be desilted, km	Quantity of the material to be desilted, MCM
Rice	25.60	3.07
North Western	7.01	0.92
Dadu	7.01	0.25
Total		4.24

- **Construction of workshops and offices.** The project will also support construction of some buildings for the workshops and offices within the existing barrage premises in the land owned by ID.

(b) Component B: Improved Barrage Operation (USD12 million). This component will support modernization and improvements to the barrage operation and maintenance for both Guddu and Sukkur Barrages. This will include necessary upgrades to the instrument monitoring systems such as piezometers, gate positioning and gauging, training and capacity building for staff, replacement of surveillance and maintenance boats and procurement of hydrographic equipment. The component will provide new covered workshops and a stock of spare parts for maintenance activities. The instrument monitoring system for the barrages will be renovated and the operating staff will be equipped with an upgraded operation, maintenance, and surveillance manual.

(c) Component C: Project Management Coordination and Monitoring and Evaluation, and training (USD12 million). This component will support the coordination of all project-related activities as well as training and technical assistance in procurement, financial, social and environmental safeguards and communication. This component will also cover the cost of consulting services including construction supervision, contract administration, and quality control, preparation of any additional designs bidding documents and monitoring and evaluation. Activities will include the establishment of an independent Panel of Experts (POEs) to review, monitor, evaluate, and help guide the rehabilitation process with regard to the safety of the barrage.

(d) Component D: Technical studies (USD4.2 million). This is a new component under the proposed AF. It would support: (i) a study for exploring suitable locations for a new Sukkur Barrage, and (ii) a detailed hydraulic study to determine the optimal design for the riverbank training and the needs for raising the height of the bund wall, and (iii) preparation for a possible second phase rehabilitation with environmental and social safeguards documents.

(e) Component E: Integrated Riverine Management (USD5 million). This also is a new component under the proposed AF, which upgrades Social Action Plan (SAP) as a standalone component to focus on social development and ecological management of the 170-kilometer stretch of the Indus between Sukkur and Guddu Barrages. This stretch is an Indus blind dolphin habitat as well as a designated Ramsar site. This component is to support management of water-related environmental and social issues, including: (a) community fisheries co-management, (c) alternative livelihoods development for fishery communities, (c) dolphin management and conservation, (d) sustainable agriculture, (e) technical studies (e.g., design for dolphin passage gates), and (f) water quality and pollutant studies. This component would be implemented in collaborations with the Sindh Environmental Protection Agency (SEPA), Wildlife Department, and Agriculture Department, and Fishery Department. World Wildlife Fund (WWF) would also participate in implementation of this component.

2.3 Construction Works under the Original Project (Guddu Barrage)

2.3.1 Site Access

Guddu Barrage is well connected with other parts of the country through Guddu-Kashmore road and the Guddu-Sadiqabad road. The Contractor would use these routes for the transport of the construction material to the site. The local routes to the barrage and proposed labour camps are also available and being used for the rehabilitation activities of the Guddu Thermal Power station. The embankments are also approachable through earthen road ways.

2.3.2 Construction & Labour Camps

One of the first activities to be completed by the contractor shall be the establishment of the construction and labour camp.

A labour camp is constructed to accommodate up to 200 staff. The Contractor shall also establish a construction camp (including storage and batching plant), offices and a workshop. Following completion of the project, the Contractor shall hand over the workshop to the Client.

The proposed sites shall include the following facilities:

- Labour camp site
 - Mosque
 - Accommodation
 - Kitchen
 - Dining area
 - Sanitation facilities
 - Recreational/TV. Hall
 - Laundry
 - Liquid & solid waste disposal facilities
 - Generator(s)
 - Dispensary with a qualified full time Doctor and a fully equipped ambulance
- Construction camp site
 - Uncovered material storage
 - Covered material storage
 - Parking for vehicles & plant
 - Batching plant
 - Generator(s)
 - Site offices
 - First aid kit
- Workshop site
 - Workshop
 - Storage area
 - Generator(s)
 - First aid kit

2.3.3 Construction of Staff Colony

The works shall be implemented on the right bank of Guddu Barrage (as shown in the following figure).

Figure 2.3: Location of Guddu Staff Colony



2.3.4 to Regulators

Replacement of Gates & Minor Structural Repair

These works are confined to Guddu Barrage itself, and the head regulators to Beghari Sindh, Desert Pat and Ghotki Feeder Canals.

The proposed works include:

- Replacement of all gates (including fish ladder gates)
- Replacement of hoist gears and associated electrical switch gear
- Minor civil works including:
 - Patching concrete over exposed reinforcement
 - Resealing of joints
 - Minor repairs to cracks on bridge piers

The methodology for replacement of the barrage and regulator gates envisaged at the tender stage of the project is as below. It is noted that the final methodology shall be devised by the Contractor, and the contractor should not be prevented from developing an alternative

strategy where this is of the benefit to the overall project and does not pose environmental or social risks.

- Construction of a jetty on left bank upstream of the barrage
- Protective sheets will be erected to cover the gas pipelines
- Temporary bulkhead gates shall be launched from a purpose built slipway and guided to a gate bay
- The bulkhead gates will be flooded with water and sunk into position, one upstream and a second downstream of the gate to be replaced
- The gate bay shall be pumped dry using temporary pumps, hoses and a mobile generator
- The lifting equipment shall be removed from the bay. A mobile crane mounted on the barge shall be used to remove larger items
- Scaffolding shall be erected in the bay and the gate cut into sections in situ and removed using the mobile crane
- The new gate and lifting equipment shall be installed, with the use of the mobile crane for larger items. The gate shall be fitted in sections and welded onsite.
- Gates will be painted and dried outside
- Gates will be tested and commissioned and the bulkhead gates removed by pumping out water and allowing them to float

Gates on the head regulators shall be replaced one at a time, and/or during the canal closure period, leaving the remaining gates operational to reduce disturbance of irrigation supplies.

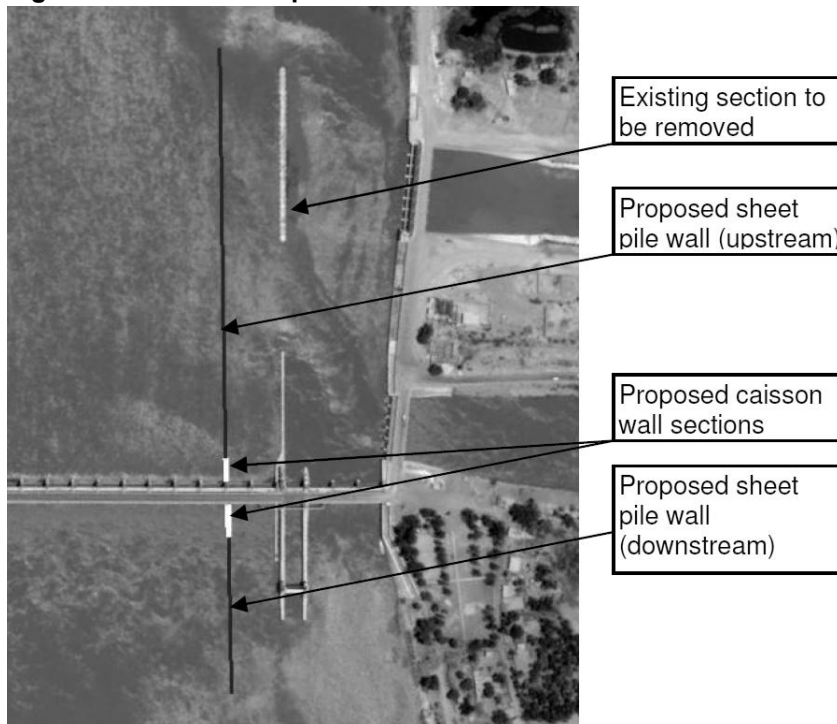
As part of these works, a new workshop shall be constructed by the Contractor for his own use. Following completion of the works, this workshop shall be handed over to the ID.

2.3.5 Reconfiguration of Left Pocket Divide Wall

It is proposed that before the construction of Left Pocket Divide Wall the existing divide wall in front of Rainee Canal will be removed by using waterborne plant during the 2nd year of construction.

The works shall be carried out on Guddu Barrage close to the left bank (within the River Indus) as shown in the following figure.

Figure 2.4: Plan of Proposed Left Pocket Divide Wall



The proposed works include:

- Underwater laying of a concrete slab immediately upstream and downstream of the barrage
- On site casting of concrete caissons
- Launch of caissons (boxes) from slipway and float into position
- Sinking of concrete caissons (boxes) for a distance of 25 m (82 ft) downstream and 15 m (50ft) upstream of the barrage
- Piling of the sheet pile wall from a barge for a distance of 80 m (262 ft) downstream and 335 m (1,100 ft) upstream of the caissons
- Placement of stone protection on bed at location of wall
- Removal of upstream section of existing divide wall

The exact methodology is at the discretion of the contractor and shall be confirmed prior to mobilization.

2.3.6 Site Restoration

On completion of the construction phase the temporary infrastructure will be decommissioned and the sites restored. This will involve:

- Removal of all temporary construction facilities
- Removal of the temporary construction camp (except the workshop which shall be handed over to the ID)
- Closing all the temporary landfills in areas.

- Where vegetation was either removed or damaged to establish temporary facilities, a vegetative cover will be reinstated.
- Removal of all solid waste from site.

2.4 Construction Works under the Proposed AF (Sukkur Barrage)

Most of the works under the proposed AF, except for dredging and excavation of sediments, will be carried above the water on the barrage. The chemical quality of sediments has been evaluated during this ESIA study and they were found that non-contaminated. Considering the good quality of the river bed sediment materials, the following dredging and dredged material placement techniques have been adopted by the Project.

2.4.1 Dredging and Dredged Material Management

The dredging of sediments (estimated volume is 0.75 million m³) will be carried out through hydraulic cutter suction dredgers during high flow season of July and August and dredged material will be placed 'in-river' on the downstream of the barrage through hydraulic pipes. The rationale for selection of dredging methods and dredging season and dredged material placement in the river are further discussed in ESMP. The dredging will be carried out over during high flow season.

2.4.2 Excavation of Sediments and Excavated Sediments Management

Two sites have been identified, one on right bank and the other on left bank, for placement of material to be excavated from the right bank canals and from the dry river beds. Locations of these two placement sites are shown in Figure 2.5. This location has also been used for excavated material placement during previous dredging works. This location is not generally covered by the river water during normal flow season, except during very high floods; and during these high floods this material will be transported back to the river. There is no cultivation or resident at either site, thus, no land acquisition or resettlement is required.

Figure 2.5: Locations of excavated material placement area



Excavated materials from the barrage site will be placed on the left bank placement area; while those from Dadu and North Western canals and the first 7km of Rice canal will be placed at the right bank placement area. The canal embankments up to 7km are encroached by about 300 households. De-silting will be carried out within the canals during closure period, thus, no resettlement is anticipated for these households. While Dadu and North Western canals will be de-silted up to 7km from canal offtakes, Rice canal will be de-silted up to 25km. On Rice canal embankment, there is no encroachment beyond 7km from canal offtake. The excavated materials from this point will be used to strengthen the embankment. Details on the sediments to be excavated from each construction site and how they will be managed are given in Table 2.2. While the left bank placement area can hold up to 3 MCM, the right bank placement area can hold a volume of 2.5 MCM.

Table 2.2: Details on Management of Excavated Materials form the Barrage and Canals

Name of Site/ Canal	Length to be de-silted, km	Quantity of material to be excavated, MCM	Material to be placed at Left Bank Placement Area, MCM	Material to be placed at Right Bank Placement Area, MCM	Material to be used for Canal Embankment Strengthening, MCM
Barrage Area		0.75	0.75		
Dadu Canal	7.01	0.25		0.25	
North Western Canal	7.01	0.9		0.9	
Rice Canal	First 7 km	1.09		1.09	
	From km 7 onwards to km 25.60				1.98
Total		4.24	0.75	2.24	1.98

2.4.3 Excavation Methods and Transportation Routes

The desilting of the Dadu and North Western canals is planned to be carried out over a period of two years, but only during the month of January, when the canals are closed annually for maintenance works. While, desilting of Rice Canal will be carried out over a period of 3 months (October to December) during its six month of canal closure period. Normal means of excavations using excavators and dumpers will be used for de-silting. The closure period with no flows in canals will allow movement of heavy machinery in the canal bed, avoiding the use of canal embankments which are heavy congested by squatters and illegal constructions in the first 7 km length of the canals. The entrance and exit of excavators and dumpers taking out the excavated silt from canal bed will be controlled near the canal bridge crossing at km 1.3 (RD 4) and km 5.1 (RD 17). The routes used by the dumpers for transport of excavated silt is shown in Figure 2.6.

The de-silted material will be transported through the existing highways to the right bank placement area and will have minimum interaction with local communities. About 80 trucks will be used daily during one month of excavation period for transport of de-silted material. Traffic management will be in place by the contractor with adequate placement of traffic signals and traffic control personnel, when the vehicles are passing through the local roads.

The excavated material from the barrage area to the left bank placement area will be transported through a 1.5 km river and canal embankments (local roads) and passes through settlements. About 20 dumpers will be used daily during low flow season of excavation in the barrage. Strict traffic management will be in place by the contractor with adequate traffic signals and traffic control personnel along this route.

Figure 2.6: Location of Vehicular Routes for De-Silting of Canals



2.4.4 Construction Material and Sources

During the construction, a large amount of construction material will be required. This will include earth fill, cement, sand, aggregates and steel. The aggregate will be obtained from the existing government approved quarry sites located at Rohri, 10 km from the barrage site, while earth fill will be taken from the desilted material. Due diligence will be carried about to ensure the quarry is being operated as per the provisions of the permits issued by the provincial Environmental Protection Agency. The cement would be brought from cement factories located near Hyderabad while steel may be procured from Karachi. A summary of construction material requirements of the project is given below:

- Stones for Bed Protection: 35,680 m³ (1.26 million cft)
- Stones for u/s & d/s of Barrage Scour Protection: 43,000 m³ (1.52 million cft)
- Course aggregate for Concrete: 4,530 m³ (0.16 million cft)
- Fine aggregate for Concrete: 3,400 m³ (0.12 million cft)

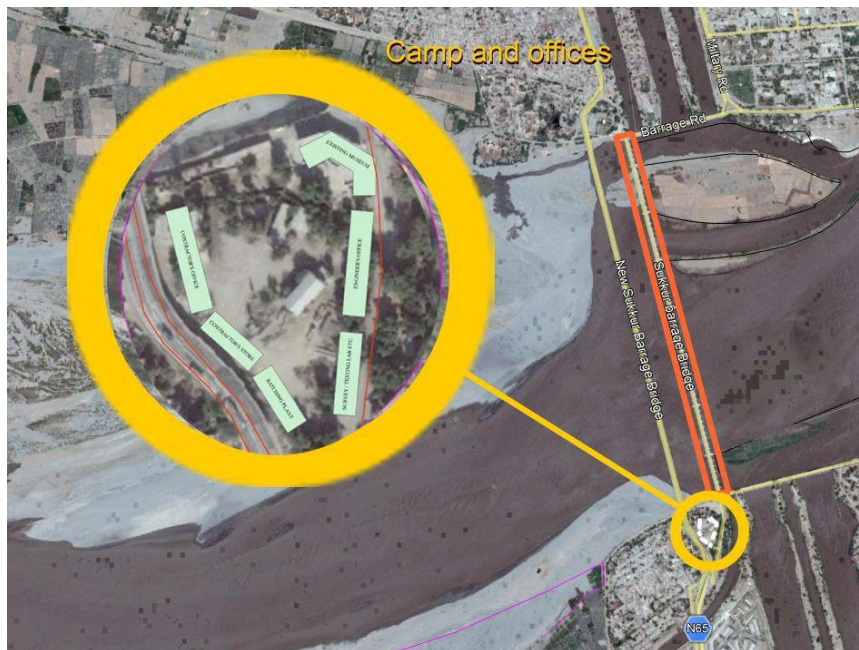
It is expected that about 50 trucks per day will be used for transport of quarry material over a period of one month. In addition, it is expected that about 20 to 30 trucks will be used within the construction areas for transport of concrete and other materials.

2.4.5 Contractors Facilities

Average labour requirement per day is 200 while peak time requirement estimated to be 350. Unskilled workers (up to 65% of total labour) will be mainly hired locally. The number of skilled workers to be brought by the contractor from other parts of Pakistan or abroad will be around 80 to 100 people. A workers' camp will be established by the contractor near the barrage site. The location of the camp area is shown in Figure 2.7. This area has been also used by earlier contractors for developing camp area during previous rehabilitation work. Hence, some facilities are already available in this area, which can be used by the contractor. In addition to the workers' camp, the contractor will also be built the following temporary facilities required for construction:

- concrete batching plant
- bulk construction materials storage
- general storage area
- workshop area
- plant maintenance and storage
- fuel storage
- temporary storage of waste materials
- wastewater treatment plant
- offices
- testing laboratory

Figure 2.7: Locations of proposed contractors camp



2.4.6 Construction Equipment

Table 2.3 outlines the approximate number of major machinery and vehicles that are envisaged to be required for the project construction works:

Table 2.3: Equipment Required for the Project

Equipment	Number
Dredger	1
Barge mounted crane	1
Air Compressor (10-30m ³ /min)	6
Batching Plant	2
Tug Boats	4
Boat – (passenger)	6

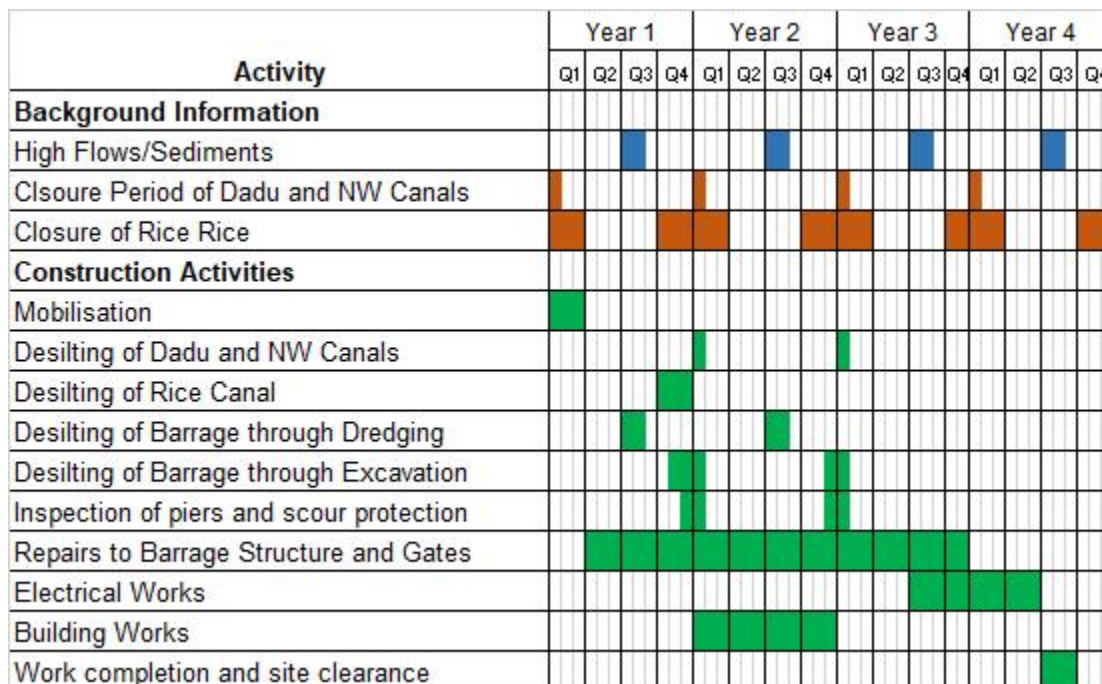
Breaker Excavator mounted hydraulic	12
Breaker, hand held 20-35 kg	20
Bus	5
Chipper, hand held, pneumatic	20
Concrete Mixer petrol	10
Water sprinkler	8
Concrete pump lorry mounted/stationary	4
Crane 35 ton	10
Crane 80 ton	3
Crane, mobile barge mounted	4
Generator standard silenced	10
Loader/Dumper wheeled/tracked	20
Drill Percussive, handheld, electric	6
Drill/Grinder handheld electric	8
Pick up	10
Dumper, regular use (more vehicles will be used during one-month period of canal de-silting)	20
Poker, vibratory, hand held	10
Saw/Groover concrete petrol	6
Water Bowser	6
Water Sprinkler Trucks	25

Source: Feasibility Study of Sukkur Barrage Project

2.4.7 Construction Schedule

The construction is planned to be completed in 3.5 to 4 years. The proposed construction schedule is shown in Figure 3.4. De-siltation works using dredging will be carried out during one high flow season; while the desiltation works using excavation will be carried out during one or two low flow seasons. During this period, there will be additional studies will be carried out through physical models for design of additional river training works to achieve a design discharge of 1.5 million cusecs. If these studies recommend construction of additional river training structures, they will be constructed in a subsequent phase.

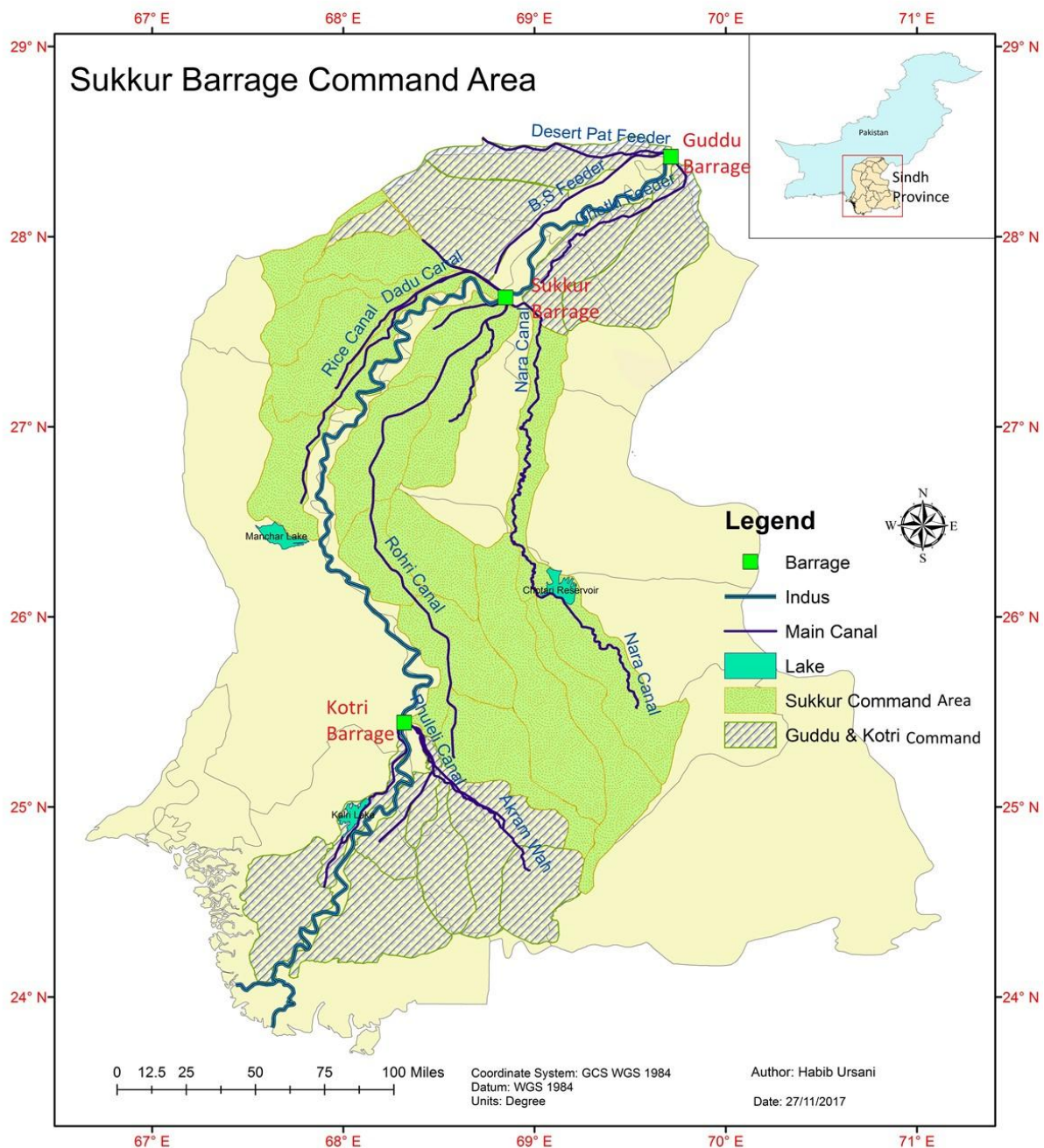
Figure 2.8: Construction Schedule



3. SOCIO-ECONOMIC BASELINE IN PROJECT AND COMMAND AREAS AND RESETTLEMENT SCOPING

This section describes socioeconomic baseline of the project and command areas of Guddu and Sukkur Barrages and social impacts specifically related to land acquisition, resettlement, and labor influx. Figure 3.1 below provides command areas of three barrages in Sindh Province, including Guddu and Sukkur Barrages. Detailed baseline of the project and command areas of Guddu Barrage is attached in Appendix-B.

Figure 3.1 Command Areas of Guddu and Sukkur Barrages



GUDDU BARRAGE

3.1 Administrative Setup

The project area comprises districts Kashmore and Ghotki. Each district is headed by the Deputy Commissioner (DC) who is responsible for the coordination of functions of all the departments in the district. The head of each district department is responsible for the performance of his department and is generally designated as the Deputy Director or District Officer.

3.2 Demography, Ethnicity and Tribes and Social Cohesion and Conflict

The estimated population of the project area is 37,410, comprising 18,218 males and 19,192 females within 64 villages. The majority in the study area live together with their extended family. It is also thought to be more efficient to share basic amenities. During the socio-economic field survey it was observed that about 95 percent of the population is Muslim whereas about five percent consist of Hindu and other minority religions.

The dominant tribe in the project area is the Mazari Baloch (50%). Other tribes include the Mirani (30%), Soomro (10%), Solongy (4%), Sheikh (3%) and the Chacher, Arain, Sher, Datsi, Malik, Indhar, Bhatti and Khosa (3%). There also are Pathan and Daya, living in the vicinity of Kashmore town.

Social organization in all villages is strongly based on Biradari system (tribe or caste), where each tribe has a leader. In the Biradari system, although members of a tribe do not own property together or share incomes, the honour of individual members affect the standing of the tribe within the community. The families belonging to the same tribe have strong interactions with one another and generally keep separate identities. Even in marriages of their young, they prefer to marry within their own tribe. Although uncommon, cases of marriage between different tribes can occur.

The common disputes are usually resolved by the tribal leader, while the head of a village shall resolve any major disputes. In case of serious matters, local influential politicians/landlords (who are often also tribal leaders) intervene to settle the dispute. Occasionally, when parties do not agree on the decision of the village or tribal leaders, matters may go to the police and ultimately a court of law. The police and the court of law are the last options and these are rarely exercised.

3.3 Inter-tribal Conflict

Although conflict within the project area was common place between the Mazari and Khosa tribes and the Solangi and Khosa tribes within the project area until end of 2011, the project area has remained peaceful since 2012. As well as being dominant in numbers, the Mazari tribe is also powerful within the project area, including a member of the Sindh Provincial Assembly, a member of the Punjab Provincial Assembly and a member of the National Assembly. The chance for conflict is heightened during elections, when parties shall oppose each other due to their political affiliations which are often aligned with their tribal leaders.

3.4 Housing

The riverine human population comprises residential units like mud houses or huts are the most common house type (84%) and are built without any planning or consideration of layout. Only 10% houses are built semi pucca and 6% are pucca (bricks or blocks with iron and cement roof).

3.5 Literacy

The literacy ratio in the riverine population are considerably lower within the project area, at just 6% (2,221 people).

3.6 Economic Conditions

Agriculture is the most widespread source of income in the project area. 25% of the total population income source is as labourers (excluding agricultural labourers) and 5% from government jobs (in departments such as the agriculture department, forest department, post office, police and Pakistan army).

Livestock is a significant, albeit often a secondary, source of income. Crop or fodder is generally sold at a rate of Rs. 4,000 to 5,000 per season. Unsold rice is commonly used as dry fodder, which is comparatively cheap. Agriculture labourers earn between Rs. 200 to 300 per day. Demand for agriculture labour is high during planting and harvesting but is not a continuous source of employment. Small businesses, the private sector and fishing do not represent significant income sources in the project area although 12% of the project area are employed in this sector.

The average income level of those in the project area is approximately Rs 1,293 (US\$12) per month. The income of a large proportion of the project area is below the official poverty line of Rs. 2,305 per capita/month (inflation adjusted) and is categorized as vulnerable.

The only industry within the project area is Guddu Thermal station on the right bank of the Indus at Guddu Barrage. The thermal power plant, Guddu town market and Kashmore town are major sources of employment in the region. Other industries located in the project surrounding are cotton factories, sugar mills and fertilizer factories.

3.7 Agriculture and Livestock

The land tenure system in Sindh has regulated ownership, tenancy and inheritance rights. Recognizing the need for more equitable distribution of agricultural land and security of tenure, the Government of Pakistan has attempted various land reforms, with varying degrees of success. However, natural succession has resulted in some division and fragmentation of land. Agricultural land is mostly inherited and with the passage of time it is divided further and further amongst the children resulting in shrinking sizes. A high rate of land ownership within the project area was reported by respondents during the social survey - of those farming within the project area, 90% own the land they farm, 5% are tenants and 5% are illegally farming land owned by the ID. The survey of the project area has shown that half of the famers in the project area own only 1 to 5 acres of land, and only a small portion owns over 25 acres.

Respondents were asked about the revenue record of the land they farm. Those beyond the flood embankments and outside the Corridor of Impact (CoI) reported that they hold land revenue records for the land they farm. Those living and farming between the flood embankments (but beyond the CoI) were allotted land by Prime Minister Nawaz Sharif in 1999 and hold a 99-year lease from this land.

It was observed that the farmers and land owners cultivate their land on the lift irrigation water from River Indus or installed tube wells. 70% of the project population is engaged in irrigated agriculture.

The lands in project and surrounding area are fertile and farmers grow rice, sugarcane, cotton, sorghum and vegetables during the Kharif season (April to November) and wheat, oil seed, pulses and vegetables during Rabi season (April to October). For the purchase of farm inputs and sale of crops the landlords and farmer commonly use one of the surrounding city markets located in Kashmore, Khandhkot, Ubauro, Daharki and Ghotki.

Majority of the farmers hold between three to four animals. Farmers in the project area generally own high quality breeds. Livestock was the main source of milk, meat and ghee of the population. Livestock was also a source of income as people sell livestock in nearby towns. It was reported that a limited area surrounding the river banks are available for animal grazing. It is the tradition here that the individuals feed their animals by providing fodder/rice straw, wheat straw and also grow fodder crop to feed their animals.

3.8 Vulnerable groups

Groups experiencing a higher risk of poverty and social exclusion than the mainstream population are considered vulnerable groups. Vulnerable groups for the project are landless, impoverished (71% of the project area falls below the official poverty line), those with legal right to the land they occupy and handicapped.

3.9 Women in the Project Area

The status of women in the project area is classified as low class. The result of the surveys revealed that women of the project area are fully responsible for household activities and also take an active part in the field and livestock activities, and thus support the household income generation. Women in the area are skilled at embroidery. All women living within the CoI were found to be illiterate except 2% who were found literate. The health and hygiene condition of females and children are very poor. It was reported to the gender specialists that the resolution of social conflicts within the female community is in the form of the 'Panchat System', whereby the village heads, Nazim, political leaders and Union Council members form an assembly to hear and resolve social conflicts at the village level.

Women within the project area are infrequently consulted and men commonly have the decision making power. Men usually make purchases on behalf of the female members of their family. Rural women mostly remain inside the home or work in the field. In many cases, a husband will not share his plans with his wife. Neither the survey nor the consultations identified any women who owned property.

3.10

NGOs Involvement

During the field survey, among four NGOs only two Non-Governmental Organizations (NGOs) i.e. 'Mojaz Foundation' and 'Soofi Sachal Sarmast Welfare Association' were found working for the flood affected families.

3.11

Areas

Key Socio-Economic Information of Command

Guddu barrage controls irrigation supplies to the Ghotki (on the left bank), Beghari Sindh and Desert Pat (on the right bank) Feeder Canal command areas. The following baseline assessment is based mainly on secondary data, and supplemented by details recorded during consultations in the command area as part of the Environmental and Social Impact Assessment (ESIA).

3.12

Ghotki Feeder Canal Command Area

Ghotki Feeder Canal falls in the administrative limits of Ghotki and Sukkur Districts. Ghotki feeder canal is located in Talukas Ubauro, Daharki, Mirpur Mathelo and Ghotki of District Ghotki, and Taluka Pano Akil and Rohri of District Sukkur. Ghotki Feeder Canal off-takes from Guddu Barrage at left bank of Indus River with a design discharge of 8,490 ft³/s. It feeds a command area of 344,014 acres.

Ghotki district has two gas fields namely Mari gas field and Qadirpur gas field in Daharki and Ghotki talukas respectively. A number of fertilizer and power industries rely on the gas provided at these gas field. Important means of transport and communication in the district are roads and railways.

The project area is fertile land rich in growing cotton, wheat and sugarcane. The other crops in the area are rice, maize, barley, jawar, bajra, tobacco, gram and barley. The main occupation of the people is agriculture. The groundwater is found contaminated with sewerage in some areas. Common flooding in the area has resulted in the spread of malaria, typhoid and dengue within humans and diseases within livestock. Waterlogging is common adjacent to canals increasing the salinity of cultivated areas.

3.13

Command Area

Beghari Sindh and Desert Pat Feeder Canal

Beghari Sindh Feeder Canal has a design discharge of 14,764 ft³/s. Beghari Sindh is a non-perennial canal and the normal closure period of Beghari Sindh Feeder from October to May, hence extended canal closure period will not make a negative effect in the canal command area. During the Rabi season (November to the end of March) ID opens the canal for 15 to 20 days for the irrigation of wheat crop. Exact time period depends upon the availability of water in Guddu Barrage. Water logging and salinity is commonly reported within the command area. Hand pumps installed in the Beghari Sindh command area are the main source of water. Agriculture is the main source of income.

Desert Pat Feeder Canal has a design discharge of 10,000 ft³/s. Desert Pat Feeder Canal is perennial canal and supplies water for Irrigation and for drinking purposes as the ground water is very deep and saline and therefore unsuitable for drinking purposes. The population

depends on the canal water for drinking, washing, cloth washing and livestock, especially in Nasirabad district of Baluchistan.

The major source of income in the command area is arable agriculture and from livestock. It is common for those who do not own land to keep goats, sheep, donkeys and camels to support their income.

Begari Sindh Feeder and Desert Pat Feeder Canals supply irrigation water to district Kashmore (largest rice producing district in Asia), Sukkur, Shikarpur and Larkana Districts of Sindh Province and Desert Pat Feeder supply irrigation water to Nasirabad and Jaferabad Districts of Balochistan Province.

3.14 Communications in the Command Area

During the Canal Command Survey it was found that at every minor and distributary canal the respondents have mobile phones. The use of mobile phones is widely spread in the canal command area. The service languages in the command area are Sindhi, Balochi, Urdu and Siraki. Landless male members have access to their own mobile but most of the women have no access to their own mobile.

Access to radio and TV is also widely spread in the canal command area. The popular channels are Mehran KTN, Dharti, Sindh Kashash (Sindhi), Awaz, AAj, Sama, Dawn news, Waqat, (Urdu), and Kohnoor (Siraki).

3.15 Resettlement Scoping under the Original Project

The following table assesses each component of the works under the original project and identifies which components have the *potential* to require resettlement and are therefore of importance to the RPF. Note that subsequent actions have been taken to remove or minimise the resettlement issues identified in the following table and are discussed in Appendix A. The Table has been updated, as the original project required an abbreviated RAP to resettle 16 encroaching households on the upstream embankments (marginal bunds). The RAP is being implemented.

Table 3.1: Resettlement Scoping by Work Component in Guddu

Work Component	Description	Potential Resettlement Required?	Government owned land	Privately owned land	
				Temporary Acquisition	Permanent Acquisition
Construction of Supervision Colony	The land is government owned and no inhabited settlements are present on the site.	No	Yes	No	No
Establishment of Construction/Labour Camps and Workshop	The camp and workshop sites identified by the Government will not require physical displacement, temporary or permanent land acquisition. However, the contractor may choose sites where permanent or temporary land acquisition may be required.	No	Yes – dependent upon chosen site	Possible – dependent upon chosen site	No –
Strengthening of Spurs	The spurs are government owned and there is no encroachment	No	Yes	No	No
Construction of New Spur	The land is government owned, within the flood plain of the Indus.	Yes – embankment was encroached by 16 households. Abbreviated RAP was prepared	Yes	No	No
Gate Replacement/Minor or Civil Works to Barrage and Regulators	The works are confined to the barrage and head regulators	No	Yes	No	No
Reconfiguration of Left Pocket Divide Wall	Works are confined to the river/barrage	No	Yes	No	No

3.16 Labor Influx under the Original Project

Under the original project, about 200 skilled and unskilled workers are required during construction on continuous basis for about 5 years. As of December 2017, there are 200 workers at project site, composed of 100 local and 100 non-local workers. Non-locals are currently accommodated in trailers on ID-owned land and will move to colony once construction completes. At peak time, it is expected additional 100 local laborers will be required. Considering that there were tribal unrests in the project area, Contractor/PMO shall advertise labor opportunities widely and monitor hiring.

SUKKUR BARRAGE²

3.17 Overview of the Command Area of Sukkur Barrage

The Sukkur Barrage and Canals Project were sanctioned in June 1923 and work on the construction started in July 1923. The project was completed in 1932 and is the World's largest single unified irrigation network. The Barrage completed in 1932 and seven canals were dug to distribute water to all parts of the province; this eventually led to Pakistan having

² All information in this section has been extracted from the Socioeconomic Impact Assessment and Environmental Impact Assessment prepared by the Irrigation Department, Government of Sindh as part of the feasibility study for the 'Rehabilitation & Modernization of Sukkur Barrage'. The methodology is detailed in Appendix E. It is complemented by additional interviews in middle bank island and with stakeholders.

the longest irrigation system in the world, with 61,000 km (38,000 miles) of irrigation canals.

The total gross commanded area (GCA) served by the seven off-taking canals from the Barrage is 3.33 million ha (8.24 million acres) on both banks of the Indus River in Middle and Lower Sindh. Out of this 3.06 million ha (7.55 million acres) are cultivable. The maximum abstraction by all the canals is 64,750 cusecs (1,850 cusecs) at present compared to the total designed capacity of 47,530 cusecs (1,350 cusecs). The maximum design flood for the barrage was 1.5 million cusecs (42,500 cusecs).

The beneficiaries of the project are those who are irrigating their fields from the seven canals getting water from the Sukkur Barrage, located on both the left and right sides of the Barrage. The socioeconomic survey was therefore conducted on a sample of the populations living in the command areas of the seven canals. This includes the command areas of Nara, Khairpur East, Rohri and Khairpur Western Canals on the left bank; and Dadu, Rice and North Western canals on the right bank of the Barrage. The canals on the right bank of the river are serving four districts of Sindh; Shikarpur, Larkana, Shahdad Kot and Dadu. The North Western Canal also irrigates some area at Dear Allah Yar of Balochistan. The canals on the left bank of the river are serving 11 districts; Sukkur, Khairpur, Nosheero Feroze, Nawabshah (Shaheed Benazirabad), Sanghar, Mirpurkhas, Umarmkot, Badin, Hyderabad, Tando Allahyar and Tharparker. Among these canals, Dadu and Rice Canals are not regular, closing for 6 months in a year. Details of the beneficiary districts and command areas of each canal are summarized in Table 3.2.

Table 3.2: Basic Agronomic Data of Canals Off-taking from Sukkur Barrage

Sr.Nr	Name of Canal	Length (Miles)	GCCA (m.ac)	CCA (m.ac)	Benefitted Administrative Districts
A	Left Bank				
1	Khairpur East Feeder	58.6	0.53	0.37	Khairpur; Sukkur
2	Khairpur Western Feeder	41.9	0.41	0.32	Khairpur; Sukkur
3	Nara Canal	226.0	2.22	2.14	Khairpur; Sanghar; Tando Allah Yar; Nawabsha; Mirpur Khas
4	Rohri Canal	208.0	2.90	2.61	Khairpur; Naushero Feroze; Nawabshah
B	Right Bank				
5	Dadu Canal	131.5	0.60	0.55	Larkana; Shikarpur
6	North Western Canal	36.1	1.03	0.94	Jaccababad; Shikarpur
7	Rice Canal	82.0	0.55	0.52	Sukkur; Larkana; Upper Dadu
	Total		8.24	7.45	

The socioeconomic survey presents results according to the canals off-taking from the Sukkur Barrage. The demographic profile of the districts benefiting from the canals of Sukkur Barrage is presented in Table 3.3. This includes population, health and education statistics for the entire districts.

Table 3.3: Socioeconomic Profile of Beneficiary Districts of Sukkur Barrage

No	Description	Sukkur	Khairpur	Sanghar	Nawabshah	Mirpur Khas	Naushehro Feroze	Larkana	Shikarpur	Jacobabad	Dadu	Ghotki
1	Area (sq: K.M)	5,165	15,910	10,728	4,239	7,332	2,946	7,423	2,688	5,287	19,070	6,083
2	Population Year 1998 (Nos)	908,373	1,546,587	1,452,956	1,135,131	1,569,020	1,087,571	1,927,066	880,438	1,425,572	1,688,811	970,549
3	Population estimated Year 2012 (No)	1,351,754	2,248,809	2,121,321	1,738,111	2,247,458	1,360,091	2,970,820	1,177,766	1,891,365	2,435,602	1,520,783
3a	Male	483,251	810,448	762,212	599,275	820,840	568,574	993,576	456,589	744,014	887,061	511,363
3b	Female	425,122	736,139	690,744	535,856	748,180	518,997	933,490	423,849	681,558	801,750	459,186
4	Population Growth Rate (1981-98)	2.88	2.71	2.74	3.09	2.60	1.61	3.14	2.10	2.04	2.65	3.26
5	Density per sq k.m (Year 1998)	175.9	97.2	135.4	267.8	214.0	369.2	259.6	327.5	269.6	88.6	159.6
6	Density per sq k.m (Year 2012)	261.7	141.3	197.7	410.0	306.5	461.7	400.2	438.2	357.7	127.7	250.0
7	Literacy rate (male/female) %	59.8	35.5	30.9	34.1	30.4	39.1	35.0	33.9	23.2	30.4	44.2
8	No. of universities.	-	1.00	-	1.00	-	-	-	-	-	5.00	-
9	Primary and Middle Schools (No)	1,039	1,398	3,252	102	1,657	2,028	2,721	609	2,594	2,608	1,411
10	Secondary and Higher (No)	156	229	-	-	114	64	94	118	-	-	37
11	Rural Health Centers (No)	4	5	7	2	3	2	4	2	2	2	2
12	Basic Health Units (No)	24	60	35	31	64	40	53	33	27	59	27
13	Hakims and Homeopaths (No)	50	34	69	-	270	-	568	45	133	-	14
14	Registered Medical Practinors (RMF)	74	93	241	117	405	214	598	100	265	370	27
15	Hospitals (No)	3	7	7	1	7	2	6	3	4	5	41,004
16	No. of Prominent NGOs	5	10	10	21	2	60	354	31	10	103	1
17	Average Family Size	5.0	-	7.0	5.8	7.0	5.5	6.0	8.0	na	5.5	5.0
18	Average Living Rooms per Househo	2.0	6.0	na	6.0	5.8	5.8	6.0	4.0	5.6	5.5	53.0

3.18 Demography

Population. The socioeconomic survey reveals the total number of villages as well as settlements in the command areas of the seven canals. Village refers to mouza and deh, both commonly used terms in the command areas of the Barrage. In a village, there may be one or more settlements, also called abadis, bastis, dhokes. The number of villages and settlements is shown in Table 3.4.

Table 3.4: Number of Villages and Settlements in Command Areas of Sukkur Barrage

Name of Canal	Number of Villages	Total Settlements
Khairpur East Feeder	215	1,438
Khairpur Western Feeder	226	1,389
Nara	359	3,539
Rohri	205	1,727
Dadu	292	2,020
North Western	314	2,343
Rice	194	1,290

Ethnic Composition. The socioeconomic survey shows that 96% of the respondents speak Sindhi as their primary language. Urdu was spoken and understood by 89.1% of the respondents.

Sukkur district is majority Muslim, constituting 96% of the total population, of which about 80% belong to the Sunni sect and 16% belong to the Shia sect. The minorities include Hindus (3.28%) and Christians about 0.51%. The Hindu population is mostly settled in urban areas and is engaged in the trade and services sectors.

Ethnically, Sindhis share the biggest segment of population in Sukkur and Rohri city areas (70.50%), followed by Muhajirs (15.50%), Pashtoon (2.50%), Seraiki (1%) and Balochi (1%). Baloch tribes include, Mirani Rind, Kalyar, Chandio, Gabol, Khoso and Leghari. Other ethnicities in Sukkur include Indhar, Ansaris, Mahars, Syed, Mughals, Soomro, Mangrio, Chijjan, Phulpoto, Palh and many more. There is also a presence of Sindhi and Saraiki

Memons. Traditionally Memons were associated with trade and retail business but during last two decades, they have ascended as an active social and economic front. Soomro are Sindhi speaking, associated with law, trade, information technology, technical, medical, administration, generally in education and social fields; for their development they perform steps ahead day and night. Tertiary families are Saraiki speaking, and mostly are associated with profession of law, medical and education.

Land use. The socioeconomic survey for the Sukkur Barrage Project and other agriculture studies reveal that wheat, rice, cotton, sugarcane, maize (grain and fodders), pulses, orchards and vegetables are the major crops in the command areas of canals from the Sukkur Barrage. The analysis of the socioeconomic data reveals that wheat is dominant crop followed by cotton, rice and sugarcane in all the villages surveyed. The analysis also shows that 29% villages have orchards, which include dates, mango and banana. A considerable section of the population depends on agriculture for their livelihood. The total project area, including the barrage, the river and the gross area commanded by seven canals off-taking from Sukkur Barrage is 8.24 million acres out of which cultivable command area (CCA) is 7.63 million acres. Accordingly, the land use situation in the area is as follows;

- Gross area = 8.24 million acres (100%) (3.33 million hectares)
- Agriculture (CCA) = 7.63 million acres (93%) (3.08 million hectares)
- Under canals and structures = 0.33 million acres (4%) (0.13 million hectares)
- Forests (riverain + inland) = 0.25 million acres (3%) (0.10 million hectares)

Livelihood Sources. The socioeconomic survey of the project areas indicates that for about 77% of the households, agriculture is the main source of livelihood. However, 58% households also have secondary sources of income from activities including labour, livestock, trading etc. Among the respondents, about 13% households are government employees which is their main source of income. The remaining 10% households depend upon labour and on daily wage income. About 3% heads of the household do not have any primary or secondary source of income and depend upon the income source of other members of the household. More than 5% households listed remittance as their main source of income.

Given that the primary source of income for people living in the barrage command area is agriculture, the majority of households do not have regular monthly income, but rather have seasonal income from crops. Only 6.5% households have employment within their home village or nearby villages and have regular monthly income. Table 3.5 presents statistics on the income sources.

Table 3.5: Sources of Income for Surveyed Households

Source	Households
Agriculture	88%
Livestock	63%
Employment	6.5%
Remittance	8%
Labour	10%
Other – Occasional	11%

The socioeconomic survey of the project area indicates the minimum monthly income as Rs. 6,000/- (Rs. 200/- per day). The survey also reveals that 60% of the people of the project area live below the poverty line, the majority of whom live in rural areas. However, urban poverty is also significant.

Agriculture and Livestock. Wheat, rice, cotton, sugarcane, maize (grain and fodders), pulses, orchards and vegetables are found in the majority of villages within different canal commands off-taking from the Sukkur Barrage. The analysis of the socioeconomic survey data reveals that wheat is the dominant crop followed by cotton, rice and sugarcane in all the villages. The analysis also shows that 29% villages have orchards, these include dates, mango and banana. A summary of the percentage of villages by cultivation of different crops is shown in Table 3.6.

Table 3.6: Percentage of Village in Canal Command Area Growing Crops

Name of Canal	Wheat	Rice	Cotton	Sugar cane	Maize	Pulse s	Orcha rds	Veget ables
Khairpur East Feeder	97.15	38.84	88.07	51.80	6.88	4.12	39.03	17.88
Khairpur Western Feeder	97.08	37.93	90.98	54.64	7.69	4.24	42.71	18.57
Nara Canal	97.94	10.24	97.86	85.81	45.46	12.99	62.08	55.95
Rohri Canal	92.16	61.76	80.03	88.41	35.27	18.02	41.35	44.28
Dadu Canal	82.01	64.23	25.01	12.92	17.57	1.58	4.73	9.63
North Western Canal	80.22	69.74	0.73	2.93	1.83	7.33	-	4.03
Rice Canal	88.00	81.68	14.19	8.39	7.35	7.74	9.81	11.48
Overall	90.65	54.92	56.70	43.56	17.44	8.00	28.53	23.12

Table 3.7 shows the average annual cropping intensity of canal command areas. The overall cropping intensity is estimated as 107.9% with Kharif 53.9%, Rabi 42.6% and orchards as 11.5%. The highest intensity is at Nara canal at 123.9% followed by Dadu canal at 123.8%; and North Western canal at 116.2%. The lowest intensity is at Rice canal (non-Perennial) at 80.5%.

Table 3.7: Cropping Intensity (%) by Canal Commands

Crop Season	NW Canal	Rice Canal	Dadu Canal	KWF Canal	Rohri Canal	KEF Canal	Nara Canal	Sukkur Barrage
Kharif Crops	58.8	55.6	71.3	40.9	51.4	38.6	57.9	53.9
Rabi Crops	57.3	24.1	52.1	35.6	39.4	33.7	54.5	42.6
Orchards	0.1	0.8	0.4	30.1	14.6	28.5	11.6	11.5
Total	116.2	80.5	123.8	106.6	105.4	100.8	123.9	107.9

The socioeconomic survey has calculated crop production and its valuation by using the data on crop yield and prevailing market rates and or support price collected from Bureau of Statistics, Sindh as well as from annual statistics issued by Government of Pakistan. The data on crop yields indicated that the crop yields have shown mixed trends of growth over the last 10-years. Average crop yields, by canal commands, of the last three years have been used for analysis in the socioeconomic study. The data was verified with the response by the farmers recorded during household interviews. Average yield of major crops by canal command is summarized in Table 3.8:

Table 3.8: Average Yield Per Hectare (kg) by Canal Commands

Crop	NW Canal	Rice Canal	Dadu Canal	KWF Canal	Rohri Canal	KEF Canal	Nara Canal	Sukkur Barrage
Rice	3,232	3,308	3,176	2,839	1,653	2,417	2,300	2,704
Cotton	-	710	702	785	865	770	787	660
Wheat	,844	3,242	3,148	3,794	3,835	3,791	3,588	3,463
Sugarcane	53,500	46,959	46,918	59,595	58,377	57,888	56,857	54,299
Mangoes	-	6,491	6,570	7,087	6,584	9,794	8,226	6,393
Banana	-	1866	1,732	4,060	3,899	4,281	4,744	2,940
Dates	9,594	8,957	5,250	8,094	9,333	7,825	10,708	8,537

Stakeholder consultations conducted for the Environmental Impact Assessment reveal that fertilizers are used for major crops. The Environmental Impact Assessment also shows that the use of pesticides for agriculture is polluting the river bank and water.

Goats and poultry are owned by almost every household surveyed for the socioeconomic study. Table 3.9 shows the percentage of households owning cattle, the average number of animals owned by each household, and the average monetary value of the cattle.

Table 3.9: Livestock Ownership by Surveyed Households

Type of Livestock	% of Households	Number of Livestock/HH	Average Value (Rs)
Goat	93.1	12.4	6,300
Sheep	25.9	8.9	4,700
Cow	31.4	6.0	41,000
Buffalo	60.5	10.1	59,000
Horse	12.2	0.1	39,000
Mule	3.1	0.1	40,500
Donkey	2.1	0.3	10,534
Ox	4.1	1.0	70,000
Poultry	96.2	12.1	240

Fisheries. Fish is an important natural resource in the Indus River. The fisheries department gives permits for the fishermen for fishing in Indus. However close to the barrage, fishing is banned by the government due to security issues. Fishing is also not allowed in high flow season.

The Fisheries Department no longer gives contracts for fishing in the Indus River. The now functional Benazir Fishing Card System provides permits to individual fishermen on a nominal registration fee. While this results in less exploitation of fishermen by contractors, the system has led to an excessive number of fishermen operating on the river. New fishermen (those not from traditional fishing communities) are also likely to not abide by the fishing rules and regulations. Electro fishing, use of under sized net, dynamiting and poisoning is wide spread. This has led to great pressure on the fish resources in the River Indus.

Fisher Folk is an international forum of fishermen which provides protection to the rights of fishermen and regulates their fishing activities for conservation. According to Fisher Folk, there are three traditional fishing villages of about 500 households in the 10 to 15km radius of Sukkur Barrage. However, because of overall reduction in fish population in Indus, a number of these households stopped fishing. Alternatively, they are working as laborers in agriculture or at commercial fish ponds. There still are around 30 to 35 fishing boats in these villages, and fishing households earn about Rs. 7,000 per month.

3.18 Social Infrastructure

Health Facilities. Health facilities in the districts that fall in the command area of the seven canals off-taking from Sukkur Barrage are summarized in Table 3.10 below.

Table 3.10: Health Facilities in Command Area Districts

No	Description	Sukkur	Khairpur	Sanghar	Nawabshah	Mirpur Khas	Naushe hro Feroze	Larkana	Shikarpur	Jacobabad	Dadu	Ghotki
1	Rural Health Centers (No)	4	5	7	2	3	2	4	2	2	2	2
2	Basic Health Units (No)	24	60	35	31	64	40	53	33	27	59	27
3	Hakims and Homeopaths (No)	50	34	69	-	270	-	568	45	133	-	14
4	Registered Medical Practitioners (RMP)	74	93	241	117	405	214	598	100	265	370	27
5	Hospitals (No)	3	7	7	1	7	2	6	3	4	5	2

Education. The socioeconomic survey shows that the literacy rate is low in the villages surrounding the canal command areas as compared to the overall national level. The literacy ratio amongst male and female is 1.3:1. About 14% of school age children have never attended school. Among the illiterate, 11% could read (but not understand) the Holy Quran. 2.9% of the surveyed population is only able to write their names or read newspapers to some extent. Formal education level was achieved by 16.5% for primary education, 14.1% for matriculation, 3.1% for intermediate, 1% for graduation and 0.5% for post-graduation. Overall, the literacy level is only 36.3% as compared to 47% at Pakistan level. Table 3.11 shows the level of education among the surveyed male and female population of the project area. Table 3.12 shows the number of schools and universities in the districts falling in the command area of the project.

Table 3.11: Education Levels in Project Area

Sr #	Description	Male %	Female %	Overall %
1	Illiterate	14.1	26.3	20.6
2	Read Quran	11.1	13.7	11.1
3	Just literate	3.8	1.9	2.9
4	Trade Skill	0	0.3	0.1
5	Primary	18	9.3	16.5
6	Matric	16	4.6	14.1
7	Intermediate	5.4	0.6	3.1
8	Graduate	3.2	1.3	1.1
9	Masters	0.5	0.4	0.5
10	School age-not going	12.1	15.4	14
11	Below school age	15.8	26.2	16

Table 3.12: Educational Facilities in Command Area Districts

No	Description	Sukkur	Khairpur	Sanghar	Nawabshah	Mirpur Khas	Naushe hro Feroze	Larkana	Shikarpur	Jacobabad	Dadu	Ghotki
1	No. of universities.	-	1.00	-	1.00	-	-	-	-	-	5.00	-
2	Primary and Middle Schools (No)	1,039	1,398	3,252	102	1,657	2,028	2,721	609	2,594	2,608	1,411
3	Secondary and Higher	156	229	-	-	114	64	94	118	-	-	37

Water Supply and Sanitation. As per the socioeconomic survey, the population of about 76% villages, located in the command area of the Barrage rely on hand pumps for drinking water. More than 28% of the villages also get drinking water from canals or from the river. The percentage of villages using various sources of drinking water in the command area of the canals is shown in Table 3.13.

Table 3.13: Sources of Drinking Water in Surveyed Villages

Name of Canal	Piped Supply	Tube well	Well	Hand Pump	Private Electric Pump	Canal/ River	Other
Khairpur East Feeder	4.49	5.99	2.20	89.14	17.83	10.72	4.35
Khairpur Western Feeder	4.51	6.10	1.86	90.72	17.51	11.14	3.98
Nara Canal	6.09	1.75	2.20	41.85	5.43	80.69	10.43
Rohri Canal	5.60	5.55	6.38	71.51	13.83	46.13	4.38
Dadu Canal	6.99	12.20	16.92	64.13	4.01	15.59	15.48
North Western Canal	7.33	1.10	4.40	89.01	4.03	24.54	5.13
Rice Canal	5.16	6.97	13.42	83.87	5.03	8.39	7.23
Overall	5.74	5.67	6.77	75.75	9.67	28.17	7.28

The general sanitation standard is poor in rural as well as urban areas, as indicated by the findings of the socioeconomic survey. Municipal solid and liquid waste is normally disposed off in canals and the River Indus by communities at will. Latrines are located within and outside of housing units. This socioeconomic survey shows that a large number of sampled households have fitted flush system within the housing unit. Others go to agricultural fields or behind the boundaries of the houses to urinate or defecate. About 86.7% have latrine facility with flush mechanism within their houses, of which 30% have the modern fittings of seat and tank fitted with their flush system in the latrine.

3.19 Gender Issues

The role of women in domestic activities and their involvement in decision making was explored by posing a series of questions to male respondents during the socioeconomic survey. Findings reveal that women are the most suppressed section of society. In rural areas, they are refused the access to education, hospital or travel. In urban areas, however, the women have access to education, employment, travel and medical treatment. Women have high involvement in household activities and child rearing. The only economic activities with some of women is livestock rearing and farming. The findings of the socioeconomic survey are presented in Table 3.14.

Table 3.14: Participation of Women in Activities and Decision Making

<i>Nature of Activities</i>	<i>Participation by Women %</i>	
	<i>In Activity</i>	<i>In Decision Making</i>
Household Activities (washing, cooking, repairs)	88.1	66.3
Child Caring	98.1	60.8
Livestock Rearing	50.0	13.2
Farm/Crop Activities	64.7	3.4
Social Obligations (Marriage, Death events)	89.6	2.5
Sale & Purchase of Land/ Immovable Property	4.5	1.0
Any Other Issue in the family	3.4	-

3.20

NGOs

In Sukkur town and project area, there are Sindh Youth Welfare Organization (SYWO), Shades Welfare Society, Oxford Committee for Famine Relief (OXFAM), and Sindh Rural Support Program (SRSP). In addition, there are Benazir Income Support Programme (BISP, national conditional cash transfer program) and Agha Qadir Dad Agricultural Market Association.

3.21

Communications

The same TV channels with the command area of Guddu Barrage are available in that of Sukkur Barrage (see 3.14). In Sukkur town, following media networks are present: Daily Ibrat, ARY News & Kawish Daily News, Geo News & Daily Jang, Gimni Cable Network, Gimni Barrage Colony Cable Network, Gimni Miltiray Road Cable Network, Gimni Bhutta Road Network, and World Vision Cable Network.

3.22

Resettlement Scoping under the Proposed AF

Under the proposed AF, no land acquisition or resettlement is anticipated for the proposed interventions. However, there could be some land requirement for any unforeseen works around the Barrage or works at the canal offtake points. There may also be temporary land acquisition, depending on camp site requirements. Should land acquisition be required, SID will prepare a resettlement action plan (RAP), including compensation details, according to the updated RPF. Below assesses each component of the works in Sukkur and identifies which components may *potentially* require land acquisition and resettlement.

Desilting of the Barrage. According to Figure 2.1, civil work includes: (a) removing a piece of left bank bela and (b) desilting around the middle bank island, edging the outer bank bela. Left bank bela, middle bank island, and outer bank bela are all cultivated by squatters and tenants. Vegetables and fodder are cultivated throughout the year, in addition to wheat in rabi and cotton in kharif. 5 unskilled workers employed by SID reside on the middle bank island with their families, carrying out some routine maintenance work. They own cattle, and women take care of the livestock. Table 3.15 provides estimated areas of cultivation, while Table 3.16 provides number of cultivating households by area:

Table 3.15. Estimated areas of cultivation

Sr. No	Location	Estimated Area (Acres)
1	Left Bank Bela	120.25
2	Middle Bank Island	45
3	Outer Bank Bela	5
Total:		170.25

Table 3.16. Number of households in cultivation

Sr. No.	Location	No.	Household Members (No.)
1	Left Bank Bela	24	256
	Squatters	24	256
	Tenants	0	0
2	Middle Bank Island	14	127
	Squatters	5	46
	Tenants	9	81
3	Outer Bank Bela	2	21

	Squatters	1	5
	Tenants	1	16
	Total	40	404
	Squatters	30	307
	Tenants	10	97

Currently, no on-going cultivation is observed on the slice of left bank bela that will be removed as a part of desilting. The middle bank island and outer bank bela will remain intact under the current design. In the middle bank island, consultations were undertaken with squatter households. Women, in particular, were interested in employment of their sons above 18 years old as unskilled laborers. The squatters and tenants are accessing the island or outer bank bela by boat from upstream. During dredging around the island, the water will be closed for safety for about 8 months. Contractor/PMO will provide safe access either from the Barrage or through a dedicated access route marked by buoys. Noise and privacy issues will be managed by mitigation measures in ESMP.

Depending on location study during the AF implementation, removal of left bank bela, middle bank island, and/or outer bank bela may be required. If so, an abbreviated RAP will be prepared according to the updated RPF.

Excavated materials will be placed on lower left banks. There is no cultivation or resident in these areas.

Desilting of three right bank canals. Desilting of Dadu and North Western canals will be up to 7km respectively from the canal off-taking, while that of Rice canal will be up to 25 km from the off-taking. The three right bank canals are encroached by approximately 300 households up to around 7km. However, there will be no resettlement or impact on their livelihoods, as civil works will take place within the canals during their regular closure period: Rice and Dadu canals close for 6 months, while NW canal closes for one and half month. Civil works in three canals will take about 3 months in total. The excavated materials will be transported within canals up to ramps set up at canal offtakes and deposited at the placement area on right bank (see Figure 2.6). There is no cultivation or resident at the placement area. Because there is no encroachment beyond the first 7km of the Rice canal, materials will be placed on the embankment for strengthening.

Below Table 3.17 summarizes potential land acquisition and resettlement impacts of the proposed AF, which would be of importance to the updated RPF.

Table 3.17: Resettlement Scoping by Work Component in Sukkur

Work Component	Description	Potential Resettlement Required?	Government owned land	Privately owned land	
				Temporary Acquisition	Permanent Acquisition
Establishment of Construction/ Labour Camps and Workshop	The camp and workshop sites identified by the Government will not require physical displacement, temporary or permanent land acquisition. However, the contractor may choose sites where permanent or temporary land acquisition may be required.	No	Yes – dependent upon chosen site	Possible – dependent upon chosen site	No
Dredging	There are about 5 resident HHs on the middle bank island. Dredging work will be around the island. On left bank bela, 24 squatter households cultivating. None of them reside there. A small piece of this bela will be	No – however, depending on location study, the island and/or outer bank bela may be removed	Yes	No	No

	dredged. Currently, there is no cultivation on this piece.				
Excavation of sediments	The work is confined within the river.	No	Yes	No	No
De-silting of right bank canals	There are about 300 encroaching HHs on three embankments. De-silting work will be confined within the canals during regular closure	No	Yes	No	No

3.21 Labor Influx under the Proposed AF

Average labour requirement per day would be 200, while peak time requirement is estimated 350. Unskilled workers (up to 65% of total labour) will be mainly hired locally. The number of skilled workers to be brought by the contractor from other parts of Pakistan or abroad will be around 40 to 60 people. Unlike the project area of Guddu Barrage rehabilitation, the socio-economic survey did not indicate any tribal conflict in the project area for Sukkur Barrage rehabilitation. However, like the original project, Contractor/PMO will advertise labor opportunities widely and monitor hiring.

4. RESETTLEMENT POLICY FRAMEWORK

4.1 Objectives

The RPF is to guide preparation of RAP should the project activities, including the contractor operations, require resettlement of Project Affected Persons (PAPs) or any land acquisition (temporary or permanent). The framework applies to all components under the original project as well as the proposed AF, whether or not they are directly funded in whole or in part by the Bank, to ensure that those adversely affected under the project will have their livelihoods improved or at least restored.

Implementation of any works requiring a RAP shall not commence before necessary measures for resettlement and compensation are in place according to steps identified in this RPF. These measures will include provision for compensation and other assistance required for relocation, prior to displacement, and preparation and provision of resettlement sites with adequate facilities, where required and livelihood restoration measures. In particular, the taking of land and related assets may take place only after compensation has been paid and, where applicable, resettlement sites, new homes, related infrastructure, public services, moving allowances have been provided to displaced persons and measures have been taken to ensure the livelihood restoration. For works requiring relocation or loss of shelter, the policy further requires that measures to assist the displaced persons be implemented in accordance with the RAP.

The policy aims to have the affected persons participating in the process and any compensation to be full, fair and prompt.

The objectives of this policy should be adhered to:

- Involuntary resettlement and land acquisition should be avoided where feasible, or minimized, exploring all viable alternative sub projects design.
- Where involuntary resettlement and land acquisition is unavoidable, resettlement and compensation activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to give the persons displaced by the project the opportunity to share in project benefits. Displaced and compensated persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- Displaced and compensated persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

4.2 Resettlement of Project Affected Persons

PAPs are defined under the project as people who are directly affected socially and economically by the Bank assisted investment projects, caused by the involuntary taking of land and other assets resulting in

- relocation or loss of shelter;
- loss of assets or access to assets; or

- loss of income sources or means of livelihood, whether or not the affected persons must move to another location

4.3 Legal Framework

4.3.1 Pakistan Legal Framework – Land Acquisition Act (LAA) 1894

The Land Acquisition Act (LAA) of 1894 is the key legislation that has direct relevance to resettlement and compensation in Pakistan. Each province has its own interpretation of the LAA, and some provinces have also passed provincial legislations. The LAA and its implementation rules require that before implementation of any development project the privately owned land and crops are compensated to titled landowners and/or registered tenants/users etc.

Based on the LAA, only legal owners and tenants registered with the Land Revenue Department or those possessing formal lease agreements are eligible for compensation. Under this Act, users of the Rights of Way (RoW) are not considered "affected persons" and thus not entitled to any mitigating measure, compensation, or livelihood support. Under this Act, only legal owners and tenants officially registered with the Land Revenue Department or possessing formal lease agreements are considered "eligible" for land compensation. Thus, there is no legal obligation to provide compensation to title-less land users, unregistered tenants or encroachers for rehabilitation. However, after independence and with the passage of time various deviations to LAA have been practiced. Projects such as Ghazi Barotha and National Highways Authority road construction have awarded compensation to unregistered tenants and other forms of affected persons (Share-croppers, squatters).

The LAA also does not automatically mandate for specific rehabilitation/assistance provisions benefiting the poor, vulnerable groups, or severely affected PAPs, nor does it automatically provide for income/livelihood losses or resettlement expenses rehabilitation. Though, often this is done; it is the responsibility of affected persons to apply for benefits, rather than the responsibility of the project proponent to automatically provide them.

As mentioned above, exception to the rules can be explained by the fact that the law is not rigid and is broadly interpreted at the provincial level depending on operational requirements, local needs, and socio-economic circumstances. Recourse is often taken to ad-hoc arrangements, agreements and understandings for resettlement in difficult situations. The above is also influenced by the fact that an amendment of the LAA is considered by the Ministry of Environment. A National Resettlement Policy (NRP) has been drafted to broaden LAA provisions and current practice so as to widen the scope of eligibility and tightening up loopholes (i.e. regarding definitions of malpractice, cut-off dates, political influence on routing, etc.). It is just in a draft shape and has not approved yet.

The key sections of the LAA, 1894 are briefly described below.

Section 3

According to this Section 3 of the Act, *Land* is defined as including benefits to arise out of land, and things attached to the earth or permanently fastened to anything attached to the earth

Section 4

Section 4 of the Act requires that a preliminary notification is published in the official Gazette as well as at convenient places in the locality of the *Land* to be acquired. This notice allows an officer appointed by the GoSindh and his/her workmen to enter on to the land for the purposes of surveys, soil tests, setting out, with the exception of occupied houses unless with consent or following at least seven day's written notice of intention.

Requirements for publication of the notification under Act are mandatory, and the acquisition proceedings would stand invalid if requirements of this section are not fully satisfied. The purpose of Section 4 is to enable preliminary investigations/land survey with a view to determine the suitability of the *Land*.

Section 5

If the *Land* notified under Section 4 is found to be suitable, or if no such survey is required at any time, a notice is issued under Section 5 of the Act. As for section 4 the notification is published in the official Gazette as well as at convenient places at or near the *Land* to be acquired. The notice must state the location of the *Land*, purpose of acquisition, area and, where a plan has been prepared, the location where such a plan is available for inspection.

Under section 5, the owners of *Land* or those affected or likely to be affected, may raise objections in writing to the *Collector*³ within 30 days of notification under section 5. The *Collector* shall give the objector an opportunity to be heard, and after making further enquiry if any, shall submit the case to the Commissioner together with proceedings held by the *Collector* containing his/her recommendations. The decision of the Commissioner is considered final.

Section 6

Under section 6, a Secretary to the Commissioner (or other authorised official) may declare that the land is required for public purpose after considering any objections, if any, under section 5. The declaration shall be published in the official Gazette stating the location of the Land, purpose of acquisition, area (size) and, where a plan has been prepared, the location where such a plan is available for inspection. The area (size) declared under section 6 supersedes the area notified under section 4 or 5, where the area declared under section 6 is lesser.

Section 7

Following declaration under section 6, the *Collector* shall be directed by the *Commissioner* to take order for the acquisition of the *Land*.

³The *Collector* is a principal Civil Court in the jurisdiction of the *Land* or a special judicial officer appointed by the Government of Sindh to perform the functions of the Court

Section 8

Under section 8 of the Act the *Collector* shall mark out the *Land* to be acquired (if not completed under section 4) and prepare a plan showing the measurements of the area (if not previously prepared).

Section 9

Under section 9, the *Collector* places a notification on or near the *Land* to be acquired stating the intention to acquire the *Land* and that claims to compensation should be made to the *Collector*. The notice shall require those with interests in the *Land* to appear personally or by agent before the *Collector* at a stated time and place to state the amount and particulars of their claims to compensation and any objections to measurements made under section 8. The *Collector* may require such statements in writing.

Under section 9, the *Collector* shall also serve notice to the ID of an enquiry under section 11 of the Act for the determination of claims and objections. The ID shall be required to depute an authorised representative to attend the enquiry.

All notices under section 9 must be made not less than 15 day prior to the date of an enquiry under section 11.

Section 10

Under section 10, interested people are required to deliver the names of any other person possessing an interest in the *Land* (including co-proprietor, sub-proprietor, mortgagee or tenant), the nature of such interest and details of any rents and profits received or due in the preceding three years. The date by which the information may be submitted to the *Collector* must be no early than 15 days of notice under section 9.

Section 11

Under section 11, the *Collector* shall hold an enquiry into objections received between the date of notification under section 9 and the date of the enquiry. The date of the enquiry must be no earlier than 15 days following the notification under section 9. Objections may relate to measurements made under section 8, the value of the land, the date of notification under section 4 or the interests of those claiming compensation.

The *Collector* shall, through this enquiry, determine the true area of the land, the compensation due and to whom it is due and make the award.

Section 12

The determination of the *Collector* is considered final when filed in his office. The *Collector* shall immediately give notice of the award to interested people and he may take possession of the *Land* which shall thereupon vest absolutely in the government/ or acquiring department.

Sections 13 and 14

Sections 13 and 15 give the *Collector* power to adjourn enquiries, call witnesses and summon evidence.

Section 15, 23 and 24

Sections 15, 23 and 24 define the methodology for determination of compensation to be awarded. Section 23 requires the following to be considered:

- Market value of the *Land* at date of publication of section 4 plus 15%. Market value shall be determined taking into account transfer of land similarly situated and in similar use. Consideration of potential value of the *Land* if put to a different use shall only be considered if it can be shown that land similarly situated and previously in similar use has, before the date of notification under section 4, been transferred to such a use.
- Damage to standing crops or trees
- Damage caused by severing *Land* to be acquired from the person's other land
- Damage to other property or earnings caused during acquisition
- Reasonable expenses due if the affected person is required to change residence as a result of the acquisition
- Any bona fide diminution of profits of the *Land* between date of declaration under section 6 and date of possession by *Collector*

Under section 24, the following shall not be taken into consideration when determining compensation:

- The degree of urgency of the acquisition
- Disinclination of affected person to part with *Land* acquired
- Any improvements to the *Land* made following notification under section 4
- Any increase to the value of the *Land* , or other land owned by an affected person likely to occur from the use to which the acquire land will be put following acquisition.

Section 17

In emergency cases the *Collector*, when directed by the Commissioner, may make notification under section 9 of any waste or arable land any time following notification under section 4. The *Collector* may take possession following 15 days of notice under section 9 of the Act, from which time the land shall rest with the Government. In such a case the value of compensation may be made by the *Collector* considering those issues usually exempt from valuation under section 24 of the Act.

Under section 17, sections 5, 6 and 11 (relevant to objections and enquiries) need not be applied in an emergency situation.

In the case where, following an emergency, immediate possession of *Land* is required for the purposes of maintaining traffic over a public road, the above process may be applied

without the requirement to wait 15 days following notice under section 9 of the Act. In other words, the *Collector* (with approval from the Commissioner) may take possession of the required *Land* immediately following notification under section 9.

While there is no need for permanent land acquisition under the proposed AF, should permanent land acquisition be required under the original project or the proposed AF (due to a subsequent change in the design or scope of works), the land shall be acquired under LAA as detailed in this section without the use of the Emergency Clause in section 17.

4.3.2 World Bank Framework - Involuntary Resettlement Policy (OP 4.12)

The World Bank's experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social, and environmental risks: production systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost. This policy includes safeguards to address and mitigate these impoverishment risks.

The overall objectives of the Policy are given below:

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.
- The Policy defines the requirement of preparing a resettlement plan or a RPF, in order to address the involuntary resettlement.

For the original project as well as proposed AF, livelihood of some persons may be affected due to their dislocation from their current location. In view of this, the World Bank Operational Policy (OP) 4.12 will be triggered. The Bank Policy on Access to Information⁴ also applies. This RPF, therefore, has been developed in accordance with these policies.

This policy covers direct economic and social impacts from Bank-assisted investment projects that may be caused by:

- The involuntary taking of land resulting in
 - Relocation or loss of shelter;

⁴ Effective on July 1, 2010. See <http://documents.worldbank.org/curated/en/2010/07/12368161/world-bank-policy-access-information>

- Loss of assets or access to assets; or
- Loss of income sources or means of livelihood, whether or not the PAP must move to another location.
- The involuntary restrictions of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

According to the World Bank policy, the following measures should be adopted regarding project affected people:

- Informed about options and rights pertaining to resettlement matters
- Consulted on choices offered and provided with technically and economically feasible resettlement alternatives
- Provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project
- Provided assistance like moving allowances during relocation; and offered support after displacement, for a transition period, based on a reasonable estimate of the time likely to be needed to restore their livelihood and standards of living
- Provided with development assistance
- Provided counselling in respect of credit facilities, trainings, or job opportunities; and
- Provided with measures to assist the displaced persons in their efforts to improve their livelihoods, or at least to restore, in real terms.

4.3.2.1 Criteria for Eligibility

Under the WB OP, the PAPs may be classified in one of the following three groups.

1. Who have formal legal right of land (including customary and traditional rights) recognized under the laws of the country
2. Who do not have formal legal rights of land at the time of census begins but have a claim to such land or assets provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement policy.
3. Who have no recognized legal right or claim of the land they are occupying

Persons covered under criteria 1. and 2. above are provided compensation for the land they lose. All PAPs meeting any of the above criteria are provided compensation for any lost assets as well as additional resettlement assistance as required by the WB OP 4.12.

4.3.3 Comparison of Pakistan and World Bank Policies

Pakistan's environmental and social assessment procedures are in general based on and in line with the environmental and social guidelines of the World Bank. However, there are some differences between the Pakistan legislation and the World Bank safeguards particularly regarding land acquisition and the resettlement of PAPs.

The WB OP explicitly makes adequate provision for the PAPs who are either displaced or suffer losses, as a result of the development project to be catered for. Livelihoods of persons

to be affected must be protected, but in cases where it is inevitable, minimal displacements may occur. In such cases where displacement is unavoidable, compensation should be paid to the PAPs to help them to restore their social, economic and environmental livelihoods.

The LAA, 1894 makes provision for compensation to be paid only to PAPs having suffered any loss who can produce a form of title that is legal in the form of occupancy / ownership or a legally binding tenancy agreement to the land in question. However, the WB policy requires all forms of losses, regardless of rights to land, be catered for to some degree.

The WB OP requires that the affected persons be assisted during their transition period in the resettlement site and efforts made to restore their livelihoods, whereas LAA, 1894 does not include such a requirement. Table given below highlights the main comparisons between the LAA, 1894 and the WB OP on Involuntary Resettlement.

Table 4.1: Comparison of LAA and World Bank Policy

Pakistan's Land Acquisition Act, 1894	WB Involuntary Resettlement Policy
Compensation only for titled landowners or holders of customary rights.	Lack of title should not be a bar to compensation and/or rehabilitation.
Crop losses compensation provided only to registered landowners and share-crop/lease tenants.	Crop losses compensation provided to landowners and share-crop/lease tenants whether registered or not
Land Acquisition Collector (LAC) is the only pre-litigation final authority to decide disputes and address complaints regarding quantification and assessment of compensation for the affected assets	Disputes, complaints and grievances are resolved informally through community participation in the Grievance Redress Committees, Local governments, and NGO and/or local-level community based organizations (CBOs)
The decisions regarding land acquisition and compensations to be paid are published in the official Gazette and notified in convenient places so that the people affected are aware	Information related to quantification and costing of land, structures and other assets, entitlements, and amounts of compensation and financial assistance are to be disclosed to the affected persons prior to taking possession of their assets.
No provision for income/livelihood rehabilitation measure, allowances for severely affected PAPs and vulnerable groups, or resettlement expenses	The WB policy requires rehabilitation for income/livelihood, for severe losses, and for expenses incurred by the PAPs during the relocation process.

4.3.4 Remedial Measures to Bridge the Gap

In principle, Pakistan's law and WB policy adhere not only to the objective of compensation for affected families, but also to the objective of rehabilitation. However, Pakistan's law is unclear on how rehabilitation is to be achieved and in practice the provision of rehabilitation is left to ad hoc arrangements taken by provincial governments and the specific project proponents. To clarify these issues and reconcile eventual gaps between Pakistan's Law and WB Policy, this RFP has been prepared for the rehabilitation of the Guddu Barrage project and updated for the rehabilitation of the Sukkur Barrage to ensure the following:

- Compensation for lost assets regardless of rights to land on which they are sited
- Resettlement assistance shall be offered to all PAPs, regardless of legal entitlement to the land they occupy
- Provision of additional allowances for vulnerable PAPs
- Provision of additional allowance for those who may suffer commercial losses
- Establishment of a Grievance Redress Committee as part of any RAP

4.4 Eligibility and Entitlement Criteria

A criteria for the eligibility of PAPs and entitlements due has been prepared as part of this RPF.

4.4.1 Category of Displaced Person

The likely displaced persons can be categorized into following groups, namely:

- **Affected Individual.** An affected individual is one who suffers loss of assets or investments, land and property and/or access to natural and/or economical resources as a result of the sub- project and to whom compensation is due. For example, an affected individual is a person who farms, or who has built a structure on land that is now required by a sub project for purposes other than farming or residence by the initial individuals. Affected individuals could be title holders (those who have formal legal right of land), squatters (those occupying land for residential or commercial purposes), or encroachers (those farming, logging, grazing, or making some other extractive use of the land)
- **Affected Household.** A household is affected if one or more of its members is affected by project activities, either by loss of property, land, loss of access or otherwise affected in any way by project activities. This provides for: (a) any members in the households, men, women, children, dependent relatives and friends, tenants; (b) relatives who depend on one another for their daily existence; (c) other vulnerable people who cannot participate for physical or cultural reasons in production, consumption, or co-residence.
- **Affected Local Community.** A community is affected if project activities affect their socio-economic and/or social-cultural relationships or cohesion.
- **Vulnerable Households.** Vulnerable households may have different land needs, or reduced ability to absorb changes, or needs unrelated to the amount of land available to them and may include: (a) unmarried women living alone, (b) elderly, (c) infirm or ill, (d) orphans, and (e) those living below poverty line. The income levels have been considered in relation to the poverty line of Pakistan.

4.4.2 Eligibility Criteria

Each category of vulnerable person or household must be compensated according to the nature of the economic loss suffered by loss of access to or use of the land acquired by the sub-project.

The Bank's OP 4.12 suggests the following three criteria for eligibility;

1. Those who have formal legal right of land (including customary and traditional rights) recognized under the laws of the country
2. Those who do not have formal legal rights of land at the time of census begins but have a claim to such land or assets provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement policy.
3. Those who have no recognized legal right or claim of the land they are occupying

Those covered under 1) and 2) above are to be provided compensation for the land they lose, and other assistance in accordance with the policy. Persons covered under 3) above are to be provided with resettlement assistance in lieu of compensation for the land they

occupy, and other assistance, as necessary, to achieve the objectives set out in this framework, if they occupy the project area prior to a cut-off date established by an RAP and acceptable to the Bank. Persons who encroach on the area after the cut-off date are not entitled to compensation or any other form of resettlement assistance. All persons included in 1), 2) or 3) above are to be provided with compensation for loss of assets other than land.

It is clear that all affected persons irrespective of their status or whether they have formal titles, legal rights or not, are eligible for some kind of assistance if they occupied the land before the entitlement cut-off date. The entitlement cut-off date refers to the time when the assessment of persons and their property in the project area is carried out, i.e. the time when the project area has been identified and when the socio-economic study is taking place. Thereafter, no new cases of affected people will be considered. Persons who encroach upon the area after the socio-economic survey (census and valuation) are not eligible for compensation or any form of resettlement assistance.

4.4.3 Method to Determine the Cut-off Dates

The entitlement cut-off date refers to the time when the assessment of persons and their property in the sub-project area is carried out, i.e. the time when the Col has been identified and when the site-specific socio-economic study is taking place. The establishment of a cut-off date is required to prevent opportunistic invasions/rush migration into the chosen land areas thereby posing a major risk to the sub-project. Therefore, establishment of a cut-off date is of critical importance and must be defined in the RAP as well as publicised at resettlement locations and discussed during consultations with PAPs. Where there are clearly no identified owners or users of land or assets, the relevant revenue Officer of District will be consulted. The cut-off date for land and non-land related compensation will be the date of the start of the census survey.

4.4.4 Entitlements

In accordance with WB OP 4.12, the entitlement matrix for the original project was prepared, based on the following principles:

- Entitlement for those with rights (formal or recognisable) to the land they occupy:
 - Cash compensation for lost land, or provision of alternative land with formal rights (agricultural land or housing sites)
 - Cash compensation for lost assets, or provision of alternative assets (including housing)
 - Moving allowance
 - Transition allowance
 - Compensation for loss of earning in the case of loss of business

- Entitlement for those without rights to the land they occupy:

- Cash compensation for lost assets
- Provision of alternative site to reconstruct lost structural assets, or cash compensation adequate to gain formal rights to alternative land adequate for reconstruction of lost structural assets
- Moving allowance
- Compensation for loss of earning in the case of loss of business

Where alternative entitlements are offered, the final decision on the suitable entitlement shall be made during consultations with the PAPs to whom the entitlements are due. All compensation will be at replacement value without deducting depreciation and salvage value. Cash compensation will be indexed for inflation. Additional cash compensation is also offered to PAPs who are considered vulnerable.

Under the proposed AF, entitlement provisions for PAPs have been updated to make those consistent with the Bank-financed Water Sector Improvement Project (WSIP). WSIP is also implemented by the same implementing agency (Irrigation Department) and is supporting canal rehabilitations, including the command areas of Guddu and Sukkur Barrages. It is, therefore, important that the entitlements are applied consistently. Under WSIP, three RAPs were prepared and approved by the Bank in 2016. At that time, the Bank also approved an updated WSIP entitlement matrix, which was originally prepared in 2006. In September 2017, an abbreviated RAP for SBIP was also prepared for Guddu Barrage rehabilitation, in line with the updated WSIP RPF. The revised entitlement matrix is given in Table 4.2.

Table 4.2: Entitlement Matrix

Type of Loses	Application	Definition of Entitled Person	Entitlement Policy
1 Structures (residential, religious or institutional) and hand pumps	Partial loss of structure and the remaining structure still viable for continued use	Owner of the affected structure with or without valid title or customary right to land at which it is sited	Cash compensation for affected part of the structure at replacement value; and Allowance to cover repair cost of the remaining structure.
		Tenant / leaseholder in the partially affected structure	Cash compensation to cover proportional reimbursement for un-expired lease period
	Entire loss of structures or where only partial impact, the remaining structure is rendered unviable for continued use	Legal owner of the affected structure with valid title or customary right to land at which it is sited	Cash compensation for entire structure at replacement value, Or: Structure of equivalent standard in acceptable location Transport allowance for moving to new location (current rate)
		Tenant / leaseholder in the affected structure	Transition allowance equivalent to three-month rent (current rate) Transport allowance for moving to new location (current rate)
		Owner of affected structure without title or right to land at which it is sited	Cash compensation for entire structure at replacement value OR Structure of equivalent standard in acceptable location Transport allowance for moving to new location (current rate)
2 Structures (commercial)	Partial loss of shop/cabin and the remaining structure still viable for continued use	Owner of the affected structure with or without valid title or customary right to land at which it is sited	Cash compensation for affected part of the structure at replacement value Allowance to cover repair cost of the remaining structure Compensation for loss of income as per #8
		Tenant / leaseholder in the partially affected structure	Cash compensation to cover proportional reimbursement for un- expired lease period Compensation for loss of income as per #8
	Entire loss of shop/cabin or where only partial impact, the remaining structure is	Owner of the affected structure with or without valid title or customary right to	Cash compensation for entire structure at replacement value,

	rendered unviable for continued use	land at which it is sited	Or: Structure of equivalent standard acceptable to PAP Transport allowance for moving business to new location (current rate) Compensation for loss of income as per #8
		Tenant / leaseholder in the affected structure	Transition allowance equivalent to three months' rent (current rate). Transport allowance for moving business to new location (current rate) Compensation for loss of income as per #8
3	Land (residential, commercial, industrial, religious or institutional - excluding assets)	Partial loss of land with remaining land sufficient for continued use/habitation	PAPs with valid title or customary or usufruct rights Cash compensation for affected portion of land at replacement value Tenant or lease holder of lost land Reimbursement for loss of income for the un-expired lease period
		PAPs without title (Squatter/ Informal Settlers)	N/A, however, vulnerable allowance may apply (see below)
		Loss of land without sufficient remaining land for continued use/habitation	PAPs with valid title or customary or usufruct rights An equivalent area of land of similar characteristics and access to facilities in an acceptable location, OR Compensation as per Pakistan Land Acquisition Act Transport allowance for moving to new location (current rate)
		Tenant or lease holder of lost land	An equivalent area of leased land for un-expired lease period, OR Reimbursement for un-expired lease period Transport allowance for moving to new location (current rate)
		PAPs without title (Squatter/ Informal Settlers)	N/A, however, vulnerable allowance may apply (see below) Transport allowance for moving to new location (current rate)
4	Land (agricultural)	Partial and permanent loss of land with remaining holding economically viable (greater than 0.5 acres)	PAPs with valid title or customary or usufruct rights Compensation as per Pakistan Land Acquisition Act Tenant, lease holder or sharecropper Cash compensation equivalent to market value of gross harvest for one year production or for the remaining period of tenancy/lease, whichever is greater. Compensation to be reduced to mirror share

				cropping agreements in place between owner and tenant (typically 50%); AND Cash compensation equivalent to market value of standing crops that could not be harvested. Compensation to be reduced to mirror share cropping agreements in place between owner and tenant (typically 50%)
			PAPs without title (Squatter/ Informal Settlers)	Cash compensation equivalent to market value of standing crops that could not be harvested. Vulnerable allowance may also apply (see below)
	Permanent loss of entire land holding, or partial loss where remaining holding is less than 0.5 acres		PAPs with valid title or customary or usufruct rights	Equivalent area of land with equivalent productive potential at location acceptable to PAP, OR Compensation as per Pakistan Land Acquisition Act
			Tenant, lease holder or sharecropper	Cash compensation equivalent to market value of gross harvest for one year production or for the remaining period of tenancy/lease, whichever is greater. Compensation to be reduced to mirror share cropping agreements in place between owner and tenant (typically 50%) AND Cash compensation equivalent to market value of standing crops that could not be harvested. Compensation to be reduced to mirror share cropping agreements in place between owner and tenant (typically 50%)
			PAPs without title (Squatter/ Informal Settlers)	Cash compensation equivalent to market value of standing crops that could not be harvested. Vulnerable allowance may also apply (see below)
5	Loss of structures (community)	Partial loss of structure and the remaining structure viable for continued use by current occupier	Community	Cash compensation for affected part of the structure at replacement value; AND Allowance to cover repair of the remaining structure
		Entire loss of structures or where only partial impact, but the remaining structure is rendered unviable for continued use	Community	Cash compensation for entire structure at replacement value
6	Loss of access to common resource and facilities	Loss of access to rural common property resources and urban civic amenities	Communities/ households	Replacement of common property resources/ amenities; OR Access to equivalent amenities/ services
7	Loss of trees	Affected trees	Owner of trees	Cash compensation equivalent to market value of on the basis of type, age and productive value
8	Loss of trade/ occupation or business incomes	Loss of trade/occupation or business due to dislocation or loss of asset (except agricultural land or crops – see #4 or #5	Affected owner, employee, or labourer	Livelihood allowance equivalent to three months incomes/ wages in case of permanent or temporary closure OR three-month minimum wage (whichever

	respectively)		is greater)	
9	Temporary Loses	Severely affected structures	PAPs made to shift temporarily from their present location	Entitlement will be in terms of rent allowance to cover the cost of alternate accommodation for the period of temporary displacement.
		Affected structures or other fixed assets	Affected PAPs	In cash, on the basis of replacement cost of material and labour without deduction for depreciation or salvageable materials for the damages during the period of temporary possession
		Temporary acquisition of land or asset	PAPs with valid title or customary or usufruct rights to land or asset	No compensation if returned to the original user in acceptable condition Monthly rent as per market value Compensation for damage or repair to original condition
			Tenant, lease holder, and sharecropper	Proportional reimbursement of lease for period of acquisition OR Market value of gross harvest for production over period of temporary loss (rounded up to the nearest year). Compensation to be reduced to mirror share cropping agreements in place between owner and tenant (typically 50%)
10	Loss of structure (institution)	Partial loss of structure and the remaining structure viable for continued use by current occupier	Institution	Repair under the civil works contract
		Entire loss of structures or where only partial impact, but the remaining structure is rendered unviable for continued use.	Institution	Replacement under the civil works contract
11	Loss of land (unused)	Partial but permanent loss of land	Legal owner with valid title or customary or usufruct rights	Compensation as per Pakistan Land Acquisition Act
		Permanent loss of entire land or where partial loss but the remaining land is less than 0.5 acre	Legal owner with valid title or customary or usufruct rights	Compensation as per Pakistan Land Acquisition Act
12	Any loss above	Vulnerability allowance	PAP classed as vulnerable regardless of legal entitlement to land	Vulnerability allowance equal to two months household income, or two months minimum wage (whichever is greater)

4.4.5 Calculation for Compensation Payments

Individual and household compensation will be made in kind and/or in cash (refer to Table 4.3). Although the type of compensation may be an individual's choice, compensation in kind will be preferred, if available, when the loss amounts to more than 20 percent of the total loss of assets. Compensations for land and other assets (buildings and structures) are determined as follows:

Table 4.3: Forms of Compensation

Compensation	Notes
Cash Payments	Compensation will be calculated and paid in the national currency. Rates will be based on the market value of land and/or assets when known, or estimated when not known, plus compensation for the value of standing crops.
In-Kind	When loss amounts to more than 20 percent of the total assets lost, in-kind compensation will be preferred, if available. Compensation may include items such as land, houses, and other buildings, building materials, seedlings, agricultural inputs and financial credits for equipment.
Assistance	Assistance may include moving allowance, transportation and labour.

4.4.5.1 Land Valuation and Compensation

Under the present designs, no permanent land acquisition is anticipated for the proposed AF. Should there be any design changes during construction which necessitate permanent land acquisition and RAP preparation, the following procedure will be adopted, as per the LAA:

- The Executive Engineer of Guddu or Sukkur Barrage (whichever relevant) will write to Revenue Department, GoSindh for permanent land acquisition in the interest of welfare of the country.
- Revenue Mukhtiarkar will give a notice to land owner to produce the documents that prove land ownership (Form-7)
- The land owner will provide the copy of the Form-7 to Mukhtiarkar to prove ownership
- Revenue Department will notify the State Land Department that the particular area is required for state welfare works permanently and hence section 4 and 6 of the LAA shall be applied to that area under state land laws.
- The state land department will issue the notification of acquisition of the area.
- Following application of section 4 and 6 of the LAA, the Revenue Deputy Commission will decide the price of land as per the provisions of the LAA and pay the cheque to land owner in lieu of the required land.

Private land (if acquired for the project) will be compensated at the replacement cost. Land will be valued following a valuation process consistent with LAA 1894 and the provisions of RPF. For land valuation, land valuation committees will be formed comprising members from ID, local administration, PAPs and Project NGO (if any) with a mandate to fix the rates based on market survey and negotiation with the communities. Compensation will be based on the market rates on the cut-off date along with 15 percent over and above the cost of the land and other requirements of Sections 23 and 24 of LAA and RPF.

4.4.5.2 Buildings and Structures

Building, houses and structures will be compensated at the replacement cost. Buildings/houses and structure valuation survey will be conducted by a joint team comprising members from ID and Consultants to assess the value of the houses and other infrastructural facilities. In this regard, meetings will also be held with locals as well as local administration. The schedule rates for the compensation of different types of losses, such as residential and, commercial structures, fruit trees, community owned and religious structures and other such assets will be used as a base which will be escalated with the help of market survey. These unit rates will be discussed and agreed upon with local communities and the affected persons. The following procedures/methods will be used for the proper assessment of unit compensation values of different items/assets located as standard for valuation of assets.

- Houses are valued at replacement value/cost based on cost of materials, type of construction, labour, transport and other construction costs.
- Hand pumps and other utilities are valued at current installation cost.
- The relocation cost is the amount needed to displace and relocate temporary assets at prevailing market prices without adding costs for transaction.

4.4.6 Allowances

In addition, transportation, livelihood, transition, and vulnerable allowances would be provided to PAPs as applicable. The amount will be set at current rate.

- **Transportation allowances.** Transport charges will be inquired from the local transporters and provided to PAPs at current rate. For instance, the rent of one truck load is estimated at PKR five thousand within a radius of 10 km (as of 2014). Transportation of one family to a new location would require two trucks to shift their belongings. For temporary or permanent loss of commercial structures, the allowance will also be determined at current rate and paid to affected owners of commercial structures.
- **Livelihood allowances.** A livelihood allowance equal to three-month income/wage or minimum wage in Pakistan (whichever is greater) will be provided to support the affected families losing their sources of livelihood in order to restore their business at new location without any economic pressure.
- **Transition allowances.** At current market rate, a transition allowance equivalent to three-month rent will be provided to tenants or leaseholders of affected residential or commercial structures.
- **Vulnerable allowances.** Those to be resettlement and with an income below the Official Poverty Line are classed as vulnerable within this RPF. Their incomes are fragile and any change in their socio-economic equilibrium also comprehends negative effects. For such households, in addition to the compensation for their affected assets, an additional vulnerability allowance equal to two-month minimum wage will be provided.

4.5 Preparing Resettlement Action Plan

Following completion of the final designs, a re-assessment of land acquisition or resettlement requirements shall be required. Should this assessment identify any involuntary resettlement, OP 4.12 calls for the preparation of individual RAPs that must be consistent with this RPF.

To address the impacts under this policy, the RAP must include measures to ensure that the displaced persons are;

- Informed about their options and rights pertaining to resettlement
- Consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives
- Provided prompt and effective compensation at full replacement cost for losses of assets and access attributable to the sub project.

4.5.1 Process for Screening and Review of RAP

The first stage in the process of preparing the individual RAP is the screening process to identify the land/areas that are being impacted. The RAP will contain the analysis of alternative sites undertaken during the social assessment.

This section sets out a “harmonized” step by step process that the SBIP will take to determine whether the project will result in physical or economic displacements following any changes to the detailed design or scope of works, and therefore whether a RAP is required and if so, how to prepare and implement one.

4.5.2 Screening for Involuntary Resettlement

The screening process presented below will ensure that civil work components presented to SBIP, including the proposed AF, comply with the requirements of OP 4.12. The goal of screening is to identify and consider resettlement issues as early as possible.

Screening is used to identify the types and nature of potential impacts related to the activities proposed under the Project and to provide adequate measures to address the impacts. Screening for resettlement issues shall be part of the environmental and social screening.

Where resettlement is identified, the chosen locations will be the subject of a survey and the preparation of a document as follows:

- A socio-economic study (this study will include determination of impacts);
- Preparation of individual RAP.

4.5.3 Baseline, Socio-economic Data, and Resettlement Surveys

An important aspect of preparing a RAP is to establish appropriate and accurate baseline socio-economic data and census to identify the persons who will be affected by the project, to determine who will be eligible for compensation and assistance, and to discourage inflow of people who are ineligible for these benefits.

To identify the affected population and the possible adverse impacts, primary information will be collected through detailed resettlement assessment survey. This data will include:

- Inventory of houses, population and other assets will be developed by an inventory Performa and will be filled through resettlement assessment survey by the team;
- Focus Census to enumerate the affected people and to register them according to location including the land holdings;
- Household Income and Living Standard Survey for assessment of lost and affected household, enterprises and community's living standard level;
- Village Level Survey for all affected people as necessary covering the factual position regarding the social amenities, electricity, telephone, water supply, education facilities etc and other community resources;
- Buildings/Houses Valuation Survey to assess the value of the houses and other infrastructural facilities. In this regard meetings will be held with locals as well as local administration;
- Women Status Survey to establish the baseline data for ascertaining the women status; and Consultation with affected population for effective mitigation measures and planning.

4.5.4 Resettlement Entitlement and Policy Matrix

A matrix will be developed, in line with the updated entitlement matrix in this RPF, and establish RAP implementation, institutional and compensation framework. For the restoration of the living standards of the PAP, provision will be made so that people should be provided proper compensation and assistance to restore their livelihoods.

4.5.5 Implementation Arrangements

For effective implementation, RAP will describe the implementation arrangements. Identification of critical path actions, preparation of RAP implementation arrangements, compensation procedures and resettlement process will be described for an efficient and smooth implementation of RAP.

4.5.6 Preparation of Monitoring, Evaluation and Reporting Plan

The mitigation measures are effective only if properly monitored. For this purpose, proper Monitoring, Evaluation and Reporting plan will be prepared.

4.5.7 Grievance and Redress Mechanism (GRM)

RAP will describe the options available to affected persons for grievance redressal they may have about the process, the identification of eligible people for compensation, the valuation and compensation and any other complaints they may have against the entire process. The GRM will be based on the existing project-level GRM (detailed in Section 8).

4.5.8 Cost Estimates

Cost estimates will be made for compensation and estimated resettlement works. Additionally tentative cost of proposed institutional frame work, mitigation measures, monitoring, evaluation and reporting will also be estimated.

4.5.9 Public Consultation and Participation

Projects involving the community owe their success to community participation and involvement from the planning stage to implementation. Hence public consultations shall be mandatory for all projects requiring land acquisition, compensation and resettlement for the project.

During screening, there must be adequate consultation and involvement of the local communities and the affected persons. Specifically, the affected persons must be informed about the intentions to use the earmarked sites for the project activities, facilities and structures.

The affected persons must be made aware of:

- Their options and rights pertaining to resettlement and compensation;
- Specific technically and economically feasible options and alternatives for resettlement sites;
- Process of, and proposed dates for, resettlement and compensation;
- Effective compensation rates at full replacement cost for loss of assets and services; and
- Proposed measures to maintain or improve their living standards.

During public consultation, there is a need to resolve conflicts. Grievance redress is very important to the success of implementation of RAP. Grievance redress is covered in more detail in Section 8.

Methodology. Public consultation and participation are essential because they provide an opportunity for informing the stakeholders about the proposed project. Public consultation and participation create a sense of ownership for the project, providing an opportunity for people to present their views and values and allowing consideration and discussion of sensitive social mitigation measures.

Public consultation and participation will afford the PAPs an opportunity to contribute to both the design and implementation of the program activities. In so doing, the likelihood for conflicts between and among the affected and with the management committees will be reduced.

In recognition of this, particular attention shall be paid to public consultation with PAPs, households, homesteads (including host communities) as well as NGOs when resettlement and compensation concerns are involved.

As a matter of strategy, public consultation shall be an on-going activity taking place throughout the entire project cycle. Hence, public consultation shall take place during the:

1. Project inception and planning
2. Screening process feasibility study,
3. Preparation of project designs
4. Resettlement and compensation planning
5. Drafting and reading/signing of the compensation contracts.
6. Payment of compensations
7. Resettlement activities and
8. Implementation of after-project community support activities

Items 1 to 3 have been completed by the consultants, while items 4 to 8 should be implemented following any changes to the project which result in resettlement.

Public consultation and participation shall take place through local meetings, request for written proposals/comments, completion of questionnaires/application forms, public readings and explanations of the project interventions and requirements.

Public documents shall be made available in appropriate languages at the local levels. RAPs should be translated to local languages and made freely available at a public place accessible to the PAPs to which it is relevant. Public consultation measures shall take into account the low literacy levels prevalent in the rural communities, by allowing enough time for discussions, consultations, questions, and feedback.

4.5.10 Resettlement Planning

The RAP will be prepared by the ID, in consultation with the design consultant and the contractor. The Plan may include the following components:⁵

- Description of the project
- Potential Impacts
- Project Objectives
- Relevant findings of the socio-economic study, including census survey of PAPs and their assets/livelihood lost
- Legal framework
- Institutional framework (institutional stakeholders for RAP implementation, which may include NGOs)

⁵ OP 4.12 Annex A (<https://policies.worldbank.org/sites/ppf3/PPFDocuments/090224b0822f8a4f.pdf>)

- Eligibility, including cut-off date
- Valuation of and compensation of losses
- Resettlement Entitlement and Policy Matrix
- Site selection, site preparation, and relocation
- Housing, infrastructure and social service
- Environmental protection and management
- Community participation (PAP consultation or engagement plan)
- Integration with host populations
- Grievance procedures
- Implementation Arrangements
- Monitoring and Evaluation (M&E)
- Implementation schedule
- Costs and budget

4.5.11 RAP Submission and Approval

The RAP(s), once prepared, shall be submitted to the ID, who shall in turn submit the document to the World Bank. Both the ID and World Bank are required to review the RAP and approve the document to prevent delay in implementation. Once approved, RAP should be disclosed on ID and/or the project website in English, Urdu, and Sindhi.

5. SOCIAL ACTION PLAN

Under the proposed AF, the Social Action Plan has been upgraded into a standalone component (Component E – Integrated Riverine Management Plan), to support ecosystem management and social development in the 170-km stretch of Indus between Guddu and Sukkur Barrages. This stretch is an Indus blind dolphin habitat as well as a designated Ramsar site. Activities under the new component would include: (a) community fisheries co-management, (b) alternative livelihoods development for fishery communities, (c) dolphin management and conservation, (d) sustainable agriculture, (e) technical studies (e.g., design for dolphin passage gates), and (f) water quality and pollutant studies. The plan will be implemented in collaborations with the Sindh Environmental Protection Agency (SEPA), Wildlife Department, and Agriculture Department, and Fishery Department, and will also be participated by World Wildlife Fund (WWF).

6. COMMUNICATION STRATEGY

6.1 Introduction

As a part of SMF, the communication strategy is developed to effectively engage populations in project and command areas through consultations and other forms of communication. This is to facilitate implementation of various social impact mitigation plans, such as RAP (if required), traffic management plan, and GRM. The strategy is also to ensure communication with key stakeholders and wider public.

6.2 Objectives of Communication Strategy

The objectives of the strategy are to establish meaningful mechanisms to engage, build confidence and cooperation and promote the active participation and communication of diverse stakeholders in planning at different levels and stages of SBIP, including the proposed AF. The stakeholders include populations in project and command areas of Guddu and Sukkur Barrages, state and local governments, private sector and NGOs in those areas, and general public. In supporting the implementation of SMF and other action plans, the strategy is:

- To put in place a mechanism for regular monitoring and evaluation of communications, educations level, perceptions of stakeholders on SBIP.
- To reflect primary stakeholders and determine appropriate institutions for development of primary stakeholders.
- To ensure easy and speedy access to information for stakeholders and their needs are met
- To respond to the grievances, complaints, feedback of stakeholders

At the project level, the objectives of the strategy are as follows:

- To raise over all awareness of project, its activities, intents and outputs.
- To promote benefits and the positive aspects of project.
- To Identify and address the stakeholders concerns about rehabilitation of Guddu and Sukkur Barrages within their areas of project jurisdiction.
- To provide public access to information, understanding and communication products i.e. newsletter, brochure, internet on the Barrage Rehabilitation process and its outputs.
- To educate stakeholders about the ID/ Stakeholders functions, roles and responsibilities in relation to water sector institutions/ Structures and Operation and Maintenance (O&M).
- To enhance the degree of ownership and commitment of national governments, partners and other stakeholders of SBIP
- To establish Informed and improved decision-making in SBIP through multi-stakeholder collaboration.

6.3 Stakeholder Analysis and Design Stage Consultations

6.3.1 Project Stakeholders

Project stakeholders have been identified and categorized at two levels: primary and secondary stakeholders. Primary stakeholders are the people/individuals/organizations in project and command areas, who are local and will be positively or negatively affected by the project activities. Most of the primary stakeholders belong within the Col of the Guddu and Sukkur Barrages and they are dependent on project locations for their livelihood. The primary stakeholders for the original project and the proposed AF are detailed in the following table:

Table 6.1: Primary Stakeholders for Guddu and Sukkur Barrages Rehabilitation

Corridor of Impact	Project Area	Command Area
Head of household	Farmers (tenant and owners)	Farmers
Project affected family members	Shop owners	Livestock Owners
Female Project Affected Persons	General population	Families in Naseerabad district
	Laborers	Fauji Fertilizer Plant
	Fishermen	Engro Fertilizer Plant
	Landlord	PanoAkil Cant.
	Religious Leaders	Sugar Mills
	Motorists	

The Secondary stakeholders are defined as those people, groups, individuals or institutions that are important intermediaries in the project delivery process or those who influence or are indirectly affected by the project. Secondary stakeholders may live nearby or use the resources from project area. Those people / organization who have interest in sustainable development, research or can help carry out advocacy to influence decision making and implement ESMPs and SMF. The secondary stakeholders include local government departments, private sector, NGOs, and donor agencies and partner organizations (detailed in the table below). Below Table 6.2 summarizes secondary stakeholders under the original project, while Table 6.3 indicates those under the proposed AF. Because the command area of Guddu Barrage extends to Nasirabad district in Balouchistan Province, the Balouchistan ID is also one of key stakeholders.

Table 6.2: Secondary Stakeholders of Guddu Barrage Rehabilitation

Project Implementation	Irrigation Department	Provincial Government	Local Government	NGOs
PMO	Sindh Irrigation and Drainage Authority	Rural development department	District administration of Kashmore	Mojaz foundation
Sindh irrigation department	Balochistan irrigation department	Sindh environmental protection agency	District administration of Larkana	Soofi Sachal Sarmast welfare association
Chief engineer Guddu Barrage		Forestry department	District administration of Jacobabad	Kainat development association
Contractor		Agricultural department	District administration of Sukkur	HANDS
Construction		Fisheries department	District	

supervision consultants		administration of Nasirabad, Balouchistan
Monitoring and evaluation consultants	Sindh wildlife department	Public works department
Project Coordination and Monitoring Unit, WSIP, P&D Department		Board of revenue
World Bank		

Table 6.3: Secondary Stakeholders of Sukkur Barrage Rehabilitation

Project Implementation	Provincial Government	Local Government	NGOs
PMO	Sindh Irrigation and Drainage Authority (SIDA)	District Administration Sukkur	Sindh Youth Welfare Organization (SYWO)
Sindh Irrigation Department (SID)	Sindh Environmental Protection Agency (SEPA)	Left Bank District Administrations: Khairpur, Snanghar, Tando Allah Yar, Mirpur Khas, Nawabshah, Badin Naushero Feroz, Umarnot, Hyderabad and Tharparker	Shades Welfare Society
Chief Engineers, Left and Right Banks	Wildlife Dept.	Right Bank District Administrations: Larkana, Shikarpur, Shehdadkot and Dadu	Oxford Committee for Famine Relief (OXFAM)
Contractors	Fisheries Department		Sindh Rural Support Program (SRSP)
Construction Supervision Consultants (CSC)	Indus River Dolphin Conservation Centre (IRDCC)		Other NGOs
Monitoring and Evaluation Consultant			
Project Coordination and Monitoring Unit, WSIP, P&D Dept.			
World Bank			

Details of individuals and organizations in each of these groups are drawn through a public participation and consultation process by consultants and Sindh Irrigation and Drainage Authority (SIDA). The consultations with various stakeholders were carried out in accordance with the World Bank Operational Policy (OP 4.01) on public consultation.

6.3.2 Design Stage Consultations

As part of project cycle, public consultations were undertaken by the Study Consultants and PMO for both the original project and the proposed AF, following the World Bank policy for the ESIA of Project. For the original project, initial consultations were carried out during September to November 2011 whereas the second round was completed in November 2013. The process was initiated in 2011 with the awareness campaign by the Consultants. Consultations with stakeholders were started at commencement of the design stage of the project. Views were taken from primary and secondary stakeholders regarding proposed interventions for the project. Information about positive and negative impacts associated with constructional and operational stage and proper mitigations of adverse impacts were shared. The purpose of

consultation was to disseminate project information among the project stakeholders and obtain their feedback regarding local knowledge of baseline, mitigation measures, perception of local populations (inclusive of small and marginal farmers, landless, and women) regarding impact significance and their views on project interventions. The details of consultations and key findings can be found in Appendix C. Key findings of consultations are as follows:

- Employment of the local community shall be made during construction.
- Farmers in off taking canals command area may be impacted due to disruption in canal supplies during construction activities.
- Farmers and general population dependent on Desert Pat Feeder may be affected by extended canal closures.
- Industries in the project jurisdiction may have impact but ground water is available which can be used.
- Contractor must observe the cultural norms of the area
- Limitations to the mobility of woman and children was a concern
- International contractor should be preferred to ensure a high quality of works.
- It was communicated that the law and order situation has been steadily improving in the area since 2011, but that care was still required to be exercised by project personnel. The politicians all offered their assistance and support in providing security, and recommended that this should be arranged through the police and army (rangers) situated at Guddu Barrage.
- Should there be land acquisition by the project, the general view of the community seemed to be that they wanted compensations for their losses but they were not confident to be compensated by the authorities. The community was also unaware of GRM. They requested compensations as per market rates for lost assets. It was also requested that compensation should be made prior to execution of embankments work.
- Compensation for damage of business structures, religious sites and graveyards during construction should be available.

For the proposed AF, consultation with the primary and secondary stakeholders in the project and command areas of Sukkur Barrage was initiated during design stage in July-August 2012 by the feasibility team, keeping in view of the scope of the Project. The second round of consultations were held in 2017. Two rounds of consultation sessions were participated by about 1,000 persons. Consultations involved multiple methods, such as household survey, village level meetings, focus group discussions, meetings with officials and arrangement of a workshop. Key findings are summarized in Table 6.4. Details of consultations are in the Sukkur Barrage Rehabilitation Communication Strategy in Appendix F.

Table 6.4 Summary of Consultations for the Proposed AF

Sr. No.	Concerns and Suggestions
1	Banners of good quality carrying project messages be prepared in Sindhi and Urdu languages.
2	Announcements through loudspeaker shall be made in vicinities regarding project messages.
3	Schedule of Barrage traffic closure be prepared in advance and informed to all stakeholders at least one week in advance.
4	Environmental threats be mitigated especially Blind Dolphin and aquatic life of Indus River.
5	Arrangements shall be made to keep Dolphin away from Barrage during construction period.
6	Dredging will effect fish breeding.
7	Fishing community shall be paid compensation, if their livelihood is affected.
8	During dredging period Fisheries Department shall be involved.
9	Time period of Barrage traffic closure shall be minimized.
10	Breeding season of fish may be considered during construction activities.
11	Priorities for non-technical employment opportunities be given to local peoples.
12	Internal monitoring may be carried out regarding water quality and noise levels.
13	Schedule of Barrage closure be provided officially to forward to the colleges and schools concerned.
14	Banners carrying project messages be hanged on prominent places.
15	Dredged material shall be dumped at designated places avoiding environmental hazard.
16	All project activities shall be completed in specified time period.
17	All construction related activities be completed in shortest possible time.
18	All activities on Barrage shall be carried out at night without disturbing anybody.
19	Only college and vocational/technical students cross Barrage twice a day.
20	Quality in construction/repair works shall be maintained.
21	Detailed briefing for Journalists shall be arranged on project components/activities, impacts and project messages because they are primary source of information.
22	Traffic in Jail area be improved/regularized first before diverting Barrage traffic to other areas.
23	The Project should be implemented as early as possible.
24	The common concern of all stakeholders is that extended closure of canals will seriously affect socio-economy of the command area. Regular scheduled canal closure period is about 3 to 4 weeks during month of April; and about 2 weeks during January. If the closure period is extended, it will seriously affect their crop and livestock production. If any canal closure is required for construction, the farmers should be informed one season in advance.

6.4 Consultation and Communication Matrix

The below consultation and communication matrix lays the process of consultation and communication with primary stakeholders for the original project and the proposed AF. It outlines the strategic direction who will be consulted or communicated, when, how and which stage of the project. The communication messages and project benefits included in the matrix have been defined on the basis of early stage stakeholder consultations and involvement process by the consultants. Appendix D provides the matrix for the secondary stakeholders.

Table 6.5. Consultation and Communication Matrix – Primary Stakeholders

Primary Stakeholder	Information/message	Communication means	Timing/Frequency	Responsibility
Populations in project areas	Project awareness/ information (colony location, access, project benefits, etc.)	TV, radio, newspaper (Sindhi, Baluchi, Punjabi, Urdu)	Regularly	PMO
	Employment opportunities	TV, radio, newspaper (Sindhi)	2 weeks before recruitment / job opening	PMO
	Semi-skilled employment opportunities	TV, radio, newspaper (Sindhi, Urdu, Baluchi, Punjabi)	One month before recruitment/job opening	PMO
	Traffic management (including maps of alternative routes)	TV, radio, newspaper, Sign boards, SMS for subscribers (Sindhi, Urdu, Baluchi, Punjabi)	Daily (when there is traffic disruption)	PMO
	Community health and safety	Consultations, signs, radio	Regularly	PMO Contractor (Community Liaison Officer) local NGOs
	In case land acquisition is required	Consultations with affected land owners on project impact, terms of acquisition, agreeable payment, etc. prior to RAP preparation, endorsement, and implementation (to be detailed in RAP)	TBD	PMO
Farmers in command areas (including small and marginal farmers, tenants and share croppers)	Project awareness (general project information, implementation, etc.)	Consultations TV, radio, newspaper, brochure (Sindhi)	Quarterly (PY1-2)	PMO
	Employment opportunities	TV, radio, newspaper (Sindhi)	2 weeks before opening	PMO
	Regular canal closure (gate replacement, potential extended canal closure)	Consultation (feedback on impact on crops in PY3) TV, radio, newspaper (Sindhi)	PY2-3 Every March	PMO
	In case of extended canal closure	Consultations, TV, radio, newspaper, SMS (Sindhi)	Around April 20, if extended	PMO
Farmers in Desert Pat Feeder command area (in Baluchistan) (including small and marginal farmers, tenants and share	Project awareness (general information, canal closure, etc.)	Consultations TV, radio, newspaper, brochure (Baluchi)	Quarterly (PY1-2)	Sindh and Baluchistan Irrigation Departments PMO
	Regular canal closure (gate replacement, potential extended canal closure)	Consultation (feedback on impact on crops in PY3) TV, radio, newspaper (Baluchi)	PY2-3 Every March	PMO
	In case of extended canal closure	Consultations, TV, radio, newspaper, SMS (Baluchi)	Around April 20, if extended	PMO

croppers)				
Women in project and command areas	Project awareness (general information, canal closure, etc.)	Consultations TV, radio (Sindhi and Baluchi), brochures with pictorial messages	PY1 Quarterly (PY1-2)	PMO, SIDA
	Mobility of women and children (traffic management plan, community health and safety)	Consultations specifically targeted to women	Quarterly	PMO, Contractor
Fishermen	Project awareness (general information, canal closure, dolphin rescue plan, etc.)	Consultations TV, radio (Sindhi), brochures with pictorial messages	PY1 Quarterly (PY1-2)	PMO
	Regular canal closure (gate replacement, divide wall realignment)	Consultations (including feedback on water contamination, etc.) TV, radio, newspaper (Sindhi)	Every March (PY2-3) Every March	PMO, Consultant
	In case of extended canal closure	Consultations (including feedback on water contamination) TV, radio, newspaper, SMS (Sindhi)	Around April 20, if extended	PMO

6.5 Communication Tools

The communication matrix laid out various communication tools. The specific use of tools, such as SMS and consultations, are detailed in below table. In addition, there also is a canal wire, which is owned by ID and operated through a telephone operator, who is available 24 hours. The operator keeps a documented record of all messages and conveys messages and receives feedback through telephone. Currently due to lack of funds and interests the system is not efficient as it was earlier. In facilitating feedback from various stakeholders and mainstreaming the two-way communication mechanism, including GRM (detailed in Chapter 8) in ID, the communication strategy may support revitalizing and upgrading the canal wire by connecting the system to internet and other wireless communication system.

Table 6.6. Communication Tools

Sr. No.	Tools	Remarks
1	SMS	Cheapest and effective tool to communicate immediate and urgent messages. Communities along the COI were also found having mobile phones. Not only men even women were showed their interest in receiving SMS. Project awareness, alternative routes and job opportunities can be communicated through SMS.
2	TV Programs	Media Briefings, dialogues with general public and Experts on Guddu and Sukkur Barrages and related water projects. TV advertisements to share traffic management plans. TV can be used to share alternative routes, heavy work load timings and maps in order to facilitate primary and secondary stakeholders. Even in case of extended canal closure one minute breaking bulleting can also be on aired through TV
3	Documentaries	Pre and post construction documentaries of Different stages of work. These documentaries would be a historic record for ever. These documentaries can also be used in engineering universities, showing engineering students a practical view of Gate replacements and other key construction activities.
4	News Letters	Quarterly news letters to share project activities with stakeholders. The newsletter will be published in local languages to share information with primary stakeholders where as a copy of English version will be uploaded on website for secondary stakeholders. A wide range of public and interested organizations can access the English copy through website and give their feedback.
5	Awareness Material	Awareness on Social and environmental aspects. This will include historic knowledge and importance of project location. The blind Indus dolphins have always been an attraction for tourists. The information and awareness material will educate on dolphin rescue plan, and other important information regarding conservation dolphins and environment within project area. To raise awareness in an innovative way 02 photo/ painting contest will be organized for barrage and dolphins best photo/ painting. School children up to 10-15 will be invited to take part in the contest and winners will be awarded with educational gifts. The wining Photo / Painting will be published in local & national newspapers and uploaded on the website. The wining photo can also be the title page of project Annual report.
6	FM/Radio Programs	Short and long radio programs. Stakeholders views, general awareness and a effective tool to share information with Women. Radio is most common means of communication within local communities and favorite amongst women. It is easily accessible to communities, either they are at work or in home they were found

		habitual to keep mini radios with them.
7	Advertisements	Print media will be used for the advertisements. Advertisements will be published in Local and National newspapers. Other than special news editions and promotions bulletins. Advertisements will include EOs, resettlements, official announcements, show cause notices and other official notices for general public and stakeholders.
8	Visits of journalists	To establish positive relationship with media and cultivate positive attitude to general public and stakeholders.
9	Consultations, workshops, seminars and conferences	Feedback of different Stakeholders and Building capacity of stakeholders Best tool to involve and keep updated women stakeholders Regular meetings with primary stakeholder in order to ensure proper resettlements, relocations and displacement of PAPs according to our national and World Banks triggered policies. There will be separate consultations with women and men.
10	Trainings of staff (National)	learning from other relevant organizations for effective performance and delivery
11	Website	Information sharing and feedback on a big scale
12	Email updates	The email update will be based upon the news on project progress, developments and planned activities. It will also invite comments, inputs and review of Barrage work from experts. The email updates will be sent to those stakeholders who wish to receive and give feedback in this format.
13	Wireless Communication	Wireless communication (VHF) is owned by Irrigation Department and operated through an operator, who is available 24 hours. He keeps a documented record of all messages and conveys messages and receives feedback through telephone. Currently due to lack of funds and interests the system is not efficient as it was earlier. The system could be linked to internet and other wireless communication in obtaining stakeholder feedback and tracking their redressal.

6.6 Communication Approach

SBIP is a unique project to Sindh province for its economy and social wellbeing. Therefore, participatory approach has been adopted to design the communication's strategy focusing on full participation of stakeholders at all stages of project. It ensures that stakeholders are not only informed of the impacts on them, or the wider organization, but are also timely communicated about changes and consulted, involved and encouraged to take ownership to handle changes.

A PMO with appropriate experts (technical, social, environmental, communications) and sufficient resources has been proposed to implement the project. The PMO will be reporting to Secretary Irrigation and it will be playing an intermediary /coordination role between Chief Engineers of Guddu and Sukkur Barrages and other partner agencies. The PMO will adopt following approach.

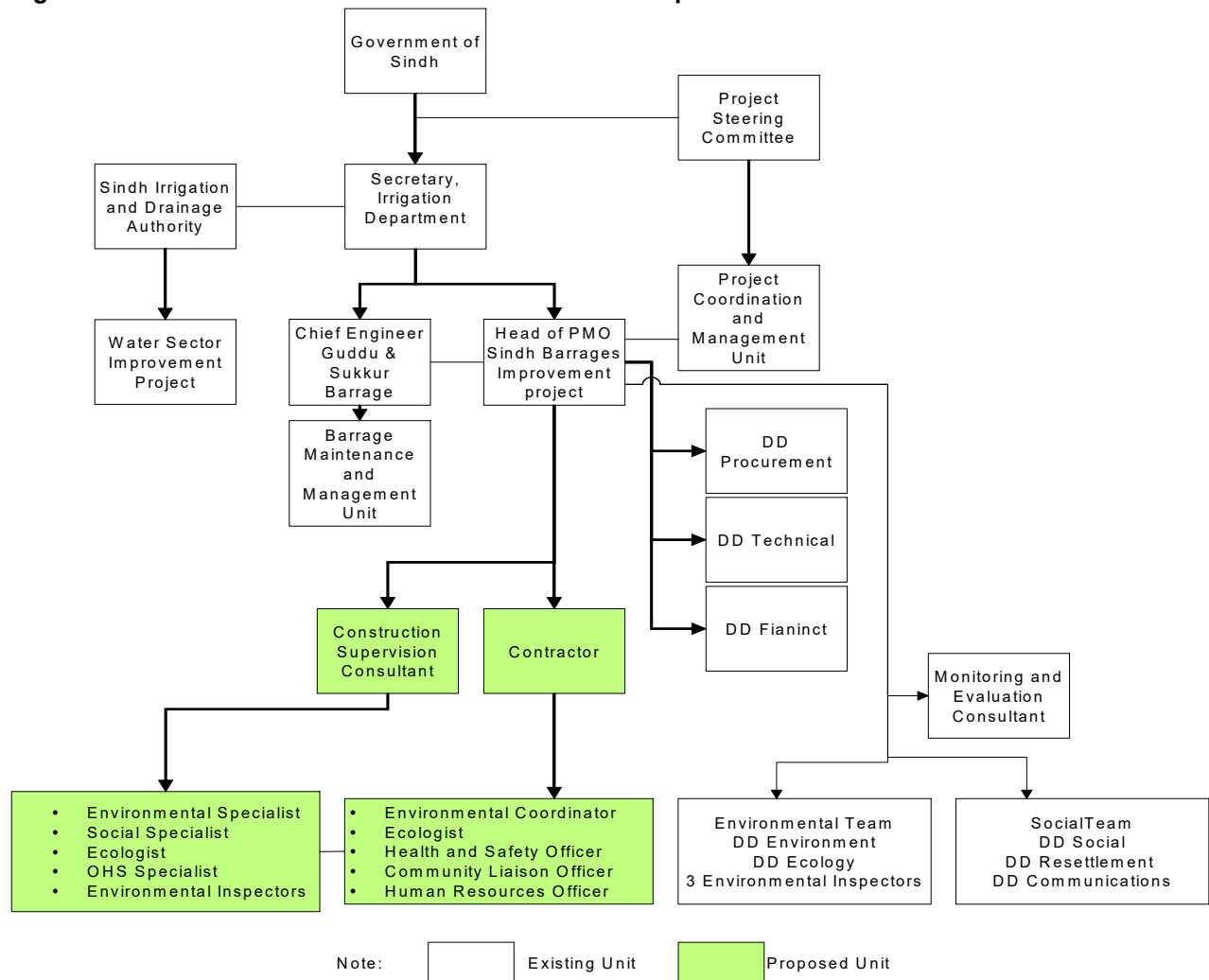
- Ensuring consistency of message throughout the project partners and stakeholders, all internal and external communications will be centrally co-ordinate through PMO Communications Specialist.
- Regular meetings of stakeholders will be held through PMO Communication Specialist to ensure a flow of information throughout the organization and to co-ordinate the communications requirements of different groups.
- All print and design materials will be produced centrally by PMO Communications Specialist.
- All communications materials produced will adhere to the guidelines recommended by the Project Director.
- The concerns of primary stakeholders will directly be communicated through PMO Communications Specialist. All media queries may jointly be addressed with Communication Specialist and Head of PMO for appropriate response. Head of PMO will decide who , when and how will respond to the electronic, print media and journalists.
- No any employee will provide any information about the project or relating to its work to members of the Media without the prior permission or involvement of PMO Communications Specialist and no any employee of the project will conduct an interview with members of the media without permission of Project Director and the communication section would be responsible to seek such approvals and permissions.
- All communications materials, where practicable, shall be produced in local languages i.e. Sindhi, Urdu, Balochi to properly address the communications needs of stakeholders.

7. IMPLEMENTATION ARRANGEMENTS

7.1 Institutional Arrangements

The PMO will be responsible to implement SMF, including preparation and implementation of any RAP that may be required. The organizational chart for the implementation is shown below:

Figure 7.1: Institutional Structure for ESMP and SMF Implementation



PMO is located in Sukkur and Karachi for both the original project and the proposed AF. The Environment and Social Unit (ESU) is in Sukkur and has delegated responsibility to implement the updated SMF. ESU will be staffed by Environmental, Social, and Communication Specialists. The overall aim of the ESU is to ensure unhindered handover of the site to the contractor and prevention of costly delays in construction by managing the project's environment and social impacts. ESU is also responsible for implementation of the communication strategy, including regular consultations with populations in project and command areas of both Guddu and Sukkur

Barrages during project implementation. Consultations should be inclusive of vulnerable groups, such as squatters, encroachers, small and marginal landowners, tenants and share croppers, women, labourers, and fishermen. Under the proposed AF, ESU also oversees the implementation of the upgraded Social Action Plan, i.e., new Component E Integrated Riverine Management Plan.

Implementing Communication Strategy. ESU would be the implementing agency for the communication strategy under administrative control and supervision of the Head of PMO. It should have at least one female staff to ensure access to female members of the community (PAPs, local community) during project implementation. ESU would be responsible to ensure effective participation of all stakeholders as per communication matrix at different stages of project cycle. The key responsibilities include:

- Preparing plan of action for implementing communication strategy.
- Regular community consultation
- Design, modify and finalize all IEC materials pamphlets, brochures, posters newsletters and reproduce them in required numbers
- Establish positive relations with media for information dissemination through electronic and print media
- Assist PMO hold consultations, meetings, seminars, and workshops with various stakeholders (primary, secondary) at different levels.
- Seek and receive regular feedback from primary stakeholders.
- Assist PMO prepare quarterly, half yearly and yearly progress report.

Environment and Social Specialists will be working closely with Communications Specialist. Communication Specialist will be playing central role in engaging stakeholders, keeping them updated and dialogues with media / diverse stakeholders. All the planned activities for stakeholder's consultations will be communicated through communication specialist. All communication materials for the project, related to implementation of ESMPs, RAPs, Traffic Management Plans, and advertisement of employment opportunities/EOIs/RFPs and all type of environmental / social /technical information & education materials, will be produced through communication specialist. Translation of key project documents in local languages, reporting of project progress to donors and other agency, organizing workshops/ seminars and receiving feedback from stakeholders would be communicated with coordination & collaboration of ESU.

7.2 Institutional Responsibilities

SMF implementation will be supported by several government offices and consultants.

7.2.1 Project Management Office (PMO)

The PMO, which was already established under the secretary of the SID, will monitor and coordinate all project implementation activities. PMO would be responsible for all aspects of project implementation including technical, operational, financial management, and overseeing

the implementation of ESMP and SMF. The PMO has the Environment and Social Unit (ESU), staffed by the following: Deputy Director Environment, Deputy Director Resettlement, and Deputy Director Communications. ESU is responsible for: (i) supervising, facilitating and coordinating implementation of environmental and social plans including ESMP and SMF; (ii) preparation of resettlement action plans (RAPs) for any land acquisition and resettlement activities, (iii) ensuring that contractors follow Sindh-EPA regulations, World Bank Safeguard Policies, and other requirements mentioned in the ESMP and SMF; (iv) identifying any issues of non-compliance and report these; (v) suggesting mechanisms to link contractor performance in relation to the ESMP to the timing of financial payments, incentives or penalties; and (vi) interacting with stakeholders for their concerns about the construction activities. PMO is located in Karachi and Sukkur (for both Guddu and Sukkur Barrage rehabilitation), and ESU is located in Sukkur.

7.2.2 Project Coordination and Monitoring Unit (PCMU)

The Project Coordination and Management Unit (PCMU) is under the Planning and Development Department (PDD) of the Government of Sindh. PCMU supports project coordination and M&E, including monitoring environment and social safeguard compliances, and facilitates citizen engagement through grievance redress mechanism.

7.2.3 Irrigation Department

The project proponent is the ID. The ID shall be responsible for approval of the revised SMF and any subsequent RAPs.

7.2.4 Chief Engineers of Guddu and Sukkur Barrages

SBIP is solely executed and implemented by the PMO. The Chief Engineers of Guddu and Sukkur Barrages handover sites to PMO prior to the execution of rehabilitation activities. They supervise the project implementation at respective sites, in particular, regular canal and extended canal closure as required. Communications regarding canal closures, its impact and mitigation will be carried out with close coordination with Chief Engineers. Any emergency, i.e., unexpected flood due to heavy rainfall in monsoon or shortage of water due to drought, would be communicated through Chief Engineers.

7.2.5 Sindh Irrigation and Drainage Authority (SIDA)

SIDA is under the ID and has been responsible for mobilization and capacity building of farmer organizations (FOs) in the Bank-financed Water Sector Improvement Project (WSIP). They support consultations with farmers in project and command areas, including women and vulnerable households.

7.2.6 Contractor

The Contractor shall be responsible for implementation of the works as per the designs and specifications and approval of the Construction Supervision Consultant (CSC). Of relevance to this SMF, the Contractor shall:

- Request approval from the CSC for implementation of all works prior to commencement of such works
- Notify the CSC of any land acquisition requirements

Notifying employment opportunities and monitoring job creation. Both the original project and the proposed AF require on average about 200 skilled and unskilled laborers per project site per day (total of 400 laborers per day for rehabilitation of two barrages). The proposed AF expects 65 percent of the laborers unskilled to be hired locally. The Contractor(s) shall be required to appoint and employ a full time Human Resources Officer, who shall have a key role in identifying local job opportunities at the beginning of a contract. S/he shall be required to pass on the details of available jobs to the Communication Specialist for dissemination and advertisement of the job opportunities in project and command areas of both Guddu and Sukkur Barrages. The Human Resources Officer shall also be required to report on the number of job vacancies filled by those from project and command areas separately.

Notifying extension of canal closure. The Contractor shall also be responsible for informing the PMO and CSC of any extension to the closure period which may be required due to delay in the replacement of head regulator gates (under the original project), desilting of right bank canals (a part of the proposed AF), or otherwise. Should an extension to the closure period be required, the Contractor shall be required to inform the PMO and CSC no later than the end of the third week of the scheduled closure period.

Preparing and implementing RAP for temporary and permanent land acquisition. The Contractor shall also be responsible for all temporary land acquisition required for the completion of the works for which the Contractor shall be required to carry out consultations with land owners and lease holders. The Contractor shall be contractually obliged to enter into written, signed and witnessed agreements with the land owners, or lease holders, for the use of their land.

Employing Community Liaison Officer to facilitate consultations, health and safety, and traffic management. The Contractor(s) shall be required to appoint and employ a full time Community Liaison Officer. This Officer shall, in conjunction with the PMO, be responsible for

consultations with local communities to raise awareness of health and safety measures to be undertaken by communities in the project area (especially during embankment works) and discuss the mobility of women and children in the project area (and identify alternative routes where applicable).

7.2.7 Construction Supervision Consultants

The CSC shall supervise the Contractors on behalf of the PMO with respect to implementation of civil works as well as social and environmental safeguards.

The CSC shall be responsible for ensuring no works are carried out by the contractor prior to implementation of RAP where this has been identified to be required. The CSC shall provide an interface between the contractor implementing the works and the PMO implementing the RAP, in particular:

- Advance approval of all works to be implemented by the Contractor. The CSC shall not approve the Contractor's implementation of any works which require physical displacement or land acquisition prior to the implementation of the relevant requirements of RAP
- Monitoring the Contractor's implementation of civil works to ensure no unnecessary resettlement is required
- Identification of any necessary civil works which shall require resettlement or land acquisition beyond that which is envisaged within the RPF (such as due to a design change or change in site conditions) and:
 - Notify the Contractor to temporarily cease work in the relevant areas
 - Notify the PMO of potential resettlement or temporary/permanent land acquisition requirements and the need to prepare RAP according to the provisions of Chapter 4 of this SMF.
- Support PMO in developing RAPs, as required
- Notify the Contractor not to proceed with such civil works until implementation of RAP (if required) by the PMO
- Notify the PMO of any encroachment into the Col during implementation of the works (for resolution by the PMO)
- The CSC main involvement in communication shall be reporting on progress of the various project components. Such progress shall be reported to the PMO for their onward dissemination through newsletters, website, radio updates etc.
- The CSC shall be responsible for monitoring progress during the replacement of head regulator gates (original project) or desilting of right bank canals (proposed AF) to identify any deviances from the Contractor's program which may result in an extension to the planned closure period. Any such occurrence shall be discussed between the CSC, Contractor and PMO and further actions agreed upon.

7.2.8 Monitoring and Evaluation Consultants (MEC)

MEC shall be introduced into the institutional structure for the project. The MEC shall be an independent body responsible for external environmental and social monitoring for the original project and the proposed AF. The MEC will have environmental and social experts and shall carryout intermittent as well as annual third party monitoring of the implementation of any RAP as well as ESMPs (detailed in ESAs for the original project and the proposed AF).

The Terms of Reference for the MEC should be completed by the PCMU and should include reporting of independent audits, circulated to the PMO, ID, GoSindh, WB and CSCs where appropriate.

Should RAPs be prepared, the MEC shall be responsible for overall monitoring of the implementation of RAPs as well as monitoring actions taken in respect to any chance find items or design changes which may alter the land acquisition requirements.

The MEC shall provide feedback to PMO on the project's performance and impact so that corrective actions can be taken in a timely manner.

7.2.9 Project Steering Committee (PSC)

PSC, which was set up for WSIP implementation, continues to provide overall guidance, policy advice, coordination of the SBIP project activities, and addressing the inter-agency issues. PSC is chaired by the Additional Chief Secretary, Planning and Development Department (PDD). The Secretary of the ID, Secretary of Finance, Secretary of Agriculture, Secretary of Environment, Secretary of Public Health Engineering, Secretary of Forestry and Wildlife, and representatives of the local/district administration will serve as its members. The PCMU will act as the secretary of the PSC. For the SMF implementation, PSC works as the third layer of SBIP grievance redress mechanism (detailed in Section 8).

7.2.10 World Bank

The World Bank reviews and approves any RAPs which may be necessary and provides overall support to the implementation of SMF. It also provides overall SMF implementation support.

8. GRIEVANCE REDRESS MECHANISM

8.1 General

A grievance (complaint) can be defined as any expression of dissatisfaction which needs a response. Broadly, a grievance can be defined as any discontent or dissatisfaction with any aspect of the project or organization. Grievance Redress is a platform provided by the governance institution to the citizens to voice their dissatisfaction about poor or inadequate performance of the institution (whether as a whole, or individual stakeholders) and hold it, or them, accountable.

It is clearly not possible, through the grievance handling system, to address each and every grievance or dispute that may afflict a group of people, whose divisions or disagreements may not only pre-date the project activities, but lie beyond the scope of the project. For this reason, the grievance system as proposed primarily (but not exclusively) handles issues that emerge from SBIP, or can be plausibly described as a consequence of these activities. Grievances arising from potential resettlement activities shall be prominent within the scope of the GRM. The same mechanism shall also be used to hear grievances relating to environmental and social management and performance of the project.

Accordingly, SBIP has developed a Grievance Redress Mechanism (GRM) with procurement and community tracks. While Procurement GRM specifically addresses project-level procurement related complaints, Community GRM (CGRM) handles all other project-related complaints, including implementation of environment and social safeguards, mainly from communities in project and command areas of Guddu and Sukkur Barrages. CGRM has established a complaint cell to address complaints that may arise from Guddu Barrage rehabilitation at PMO in Sukkur. The cell is chaired by Deputy Project Director and composed of the following:

Table. 8.1. Complaint Cell at PMO Sukkur under the Original Project (Guddu Barrage Rehabilitation)

S No.	Designation	Position
1	Deputy Project Director, PMO-SBIP	Chairman
2	Executive Engineer (Guddu Barrage)	Member
3	Deputy Director (Environment) PMO	Member
4	Representative of CSC	Member
5	Representative of Contractor	Member
6	Technical Officer PMO	Member
7	Deputy Director (Resettlement) PMO	Secretary

The Cell has installed complaint boxes at PMO and contractor's camps in Guddu for easy access by the community. Complaints can also be filed through the project website, phone, or email. The Cell registers all complaints, acknowledge their receipts, refer to relevant units, track progresses, address the complaints, and inform results. The Cell meets regularly and issues progress reports. As required, complaints can be escalated to a Grievance Redressal Committee at SBIP PMO in Karachi, composed of the following:

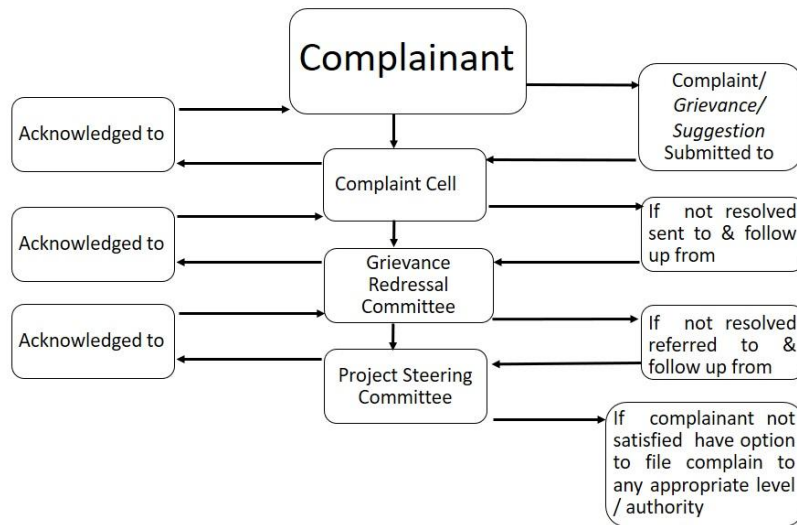
Table 8.2. Composition of Grievance Redressal Committee

S No.	Designation	Position
1	Project Director, PMO-SBIP	Chairperson
2	Superintendent Engineer (Guddu Barrage)	Member
3	Director M&E PCMU	Member

If a complaint is not resolved at GRC in Karachi, this could further be escalated to the Secretarial-level SBIP Project Steering Committee (PSC). The overall flow of Community GRM is described in the below figure:

Figure 8.1. Community GRM Flow Chart

Community Grievance Redressal Mechanism Flow Chart



The Community GRM under the original project will be replicated at Sukkur Barrage for the proposed AF. Community GRM is detailed in Annex 6.

9. MONITORING AND EVALUATION

9.1 Introduction

The World Bank requires the proper monitoring of implementation of the SMF, including RAPs that may be required, and reporting on their effectiveness, including the disbursement of compensation, effectiveness of public consultation and participation activities. The objective of monitoring is to provide feedback on implementation of the SMF and to identify problems and successes as early as possible to allow timely adjustment of implementation arrangements. For these reasons, monitoring and evaluation activities should be adequately funded, implemented by qualified specialists and integrated into the overall project management process.

9.2 Objectives

The overall objective of monitoring and evaluation is to maximise the benefits of the SMF, in particular, if RAPs are prepared in case of temporary or permanent land acquisitions. The purpose of resettlement monitoring is as follows:

- Ensure that actions and commitments described in the RPF and any subsequent RAPs are implemented fully and on time;
- Ensure the preparation of RAPs where required;
- Identification of blockers (and subsequently solutions) to the implementation of the RPF and RAP;
- Complaints and grievances lodged by PAPs are followed up and that, where necessary, appropriate corrective actions are taken up and implemented; and
- If necessary, changes in RAP procedure are made to improve delivery of entitlements to PAPs.

Monitoring shall be carried out both internally and externally.

9.3 Internal Monitoring

Internal monitoring shall be carried out by the Environment and Social Unit (ESU) within the PMO in three distinct phases. The information will be collected from the project site and assimilated in the form of a monthly progress report to assess the progress and results of the SMF implementation, and adjust the work progress, where necessary, in case of any delays or problems. The report shall be submitted to the Head PMO. PCMU also complement PMO's monitoring.

In monitoring RAP implementation, full details of the monitoring shall be defined in any RAP that may be required and shall include details of monitoring during the preparation, resettlement and operational stage as well as performance indicators.

9.4 External Monitoring and Evaluation

PMO procures a third-party Monitoring and Evaluation Consultant (MEC), with support from PCMU. The MEC will have environmental and social experts and shall carryout intermittent third party monitoring of the implementation of the SMF, any RAP against the proposed programme, and the Environmental and Social Management Plans (see ESAs for the original project and the proposed AF for further details).

The MEC shall complete reports on independent audits, circulated to the PMO, ID, GoSindh, WB and CSCs where appropriate.

MEC shall also be responsible for evaluation of the SMF implementation, including the resettlement activities, such as an overall review of the success of a RAP. With respect to resettlement activities, the MEC shall be responsible for overall monitoring of the implementation of any RAP as well as monitoring actions taken in respect to any chance find items or design changes which may alter the resettlement requirements. As well as monitoring physical resettlement of PAPs, the MEC shall also monitor temporary and permanent land acquisition. Evaluation shall include indicators related to the long-term impacts (effects/benefits) of the project on people's lives in the project affected area, including an updated socio-economic assessment, comparison with the baseline socio-economic assessment and an assessment of the socio-economic impact. The evaluation shall also extend to the host communities.

The evaluation of the MEC shall be in the form of a single final report to be issued to the PMO one year following the completion of civil works on the project. The report shall also include details of any outstanding issues and actions required to resolve such issues. The MEC shall provide feedback to PMO on the project's performance and impact so that corrective actions can be taken in a timely manner.

MEC shall be responsible for independent monitoring of the SMF implementation, including any resettlement activities.

The MEC shall submit bi-annual (six monthly) reports to the PMO, copied to the PCMU. These reports shall detail the following:

- Monitoring methodology
- Monitoring activities
- Results of monitoring
- Recommendations/proposals

The first report shall be submitted within three months of the appointment of the MEC, and subsequent reports submitted every six months following this.

Draft Terms of Reference (ToR) for the MEC shall be included in the RAP.

10. COST ESTIMATE

10.1

Arrangements for Funding

Funding for resettlement activities shall be arranged by the ESU of PMO via the Finance Department, through the following activities:

- Opening of a bank account to deal with compensation and its disbursement
- Submission of resettlement budget to Finance Department (GoSindh) for transfer of funds to bank account
- Physical disbursement of compensation to PAPs

10.2

Cost Estimates⁶

Given the programmatic nature of the social interventions, it is not possible to conduct an accurate and reliable costing exercise at this time. For budgeting purpose, below are some broad cost estimates for possible land compensation and resettlement and communication activities. Detailed costing and budgeting will be carried out during the RAP preparation. The total budget for SMF implementation is estimated for US\$ 1.5 million, including US\$ 1 million for resettlement and US\$ 0.5 million for communication strategy. Sindh Irrigation Department will be responsible for its financing, including additional cost beyond this budget.

Table 10.1: Cost Estimates

Component	Estimated Cost (US\$ Million.)
Resettlement Policy Framework (RAP preparation, possible land compensation)	1.00
Communication Strategy	0.50
Total	1.50

⁶ The cost estimate under the original project included US\$3.5 million for Social Action Plan (SAP) implementation. Under the proposed AF, SAP has been upgraded to a standalone component to support an integrated riverine management plan in the 170-km stretch of Indus between Guddu and Sukkur Barrages. The SAP implementation cost has been reallocated to the new component.

Appendices

Appendix A. Alternative Considered for Contractor Operation Area for Guddu Barrage Rehabilitation

Appendix B. Socio-economic Baseline in Project and Command Areas of the Original Project

Appendix C. Stakeholder Consultations under the Original Project Preparation

Appendix D. Communication Matrix – Secondary Stakeholders

Appendix E. Socioeconomic Survey Methodology for Sukkur Barrage Rehabilitation

Appendix F. SBIP Grievance Redress Mechanism

Appendix G. Sukkur Barrage Rehabilitation Communication Strategy

APPENDIX A. ALTERNATIVES CONSIDERED FOR CONTRACTOR OPERATION AREA FOR GUDDU BARRAGE REHABILITATION

A.1 Establishment of Contractor’s Labour Camp, Construction Camp and Workshop

The sites detailed in the following table and sections have been identified. None of the sites result in physical displacement.

Table A-1: Potential Sites for Contractors Facilities and Workshop

Site	Location	Proposed Facilities			Acquisition Requirements		
		Labour Camp	Construction Camp	Workshop	No Acquisition	Permanent Acquisition	Temporary Acquisition
1	Left bank of River Indus just upstream of Rainee Canal	X	X	X		X	X
2	Left bank of Guddu Barrage			X	X		
3	Left bank of Beghari Sindh Feeder Canal, approximately 2.5km from the barrage	X			X		
4	Left bank of Beghari Sindh Feeder Canal, approximately 4km from the barrage	X			X		

A.2 Area 1: Upstream Left Bank

Area 1 is situated on the left bank of the River Indus just upstream of the Rainee Canal. The area is situated in privately owned land, but, as the land is low lying and commonly waterlogged, the area remains barren. In order for this land to be suitable for the colony, it would first need to be filled to raise the ground level and reduce the flood risk.

This site allows the contractor to house all facilities together increasing working efficiency and reducing traffic in the project area. The location is relatively close to the barrage, however it is not close enough to be able to benefit from the security provided by the Ranger and Police situated at the barrage, and therefore the contractor would need to make his own arrangements for security.

A.3 Area 2: Downstream Left Bank

Area 2 is situated on the left bank of the River Indus immediately downstream of Guddu Barrage. The area is partially on government owned land, but extends into privately owned land, where Mirani tribe live. To mitigate any resettlement, this site is considered suitable for the establishment of the workshop only on the government owned land. .

As the site is close to the barrage, it could benefit from the security provided by the Ranger and Police situated at the barrage.

A.4 Area 3: Left Bank of Beghari Sindh Feeder Canal

This option of situated on the left bank of Beghari Sindh Feeder Canal approximately 2.5km from the barrage. The area consists of two existing, but currently unused, privately owned

labour camps. Minimal works would be required to make this area suitable for inhabitation by the contractor's workforce.

This site is only adequate for inhabitation by the contractor's staff, and separate sites to situate the construction camp and workshop shall be required. The contractor would need to arrange his own security for this site.

A.5 Area 4: Left Bank of Beghari Sindh Feeder Canal

Similar to area 3, this area is situated on the left bank of Beghari Sindh Feeder Canal, but is approximately 4km from the barrage. The area consists of a single privately owned labour camp, for which minimal works would be required to make it suitable for inhabitation by the contractor's workforce.

The contractor would need to arrange his own security for this site.

Again, separate sites elsewhere would be required for the construction camp and workshop.

A.6 Conclusion

The final decision for the location of the labour camp is to be made by the Contractor, a variety of options have been presented here in recognition that the contractor may wish to locate all facilities on one site to reduce the management burden. The contractor may choose any of the options above for the establishment of his camps.

However, following consultation with the ID, the location of the workshop which forms part of the permanent works, has been chosen at area 2. As only a small area shall be required for this single facility, neither land acquisition nor physical displacement shall be required. As a result, no permanent land acquisition or physical displacement shall be associated with the establishment of the contractor's camps or workshop.

Notwithstanding the above, it is considered that the use of area 1 shall be favoured by the contractor, as it allows the contractor to house all facilities in one compound close to the barrage, simplifying security arrangements and reducing traffic flow in the project area. However, area 1 is not suitable for the workshop due to the requirement for permanent land acquisition. The proposed camp shall cover an area of approximately four acres and is shown in the following figure:

Figure A-1: Preferred Site for Construction and Labour Camp



APPENDIX B. SOCIO-ECONOMIC CONDITIONS IN PROJECT AND COMMAND AREAS UNDER THE ORIGINAL PROJECT

B.1 Administrative Setup

The project area is divided in four districts: Kashmore; Ghotki; Rajanpur and Rahim Yar Khan. Each district is headed by the Deputy Commissioner (DC) who is responsible for the coordination of functions of all the departments in the district. The main district departments include: administration; judiciary; police; education; health; communication and works; agriculture; forestry; irrigation; telecommunication; and livestock and fisheries. The head of each district department is responsible for the performance of his department and is generally designated as the Deputy Director or District Officer.

B.2 Populations

The estimated population of the project area is 37,410, comprising of 18,218 males and 19,192 females within 64 villages. Details of the population of project area are given in the following table.

Table B-1: Population of the Project Area

Age Group	Male	Female	Total
> 5	2,514	2,592	5,106
6-9	1,794	1,851	3,645
10-18	3,253	3,361	6,614
19-65	10,364	11,102	21,466
Above 65	293	286	579
Total	18,218	19,192	37,410

B.3 Ethnicity and Tribes

The dominant ethnic group in the project area is the Mazari Baloch tribe (50%). The Mazari Sardars are the controlling authority in the project area and hold the majority of the agricultural land. Other tribes include the Mirani (30%), Soomro (10%), Solongy (4%), Sheikh (3%) and the Chacher, Arain, Sher, Datsi, Malik, Indhar, Bhatti and Khosa (3%). Ethnic minorities include Pathan and Daya that are living in the vicinity of Kashmore town.

B.4 Family System

The majority of those in the study area live together with their extended family (parents living with married children and their families). Families believe this is a more economical way of living as they often work together on the same land and are able to share their joint incomes to support the entire family, including elderly relatives who are unable to work. It is also thought to be more efficient to share basic amenities such as water, electricity, housing and food rather than for each immediately family to purchase or source their own.

B.5 Religion

During the socio-economic field survey it was observed that about 95 percent of the population is Muslim whereas about five percent consist of Hindu and other minority religions.

B.6 Social Cohesion and Conflict Resolution

The population of the project area tend to live alongside their extended families (elderly parents, families of the siblings) within a single compound bounded by a perimeter wall as it is believed to be more convenient and economical. The sharing of resources is beneficial in terms of joint incomes, manpower (agricultural practices) and basic amenities such as water, electricity, housing and food etc. Individual residential structures typically comprise of nuclear families (i.e. husband, wife and their children), although occurrences of the head of the household living with his siblings family or elderly parents is not uncommon.

Social organization in all villages is strongly based on Biradari system (tribe or caste), where each tribe has a leader. In the Biradari system, although members of a tribe do not own property together or share incomes, the honour of individual members affect the standing of the tribe within the community. The families belonging to the same tribe have strong interactions with one another and generally keep separate identities. Even in marriages of their young, they prefer to marry within their own tribe. Although uncommon, cases of marriage between different tribes can occur.

As in other parts of Pakistan, disputes on a variety of different issues are common place. Disputes, such as right to vote, marriage settlements and other matters, are usually resolved by the tribal leader, while the head of a village shall resolve any major disputes. It was found during the survey that 90 percent of the conflicts were resolved at a village level. Those living within communities of the project area feel obliged to accept the decision of their tribal or village leader.

In case of serious matters, local influential politicians/landlords (who are often also tribal leaders) intervene to settle the dispute. Occasionally, when parties do not agree on the decision of the village or tribal leaders, matters may go to the police and ultimately a court of law. The police and the court of law are the last options and these are rarely exercised.

B.7 Inter-tribal Conflict

Although conflict within the project area was common place between the Mazari and Khosa tribes and the Solangi and Khosa tribes within the project area until end of 2011, the project area has remained peaceful since 2012. There were no reported security incidents within the Col itself during the conflict. However, for the purpose of development planning, it is important to appreciate the history surrounding this conflict.

Guddu Barrage is located at Sindh-Punjab Border in District Kashmore. The area is dominated by tribes originating from the Baloch district. The most common tribe in the project area is

Mazari, the other tribes are Khosa, Domaki, Bajarani, Jakhrani and Sundarani. Each tribe has their own tribal leader. The tribal leaders are mostly landlords and political leaders.

As well as being dominant in numbers, the Mazari tribe is also powerful within the project area, including a member of the Sindh Provincial Assembly, a member of the Punjab Provincial Assembly and a member of the National Assembly.

Conflicts have been common in recent years (especially in 2010 and 2011) between the Mazari and Khosa tribes and the Solangi and Khosa tribes, however conflict has reduced since 2011. The chance for conflict is heightened during elections, when parties shall oppose each other due to their political affiliations which are often aligned with their tribal leaders.

The root causes of the conflicts between the Mazari and Khosa tribes within the project area appear to be similar in nature to conflicts within a single tribe, including:

- The purchase and sale of land
- Theft of irrigation water
- Theft of food grain and fodder
- Theft of animals
- Marriage settlements between families
- Disputes between women and children
- Disputes over voting during elections

Without the defined resolution system which exists within a single tribe, these disputes appeared to escalate and manifest as physical fights between parties, resulting in the injury or murder of individuals of one tribe by another. Following such incidents, the leaders of each tribe (including landlords and politicians) entered into dispute and revenge killings between the tribes became common. These killings were carried out by an isolated group from each tribe.

The conflict peaked in 2010 and 2011, and at the end of 2011, influential figures from Districts Ghotki, Kashmore, Rahim Yar Khan and Rajanpur arranged a meeting between all local landlords and politicians to understand the causes of the conflict. Following this meeting, local politicians and landlords reached agreements and compromises to resolve their grievances. The meeting also set a precedent for meetings between leaders of different tribes in order to resolve inter-tribal conflict and it is reported that this is now commonplace following intertribal conflicts.

Following the agreements reached at the end of 2011, those who carried out the killings in each tribe were no longer aligned with the tribal leaders in the region and as a result, were viewed as criminals by the communities. It was reported that the Mazari and Khosa tribes, supported by the police, sought out and eliminated these criminals.

While the security situation within the project area is now viewed as greatly improved since its peak in 2010/2011, there still appears to be distrust by communities of the Mazari tribe towards new comers to the project area.

Without support and introduction from tribal and village leaders, strangers to a village from a different tribe are viewed as suspicious by the receiving community.

B.8 Housing

The majority of the population live in small settlements of five to twenty houses scattered all over the project area. Mud houses or huts are the most common house type (84%) and are built without any planning or consideration of layout. All mud houses usually have a boundary wall enclosing enough space for cattle and storage. Only 10% houses are built semi pucca (mud, bricks, iron, or cement and bricks, with roof of wood and grass) and 6% are pucca (bricks or blocks with iron and cement roof). The roof of a mud house consists of wooden beams of all shapes and sizes, cover of thick date-palm mats and a layer of mud with clay plaster at the top. It was observed that all the people were living in self-owned houses.

B.9 Literacy

A person who can read and write statements with an understanding, in any language prevalent in Pakistan, is considered as literate. The literacy ratio is measured as the number of literate people compared to the population of the age of 10 years and above.

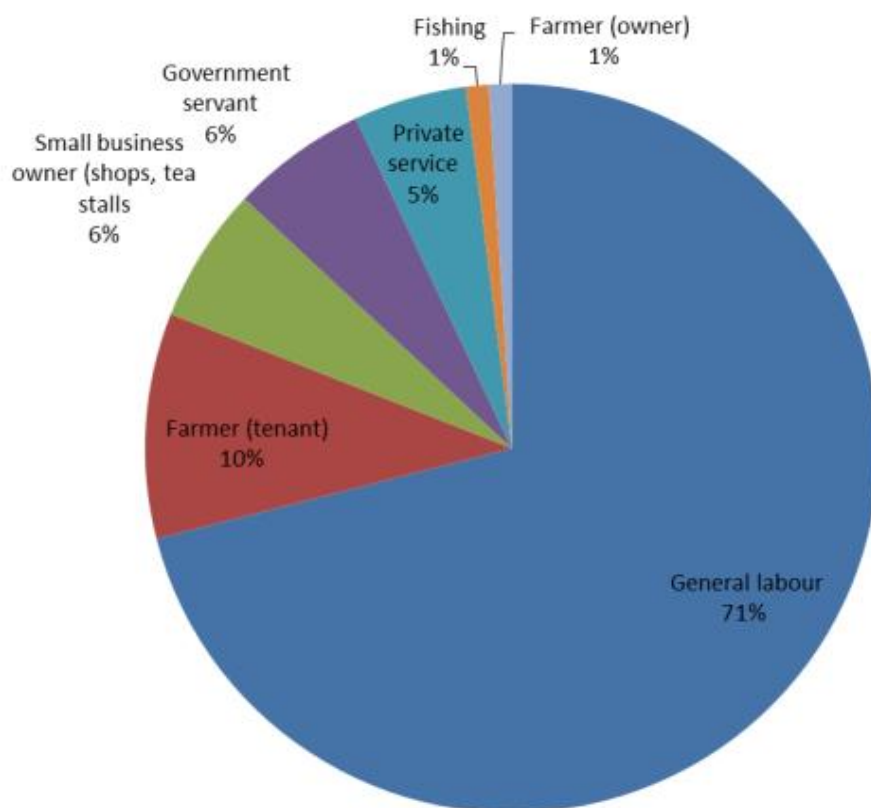
According to the population Census of 1998, in Kashmore; Ghotki; Rajanpur and Rahim Yar Khan Districts 23.66 %, 29.01%, 20.7% and 33.1% respectively of the population are literate. However, the literacy ratio is considerably lower within the project area, at just 6% (2,221 people).

B.10 Economic Conditions

B.10.1 Employment

Employment in the project area is divided as follows:

Figure B-1: Employment in the Project Area



B.10.2 Livelihoods

Agriculture is the most widespread source of income (70%) in the project area. 25% of the total population income source is as labourers (excluding agricultural labourers) and 5% from government jobs (in departments such as the agriculture department, forest department, post office, police and Pakistan army).

Livestock is a significant, albeit often a secondary, source of income. The majority of the households in the project area own 3 or 4 animals. Cows, buffalo and goats are most commonly owned. Livestock is a prestigious symbol and an additional source of income for the farming community, providing milk, ghee and meat.

Crop or fodder is generally sold at a rate of Rs. 4,000 to 5,000 per season. Unsold rice is commonly used as dry fodder, which is comparatively cheap. Agriculture labourers earn between Rs. 200 to 300 per day. Demand for agriculture labour is high during planting and harvesting but is not a continuous source of employment.

Small businesses, the private sector and fishing do not represent significant income sources in the project area although 12% of the project area are employed in this sector.

B.10.3 Income Levels

The average income level of those in the project area is approximately Rs 1,293 (US\$12) per month. The income by profession is shown in the following table.

Table B-2: Average Income Level by Profession

Profession	Average Monthly Income Per Household (Rs)	Average Income Per Capita (Rs./Month)
Farming / Owners	10,708	1,460
Farming / Tenant	7,776	1,099
Commercial (Shop, General Store, Cold Corner, Tea Stall, etc.)	9,913	1,373
Government Service	14,064	1,849
Private Service	8,821	1,199
General Labour	7,817	1,277
Livestock	7,286	1,437
Fishing	7,598	1,125
Total Average	8,475	1,293

The data above indicates a low level of household income although the better off families are generally those associated with the agriculture sector.

The income of a large proportion of the project area is below the official poverty line of Rs.2305 per capita/month (inflation adjusted) and is categorized as vulnerable.

B.10.4 Industry

The only industry within the project area is the generation of electricity (Guddu Thermal station) on the right bank of the Indus at Guddu Barrage. However, a large number of industries have been established outside the project areas in the related four districts. The thermal power plant, Guddu town market and Kashmore town are major sources of employment in the region. There is no other industry at the Guddu Barrage.

Cotton factories are located in Sadiqabad and Rajanpur. There are five sugar mills, two in Sadiqabad District Rahimyar Khan and three are located in Ghotki District. There are five fertilizer factories three located at Sadiqabad (FFC-I, FFC-II, Fatima Fertilizer Factory), while FFC-III and Engro Chemical are located at District Ghotki.

B.11 Agriculture

B.11.1 Land Tenure System

The land tenure system in Sindh has regulated ownership, tenancy and inheritance rights. The system has undergone several changes since British rule, when land was given away in large tracts to local influential community members. Recognizing the need for more equitable

distribution of agricultural land and security of tenure, the Government of Pakistan has attempted various land reforms, with varying degrees of success. With “Wadaras” (Large Landlords) unwilling to surrender their rights, haris (Landless Tenants) not in a position to exercise their rights, and the state lacking the “Will” to implement its writ, the situation has not improved. However, natural succession has resulted in some division and fragmentation of land. Agricultural land is mostly inherited and with the passage of time it is divided further and further amongst the children resulting in shrinking sizes.

A high rate of land ownership within the project area was reported by respondents during the social survey - of those farming within the project area, 90% own the land they farm, 5% are tenants and 5% are illegally farming land owned by the ID.

B.11.2 Revenue Record

Respondents were asked about the revenue record of the land they farm. Those beyond the flood embankments and outside the Col reported that they hold land revenue records for the land they farm. Those living and farming between the flood embankments (but beyond the Col) were allotted land by Prime Minister Nawaz Sharif in 1999 and hold a 99 year lease from this land.

B.11.3 Irrigation

It was observed that the farmers and land owners cultivate their land on the lift irrigation water from River Indus or installed tube wells. 70% of the project population is engaged in irrigated agriculture.

B.11.4 Cropping Pattern

The lands in project and surrounding area are fertile and farmers grow rice, sugarcane, cotton, sorghum and vegetables during the Kharif season (April to November) and wheat, oil seed, pulses and vegetables during Rabi season (April to October). Kharif crops are often flooded by the high floods in the river Indus and Rabi crops are usually sown on the residual flood moisture. Sugarcane is a cash crop and is the most commonly grown crop in the project and surrounding area due to the availability of the surrounding sugar mills making it easy to sell. The most commonly grown crops are wheat, rice, sugarcane and fodder for livestock.

B.11.5 Farm Size

The survey of the project area has shown that half of the famers in the project area own only 1 to 5 acres of land, and only a small portion owns over 25 acres as shown in the following table.

Table B-3: Landholding Status

Sr. No.	Category	Landholding Size (Acres)	No. of Landholder	Percentage
1	Very Small	1.0-5.0	1400	50.78
2	Small	5.1 -12.5	937	33.99
3	Medium	12.6 – 25	350	12.69
4	Large	Over 25	70	2.54
Total			2,757	100

B.11.6 Farm Backward and Forward Linkages

For the purchase of farm inputs and sale of crops the landlords and farmer commonly use one of the surrounding city markets located in Kashmore, Khandhkot, Ubauro, Daharki and Ghotki. The farm inputs and outputs are transported through Trucks Trailer and Tractor Trolley. The animals from the project area transported to Hyderabad and Karachi by Trucks. Sugarcane is cash crop of the area. Due to the presence five sugar mills in the project area, demand for sugar cane is high - as a result, sugar cane accounts for approximately 65% of cultivation in Ghotki and Rahimyar khan districts.

B.11.7 Animal Husbandry

Livestock and animal rearing was the second largest occupation after agriculture in the project area. Majority of the farmers hold between three to four animals, of which cow, buffalo and goats are most common. Farmers in the project area generally own high quality breeds. Livestock was the main source of milk, meat and ghee of the population. Livestock was also a source of income as people sell livestock in nearby towns. Animal feed is available in the shape of green and dry fodder. Donkeys, horses and camels are used for travelling and load carrying. The livestock population in the project area is given in the following table.

Table B-4: Detail of animals in the project area

Sr. No	Location	Buffalo	Cow	Sheep	Goat	Horses	Donkeys	Total
1	Upstream Right side	603	1192	115	625	6	67	2608
2	Upstream Left Side	1493	2620	110	2060	9	99	6391
3	Downstream right side	1032	1870	120	1439	13	91	4565
4	Downstream left side	320	520	30	270	4	11	1155
Total		3448	6202	375	4394	32	268	14719

People were asked whether they have grazing land for feeding their animals. The participants replied that a limited area surrounding the river banks are available for animal grazing. Some villages have fallow or uncultivated area for animal grazing. It is the tradition here that the individuals feed their animals by providing fodder/rice straw, wheat straw and also grow fodder crop to feed their animals.

B.12 Vulnerable groups

Groups experiencing a higher risk of poverty and social exclusion than the mainstream population are considered vulnerable groups. Vulnerable groups are often considered to include ethnic minorities, migrants, disabled people, handicapped, widows, orphans, and homeless people, those struggling to earn minimum standard of living, abused, isolated elderly people and children.

B.12.1 Landless

During the field survey it was found that landlords and *sardars* own the majority of the project area. There were found some medium size and some small size owners in the area. The majority of the rural people are landless and working as tenants to land lords owning large areas of land.

B.12.2 Impoverished

Approximately 71% of the project area falls below the official poverty line (inflation adjusted) of Rs.1406 per capita/month. The percentage of those living under the poverty line by profession is given in the following table.

Table B-5: Population in Project Area Living Below Poverty Line

Profession	% Below Poverty Line
Farming / Owners	47%
Farming / Tenant	86%
Commercial (Shop, General Store, Cold Corner, Tea Stall, etc.)	69%
Government Service	34%
Private Service	81%
General Labour	72%
Livestock	61%
Fishing	100%
Average	71%

B.12.3 Those without legal entitlements to land they occupy (encroachers)

The flood in the river Indus during 2010-2011 made many people homeless, their houses were flooded/ damaged and their animals also affected by the flood. During the floods, many of those vacated homes in the project area have encroached and illegally occupied the river banks and flood bunds by constructing religious structures, houses and establishing small business.

B.12.4 Handicapped

During the baseline survey, two handicapped boys were identified, one in village Gidu Mirani on the left side of the barrage and the other at Seendal Mazari on the upstream left side. Two polio

cases were found in village Bakshan Shah (downstream right side) and one in village Budho Khan Sheikh (downstream right side).

There are no ethnic minorities or migrant groups living within the project area.

As the population of the project area live within extended family units, widows, orphans and elderly people are living with, and are supported by members of their extended families (such as uncle, grandfather, brother, son or cousin) and are not considered vulnerable.

B.13 Women in the Project Area

The status of women in the project area is classified as low class. The result of the surveys revealed that women of the project area are fully responsible for household activities and also take an active part in the field and livestock activities, and thus support the household income generation.

Women within the project area are infrequently consulted and men commonly have the deciding power. Men usually make purchases on behalf of the female members of their family. Rural women mostly remain inside the home or work in the field. In many cases, a husband will not share his plans with his wife. Neither the survey nor the consultations identified any women who owned property.

B.13.1 Skills in embroidery

Women in the area are skilled at embroidery. Many women spend their free time in embroidering. There is the opportunity for women to use these skills for the source of income.

B.13.2 Role of women

The result of the surveys revealed that the household and farming activities were carried out by the women in the project area as under:

Table B-6: Women Role in Household Activities (Multiple Responses)

Sr. No.	Activity	Percentage %
1	Food Preparation	100
2	House Keeping	100
3	Child Caring	100
4	Collecting drinking Water	100
5	Collecting Fire wood	70

Table B-7: The Women's participation in case of Farm activities are as under

Sr. No.	Activity	Percentage %
1	Milking Animal	100
2	Home Poultry	100
3	Weeding	60

4	Vegetable Sowing/ Harvesting	60
5	Crop Harvesting	50
6	Livestock Raring	35

B.13.3 Decision making

The women of the project area have no any role in the decision making like marriage of children, sale and purchase of property, sale and purchase of animals, decision regarding schooling of children and to attend social factions. It was found during the field survey that the oldest male member of the family has a power of decision making. He determines the family interests and makes decisions with regard to the family, and in some cases the mother may also take part in decision after the death of her husband.

B.13.4 Education level

All women living within the Col were found to be illiterate. Only 2% of the women in the project area were found to be educated, and of these none had attended school beyond middle school. Of the total educated population of the project area, only 16% are female.

B.13.5 Health

The health and hygiene condition of females and children are very poor. Many diseases are identified within the Col, i.e. skin diseases, diarrhoea, hepatitis, typhoid, and flue. Many women are suffering from anaemic diseases.

B.13.6 Social Conflict Resolution

It was reported to the gender specialists that the resolution of social conflicts within the female community is in the form of the 'Panchat System', whereby the village heads, Nazim, political leaders and Union Council members form an assembly to hear and resolve social conflicts at the village level.

B.14 NGOs Involvement

During the field survey it was observed that only one NGO, 'Mojaz Foundation', was active in the vicinity of the project area (operating from Kashmore town). Mr. Ramesh Arora is the Chief Executive and Mr. Abdul Samad is the Project coordinator of the Mojaz. Foundation The NGO was working for flood affected families of the Rajanpur District in Punjab province. They provide shelter to the flood affected population by providing tents and wooden Dwellings.

Soofi Sachal Sarmast Welfare Association was working at Kandh kot city for the welfare of the flood affected people. Kainat Development Association was also working for flood affected people. During 2010- 2011 there was a breach in the River Indus on its right side near Kandh Kot and a vast area was flooded. NGOs Operating in the District Kashmore are shown in Table

B-8. These NGOs were working for the flood affected families but now they are looking for additional funds.

Table B-8: NGOs Operating in the District Kashmore

NGO	Working Areas	
Mojaz	Flood / Emergency Relief	Construction of Water Tanks
	Hand pump	Construction of Washrooms
	Development	Soling
Soofi Sachal Sarmast Welfare Association	Flood / Emergency Relief	Development
Kainat Development Association	Education	Food
	Construction of Washrooms	

In 2011, one NGO (HANDS) was observed working with communities in Mawa Khan and Solongy villages close to Guddu Barrage. However, it was noted in 2013 that the NGO was no longer active in the area.

B.15 Key Socio-Economic Information of Command Areas

Guddu barrage controls irrigation supplies to the Ghotki (on the left bank), Beghari Sindh and Desert Pat (on the right bank) Feeder Canal command areas. The following baseline assessment is based mainly on secondary data, and supplemented by details recorded during consultations in the command area as part of the ESIA.

A needs assessment is planned during the first year of construction as part of this Social Development Action Plan to provide further details prior to works which shall impact upon the command area (i.e. prior to works to the barrage or head regulators themselves).

B.15.1 Ghotki Feeder Canal Command Area

Ghotki Feeder Canal falls in the administrative limits of Ghotki and Sukkur Districts. Ghotki feeder canal is located in Talukas Ubauro, Daharki, Mirpur Mathelo and Ghotki of District Ghotki, and Taluka Pano Akil and Rohri of District Sukkur.

Ghotki Feeder Canal off-takes from Guddu Barrage at left bank of Indus River with a design discharge of 8,490 ft³/s. It feeds a command area of 344,014 acres. The system has deteriorated overtime becoming inefficient in delivering desired water supplies for agriculture and suffering from sedimentation in the upper reaches.

Ghotki district has two gas fields namely Mari gas field and Qadirpur gas field in Daharki and Ghotki talukas respectively. Mari gas field is comparatively bigger than Qadirpur by production. At present 65 wells are functioning and producing 400 million ft³ gas per day. A number of industries rely on the gas provided at these gas field, including a number of fertilizer factories (Engro Chemical Fertilizers, Fauji Fertilizer, Fatima Fertilizer Companies are situated at Machi Goth, Taluka Sadiqabad and District Rahim Yar Khan respectively), as well as power plants

(Engro Energy Plant situated in Ghotki, Liberty Power Plant and Fauji Foundation Power Plant are situated in Mirpur Mathelo, and the WAPDA Thermal power plant situated on the right bank of Guddu Barrage). Important means of transport and communication in the district are roads and railways. The main Pakistan Railway Line Karachi to Peshawar passes through this district and the district is also connected with the National Highway running from Karachi to Peshawar.

The project area is fertile land and served by a network of canals. The area is very rich in growing cotton, wheat and sugarcane. The other crops in the area are rice, maize, barley, jawar, bajra, tobacco, gram and barley. The main occupation of the people is agriculture. The following details were also recorded during consultations in the area:

- The groundwater is contaminated with sewerage in some areas
- Common flooding in the area has resulted in the spread of malaria, typhoid and dengue within humans and diseases within livestock
- Waterlogging is common adjacent to canals increasing the salinity of cultivated areas.

B.15.2 Beghari Sindh and Desert Pat Feeder Canal Command Area

Beghari Sindh Feeder Canal has a design discharge of 14,764 ft³/s. Beghari Sindh is a non-perennial canal and the normal closure period of Beghari Sindh Feeder from October to May, hence extended canal closure period will not make a negative effect in the canal command area. During the Rabi season (November to the end of March) ID opens the canal for 15 to 20 days for the irrigation of wheat crop. Exact time period depends upon the availability of water in Guddu Barrage. Water logging and salinity is commonly reported within the command area.

Hand pumps installed in the Beghari Sindh command area are the main source of water. Agriculture is the main source of income.

Desert Pat Feeder Canal has a design discharge of 10,000 ft³/s. Desert Pat Feeder Canal is perennial canal and supplies water for Irrigation and for drinking purposes as the ground water is very deep and saline and therefore unsuitable for drinking purposes. The population depends on the canal water for drinking, washing, cloth washing and livestock, especially in Nasirabad district of Baluchistan.

The system in the Desert Pat command area has deteriorated overtime and has become inefficient in delivering required water supplies for agriculture. Farmers commonly use pumps to lift water from the canals for their use. The major source of income in the command area is arable agriculture and from livestock. It is common for those who do not own land to keep goats, sheep, donkeys and camels to support their income.

Begari Sindh Feeder and Desert Pat Feeder Canals supply irrigation water to district Kashmore, Sukkur, Shikarpur and Larkana Districts of Sindh and Desert Pat Feeder supply irrigation water to Nasirabad District of Balochistan.

The population of Kashmore District was 662,462 persons. Kashmore is bordered by Ghotki and Shikarpur other districts in Sindh. The district is also bordered by Rajanpur and Rahim Yar Khan in Punjab, and Sui and Dera Bugti in Baluchistan. Kashmore is divided into three Talukas, Tangwani, Kandhkot and Kashmore. Kashmore is the largest rice producing district in Asia.

B.15.3 Communications in the Command Area

During the Canal Command Survey it was found that at every minor and distributary canal the respondents have mobile phones. The use of mobile phones is wildly spread in the canal command area. The service languages in the command area are Sindhi, Balochi, Urdu and Siraki. Landless male members have access to their own mobile but most of the women have no access to their own mobile.

Access to radio and TV is also wildly spread in the canal command area. The popular channels are Mehran KTN, Dharti, Sindh, Kashash , (sindhi) Awaz, AAj, Sama, Dawn news, Waqat, (Urdu) Kohnoor (Siraki).

APPENDIX C. STAKEHOLDER CONSULTATIONS UNDER THE ORIGINAL PROJECT PREPARATION

C.1 Introduction

The Government of Pakistan (GOP) as well as international donors (e.g. World Bank) place great importance on involving primary and secondary stakeholders for determining the environmental and social impacts associated with project implementation. Through a process of consultation, the knowledge and views of affected persons, NGOs, the private sector and other interested parties is taken into account in decision making. The process includes the participation of PAPs.

The consultation process presented in this ESIA was carried out in accordance with the national as well as provincial regulatory requirements and the W B policies on stakeholder consultation. The purpose of consultation was to disseminate project information among the project stakeholders and obtain their feedback regarding local knowledge of baseline, mitigation measures, perception of PAPs regarding impact significance and their views on project interventions.

As per Bank policy, comprehensive stakeholders' consultations were organised for the ESIA of Guddu Barrage Rehabilitation Project. The World Bank requires that project affected groups and NGOs are consulted at least twice, first shortly after environmental screening and second following the preparation of a draft EIA report. Initial consultations were carried out from September to November 2011 and a second round completed in November 2013. The process was initiated in 2011 with the awareness campaign by the Consultants. Consultations with stakeholders were started at commencement of the design state of the project. The decreasing capabilities of the barrage to pass super flood and reduction in design discharge of canals due to siltation were discussed. Views were taken from primary and secondary stakeholders regarding proposed interventions for the project. Information about positive and negative impacts associated with constructional and operational stage and proper mitigations of adverse impacts were shared.

The ESIA has been prepared after consultation with local communities, social capitals, NGOs and concerned government departments/organizations to ensure that their views and concerns have been taken into account in the study.

C.2 Objectives

The consultation with various stakeholders was carried out in accordance with the World Bank Operational Policy (OP4.01) with the objectives:

- To provide opportunity to those who will be impacted by the Guddu barrage Rehabilitation Project with information, including the issues, alternatives and solutions.
- Soliciting community concerns and recommendations regarding the proposed project to be addressed/incorporated into the project design to the extent possible

- To work directly with stakeholders throughout the process to ensure concerns and aspirations are consistently when making decisions.
- Sharing with the local communities the mitigation measures included in the project design to address the potential impacts.
- Promoting good will towards the project among communities for resolution of social and environmental problems

C.3 Identification of Stakeholders

Stakeholders are people, groups, NGOs, Community Based Organisation (CBOs), or institutions that may be affected by, can significantly influence, or are important to the achievement of the stated purpose of a proposed intervention. Generally, stakeholders are classified into three groups:

C.3.1 Primary Stakeholders

People or groups who are directly affected (positively or negatively) by the project are called Primary Stakeholders. In case of Guddu Barrage Rehabilitation Project the Primary Stakeholders may include;

- The general population / residents, as well as any institutions, Government departments, NGOs or CBOs within primary impact zone (Project Area –see section 3.4.2) who may be subject to direct or indirect impact on their residences or access to their workplaces during the construction period, or by any kind of project action, or who may have other interests in the project.
- Farmers of canal command area of Beghari Sindh Feeder, Desert Pat Feeder and Ghotki Feeder Canals who will be potentially impacted by this project, positively in the long term through increased efficiency and functionality of the barrage.

C.3.2 Secondary Stakeholders

People or groups who are directly affected (positively or negatively) by the project are called Primary Stakeholders. In case of Guddu Barrage Rehabilitation Project the Primary Stakeholders may include;

- The general population / residents, as well as any institutions, Government departments, NGOs or CBOs within primary impact zone (Project Area –see section 3.4.2) who may be subject to direct or indirect impact on their residences or access to their workplaces during the construction period, or by any kind of project action, or who may have other interests in the project.
- Farmers of canal command area of Beghari Sindh Feeder, Desert Pat Feeder and Ghotki Feeder Canals who will be potentially impacted by this project, positively in the long term through increased efficiency and functionality of the barrage.

C.3.3 Key Stakeholders

Those who can significantly influence a project, or who are critical to the success of a project are considered key stakeholders Key stakeholders may be from both primary and secondary

stakeholders. Key stakeholders in case of Guddu Barrage Rehabilitation Project may be local leaders, influential community members and other local representatives including Imams, and teachers of local schools.

C.4 Stakeholder Consultations (First Round)

C.4.1 Primary Stakeholders: Primary Impact Zone

C.4.1.1 Methodology

This process was started by the Consultants during September 2011 through meetings in 20 villages and consultations with an additional 11 villages during November 2011. In this process, 526 people were consulted in 31 villages as detailed in Table C-1. Mainly key informants were consulted for these meetings which were carried out in an open and frank atmosphere conducive to appreciation of the basic elements of the project and development of relocation concept. Full details of all those consulted can be found in Appendix B of ESIA. During these consultations, the primary stakeholders were briefed on the project components in details.

C.4.2 Primary Stakeholders: Fishermen

During Socio-Economic field survey it was observed that there were six fishing families residing in the Col upstream right side of Guddu Barrage. Their source of livelihood was fishing downstream of the barrage. There were other families fishing in the lakes upstream of the barrage.

The fishermen of Guddu Barrage area were interviewed during October 2013 to record their views on fishing practice.

Fisherfolk is the representative organization of fishermen in Sindh. A consultation workshop was held with the office bearers and members of Fisherfolk at Guddu fish market where representatives of other stakeholder organizations were also present (list of persons attending the consultation workshop and other persons contacted is given in Table C-2).

C.4.3 Secondary Stakeholders: Institutional Stakeholders

Meetings with institutional stakeholders including government departments and NGOs were organised to discuss project interventions and their potential impacts on the local communities. Those consulted during initial consultation are detailed in Table C-3.

In these meetings, stakeholders were informed about the salient features of the project, its location and activities. Institutional stakeholders showed their concerns and gave suggestions/recommendations for the implementation of the project.

C.4.4 Secondary Stakeholders: Worldwide Wildlife Fund –Pakistan (WWF-P)

The river stretch between Guddu and Sukkur Barrages has been declared as the Indus Dolphin Reserve to conserve Indus dolphin population (see section 6.3.3.5 of ESIA for further details). Guddu Barrage pond area is however outside this Reserve. WWF-P is undertaking an Indus dolphin Conservation project that is based at Sukkur. This consultation was also carried out as part of an exercise to investigate opportunities for the development of fisheries around Guddu barrage as part of this project. The Indus Dolphin Conservation project was visited in September 2012 to discuss the impact of enhancement of fisheries operations and fish stocking on Indus dolphin populations. The issue was discussed at length with the in charge of the project Mr. Liaqat Ali Khokhar.

Various options for enhancing the fish stocking and increased fish production were discussed. The consensus was that the increased fish production would be beneficial for dolphin populations as this would also be a measure to enhance the food supply for the dolphin

C.5 Second Round of Consultations

In compliance with Banks' Policy, second round of consultations were carried out at the draft final report stage. The proceedings of these consultations are summarised as under:

C.5.1 Primary Stakeholders: Project Affected Persons and Primary Impact Zone

C.5.1.1 Methodology

In addition to the first stage consultations completed in 2011 within the primary impact zone, second stage consultation events were also carried out in November 2013 in the project area as well as in surrounding villages. These consultations included major consultation events in seven villages, as well as household level consultations carried out during socio-economic surveys and asset surveys in 64 villages within the project area (Table C-4)

Summarised details of second stage consultations with the PAPs are included in Table C-5 and further detail is given in the following section.

Major Consultation Events

Major consultation events were typically attended by up to 20 community members and were held in the following villages:

- Punho Khan Mazari Village
- Nazir Ahmed Dasti
- Jam Mujeeb Jhak
- Sardar Saleem Jan Mazari,
- Sardar Shamsheer Khan Mazari
- Sardar Atif Hussain Mazari
- Rais Mohammad Bux Indhar (Bhung Sharif)

These villages were chosen due to the presence of influential landlords and political figures present there, in order to inform them about project works and gain their support for the social investigations and future construction works. The presence of landlords at these consultations was key as the landlords are very influential within the communities. The aims, objectives and project interventions were briefed to the participants and feedback was noted.

Full details of the major consultation events, including attendees can be found in Appendix B.2 of ESIA.

Minor Consultation Events

The consultations were carried out on the upstream right and left side of the barrage during the months of October 2013 to December 2013. All the villages within the project area were visited and some villages outside the project area were randomly selected where the participants were informed and their views about the project activities taken. The names of overall villages visited are included in Table C-4.

C.5.1.2 Findings

During the major consultations, landlords from different tribes were briefed on the details of the project, and their views and opinions sought. This was an important aspect of the consultations as these landlords are influential people within each community, and if their buy-in to the project is won, much of their community members are expected to follow. The landlords that are also politicians within the project and surrounding area who were contacted are as follows

- Mr Punho Khan Mazari
- Mr Jam Abdul Baki
- Mr Jam Mujeeb Ullah

The politicians consulted are all from the Mazari tribe (being the most dominant tribe in the project and surrounding area). Landlords from both the Mazari and Dasti tribes were consulted. The landlords and politicians who were contacted expressed their approval for the project.

Regarding the implementation of the works, the community expressed their views/concerns:

- The embankments should be raised and strengthened properly.
- International contractor should be preferred to ensure a high quality of works.
- Employment of the local community should be made during construction.
- Limitations to the mobility of woman and children was a concern.
- Contractor must observe the cultural norms of the area.
- Each consultation also discussed the law and order situation.

It was communicated that the law and order situation has been steadily improving in the area since 2011, but that care was still required to be exercised by project personnel. The politicians all offered their assistance and support in providing security, and recommended that this should be arranged through the police and rangers stationed at Guddu Barrage.

All landlords appeared receptive and keen to maintain contact with the project officials and requested introduction to the contractor when appointed.

C.5.2 Primary Stakeholders: Women in Primary Impact Zone

C.5.2.1 Methodology

The barrage consultants engaged two female gender specialists to focus on consultations with and socio-economic baseline data collection from women within the project area.

Female Consultation Events

The gender specialists organised four women gatherings in the villages of the project area in order to carry out public consultations to raise awareness of the project and elicit feedback from the female community members. The women of the area were informed about the project activities. The details of locations are given in Table C-3. During the field visits the gender specialist also participated in social gatherings of local women community.

Female Consultation Meetings

The gender specialists also carried out consultations with women in 45 villages within the project area (see Table C-6 for details). The aims of these meetings were to collect socio-economic baseline data from the female community as well as raising awareness of the project interventions and seeking feedback from the women in the project area. Detailed concerns raised and responses given during these consultations are given in Table C-11.

MM Pakistan also arranged a free medical camp at Mukhtiar Khan Mazari village (Figure C-8) with the cooperation of a local Lady Doctor (Sadia Jabeen) and a Ladies Health visitor (Khursheed Fatima). The camp served to raise awareness of the project as well as to get information of prevailing diseases in the area. Diseases such as Cough, Diarrhoea, and Malaria were observed and free medicines were given to the patients.

C.5.3 Primary Stakeholders in Canal Command

C.5.3.1 General

Those living adjacent to the canals within the command area of Guddu Barrage were also identified as project stakeholders as they represent major beneficiaries of the project interventions (as increased efficiency of the irrigation system is a major aim of the project).

C.5.3.2 Objectives

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 socio-economic assessment, which leads to better and more acceptable decision-making. The general objectives of the Consultation process are:

- Provide key project information to the stakeholders, and to solicit their views on the project
- 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 Guddu Barrage Project,
- 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 Guddu Barrage project,
- Create a sense of ownership among the stakeholders regarding the rehabilitation works,
- Increase public confidence about the proponent, reviewers and decision makers.
- To ensure the transparency in all project activities.

C.5.3.3 Methodology

As the command area of Ghotki, Desert Pat and Beghari Sindh Feeder Canals covers an area of approximately 1.05 million hectares (2.6 million acres), including 205 separate canals, it was not possible to visit all stakeholders. Instead, consultations were held on 20% of the canals within this command area. Consultations were split between canals off-taking from the head, middle and tail of each Feeder Canal at a ratio of 5:8:12 respectively. As shortages of irrigation supplies are most common within the tail end canals, the focus of the consultations were on these tail canals as they shall be most sensitive to the project benefits and risks.

On Ghotki Feeder Canal, where Farmer Organizations (conglomeration of farmers representing the interests of a single canal) have been formed, the Consultants carried out consultations with the Farmer Organization for the selected canal. On Beghari Sindh and Desert Pat Feeder, where Farmer Organizations do not exist, individual villages were visited.

Ghotki Feeder Canal Command Area

Ghotki Feeder Canal falls in the administrative limits of Ghotki and Sukkur Districts. Ghotki feeder canal is located in Talukas Ubauro, Daharki, Mirpur Mathelo and Ghotki of District Ghotki, and Taluka Pano Akil and Rohri of District Sukkur.

Ghotki Feeder Canal off-takes from Guddu Barrage at left bank of Indus River with a design discharge of 240 Cumecs. It feeds a CCA of 855,231 ha. The grass root stakeholders consultation at Ghotki Feeder Canal were held at 17 (out of the total 73) distributary/minors canals as given in Table C-7.

In addition, the Sindh Aabadgar Board of the Ghotki & Kashmore Districts was consulted during visiting to Ghotki Command Area. This Board is comprised of elected farmers and landlords who represent farmers in the districts. The Board members meet once a month in the district committee room to discuss problems related to agriculture such as water shortage, fertilizer supply, improved seeds, pesticides etc.

Beghari Sindh Feeder Canal Command Area

Beghari Feeder Canal Fall in the administrative limits of Kashmore, Shikarpur, Jacobabad and Larkana Districts and offtakes from Guddu Barrage at right bank of Indus River with a design discharge of 418 cumecs. Beghari Sindh is a non-perennial canal and the normal closure period of Beghari Sindh Feeder is from October to May, hence extended canal closure period will not make a negative effect in the canal command area. During the Rabi season (November to the end of March) ID opens the canal for 15 to 20 days for the irrigation of wheat crop. Exact time period depends upon the availability of water in Guddu Barrage. Consultations were carried out at 19 (out of the total 91) canals on Beghari Sindh Feeder Canal, as detailed in Table C-7.

Desert Pat Feeder Canal Command Area

Desert Pat Feeder Canal falls in the administrative limits of Kashmore District of Sindh and Naseerabad District of Baluchistan and offtakes from Guddu Barrage at the right bank of Indus River with a design discharge of 376 Cumecs. Desert Pat Feeder Canal is perennial canal and supplies water for Irrigation and for drinking purposes as the ground water is very deep and saline and therefore unsuitable for drinking purposes. The population depends on the canal water for daily uses and for livestock. Consultations were carried out on 7 (out of the total 41) canals in the command area as detailed in Table C-7.

C.5.3.4 Findings

The main findings of the consultations are summarised below. Full details of the responses including pictorial records are provided in Appendix B OF ESIA.

Positive Perception

The following positive feedback was received during consultations in the command area:

- The project is necessary under the current situation of irrigation water scarcity.
- Irrigation water will increase with rehabilitation of Guddu Barrage.
- Availability of irrigation water will leave positive impacts on crop production and farmers income.
- Community showed satisfaction about the overall project activities.
- Tail end farmers were happy that irrigation water will reach at tail end.
- Income will increase and it will help in poverty alleviation.

Negative Perception

The negative feedback received which is to be addressed in the communication plan, social management plan and implementation of civil works is summarised below:

- Extended canal closure will leave severe impacts on crops, humans and livestock.
- Community of Desert Pat Feeder mentioned that population is dependent on canal water for drinking and an extended closure period would be damaging

- Extended canal closure will affect the health of domestic animals dependent on canal water for drinking purposes and will also affect their milking efficiency.
- Extended canal closure will affect agriculture labourers and small farmers.
- Female participants pointed out that their household activities will be badly affected, e.g. watering animal, washing clothes, and fetching water from canal distributaries.
- Farmers pointed out that green fodder for their animals cannot survive for more than one and half month without irrigation water.
- Some of the farmers demanded for assistance in case of crop damages.

C.5.4 Secondary Stakeholders: Institutional Stakeholders

Meetings with institutional stakeholders were organized from October 2013 to January 2014 to discuss specific issues associated with the proposed project and their potential impacts on the local and regional environment, especially on social and economic environment. In these meetings, the stakeholders were informed about the salient features of project and location of the activities. The purposes of the meetings were to:

- Inform the officials of the existence, nature of the project and the scope of work involved in the execution of the project.
- Provide a forum for the initial definition of critical environmental and social issues.
- Establish their interpretation, as official stakeholders, of the key sector development issues and linkages to the local and regional environment and social development.
- Confirmation of the suitability of the initial list of communities selected for consultation.
- Facilitation of field work.

The consultation meetings were held with stakeholders listed in Table C-8. The participants were briefed about the environmental and social aspects of the project, the expected issues and proposed mitigations. The responses of the contacted persons are given in section C-8.

C.5.5 Secondary Stakeholders: Industry

As part of the consultation process of ESIA, consultations were also carried out with representatives of the fertilizer industry, power plants, and sugar mills in the command area of Ghotki Feeder Canal.

C.5.5.1 Fuji Fertilizer Company (FFC) (Plant III) Mir pur Mathelo

The Mechanical Engineer of FFCIII Mr Shakeel Ahmed Memon reported that, to meet the fertilizer plant water requirements, water is lifted from Masu Wah canal (offtaking from Ghotki Feeder Canal) with the permission of ID. FFC pay the agreed water charges to the ID. The company has also installed fresh groundwater tube-wells for drinking as well as for the fertilizer plant. If the canal closure will be extended 15 days after the normal closure period it will not affect the normal working of the fertilizer plant. Groundwater will be used to meet the plant and staff colony water requirements.

Details of those consulted at the Fuji fertilizer plant are included in Table C-9.

C.5.5.2 Engro Fertilizer Daharki

The Mechanical Engineer of Engro Fertilizer Mr Sheikh said that they lift water from Mahi Wah for the fertilizer plant. As for the Fuji fertilizer plant, the company has installed fresh ground water tube-wells for drinking as well as for the Fertilizer Plant. If the canal closure will be extended 15 days after the normal closure period it will not affect the normal working of the Plant. Ground water will be used to meet the plant requirement.

Details of those consulted at the Engro fertilizer plant are included in Table C-9.

C.5.5.3 Fauji Foundation Plant, Daharki

The Mechanical Engineer of Foundation Power Plant Mr. M. Amjad Hussain said that they installed fresh ground water Tube-wells in the Toe of Lower Dahar Wah for drinking as well as for the Plant. If the canal closure will be extended 15 days after the normal closure period, the ground water quality will be changed and that will damage the power plant. If the canal closure period will be extended more than one week the ground water quality will be changed and could not be used for the Plant.

Hence and alternative arrangements of the flow of water should be made so that Foundation Power Plant should not suffer. As you know there is an acute shortage of power in the country. Details of those consulted at the Foundation power plant are included in Table C-9.

C.5.5.4 Tanga National Barhad (TNB) Power Plant Ghotki

The Mechanical Engineer of Power Plant Qazi Kareem Ullah said that they installed fresh ground water Tube-wells in the vicinity of Ghotki Feeder canal for drinking as well as for the Plant. If the canal closure will be extended 15 days after the normal closure period, it will not affect the normal working of the Plant. Fresh ground water will be used to meet the plant requirement. Details of those consulted at the TBN power plant are included in Table C-9.

C.5.5.5 Sugar Mills

The Public relation Officer of Qadir pur Sugar Mill, Waseem Chachar, and Sudheer Ahmed Public relation Officer of Allied Sugar Mill said that all the Sugar Mills have installed fresh ground water Tube-wells and used the ground water for drinking and the Sugar Mill requirement. Extended canal closure will not affect the operation of the Sugar Mills. Details of those consulted from the Qadirpur Sugar Mill and Allied Sugar Mill are included in Table C-9.

C.5.5.6 Pano Akil Cantonment

Major Shahid Abbasi informed the Guddu Barrage Consultant that they installed fresh ground water Tube-wells and used the ground water for drinking and other uses. They use the canal water for agriculture, Garden, loans etc. If the canal closure will be extended 15 days after the normal closure period, it will not affect the crops. Details of those consulted from the Pano Akil Cantonment are included in Table C-9.

C.5.6 Information Disclosure

The ID will disclose the summary of the ESIA to all the stakeholders before a public hearing, as part of public consultation process. The summary of the reports will be made available to the stakeholders at sites designated by Sindh-EPA in accordance with PEPA-1997. In addition, a Non-Technical Summary of the ESIA will be translated into the Urdu language by the project proponent and made available to the local communities in the Project area. This will ensure that local communities are aware of project key impacts, mitigation measures and project implementation mechanism. These summaries will also be disclosed through the official Website of ID and the World Bank.

C.5.7 Details of Consultees

The details of attendees at the consultations discussed in the preceding sections are given in the following tables.

Table C-1: Details of Focus Group Meetings Arranged for Stakeholder Consultations

Sr. No.	Village/Settlement/Goth/Basti/Disty/Minor	Location	Date	No. of Participants
1	Goth Muhammad Aalam	Within Primary impact Zone	17-09-2011	14
2	Goth Muhammad Yaqoob Soomro	-do-	17-09-2011	15
3	Goth Abdul Hakim	-do-	17-09-2011	15
4	Basti Taj Muhammad	-do-	18-09-2011	15
5	Basti Rasul Bukhsh Sheikhan	-do-	18-09-2011	15
6	Basti Allah Dewaya	-do-	19-09-2011	25
7	Sher Khan Nabi Bukhsh	-do-	19-09-2011	14
8	Basti Gul Nawaz Khan	-do-	26-10-2011	10
9	Basti Shah Gaji	-do-	20-09-2011	21
10	Basti Jam Rahim Bakhsh	-do-	20-09-2011	16
11	Basti Bakht Ali	-do-	23-11-2011	23
12	Basti Bukhshan shah	-do-	14-09-2011	15
13	Mawa Khan	-do-	15-09-2011	30
14	Goth M. Sachal Solangi	-do-	15-09-2011	14
15	Goth Mehan Khan Mazari	-do-	15-09-2011	15
16	Goth Edan Khan	-do-	16-09-2011	14
17	Jaro Khan	-do-	16-09-2011	19
18	Goth Ali Nawaz	-do-	22-09-2011	7
19	Goth Abdul Rahim	-do-	24-09-2011	6
20	Goth Muhammad Sharif	-do-	25-09-2011	21
21	Goth Afzal Khan	-do-	26-09-2011	7
22	Basti Malik Hassan(left Marginal Band	-do-	25-11-2011	22
23	Basti Shello Rathani (left Marginal Band	-do-	25-11-2011	20
24	Basti Parri Khan(left Marginal Band	-do-	25-11-2011	15
25	Basti Dhigana Khan Dasti(left Marginal Band	-do-	25-11-2011	15
26	Basti Mochi (left Marginal Band	-do-	25-11-2011	22
27	Goth Gidu Marani	-do-	14-09-2011	15

28	Goth Natho Khan	-do-	22-11-2011	15
29	Goth Aurangzaib Mazari	-do-	22-11-2011	31
30	Goth Mir Muhammad Mazari	-do-	24-11-2011	15
31	Goth Imam BukhsSolongy(Dolatpur)	-do-	24-11-2011	25
Total:				526

Table C-2: Consultation with Fisherfolk representatives during October 2013

Sr. No.	Name	Position	Contact No.
1	Murtaza Mirani	Fisherman	0303-3583022
2	Iqbal Mirani	Retailer	0305-3860627
3	Mumtaz Ali Mirani	Retailer	0300-3102649
4	Baboo	District General Secretary, fisherfolk	0300-3142652
5	Karim Baksh Mirani	Fisherman & Retailer	0300-3142652
6	Azbolo Mirani	Fisherman	0302-5562566
7	Abid Hussain		0300-7008357
8	Fakir Mohammad Mirani	Contractor (Leaser fish farm)	0300-3261668
9	Pir Baksh	Taluka president	
10	Ishaq Mirani	Fisher folk president Guddu	0333-7357033
11	Mohammad Ali Shah	Fisherman's cooperative Ka	0300-3102139

Table C-3: 1st Round of Consultations with Institutional Stakeholders (17 Sep., 2011 to 24 Nov., 2011)

Sr. No.	Name	Address
A1: Sindh Irrigation Department		
1	Syed Zaher Hyder Shah	Chief Engineer Irrigation Office at Sukkur
2	Shahnawaz Bhotto	XEN, Guddu Barrage Irrigation Office at Guddu
3	Jaipal Das	XEN (Mech) Mechanical section of Guddu project
4	Ali Akbar	Assistant Executive Engineer; Q&C sub-Division Irrigation Office at Guddu Barrage
5	Nazir Ali Shahani	Assistant Executive Engineer; Regulation sub-Division, Irrigation Office at Guddu Barrage
6	Ghaffar Soomro	Assistant Executive Engineer Irrigation Office at Guddu Barrage
7	Shaukat Mahar	Assistant Executive Engineer Irrigation Office at Guddu Barrage
A2: Sindh Wildlife Department		
1	Mr. Abdul Jabbar Mirani	Wildlife inspector Wildlife department site Office at Guddu Barrage and Kandhkot
2	Mir Akhtar Hussain Talpur	In charge Indus Blind Dolphin at Sukkur Regional Office Wildlife Department Sukkur
A3: Water and Power Development Authority		
1	Abdul Aziz	Medical Officer WAPDA hospital
A4: NGO		
1	Shahzad	Finance Director NGO People in Need
A5: Forest Department		
1	Ghulam Rasool	Clerical Staff Forest Department District office Kandhkot
A6: Agri. Extension		

1	Naimat Ullah Bajarani	District Officer, Agriculture Extension Department Khandkot
A7: Fisheries Department		
1	Mr. Ghulam Mustafa Gopang	D.O, Fisheries Fisheries Department District office Khandhkot
2	Mr. Manzoor Ahmad Banjrani	DO. Fisheries Fisheries Department District office Khandhkot
3	Nazir Ahmed	Senior Clerk Fisheries Department District office Kandhkot
A8: Sindh Wildlife Department		
1	Baqa Muhammad Baloch	D.O.Game officer Sukkur Regional Office Wildlife Department Sukkur

Table C-4: Villages Visited as Part of Consultations and Socio-Economic Baseline Data Collection

Upstream Right Side	Downstream Right Side	Upstream Left Side	Downstream Left Side
Shakhelo Khan	Mevo Khan Soomro	Farman Ali Mazari	Gidu Mazari
Sher Jan Mazari	Bilawal Solangi	Allah yar Mazari	Hular Chachr
Abdul Hakim Mazari	Peeral Solangi	Araz Mohammad Mazari	Jam Allah Wasayo Chachar
Gul Nawaz Soomro	Din Mohammad Solangi	Allah Bux Mazari	
Mohammad Yaqoob	Jaro Khan Mazari	Mohammad Nawaz Malik	
Mohammad Alam	Abdul Wahid Brohi	Nawaz Khan Mazari	
Sakhi Bux Soomro	Bakshan Shah	Mohammad Punhal Mazari	
Abdul Rehman Mirani	Fateh Mohammad Solangi	Piyaro Khan Mazari	
Mohammad Sharif	Ghulam Mustafa Khoso	Hazar Khan Dasti	
Taj Mohammad Soomro	Baho Khan Mazari	Noor Hassan Dasti	
Mohammad Moosa Khoso	Kalo Khan Malik	Shabir Dasti	
Mohammad Iqbal Samejo	Mir Afzal Khan Mazari	Haji Nihal Mazari	
Araz Mohammad Mazari	Rehman Khan Mazari	Wasti Bunda	
Mohammad Sharif Mazari	Shah Mohammad Mazari	Garhi Dodo	
	Abdul Wahab Khoso	Akbar Malik	
	Dodo Khan Mazari	Mohammad Nawaz Mazari	
	Qadir Bux Kalwar	Natho Khan Mahar	
	Ghulam Qadir Solangi	Hussain Bux Malik	
	Lali Khan Mazari	Mohammad Hassan Malik	
	Ali Bux Solangi	Arab Kori	
	Hafiz Atta Mohammad	Garhi Khair Mohammad	
	Dhani Bux Mazari	Allah Wadhayo Mazari	
	Nazar Mohammad Samejo		
	Sachal Solangi		
	Ghulam Nabi Mazari		

Table C-5: 2nd Stage Consultations in the Primary Impact Zone

Sr. No.	Village	Location	Date	No. of Participants
1	Punho Khan Mazari	Village Otaq	10/11/13	20
2	Nazir Ahmed Dasti	Village Otaq	12/11/13	18
3	Jam Mujeeb Jhak	Otaq of Jam Abdul Baki	13/11/13	16
4	Sardar Saleem Jan Mazari	Village Otaq	20/11/13	22
5	Sardar Shamsher Khan	Village Otaq	21/11/13	20

Mazari				
6	Sardar Atif Hussain Mazari	Village Otaq	21/11/13	18
Total:				114

Table C-6: 2nd Stage Consultations with women in the Primary Impact Zone

Sr. No.	Village	Location	Date	No. of Participants
1	Mukhtiar Khan Mazari	Downstream Left Side	27-10-2013	45
2	Bakhshan Shah	Downstream Right Side	1-11-2013	34
3	Village Chachar	Downstream Right Side	28-10-2013	28
4	Village Meerani	Downstream Right Side	29-10-2013	18
5	Mevo Khan Soomro	Downstream Right Side	29-10-2013	27
6	Meho Khan Mazari	Downstream Right Side	30-10-2013	31
7	Sachal Solangi	Downstream Right Side	05-11-2013	25
8	Abdul Rehman Meerani	Upstream Left Side	30-10-2013	22
9	Lahoti Deedan Faqeer Meerani	Upstream Left Side	31-10-2013	30
10	Farman Ali Mazari	Upstream Left Side	31-10-2013	17
11	Sharif Mazari	Upstream Left Side	01-11-2013	12
12	Ghulam Qadir Kori	Upstream Left Side	01-11-2013	32
13	Khan Mohammad Kori	Upstream Left Side	01-11-2013	25
14	Ghulam Nabi Malik	Upstream Left Side	02-11-2013	23
15	Allah Bux Manvani	Upstream Left Side	02-11-2013	20
16	Ali Bux Manvani	Upstream Left Side	03-11-2013	14
17	Meeran Bux Gopang	Upstream Left Side	03-11-2013	12
18	Mohammad Alam Meerbahar	Upstream Right Side	03-11-2013	28
19	Rab Nawaz Meerbahar	Upstream Right Side	04-11-2013	35
20	Ghulam Akbar Soomro	Upstream Right Side	04-11-2013	17
21	Arz Mohammad Mazari	Upstream Right Side	05-11-2013	13
22	Momin Shah	Upstream Left Side	05-11-2013	15
23	GidduMeerani	Downstream Left Side	06-11-2013	26
24	RaisGulanChachar	Downstream Left Side	06-11-2013	35
25	Afzal Malik	Downstream Left Side	06-11-2013	16
26	Mohammad Sharif Mazari	Downstream Left Side	11-11-2013	21
27	Gul Nawaz Soomro	Upstream Right Side	11-11-2013	26
28	Arz Mohammad Mazari	Upstream Right Side	12-11-2013	35
29	Naik Mohammad Mazari	Downstream Right Side	12-11-2013	30
30	Khano Bagri	Downstream Right Side	13-11-2013	32
31	BilawalSolangi	Downstream Right Side	13-11-2013	28
32	Allah Wadhayo Mazari	Upstream Left Side	14-11-2013	14
33	Sendhal Khan Mazari	Upstream Left Side	14-11-2013	17
34	Ghulam Rasool Malvani	Upstream Left Side	14-11-2013	22
35	Natho Khan Mahar	Upstream Left Side	15-11-2013	19
36	Mohammad Nawaz Lathani	Upstream Left Side	15-11-2013	23
37	Malik Hassan	Upstream Left Side	16-11-2013	29
38	Luqman Kori	Upstream Left Side	08-11-2013	31

39	Ghulam Akbar Malik	Upstream Left Side	16-11-2013	23
40	Arib Kori	Upstream Left Side	17-11-2013	15
41	Malik Hussain Bux	Upstream Left Side	17-11-2013	26
42	Punhal Khan Mazari	Upstream Left Side	17-11-2013	13
43	Hazar Khan Dasti	Upstream Left Side	18-11-2013	2 7
44	Shabir Sahib Dasti	Upstream Left Side	18-11-2013	3 0
45	Garhi Khair Mohammad	Upstream Left Side	18-11-2013	2 4

Table C-7: Stakeholders Consultation at Canal Command Area

S.#	Village	Location	Date	No. of Participants
Ghotki Feeder Canal				
1	Dilwaro Minor	Head	04-10-2013	9
2	Bori Lower	Head	04-10-2013	12
3	Kalwali	Head	05-10-2013	11
4	Saeed Pur	Middle	05-10-2013	10
5	Shah Minor	Middle	06-10-2013	10
6	Bago Daho	Middle	09-10-2013	10
7	Lundi Wah	Middle	9-10-2013	9
8	Mithiri	Middle	10-10-2013	10
9	Gaji lower	Middle	10-10-2013	10
10	Dingro Wah	Tail	10-10-2013	10
11	Barri Wah	Tail	11-10-2013	10
12	Jari Wah	Tail	11-10-2013	10
13	Sabani	Tail	12-10-2013	12
14	Kamal Wah	Tail	12-10-2013	09
15	Mubark Pur	Tail	14-10-2013	10
16	Sangrar	Tail	15-10-2013	11
17	Rohri Forest	Tail	16-10-2013	10
Beghari Sindh Feeder				
1	Gail Pur Distry	Head	24-11-2013	10
2	Gandher Distry	Head	12-11-2013	10
3	Bahadur Pur Minor	Head	24-11-2013	11
4	Noor Pur Minor	Head	24-11-2013	11
5	Hazaro Distry	Middle	15-11-2013	04
6	Choi Branch	Middle	27-11-2013	10
7	Khan Distry	Middle	28-11-2013	10
8	Zarkhail Distry	Middle	27-11-2013	10
9	Channa Distry	Middle	28-11-2013	10
10	Mirza Wah	Middle	28-11-2013	10
11	Katta Distry	Tail	30-11-2013	10
12	Dilmurad Distry	Tail	26-11-2013	07

13	Noor Wah	Tail	30-11-2013	11
14	Hazaro Distry	Tail	26-11-2013	11
15	Koureja Branch	Tail	22-11-2013	10
16	Gul Distry	Tail	26-11-2013	10
17	Seer Minor	Tail	27-11-2013	04
18	Lund Minor	Tail	27-11-2013	14
19	Eiden Minor	Tail	29-11-2013	09
Desert Pat Feeder				
1	Adio Minor	Head	24-11-2013	11
2	Old Frontier Distry	Head	12-11-2013	12
3	Risaldar Minor	Middle	13-11-2013	11
4	Mistri Minor	Middle	13-11-2013	13
5	Garhi Hassan Distry	Tail	17-11-2013	10
6	Bhutta Minor	Tail	18-11-2013	10
7	Jangu Distry	Tail	18-11-2013	10

Table C-8: 2nd Round of Consultations with Institutional Stakeholders

Sr. No.	Name of person	Address/ Position/ Contact Date	Contact #
Sindh Irrigation Department			
1	Mr. Nazir Ahmad Mahr	Chief Engineer Guddu Barrage (04-10-2013)	
2	Mr. Ghulam Farooq Chanar	S.E. Desert Pat Feeder Circle (04-10-2013)	
3	Mr. Nazir Ahmad Shahani	Sub-Divisional Officer, Guddu Barrage (05-10-2013)	0346-3394836
4	Mr. Zameer Hussain Bhanger	Chief Draftsman, Guddu Barrage (05-10-2013)	
Sindh Wildlife Department			
1	Ms. Fahmida	Director General (26-10-2013)	99204951
2	Abdul Jabbar Mirani	Inspector/Incharge Guddu Barrage (26-10-2013)	0300-9316886
Water and Power Development Authority			
1	Mr. Muhammad Yousaf Magsi	Executive Engineer (Civil), Guddu Thermal Power Station (15-11-2013)	03332258763
2	Mr. Abdul Aziz Khosoo	Sub-Divisional Officer, Guddu Barrage (16-11-2013)	03003079618
Mojaz Foundation (NGO)			
1	Mr. Abdul Smad	Project coordinator (16-11-2013)	0303-3335618
2	Mr. Rajab Ali	Office Manager (16-11-2013)	
Forest Department			
1	Mr. Anyat Mazari	Range Forest Officer Forest Department	0333-7361855
Agri. Extension			
1	Mr. Nazir Ahmed Khoso	Assistant Director Agri. Extension	0333-7362414
3	A. Rahim Chachar	Agri. Officer Agri. Extension	0333-7254113
Health Department			
1	Dr. Mushtaq Ahmed Khalwar	DMS Health Department	0333-7363960
Local Influential Persons			
1	Mr. Punoo Khan Mazari	Local Land Lord (17-11-2013)	0344-3822743
2	Nazir Ahmed Dasti	Local Land Lord (17-11-2013)	
3	Jam Mujeeb Jhak	(20-11-2013)	
4	Sardar Saleem Jan Mazari	(20-11-2013)	

5	Sardar Shamsheer Khan Mazari	(20-11-2013)	
6	Sardar Atif Hussain Hussain Mazari	(20-11-2013)	
7	M. Amir Mazari	(22-11-2013)	0334-2545587
8	Nazir Ahmed Dasti	(22-11-2013)	0334-2970628
9	Mujeeb Jhak	(23-11-2013)	0302-7618482

Table C-9: Personnel Consulted at Local Industry

Sr. No.	Name of person	Address/ Position/ Contact Date	Contact #
Fuji Fertilizer Plant			
1	Mr M Ibrahim Kiyani	Public Relation Officer	0323-7255612
2	Shakeel Ahmed Memon	Mechanical Engineer	0303-3713646
3	Mr Mansoor Ahmed Bhutto	Sub-Division Officer	0334-4469569
Engro Fertilizer Plant			
1	Mr M Ibrahim Kiyani	Public Relation Officer	0323-7255612
2	Shakeel Ahmed Memon	Mechanical Engineer	0303-3713646
3	Mr Mansoor Ahmed Bhutto	Sub-Division Officer	0334-4469569
Engro Fertilizer Plant			
1	Riaz Hussain Shah	Sectional head and Public Relation Officer	0300-8317252
Foundation Power Plant			
1	Dilawar Khan Leghari	Public Relation Officer	0723-612303
2	M.Amjad Hussain	Manager Mechanical	0302-7875388
TBN Power Plant			
1	Qazi Kareem Ullah	Mechanical Engineer	0300-8313442
2	Rasheed Siyal	Public relation Officer	0300-8319975
Pano Akil Cantonment			
1	Shahid Abbasi	Major	0321-2139624
2	Zafar Abbas	Major	0300-2988689
3	Rasheed Mahar	Major (Public relation Officer)	0333-7177758

C.5.8 Consultation Results

A summary of meetings conducted and total number of participants attended is given in Table C-10 while summary of Consultation Feedback and Responses are given in Table C-11. Detailed feedback from the first and second round consultations in the project and surrounding area can also be found in Appendix B of ESIA.

Table C-10: Summary of Consultation Meetings

Type of Consultation	Total Participant
Village wise Meetings	31 Villages (526 persons participated)
Individual Consultations	21 Political/Local Leaders/ Officials participated
Focus Group Discussions	245 persons
Canal Command Area	43 Minor/ Distributaries (431 persons)

Table C-11: Summary of Consultation Feedback and Responses

Sr. No.	Feedback Received	How they were addressed
Primary Stakeholders		
1	The contractor should be required to maintain close liaison with the local population for easy and timely resolution of issues/disputes arising during the construction stage.	The contractor shall employ a full time, qualified Community Liaison Officer for the project who is conversant with the World Bank's social safeguard policies and other community liaison issues
2	Project should ensure free mobility of all, especially women, during the implementation of the project	Contractor will be bound to avoid routes used by the women and girls as far as possible. If unavoidable, alternate routes will be identified for the women in consultation with the community
3	Proper sprinkling of water on access routes should be ensured during the construction stage to control dust pollution	Contractor will be bound to control dust pollution by regular sprinkling on dust prone areas.
4	Disturbance of the population by construction activities at night was a major concern	The noise generating activities will be avoided during night time.
5	Communities showed concerns that a non-local workforce would not be aware of local customs and norms, which may result in conflicts in the community	The Contractor shall develop a Worker Code of Conduct to govern the behaviour of workers on site, in camps, and with local communities. This shall cover cultural awareness or workers from outside the project area, a drugs and alcohol policy with information about testing and penalties for contravention, and information about communicable diseases.
6	The communities showed concerns regarding disturbance of access routes along marginal bunds during construction.	The access roads along with the marginal bunds will kept operational.
7	Existing unemployment issues in the project area	The requirement for provision of employment opportunities to residents of the project, and surrounding area, shall be included within the contract document.
8	Employment of youth on the project was requested	
9	Rights to employment of local labour in Guddu Barrage project required	
10	Schools in the project area lack furniture and staff	This issue shall be communicated to the Education Department
11	Requirement for establishment of dispensaries in the project villages.	Provision of a dispensary has been made in the EMP cost.
Institutional Stakeholders		
12	Concerns over risk of conflict between local communities and contractors labour force during construction	<ul style="list-style-type: none"> ■ The main mitigation for this impact is the preparation and implementation of the contractor's Communication Strategy. ■ This strategy shall focus on early and continued consultation by the contractor with influential figures within the project area. ■ The Communication Strategy should define a process for receiving, recording and responding to complaints and also monitoring of the success of any responsive action taken to prevent the escalation of any conflicts.

13	Construction related issues like excavated material, soil erosion and hazards for local communities and labour force should be appropriately addressed during the construction activities.	<ul style="list-style-type: none"> ■ Traffic will be limited to work areas and established tracks. ■ Access roads to be adequately compacted and/or regularly sprinkled to prevent dust generation. ■ Warning signs will be provided where access routes pass adjacent to settlements. ■ Vehicle speeds will be limited to 30km/hr. ■ Safe driving practices included in Contractor's training plan. ■ Provision and enforcement in use of all necessary PPEs (such as life jacket, safety harnesses, gloves, safety boots, hard hats, dust masks, ear protectors, safety goggles, overalls etc.) as per approved Health & Safety Plan. Measures for enforcement of use of PPEs to be included in Health & Safety Plan.
14	The endangered Indus dolphin may be impacted by project activities.	Dolphin Management Plan has been prepared and attached with report. (See Appendix K of ESIA for details)
15	Construction activities in Indus River will exert significant impacts on aquatic life	The EMP including Dolphin Management Plan cover this issue
16	Health and safety measures shall be required for the labour force	The Contractor shall be bound to employ a full time Health and Safety Officer who has a relevant qualification and experience.
17	Safe transportation of construction material should be ensured	Traffic management plan to be submitted to Engineer for approval and to include routes for delivery vehicles Flag persons to be provided where partial closure of public highway is required to maintain traffic flow
Female Consultation		
18	Due to the presence of construction personnel, mobility of women shall be impacted and they will not be able to use areas currently used for toilet needs. The construction of toilets for women in villages by the project was requested.	Avoid routes used by the women and girls as far as possible. If unavoidable, alternate routes will be identified for the women in consultation with the community
19	A mechanism for the resolution of conflicts and grievances arising during construction is required	The Communication Strategy shall define a process for receiving, recording and responding to complaints and also monitoring of the success of any responsive action taken to prevent the escalation of any conflicts.
20	Improved secondary education for girls is required	This issue shall be communicated to the Education Department
21	Concern was raised over the demolition of, or damage to, religious sites and graveyards	No religious structure will be disturbed.
22	There is an urgent need for Basic Health Units in the project area	The case will be taken up with the health department

23	Trained female health visitors should be available in the project area	
24	A maternity health care centre was requested in the project area	
Government Organization		
25	Guddu Barrage is located at the Dolphin Reserve and as such the Sindh Wildlife Department should be consulted at all stages of project intervention	Primary level stakeholder consultation has been done with Sindh Wildlife Department. Also, continued consultation with Sindh Wildlife Department and other related stakeholders shall be maintained during construction.
26	The Indus Dolphin is very sensitive to noise and turbidity	Dolphin Management Plan has been prepared and attached with ESIA report. (see Appendix K of ESIA)
27	Over fishing, use of illegally sized mesh, off season fishing, drought and industrial effluents are considered major factors resulting in the decline in population of commercial fish	These cases will be taken up with the Fisheries department
28	Fishermen are interested in developing fish farms but require the lease of suitable land	
29	Most people are in favour of fish stocking in the pond area as a step towards improving the fish stocks.	
30	Cold storage is required for preserving fish before sale or transfer to market	
31	Concerns over the impact of increased turbidity resulting from the construction and destruction of temporary cofferdams and impacts on fish movement were raised	The Environmental Management Plan covers these issues.
32	River pollution is seen as a major risk to the population of commercial fish	
Project Landlords		
33	The need for adequate security during construction was stressed	Fencing & security shall be provided by contractor at all camps. Entrance to camps shall be monitored and restricted. The contractor shall include in the Emergency Plan, a procedure for emergency evacuation of camp & practice this procedure. Contractor shall provide all staff with identity cards showing their association with the project

APPENDIX D. COMMUNICATION MATRIX – SECONDARY STAKEHOLDERS

Stakeholder (secondary)	Information/message	Communication means	Timing/Frequency	Responsibility
Project Progress	Establishment & strengthening of PMO	Reports , routine correspondence Emails website	Immediately	Irrigation department
	Approvals of ESIA, SEPA	Written approval letters from world bank and Sindh environmental protection agency	Immediately 03 months before the execution of project	PMO The World Bank Sindh Environmental Protection Agency (SEPA)
	Project Appraisal	PAD document	Immediately	The world Bank
	Clearance of COI (Relocation , resettlements and compensation of PAPs)	Project Status Reports Newsletter Quarterly progress reports including feedback of world bank aid memoir	Immediately Daily on regular basis Monthly Quarterly	PMO
	Construction of Irrigation Colony	Reports, Newsletter quarterly progress reports , project portfolio, M&E reports, website, emails, video conferencing bulletins FM radio seminars/workshops media briefings project portfolio including feedback of world bank aid memoir	PY1 Daily on regular basis Monthly Quarterly	PMO Consultants Contractor
	Earth Work i.e strengthening and raising of embankments	Reports Quarterly Progress reports, Newsletter, website, emails, missions ,video conferencing, bulletins ,FM radio seminars/workshops, media briefings project portfolio including feedback of world bank aid memoir	PY2 Daily on regular basis Monthly Quarterly	PMO Consultants Contractor
	Re- alignment of divide wall	Reports Quarterly Progress reports, Newsletter, website, emails, missions ,video conferencing, bulletins ,FM radio seminars/workshops, media briefings project portfolio project portfolio including feedback of world bank aid memoir	PY2-3 Daily on regular basis Monthly Quarterly	PMO Consultants Contractor
	Repair of Head Regulators of 03 off taking canals	Reports Quarterly Progress reports, Newsletter, website, emails, missions ,video conferencing, bulletins ,FM radio seminars/workshops, media briefings	PY3-4 Daily on regular basis Monthly Quarterly	PMO Consultants Contractor

		project portfolio including feedback of world bank aid memoir		
	Construction of Spurs	Reports Quarterly Progress reports, Newsletter, website, emails, missions ,video conferencing, bulletins ,FM radio seminars/workshops, media briefings project portfolio including feedback of world bank aid memoir	PY2-3 Daily on regular basis Monthly Quarterly	PMO Consultants Contractor
	Replacement of Gates	Reports Quarterly Progress reports, Newsletter, website, emails, missions ,video conferencing, bulletins ,FM radio seminars/workshops, media briefings project portfolio including feedback of world bank aid memoir	PY 3-4 Daily on regular basis Monthly Quarterly Every March	PMO Consultants Contractor
	Implementation of SAP (in case of extended canal closure)	Consultations SAP Reports Progress reports, Newsletter, website, emails, missions ,video conferencing, bulletins ,FM radio seminars/workshops, media briefings project portfolio including feedback of world bank aid memoir	PY3-4 Daily on regular basis Monthly Quarterly Every March	PMO Consultants NGOs
Irrigation Department	Development of Project Documents Draft RAP, SADP, EMP, Communications strategy Project position paper,	Reports, Emails Meetings(including feedback of World Bank their consent, approvals , aid memoir project portfolio ,PAD, etc	Immediately. As and when required Regularly	PMO
	Establishment of Project Management Office , hiring of key staff	Status reports emails correspondences(letter) (including feedback of partner organizations aid memoir including feedback of world bank aid memoir	Immediately Monthly Quarterly	irrigation Department PMO
	Clearance of encroachment ,implementation of RAP	Reports Emails Correspondences (letters)(including feedback of partner organizations including feedback of world bank aid memoir,	Immediately 2months before the embankment work	Chief Engineer Guddu Barrage PMO

	Project implementation	Reports Briefings Bulletins Newsletter Website (including feedback of partner organizations , aid memoir	Monthly , quarterly reports and newsletters Regular website updates	PMO
District Administration of Kashmore	Project awareness (general information and SDAP, EMP, traffic management plan, pollution prevention and control plan, health & safety plan, emergency plan, code of conduct and training plan.	Consultations. routine correspondence , workshops, brushers ,emails, website,	Immediately 03 months before the execution Weekly Monthly	PMO
	RAP,	Consultation Routine correspondence Emails Reports Website Grievance Redress Committee including feedback of world bank aid memoir	Immediately 03 months before the execution and especially on selecting location for Irrigation staff colony and relocation areas to resettle PAPs Daily on regular basis At the time of cash compensations to PAPs On land acquisition if required	PMO Consultants Grievance Redress Committee
District Administration of Jacobabad, Larkana and Sukkur districts of Sindh	Project awareness (general project information, implementation, etc.)	Workshops/ seminars Brochures Emails Website	PY1 One	PMO
	Transport Management Plan. Maps of Alternative routes, EMP, traffic management plan, pollution prevention and control plan, health & safety plan, emergency plan, code of conduct and training plan	Radio Newspaper , sindhi urdu,	PY2 6 monthly As and when required	PMO
Naseerabad district of Baluchistan	Project awareness (general project information, implementation, traffic management plan, pollution prevention and control plan, health & safety plan, emergency plan, code of conduct and training plan	Consultations	Immediately	Chief Engineer Gudu Barrage
	Contingency plan and need assessment Extended Canal Closure	Consultations Reports Radio SMS Newspaper, sindhiurdu, baluchi	PY1-2-3 Regular Every March	PMO

Public Works Department (PWD), responsible for all roads and bridges.	Project awareness (general project information, implementation, traffic management plan, pollution prevention and control plan, health & safety plan, emergency plan, code of conduct and training plan	Workshops/ seminars Brochures Emails Website	At the start of execution of work Regular Monthly	PMO
	Transport Management Plan. Maps of Alternative routes, EMP	Workshops/ seminars Brochures Radio. Health Safety and Traffic control Sign Boards	PY2-3 Regular	PMO Consultant (Community Liaison Officer)
District Govt. and Rural Development Department	Project awareness (general project information, implementation, etc.) traffic management plan, pollution prevention and control plan, health & safety plan, emergency plan, code of conduct and training plan	Consultations Workshops/ seminars Brochures Emails website	immediately at the time of selecting location for Irrigation staff colony and relocation areas to resettle PAPs Regularly At the time of cash compensations to PAPs On land acquisition if required Monthly	Chief Engineer Guddu Barrage PMO
	SAP, RAP and Contingency Plan (need assessment report)	Consultations including feedback of rural development on location for resettlements, facilities and SAP	Immediately At the implementation of RAP When and as required	Chief Engineer Guddu Barrage PMO
NGOs	Project awareness (general project information, implementation, etc.) traffic management plan, pollution prevention and control plan, health & safety plan, emergency plan, code of conduct and training plan	Newsletter Workshops/ seminars Emails website	Immediately 2 months before the project execution	PMO
	SAP, RAP and need assessment for the farmers of Dessert Pat Feeder	Consultations	Immediately 2months before the project execution	PMO
Sindh EPA	ESIA, SIA,EMP, Traffic Management Plan, Dolphin rescue plan traffic management plan, pollution prevention and control plan, health & safety plan, emergency plan, code of conduct and training plan	Consultations (including feedback, consent and approvals of EPA. Public Hearing Correspondences	Immediately 03 months before the execution of project Regularly Especially at the time of realignment of divide wall	Chief Engineer Guddu Barrage PMO

Agriculture Department	Project awareness (general project information, implementation, ,traffic management plan, pollution prevention and control plan, health & safety plan, emergency plan, code of conduct and training plan	Workshops/ seminars Newsletter Emails website	PY1 Quarterly As and when required	PMO
	SAP ,contingency plan, extended canal closure	Consultations	PY2-3 Every March Regularly	PMO
Forest Department/ Wildlife	Project information (general information , implementation , EMP, RAP ,	Consultations Newsletter Emails website	PY-1 Monthly Quarterly	PMO
	Dolphin Rescue Plan	Consultations Routine correspondence Emails Reports Newsletter website	PY 2-3 Every March During extended canal closure Especially at the time of realignment of divide wall Daily	PMO Consultants NGOs
Local Leaders (religious, cultural, political)	Project information and SAP, RAP and need assessment for the farmers of Dessert Pat Feeder Employment opportunities	Consultations Routine correspondence Local newspapers	Immediately Before 03 months of execution Regularly Every March	PMO
Industries (Fauji Fertilizers, Engro Fertilizers, PanoAkil Cant, Sugar Mills, etc)	Project general information	Consultations Newsletters Local newspaper website	PY1-2 Every March Regularly Quarterly	PMO
Journalists	Project awareness and project achievements	Newspaper and television interviews	Following mobilization of each contractor (breaking ground ceremony) 0) Following completion of staff colony 1) During sheet piling works 2) During gate replacement 3) Beginning of embankment raising works 4) Commission of barrage and head regulators	PMO

Staff of PMO/ Chief Engineer

Staff	Information/message	Communication means	Timing/Frequency	Responsibility
Staff of Chief Engineer	Project awareness (general project information, implementation, etc.)	Orientation Workshop Meetings	Immediately and especially on the selecting location for Irrigation staff colony and relocation areas to resettle PAPs Monthly At the time On land acquisition if required Monthly Regularly	Chief Engineer Guddu Barrage Head of PMO
	PAD, PIP, Institutional set up and responsibility matrix	Orientation workshops Website	On finalization of PAD, PIP and institutional setup	Chief Engineer Guddu Barrage Head of PMO
	SAP, RAP, Communications strategy	Orientation workshops Website Email updates	Immediately 3months before embankments works	Chief Engineer Guddu Barrage Head of PMO
	Contingency plan, Traffic Management and Dolphin Rescue Plans	Orientation workshops Website Email	PY2-3Regularly When and where required	Head of PMO
Staff of PMO	Project awareness (general project information) Project Goal Project Objectives Project steps/ phases	Induction workshop	Immediately After establishment of PMO and hiring of staff	Head of PMO
	PAD, PIP, RAP, plan and dolphin rescue plan	Orientation workshop Website Email	Immediately After establishment of PMO and hiring of staff	Head of PMO
	Job Descriptions	Written at the time of joining with contractual document	Immediately After establishment of PMO and hiring of staff	Head of PMO
	Routine work correspondences	Written Verbal Emails	Daily	Head of PMO
	Responsibility assignment matrix	Inter office memo emails	Immediately Quarterly	Project Director
	Work plan	memos , meetings, emails	Monthly	Project Director
	Open discussions	Progress review meetings	Monthly Quarterly	Project Director
	Project Resources	All the resources required to complete the task,	Immediately Regularly	Project Director

APPENDIX E. SOCIOECONOMIC SURVEYN METHODOLOGY FOR SUKKUR BARRAGE REHABILITATION

1.1 Synopsis

The approach and methodology adopted for carrying out the Socio-economic study of the project is based on in-depth investigation of the project area in terms of socio-economic baseline conditions and resettlement aspects. Investigations were conducted by using qualitative and quantitative research methods comprising of collection of primary and secondary data, public consultation and discussions with experts from line agencies and non-governmental organizations. The information collected from all the above sources have been synthesized in the form of this socio-economic report.

1.2 Scope of Work for Social Impact Assessment & Beneficiary Participation

As envisaged in the agreed Terms of Reference (TORs) for Task A4, the Consultants are supposed to carry out a Social Assessment as needed by Government of Pakistan (GOP); Government of Sindh (GOS); and by the World Bank. The scope herein covers to reflect the true state of irrigated agriculture in the seven (7) canal commands of the Barrage. In addition the study provides valuable information for measuring the impact of the project to contributions of agricultural productivity, farm household incomes and water delivery performance and management in target areas. It also concludes basis for the Resettlement Action Plan⁷ as well as for determining the project benefit as part of the least cost option. It also provides basic data for determining the economic viability of the potential hydropower project, as part of Task A1 explained in the TOR. The study determines the baseline period as of year 2011-mid 2012. The public consultation in the canal command area was repeated during November 2016, focusing on the key issues of project impact as envisaged by the participants. Consultation with Secondary stack holders was also carried out during this period.

1.3 Study Design and Approach

Consultative approach was adopted to carry out the study in the canal command areas for collecting the data and reordering it in prescribed manners. A number of questions were listed before consulting the individual dwellers of the area and the line departments including Department of Agriculture, Department of Irrigation and Power, Government of Sindh and Bureau of Statistics Government of Pakistan. To supplement and update the available data, a survey team was formulated who conducted household surveys reviewed available data and information and conducted detailed qualitative participatory focus group discussions among farmers, community residents and water users. The following paragraphs describe the methodology in brief.

1.3.1 Socio-Economic Study of 2011-12

To carry out socio-economic studies for the feasibility stage, the Consultants formulated their approach and roadmap in the light of contents of the TORs pertaining to the study for determining the prevailing socio-economic condition in the project area. Focus is laid particularly on the following aspects: Appropriate survey instruments were developed to collect the necessary data on agriculture in the canal command areas, present status and performance in agriculture and beneficiary impacts. These include a Socio-economic Farm Household Farmer Interview Questionnaire, a Socio-economic Village Profile and a checklist for scoping sessions for assessment of beneficiary participation aspects. The data collection exercises include (a) seasonal calendar looking at farm activities, cropping intensity and yields; (b) impact on beneficiaries if the barrage fails partially or fully at any time in future; and (c) social impact assessment. This report focuses on the results of the household farmer surveys as this was the primary survey instrument utilized.

A. General Features of the Study

⁷ The original AF design included removal of left bank bela, middle bank island, and outer bank bela, thus, a preliminary RAP was prepared. The removal was dropped in the final design.

Demographic features of benefiting administrative areas (by districts) in a broader sense and specific to the project areas (canal command areas).

B. Livelihood

Socio-economic condition of the local population in general and specific in relation to the project affected population, particularly defining the income sources with reference to agriculture, livestock, services and labour, etc.

Access to social amenities and resources like education, health, electricity, fuel, shopping and marketing, communication facilities like telephone, radio, television and roads, etc.

C. Social Set-up, customs and norms

Archaeological, historical and cultural properties/ assets.

D. Gender Component

Access role and contribution of the female population in routine and other activities in the social set up of the area.

1.3.2 Assistance in Preparation of Resettlement Action Plan

The team of Consultants working on the socio-economic conditions also assisted for preparation of a comprehensive resettlement plan on the basis of field investigations for the disrupted population by identifying compensatory actions for the loss of land, built-up properties, trees and other vegetation, employment and income source, or any other loss. The details of this package are the part of another Section of the Feasibility Report, titled as "Resettlement Action Plan (RAP) – Appendix O". Further to this package, an entitlement package has also been prepared for each type of loss in respect of various categories of the affectees.

1.3.3 Public Consultation

The Consultants have recorded perception of various stakeholders in respect of the project and public concerns in relation to environmental and social aspects as abstracted from the scoping sessions with the communities and meetings with various government and non-government agencies/organizations.

1.3.4 Contents of Household Level Questionnaire

Baseline survey household level questionnaire contents are as below:

- A. Identification of Respondent
- B. Demographic Profile
- C. Housing Ownership and Structure
- D. Household Assets
- E. Livestock
- F. Agricultural Land and Farm Size
- G. Agricultural Input/Output Practices
- H. Household Income and Expenditures
- I. Food Sufficiency and Security
- J. Women Participation and Decision Making

1.3.5 Contents of Village Profile Questionnaire

- A. Identification of Village along with its location at Canal
- B. Ethnic and Demographic Structure of Community
- C. Source of Water Supply to Agricultural Land

- D. Occupation and Income Groups in the Village
- E. Socio-Economic Profile of the Community in the Village
- F. Social Cohesion among Village Community
- G. Cultural Practices

1.3.6 Target Population

The Consultants have ensured collection of field data from the beneficiaries or affected persons of the Barrage as per detail given below.

The Household Surveys covered all the seven canal command areas and interviewed the farmers at head, middle and tail of the canals who were irrigating their fields using canal water at watercourses off-taking from the minors and distributaries of the canal for the respective canal command areas.

The Village Profile Surveys has been carried out for the villages, which are located along the watercourses taking water from the minors and distributaries from the canals off-taking from the Sukkur Barrage.

1.3.7 Sampling Design

The sampling design was developed to ensure the farmers selected by the survey team adequately represented the whole population of the project including relative size of farms, (small, medium and large), type of irrigation (ground vs surface) and percentage change in command area and region. The household, farm and watercourse selection method employed stratified random selection with strata for each of the canal characteristic types. The data collected was then entered into a database and "cleaned" prior to analysis.

1.3.8 Field Teams

Before mobilizing the teams in the field for carrying out the field study and for collection of field data through socio-economic surveys a comprehensive field preparation exercise was done. Keeping in view the multifarious study tasks, a multi-disciplined field team was formed comprising of experienced sociologists, RAP Expert and economists. The field investigators were briefed about the objectives of the project and were explained how to record the requisite information. As a first step, a work plan was prepared to properly manage the surveys and field work activities. An Economics Expert has led the field team during the field surveys.

1.3.9 Conduct of Fieldwork

Socio-Economic data collection from the command areas of the project has been carried out during October 22-31, 2012 in the first instance and from November 05-16, 2012 in the second instance. Following activities have been carried out during the field survey:

- a) Scoping sessions at villages
- b) Socio-economic data by interviewing member of households
- c) Socio-economic and market data from market committees, from whole sale dealers and from the farmers to arrive at farm-gate price of the agricultural commodities.

1.3.10 Data Analysis

The analyst/economist developed a mechanism for data entry. Data is entered on an excel sheet and an electronic database was developed. The data is stored in multiple sheets in a separate file for each type of survey. Wherein, some sheets carry raw data and the other produce results and pictorials of the data analysis.

1.3.11 Data of Site For Powerhouse

Relevant data needed for determining financial and economic viability of the potential hydropower project is also part of the study on socio-economic impact. However, on technical grounds and to minimize social and environmental impact, the preferred option is to retrofit HydroMatrix™ turbines into the existing structure. Therefore no data collection was required,

Sindh Barrages Improvement Project (SBIP)

Grievance Redressal Mechanisms (GRM)

1. In compliance with Project Appraisal Document and other legal Covenants for “Sindh Barrages Improvement Project” under IDA Credit (56840), multistage grievance redress mechanism have to be established to redress the grievances raised by communities, individuals or stakeholders who either are affected due to project activities or have concerns during implementation of the project. Communities and individuals, who believe that they are adversely affected by a World Bank (WB) supported project, can submit complaints through this GRM.

2. For the grievances related with Procurement a separate Mechanism has been defined & published; while for community concerns / issues related with project, the mechanism has been defined as under:

Community Grievance Redressal Mechanism (CGRM):

3. Community Grievance Redressal Mechanism has been designed to address complaints of local people/ stakeholders during Implementation of Sindh Barrages Improvement Project. The scope of CGRM includes resolution of grievances of stakeholders/local people including resettlement activities, if any, and issues raised during the implementation of Environmental & Social Management Plan (ESMP) of the project.

4. The objective of the community grievance redressal mechanism would also be to address the concerns and complaints and help in resolving conflicts for avoiding lengthy litigations through community complaints, which often delay development projects.

5. The following standards are envisaged for handling the Complaints/Grievances of local people/stakeholders received by the Contractors/Consultants/PMO/PCMU and World Bank.

Complaint Cell

- i. The Complaint Cell will be established at Sukkur office under supervision of the Deputy Project Director SBIP at PMO office Sukkur to receive, sort, register, acknowledge and resolve the complaints and provide feedback.

Composition of Complaint Cell

S No.	Designation	Position
1	Deputy Project Director, PMO-SBIP	Chairman
2	Executive Engineer (Guddu Barrage)	Member

3	Deputy Director (Environment) PMO	Member
4	Representative of PIC	Member
5	Representative of Contractor	Member
6	Technical Officer PMO	Member
7	Deputy Director (Resettlement) PMO	Secretary

- ii. The complaint cell will install complaint box at visible sites of project office(s) and contractor's camps for easy access of the community. The complainant can submit its grievances/complaints through personal visit, using complaints box, via phone call, sending a Fax/ courier/ email or through website mentioned below:

Address : Complaint Cell, PMO-SBIP Office, Bungalow No: _____, _____
 _____ Housing Society, Airport Road, Sukkur.

Phone No : _____

Fax No : _____

Email : _____

Website : _____

- iii. The complaints / issues identified or received by PCMU during joint field visit also will be referred to complaint cell for proceedings.
- iv. The Cell at Sukkur will establish a database for recording and tracking stakeholder complaints, comments and actions taken by the contractor or PMO. The PMO shall maintain complaint register.
- v. The Cell will issue a monthly / fortnightly report on status of complaints and their resolution, which will be sent to PMO with copy to PMC and PCMU. The report shall also indicate the complaint details which are in pending or sent to PMO for resolution.

Grievance Redressal Committee

- vi. The PMO SBIP Karachi shall establish Grievance Redressal Committee (GRC) consisting of three senior officers to address the grievances not resolved at the level of the complaint cell.

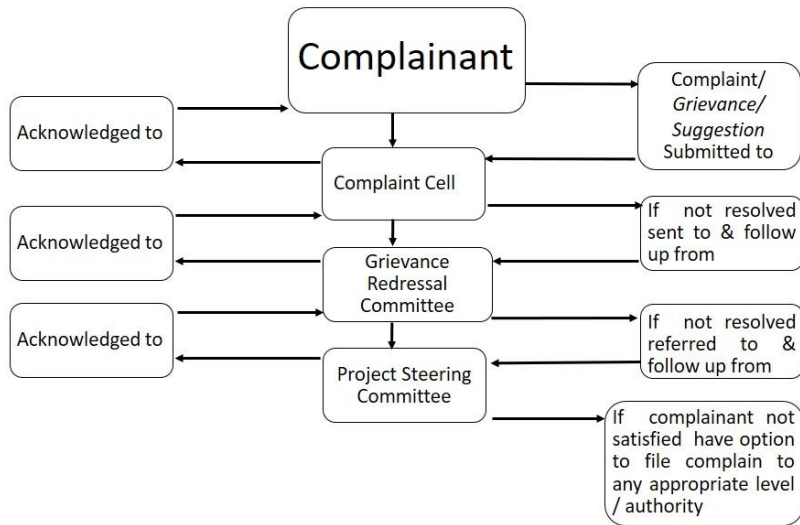
Composition of Grievance Redressal Committee

S No.	Designation	Position
1	Project Director, PMO-SBIP	Chairperson
2	Superintendent Engineer (Guddu Barrage)	Member
3	Director M&E PCMU	Member

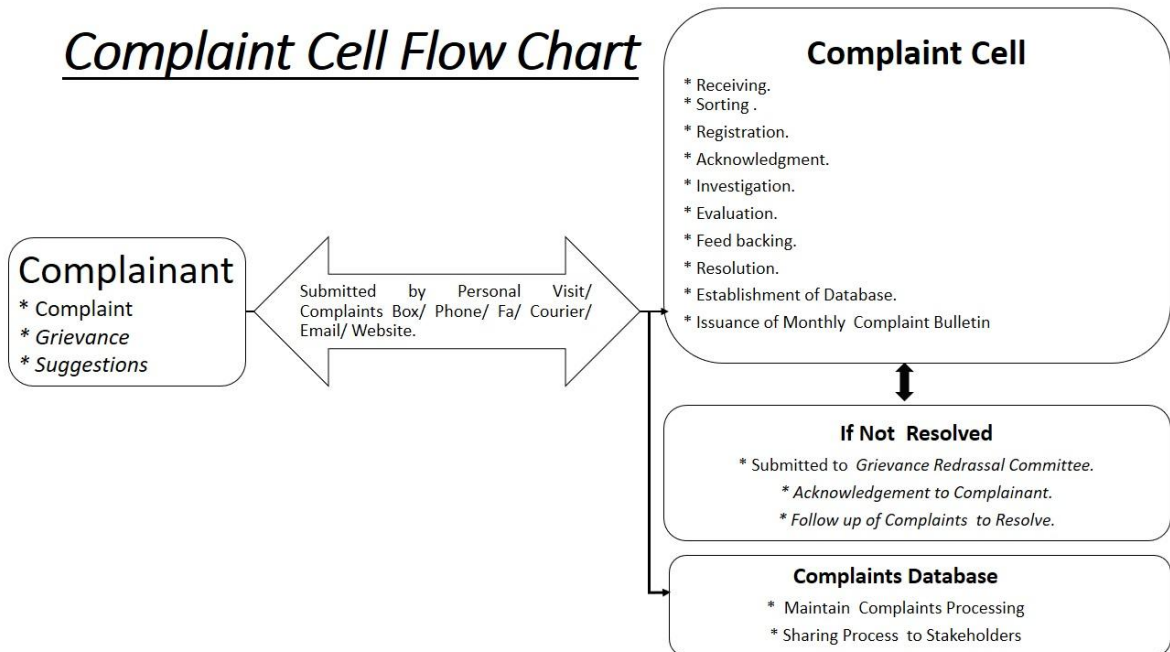
- vii. The Complaint Cell will inform by forwarding complaint/s with copy to all members of GRC within three days or by sharing the updated tracking of data base on monthly basis, while the PMO shall inform the World Bank through PCMU for a specific complain in three days, and the complains update on monthly basis.
- viii. The received complaints at contractor's camp/site will be initially addressed by the Contractor or PIC, but PMO/Complaint Cell will be informed about the complaint.
- ix. Those complaints which contractors or PIC are unable to redress/resolve will be addressed by the complaint cell or GRC depending on the type/ category of complain.

- x. Any issue/complaint/grievance not resolved by the complaint cell will be sent to Grievance Redressal Committee for discussion/resolution, with final provision for appeal to Project Director (Head of PMO).
 - xi. Any complaint not resolved by GRC will be referred to the Project Steering Committee (PSC) through PCMU for resolution.
 - xii. In case of non-satisfaction, the complainant can go to the Court of Law.
 - xiii. Received Complaints/Grievances will be handled with referral basis and the resolved grievances will be recorded by Cell on dually signed agreement with signatures of complainant & the grievance resolving authority(ies)/official(s).
 - xiv. The Monthly Bulletin will be published by complaint cell for sharing the compliance status of complaint proceedings with facts and figures.
6. Every effort will be made to address complaints within the following timeline:
- (a) Acknowledgment of written submitted Grievances will be issued by complaint cell to the Complainant(s); either submitted at complaint cell or at camp/site within two days. The cell shall refer the complaint to Contractor or Engineering PIC within three days to address the issue.
 - (b) If not addressed earlier received complaints by the Contractors or Engineering (PIC) staff on site, the grievances will be addressed by complaint cell itself, within one week of the receipt of the written complaint(s).
 - (c) If the complaint is not satisfactory addressed by the cell, the grievance will be tabled for resolution during meeting of GRC for consideration within two weeks' time.
 - (d) Cases not resolved at GRC level will be referred to the Project Steering Committee (PSC) within three days of referring.
 - (e) If the complainant is not satisfied of the decision by Project Steering Committee, he will have the option to go to the court of Law.
 - (f) By 10th of every next month the monthly bulletin of preceding month will be published by complaint cell for sharing the compliance status of complaint proceedings.
7. While addressing the complaints, the Cell/GRC members will follow the code of conduct Secrecy Act 1923.
8. Any staff, found to have deliberately announced resettlement specifications or compensation criteria before cutoff date can be proceeded against as per Staff Rules. However, such a staff will be given a fair chance to explain his position.
9. During implementation of the Social Management Framework (SMF) and Environmental and Social Management Plan, the role of the Complaint Cell and Grievance Redressal Committee shall not just be a reactionary role as they are responsible for ensuring the implementation of the Framework. The complaint cell members shall meet monthly and the GRC shall meet quarterly or need basis as per nature of the complaint to review the issues which are resolved and discuss/resolve the issues which are in pending.
10. The flow charts of CGRM, Complaint Cell and GRC are shown in the following figures.

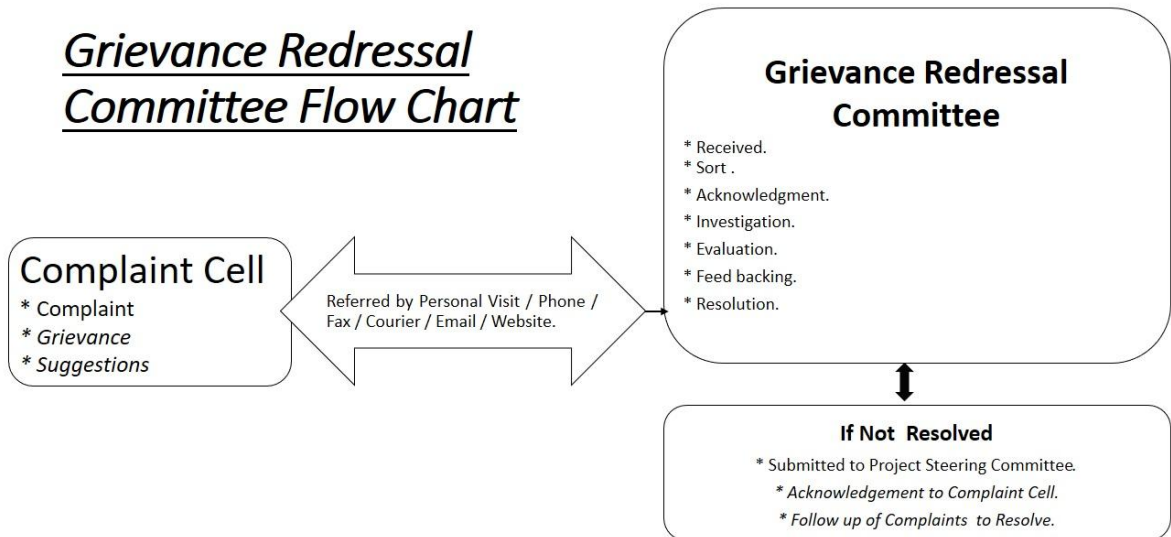
Community Grievance Redressal Mechanism Flow Chart



Complaint Cell Flow Chart



Grievance Redressal Committee Flow Chart



APPENDIX G. SUKKUR BARRAGE REHABILITATION COMMUNICATION STRATEGY

(by Atkins, ACE & NDC Joint Venture)

1. MEDIA ENVIRONMENT IN PAKISTAN

1.1. Review of Media Environment

Media in Pakistan provides information on television, radio, cinema, newspapers, and magazines. More than 89 television channels beam soaps, music programs, dramas, films, entertainment, Sports, religious programs, talk shows on current affairs, and news of the hour. Many of the privately owned media groups command big radio, TV and newspaper audiences and are highly profitable. Television has become the main source of news and information for people in Pakistan's towns, cities and large areas of the countryside. Generally, where television is available, Pakistanis prefer TV to radio as a source of information. However, much of the rural population continues to rely heavily on radio. Young urbanites are increasingly tuning in to Frequency Modulation (commonly known as FM) radio stations for music and entertainment on their mobile phones.

1.1.1. Radio

The government-owned Pakistan Broadcasting Corporation (PBC) was formed on 14 August 1947, the day of Pakistani independence, runs the state radio network. It covers the entire country on FM, medium and short wave. Private radio stations are allowed to relay the news bulletins and programmes of PBC and, to a limited extent, Urdu services of the British Broadcasting Corporation (BBC) and Voice of America (VoA). Private FM stations are not allowed to produce and broadcast their own national and international news under the terms of their radio license, although this restriction is sometimes ignored. Some private stations are allowed to broadcast local news. The Pakistan Electronic Media Regulatory Authority (PEMRA) limits the transmitter strength of private FM stations. They are allowed a maximum broadcast coverage radius of 50 km. Private radio has almost no penetration in rural areas.

1.1.2. Television

The government-owned Pakistan Television Corporation (PTV) began broadcasting from Lahore station on 26th November 1964. PTV has been the dominant media player in Pakistan. The past decade has seen the emergence of several private TV channels showing , music programs, entertainment, films, sports, religious programs, talk shows on current affairs, and news of the hour. Private TV channels are only allowed to broadcast on cable, satellite and the internet.

1.1.3. Print Media

Pakistan has around 300 privately owned daily newspapers. According to the Pakistan Bureau of Statistics (formerly the Federal Bureau of Statistics), they had a combined daily sale of 6.1 million copies in 2009. Most of the newspapers are published in Urdu or English and are regional rather than national in nature. Pakistan's largest newspaper is the conservative Urdu language Daily Jang which claims nationwide daily sales of more than 850,000. Nawa-e-Waqt holds second place with 500,000 circulation. Undated figures from the marketing research organization Gallup Pakistan say about 60 % of urban populations and 36 % of rural populations read newspapers. (These figures broadly track urban and rural literacy rates). Only 10 % of the population read magazines.

1.1.4. Internet

Internet usage is growing rapidly from a low base, as witnessed by the phenomenal growth in popularity of the social networking site Facebook. Bandwidths remain low, but this could change rapidly, as large sums of money have been invested in web infrastructure projects.

At least 30 cities (Sukkur city included) now have WiMAX networks, which enable internet access by wireless anywhere within a wide area. By some measurements, Pakistan has deployed the largest WiMAX network in the world. This fourth generation technology offers metropolitan area networks a signal radius of about 50 km. The relatively low cost of WiMAX deployment makes last-mile broadband Internet economically viable, even in remote locations. There were about 34 million internet users at the end of 2016 – equivalent to about 18 % of the population (Internet Live Stats-www.InternetLiveStats.com). Among them 30 million were Facebook users (www.socialbakers.com, 2016).

1.2. Powerful Media Groups in Pakistan

There is considerable cross-media ownership between newspapers and radio and television stations. Major large circulation daily newspapers exercise wide influence on public opinion from within large media groups that also include radio and TV stations. The largest private media groups are:

Jang Group - The group owns 5 TV channels i.e. Geo News, Geo Supper, Geo Entertainment, Geo Kahani and Geo Tez. Geo Television is Pakistan's most popular private television network, along with a stable of newspapers and magazines. These include Daily Jang, Pakistan's top-selling daily newspaper, Daily Awam, Daily Awaz, Daily Waqt, The News and The Pakistan Times.

Dawn Media Group - This media group grew from the English-language Dawn Newspaper, founded in 1947 by Mohammad Ali Jinnah, the political leader responsible for Pakistan's creation as an independent Muslim state. Dawn is one of the largest and most influential English language daily newspapers in Pakistan. It remains a cornerstone of the Dawn Media Group, which also Dawn News TV and the City FM 89 radio network, the latter broadcasts in four major cities. Other Dawn Media Group publications include the Herald, a monthly current affairs magazine.

Nawa-i-Waqt Group - The group runs two esteemed dailies - the Nawai-e-Waqt (Urdu) and The Nation (English). The group has several publications including Nida-i-Millat (weekly), a family magazine (weekly), and the monthly children's magazine, Phool. The group is also running Waqt TV news channel.

Lakson Group - This diversified business conglomerate owns the popular Express News and Express 24/7 TV news channels, along with the Daily Express, Express Tribune and Express Sunday newspapers.

2. CONSULTATION AND COMMUNICATION MATRIX

2.1. Communication Tools

Important communication tools and their specific use is detailed in Table-7 below.

Table 7: Important Communication Tools and their Specific Use

Sr. No.	Tools	Remarks
1	Electronic Media/TV Programs	Media Briefings, dialogues with general public and Experts on Sukkur Barrage and related water projects. TV advertisements to share traffic management plans mentioning alternate routs. TV can be used to share heavy work load timings and maps in order to facilitate primary and secondary stakeholders. Even in case of extended canal closure one minute breaking bulleting can also be on aired through TV.
2	News Letters	Quarterly news letters are useful to share project current activities with stakeholders. The newsletter shall be published in local languages to share information with primary stakeholders where as a copy of English version can be uploaded on website for secondary stakeholders. A wide range of public and interested organizations can access the English version through website and give their feedback.
3	Brochures, Pamphlets and Banners	Effective tools to communicate and impart project messages. With these tools, information can immediately be imparted to primary and secondary stakeholders. Brief messages should be in Local languages.
4	FM/Radio Programs	Radio is the most common means of communication within local communities and an effective tool to share information with women. It is easily accessible to communities either they are at work. Short and long radio programs can be arranged for obtaining stakeholders views and creating general awareness.
5	SMS (Mobile Phone)	Cheapest and most effective tool to communicate immediate and urgent messages in project area and command areas. Project awareness messages like - alternative routes, job opportunities and schedule of canal closure can be communicated through SMS.
6	Documentaries	Pre and post construction/rehabilitation documentaries of different stages of the work shall be prepared. These documentaries would be a historic record for ever for evaluating with and without project conditions. These can be used as reference for the rehabilitation of other barrages.
7	Print Media/ Advertisements	Print media will be used for the advertisements and publishing articles. Advertisements and articles will be published in Local and National newspapers. Advertisements will include official notices for general public and stakeholders.
8	Awareness Material	Awareness on social and environmental aspects. This will include historic knowledge and importance of project location. The blind Indus dolphins have always been an attraction for tourists. The information and awareness material will educate on dolphin rescue plan, and other important information regarding conservation of dolphins and environment within project area. Traffic management plan can also be shared.
9	Consultations, Workshops, Seminars and Conferences	In order to get feedback from different stakeholders and building capacity of stakeholders, these are effective tools. Best tool to involve and keep updated women stakeholders.
10	Training of Staff	Learning from other relevant organizations for effective performance and delivery.
11	Email Updates	The email update will be based upon the news on project progress, developments and planned activities. It will also invite comments, inputs and review of barrage work from experts. The email updates will be sent to those stakeholders who wish to receive and give feedback in this format.
12	Visits of	To establish positive relationship with media and cultivate positive attitude to

	Journalists	general public and stakeholders visits of journalists are very important.
13	Website	Information sharing and feedback on a big scale.

2.2. Communication Strategy

2.2.1. Strategy 1

Internal Communications to increase knowledge, build support for the implementation of the SBRMP and address apprehensions among staffs of the project, allied departments, and other institutions involved;

Audience	Key Message Themes	Methodologies	Tools and Channels	Outputs	Partners
Internal Staff	<ul style="list-style-type: none"> ▪ Benefits and opportunities created by SBRMP. ▪ Implications of the project on job creations. ▪ Expectations of the SBRMP from prospective and present employees. ▪ Roles and mandates of donor organisation (s), and implementing contractor (s). 	<ul style="list-style-type: none"> ▪ Reach staff members through established and informal communications systems within each organization. ▪ Utilize team briefing methods to communicate with staff through the institutional/project hierarchy. ▪ Bi-monthly meetings. ▪ Orientation and training of programme communicators. 	<ul style="list-style-type: none"> ▪ Staff briefing kits e.g. fact sheets on the project and reader friendly summary of the project achievement, benefits, social/environment safeguards. ▪ Quarterly information bulletin on progress of the project implementation. ▪ Internal advertisements on new job opportunities. 	<ul style="list-style-type: none"> ▪ Reduced staff concerns about institutional changes and enhanced shared vision and clarity about the SBRMP implementation. ▪ Increase in knowledge and support among staff. 	SBIP team, Irrigation Department, CSC, World Bank and Implementing Contractors

2.2.2. Strategy 2

Provision of timely information on the project, its impacts, its timing, its progress, together with a mechanism to express their concerns and grievances and ensure that these are properly taken into account in the decision-making process:

Audience	Key Message Themes	Methodologies	Tools and Channels	Outputs	Partners
<p>-Local communities around the project site.</p> <p>-Residents of 7 canal command areas</p>	<ul style="list-style-type: none"> ▪ The project is beneficial for the local communities and for the people belonging to canal commands off taking from Sukkur Barrage. ▪ Implementation is transparent and the project implementers want to share project information with the communities. ▪ Project implementers require your opinion on solution of issues 	<ul style="list-style-type: none"> ▪ Information dissemination to communities on implementation status. ▪ Seeking communities feedback on the implementation issues (including environmental and social) and solutions related to livelihood in the project area. 	<ul style="list-style-type: none"> ▪ Local Leaders ▪ Communications Unit ▪ Mobile phones ▪ District Administration ▪ Banners/pamphlets and brochures ▪ Notice Boards 	<ul style="list-style-type: none"> ▪ Communities are more informed about the implementation progress, implementing agency, timeline etc. ▪ The people in the project area are satisfied with the information dissemination and take ownership in the project implementation. ▪ They have better understanding as to how project is beneficial to the them as well the country ▪ They have more trust on the implementation agency 	<ul style="list-style-type: none"> ▪ Local and command area communities ▪ District Administrations ▪ Departments of Wildlife, Fisheries, Education, Social Welfare, Health, Agriculture, Traffic Police, SEPA and others

2.2.3. Strategy 3

Public participation mechanisms to provide platform to engage with institutions, implementation partners, and the general public;

Audience	Key Message Themes	Methodologies	Tools and Channels	Outputs	Partners
<ul style="list-style-type: none"> ▪ Opinion leaders at local and regional local levels in influential organizations ▪ The opinion leaders will serve as channels such as MPAs, provincial administration, and civil society. 	<ul style="list-style-type: none"> ▪ Contribution of SBRMP to efficient provision of irrigations to 80 % of agriculture area of Sindh. ▪ Invitation to support implementation of SBRMP. 	<ul style="list-style-type: none"> ▪ Disseminate information to opinion leaders through focal points within their organizations on irrigation requirements of the country for next 20 years. ▪ Encourage opinion leaders to mobilize their communities. ▪ Facilitate opinion leaders to reach out to their communities with irrigation supplies issues by providing communications support through, for example, talking points on benefits of projects like SBRMP. 	<ul style="list-style-type: none"> ▪ Briefing materials. ▪ Seminars and workshops. ▪ Irrigation forums. ▪ Organizational meetings. ▪ Articles in sector publications. ▪ Quarterly progress newsletter. 	<ul style="list-style-type: none"> ▪ Discussions by opinion leaders are based on correct knowledge of the SBRMP, its benefits, impacts, and outcomes. ▪ Increase in knowledge of SBRMP among policy and decision makers. ▪ Functional public participation mechanisms established. ▪ Consensus building and stakeholder concerns addressed through public participation mechanisms. ▪ Increased initiatives in support of SBRMP. 	<ul style="list-style-type: none"> ▪ NGOs active in the water and agriculture sector. ▪ Parliamentarians at provincial level and key government ministries. ▪ Development partners. ▪ Provincial/Local/District Administration

2.2.4. Strategy 4

A phased multi-media communications programme to increase knowledge on the project and to increase public support for SBRMP and such projects in future;

Audience	Key Message Themes	Methodologies	Tools and Channels	Outputs	Partners
<ul style="list-style-type: none"> ▪ General Public (District Sukkur and districts falling in barrage command areas). ▪ Urban and rural residents. ▪ Small scale service providers. ▪ Youths 	<ul style="list-style-type: none"> ▪ Benefits of SBRMP to consumers/general public to get their support for such projects. ▪ Benefits of the project such as increase in water supplies. ▪ Roles of Irrigation Department and SBRMP team to address irrigation issues in 7 canal command areas. ▪ Improved delivery through better governance and management. ▪ Value of good management of water resources for the nation. 	<ul style="list-style-type: none"> ▪ Raise awareness in selected areas through a three month multi-media campaign initiatives. ▪ Reinforce campaign messages by mobilizing NGOs/CBOs, and government departments to disseminate information materials to communities within their reach. 	<ul style="list-style-type: none"> ▪ Radio infomercials in Sindh Province ▪ Information materials – posters, brochures, bumper stickers. ▪ Local Print Media advertisements ▪ Radio and TV advertisements ▪ Community meetings through Local Committees. 	<ul style="list-style-type: none"> ▪ Increase level of awareness among adult population within the first six months. ▪ Increase in quality of knowledge on SBRMP. 	<ul style="list-style-type: none"> ▪ Media organizations, Communications organisations and agencies. ▪ NGOs. ▪ Other related Local Authorities. ▪ Provincial Administration.

2.2.5. Strategy 5

Media advocacy to promote accurate and analytical coverage of the project;

Audience	Key Message Themes	Methodologies	Tools and Channels	Outputs	Partners
<ul style="list-style-type: none"> ▪ Management of media organisations ▪ Local Journalists in national and regional/provincial media organisations. 	<ul style="list-style-type: none"> ▪ Holistic nature and need for SBRMP and positive contributions of the project in increased irrigation supplies and flood control. ▪ Progress made and challenges faced in implementing the project. ▪ Importance of SBRMP at provincial level. ▪ Value of good implementation. 	<ul style="list-style-type: none"> ▪ Facilitate accurate coverage of the project by developing and disseminating a media kit. ▪ Proactively manage the media by establishing a function within project Communications Unit to engage the media in the coverage of issues related to the project. 	<ul style="list-style-type: none"> ▪ Media kit. ▪ Training, workshops, radio and TV discussion programs, and editorial briefings. ▪ News items, TV and radio programs, feature articles, call-in programs. 	<ul style="list-style-type: none"> ▪ Increased knowledge on water and agriculture issues. ▪ Percentage increase in coverage of irrigation issues by the media. ▪ Percentage increase of accurate and analytical articles on irrigation and agriculture issues. 	<ul style="list-style-type: none"> ▪ Media houses. ▪ Irrigation and other related institutions. ▪ Communication Unit of SBIP.

2.2.6. Strategy 6

Communications capacity strengthening of SBRMP team and/or partners to implement the Communications Plan:

Audience	Methodologies	Tools and Channels	Outputs	Partners
<ul style="list-style-type: none"> ▪ SBRMP and other partner organisation(s) in implementation of the Communications Plan 	<ul style="list-style-type: none"> ▪ Provide technical assistance to build and knowledge of the Communications Strategy implementers to develop and implement Communications Plan. ▪ Monitor and evaluate the specific plans developed and provide feedback. 	<ul style="list-style-type: none"> ▪ Workshops and seminars. ▪ Technical assistance. ▪ Field visits and study tours. ▪ An international standard website on the project 	<ul style="list-style-type: none"> ▪ The project has established a Communications Unit to streamline, manage, coordinate, and monitor Communications plan implementation. ▪ Select implementing institution/organisation/company successfully implementing components of the Communications Strategy. ▪ Increased communications capacity within sector institutions. 	<ul style="list-style-type: none"> ▪ Communication Team ▪ Communications training institution. ▪ CSC

3. IMPLEMENTATION OF STRATEGY, IMPLEMENTATION ARRANGEMENTS AND BUDGET

Communication strategy implementation at SBRMP shall continue through the project implementation up to 2024. However, project awareness raising related activities will be completed in 02 years. Communication Team and PMO of SBIP will be responsible for the implementation of the strategy with the assistance of CSC and Contractor.

3.1. Implementation Plan

Communication implementation plan shall be as under:

Sr. No.	Activities	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Strategy 1: Internal Communication									
1	Preparation of briefing material								
2	Plan and implement team briefing sessions								
3	Monthly Progress Reports, Newsletters (spread over project life)								
Strategy 2: Timely Information Dissemination									
1	Set-up Project Information Centre (PIC) in PMO								
2	Preparation and dissemination of information material, pamphlets, banners and brochures (spread-project life)								
3	Train and sensitize local leaders to mobilize community								
Strategy 3: Public Participation Mechanisms through Opinion Leaders									
1	Build partnership with stakeholders for information dissemination								
2	Disseminate information to opinion leaders								
3	Encourage opinion leaders to mobilize their communities								
Strategy 4: Phased Multimedia Communication Program									
1	Develop information material								
2	Design and implement public information campaign utilizing media								
3	Reinforce public campaign by mobilizing NGOs and allied departments								
Strategy 5: Media Advocacy									
1	Produce and disseminate media kits								
2	Organize 10 No. district level media workshops (10-Left Bank and 5-Right bank)								
3	Implement a proactive media relations program								
Strategy 6: Communications Capacity Building									
1	Arrange training for communication team								
2	Facilitate communications training within I&P dept.								
3	Arrange and implement training workshop for top level managements within stakeholders								

3.2. Implementation Arrangements

3.2.1. Project Management Office (PMO)

PMO would be responsible for all aspects of project implementation including technical, operational, financial management, and overseeing the implementation of ESMP, SMF and

Communication Plan. Existing environmental and social staff included: (i) Deputy Director Environment, (ii) Deputy Director Ecology (iii) Deputy Director Communications, (iv) Deputy Director Resettlement, (v) Deputy Director Social, and (vi) three Environmental Surveyors. The organogram of PMO is shown in the Figure-2 overleaf.

The Deputy Director Communication will ensure and supervise implementation of the activities of communication strategy. This unit will simultaneously be working on Guddu and Sukkur Barrages. For effective implementation of the communication strategy, existing communication unit needs to be strengthened. Therefore, it is recommended that one position of Assistant Director Communication/Communication Officer shall be placed full time under Deputy Director Communication in PMO.

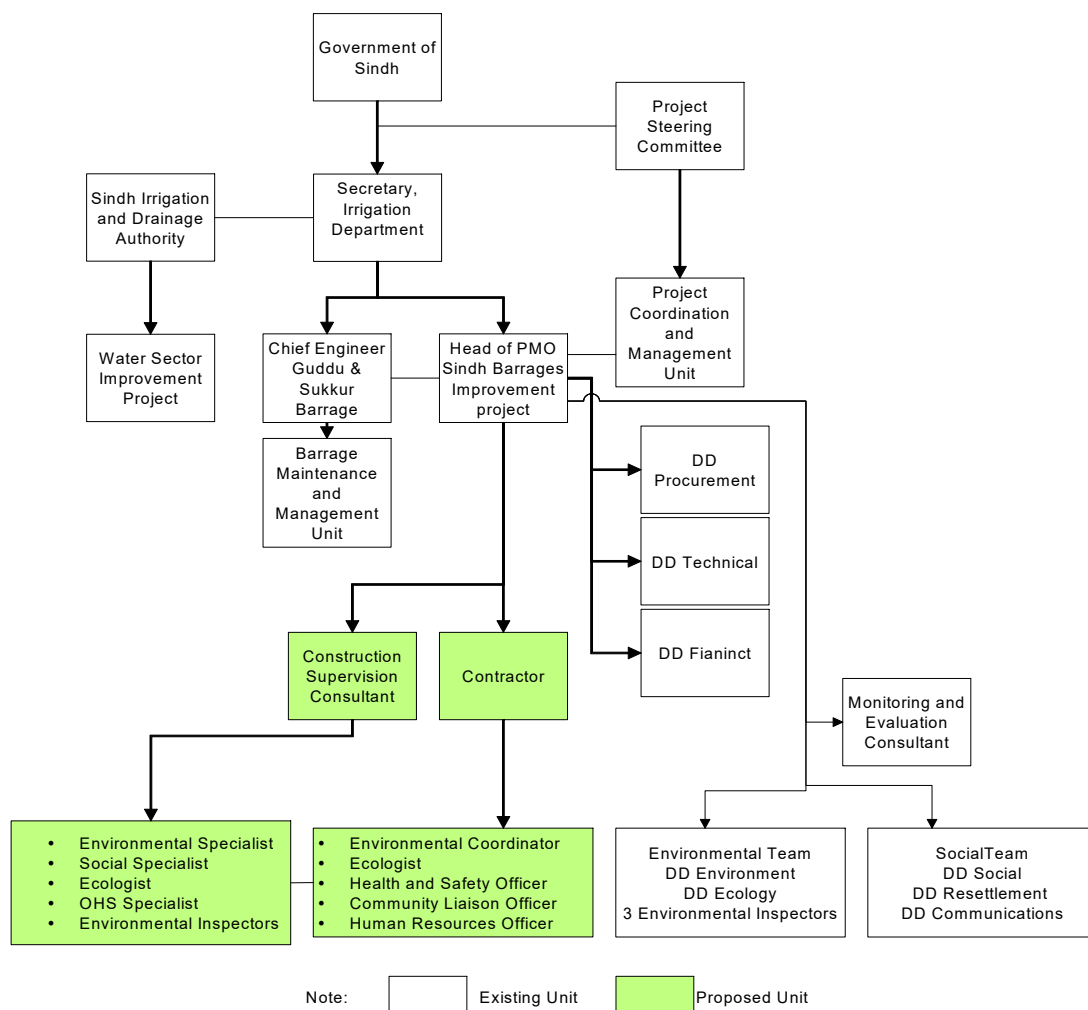


Figure 2: Organogram of PMO for Implementation of SBIP

Source: Executive Summary, Environmental and Social Assessment October 2017.

3.2.2. Construction Supervision Consultants (CSC)

CSC will be engaged by the project proponent and shall be responsible for supervision of the Contractor for the implementation of ESMP on behalf of the Client. The ESMP has proposed that the CSC will appoint an environmental specialist, a social specialist, an ecologist and an occupational health and safety specialist and environmental inspectors to ensure the ESMP implementation during the project. Social Specialist will also be responsible for assisting PMO in implementation of Communication Strategy.

3.2.3. Monitoring and Evaluation Consultant (MEC)

MEC will be recruited by PMO to carry out independent monitoring of implementation of ESMP and performance of the communication strategy. The MEC will have environmental and social experts and shall carryout intermittent third party monitoring of the project.

3.3. Budget

An amount of US\$ 0.5 Million has been proposed for the communication strategy implementation.

Annexure 1

Questionnaire- Information Seeking Behaviors and Preferences

Name of Respondent:----- Cell No:-----

Designation/Organization/Address:-----

1) How do you get information about any local event (Jalsa, meeting, celebration of any day/occasion, sports/games, drama, distribution of relief materials etc.)?

Sr. No.	Mode of Information	Tick Relevant
1	Interpersonal channels like friends, relatives, religious leaders etc.	
2	Loud speaker announcement	
3	Local newspaper	
4	Leaflets/banners/posters	
5	Mobile phone	
6	Opinion Leaders: Teachers/Councilors/Imams/Barbers/etc.	
7	Tickers on local cable network	
8	Others (specify)	

2) How do you get information about any national/international event (national emergency, floods, disease outbreak, election, protests/strikes, government activities, political activities etc.)?

Sr. No.	Mode of Information	Tick Relevant
1	Interpersonal channels like friends, relatives, religious leaders etc.	
2	TV	
3	Radio	
4	Internet	
5	Newspaper/magazines	
6	Opinion Leaders: Teachers/Councilors/Imams/Barbers/etc.	
7	Mobile Phone	
8	Leaflets/banners/posters	
9	Others (Specify)	

3) Who do you consider more authentic in getting any news/information about any event/activity?

Sr. No.	Mode of Information	Tick Relevant
1	Interpersonal channels like friends, relatives, religious leaders etc.	
2	TV	
3	Radio	
4	Internet	
5	Newspaper/magazines	
6	Folk media	
7	Opinion Leaders: Teachers/Councilors/Imams/Barbers/etc.	
8	Mobile Phone	
9	Others (Specify)	

4) What types of Mass Media are available in your locality?

Sr. No.	Mass Media Available	Tick Relevant
1	TV	

2	Radio	
3	Posters/leaflets	
4	Newspaper/magazines	
5	Cinema	
6	Theater	
7	Mobile Phones	
8	Others (Specify)	

5) What is the best medium of Information in Sukkur City?

Sr. No.	Medium of Information	Tick Relevant
1	TV	
2	Radio	
3	Posters/leaflets	
4	Newspaper/magazines	
5	Folk Media	
6	Mobile Phones	
7	Others (Specify)	

6) Concern/Apprehension about the Project:-----

7) Any Suggestion:-----

Date of Interview:----- Signature of Interviewer:-----

Annexure 2

Consultation - List of Officers Contacted

Sr. No.	Name	Designation and Department	Contact No.
Project Authorities			
1	Dr. Ali Asghar Mahesar	Dy./Director (Environment.), PMO, SBIP, Irrigation Dept., Sukkur	0301-3561195
2	Ms. Najma Chandio	Communication Specialist, PMO, GBIP, Irrigation Dept., Sukkur	0334-2076280
3	Mr. Abdul Ghaffar Soomro	Dy./Director (Resettlement), PMO, SBIP, Irrigation Dept., Sukkur	0333-7364050
4	Mr. Abdul Fattah Memon	AXEN, PMO, SBIP, Irrigation Dept., Sukkur	0300-9311928
Irrigation Department			
5	Mr. Nazir Ahmad Mahar	Chief Engineer, Left Bank, Sukkur Barrage, Irrigation Dept., Sukkur	0300-3189655
6	Mr. Khursheid Ahmad Khokher	XEN, Barrage Division, Irrigation Dept., Sukkur	0300-8314984
7	Mr. Ghazanfar Mubin	AXEN, Gudu Mechanical Div. Gudu Barrage Region, Sukkur	0300-9311709
8	Mr. Ali Hassan	Assistant Engineer, Barrage Division, Irrigation Dept., Sukkur	0300-3133992
Project Consultants			
9	Mr. Ibrahim Samoon	Team Leader (South), ACE (Pvt.) Ltd. Karachi	0315-2008133
10	Mr. Hisam Imtiazuddin	Deputy Team Leader, SBIP, Karachi	0334-3685671
Sindh Environment Protection Agency			
11	Mr. Aslam Pervaiz Sheikh	Deputy Director, Sindh Environmental Protection Agency, Shikarpur Road, Sukkur	
12	Mr. Shafiullah Leghari	A/Director (Tech), Sindh Environmental Protection Agency, Shikarpur Road, Sukkur	0331-5277231
Fisheries Department			
13	Mr. Abdul Majeed Chachar	Director, Fisheries Dept. Sukkur Division, Sukkur	0333-2672147
14	Mr. Mansoor Zafar	Dy./Director, Fisheries Dept. Sukkur	0321-8717288
Wildlife Department			
15	Mr. Mir Akhtar Hassan Talpur	Indus River Dolphin Conservation Centre (IRDCC), Sindh Wildlife Dept. Sukkur	0300-3137841
16	Mr. Amir Hussain Jagirani	Assistant Conservator Wildlife, Sindh Wildlife Dept. Sukkur	0307-3650553
District Administration and Other Departments			
17	Mr. Ali raza Ansari	Additional Deputy Commissioner (ADC), Sukkur	0300-3117750
18	Mr. Abdul Ahad Sangri	Superintending Police (SP) Traffic,	071-9310734

		Sukkur	
19	Mr. Agha Samiullah	District Health Officer, Sukkur	0333-7131161
20	Mr. Abdul Aziz Hakro	Director Education (School Education, Elementary, Secondary & Higher Secondary), Sukkur	0300-3190917 071-9310954
21	Syed Naseer Hussain Shah	Assistant Director, Social Welfare Dept., Taluka Sukkur	071- 9310830
	Mr. Ameer AD Memon	PS to SSP/DPO, Sukkur	071-9410560
NGOs/INGOs			
22	Mr. Munir Ahmad	M.B.D. Sindh Youth Welfare Organization, Sukkur	0305-3003133
23	Mr. Mubashir Irshad	General Secretary, Shades Welfare Society, Professor Society, Site Area, Sukkur	0335-1369624
24	Mr. Abdul Jabbar	District Coordinator, BISP, Bungalow No. B 90, Friends Cooperative Housing Society, Opposite PEMRA Office, Airport Road, Sukkur	0334-3025503
25	Mr. Khem Chand	General Secretary, Agha Qadir Dad Agricultural Market Association, Near Sukkur Barrage, Sukkur	03018315105
26	Mr. Hafiz Abdul Karim	Senior Vice President, Agha Qadir Dad Agricultural Market Association, Near Sukkur Barrage, Sukkur	0300-9315105
Media			
27	Mr. Kamran Sheikh	Senior Staff Reporter at Sukkur, Daily Ibrat, Hyderabad Edition	0331-3113771
28	Mr. Ali Gohar Ghanghro	Reporter, ARY News & Kawish Daily News, Press Club, Minara Road, Sukkur	0333-5607730
29	Mr. Yasir Farooqi	Reporter, Geo News & Daily Jang, Bismillah Apartments, Minara Road, Sukkur	0333-7117111
30	Mr. Irfan Khoso	Owner, Gimni Cable Network, Shop No. 62, Mehran Markez, Sukkur	0333-7173084
31	Mr. Daya Nand	Owner, Gimni Barrage Colony Cable Network, Barrage Colony, Sukkur	0312-3178206
32	Mr. Rahmatullah Jamali	Owner, Gimni Miltiray Road Cable Network, Gram Godi, Military Road, Sukkur	0311-3647285
33	Mr. Zahoor Ahmad Soomro	Owner, Gimni Bhutta Road Network, Teer Chowk, Bhutta Road, Sukkur	0300-9373076
34	Mr. Amir	World Vision Cable Network, Bungalow No. 105, SMHS, Near Nadira Office, Sukkur	071-56300862

Annexure 3

Consultations Matrix

Sr. No.	Concerns and Suggestions
1	Banners of good quality carrying project messages be prepared in Sindhi and Urdu languages.
2	Announcements through loudspeaker shall be made in vicinities regarding project messages.
3	Schedule of Barrage traffic closure be prepared in advance and informed to all stakeholders at least one week in advance.
4	Environmental threats be mitigated especially Blind Dolphin and aquatic life of Indus River.
5	Arrangements shall be made to keep Dolphin away from Barrage during construction period.
6	Dredging will effect fish breeding.
7	Fishing community shall be paid compensation, if their livelihood is affected.
8	During dredging period Fisheries Department shall be involved.
9	Time period of Barrage traffic closure shall be minimized.
10	Breeding season of fish may be considered during construction activities.
11	Priorities for non-technical employment opportunities be given to local peoples.
12	Internal monitoring may be carried out regarding water quality and noise levels.
13	Schedule of Barrage closure be provided officially to forward to the colleges and schools concerned.
14	Banners carrying project messages be hanged on prominent places.
15	Dredged material shall be dumped at designated places avoiding environmental hazard.
16	All project activities shall be completed in specified time period.
17	All construction related activities be completed in shortest possible time.
18	All activities on Barrage shall be carried out at night without disturbing anybody.
19	Only college and vocational/technical students cross Barrage twice a day.
20	Quality in construction/repair works shall be maintained.
21	Detailed briefing for Journalists shall be arranged on project components/activities, impacts and project messages because they are primary source of information.
22	Traffic in Jail area be improved/regularized first before diverting Barrage traffic to other areas.
23	The Project should be implemented as early as possible.