



Sindh Water Sector Improvement Project

Resettlement Action Plan (RAP)
Contract WSIP/B1/LB/01

May 2016
Sindh Irrigation and Drainage Authority

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SIDA
Left Bank Barrage Colony
Hyderabad
Sindh
Pakistan

Content

Chapter	Title	Page
	Executive Summary	i
1.	Introduction	1
1.1	The Indus Basin Irrigation System	1
1.2	Sindh Water Sector Improvement Project	1
1.3	Contract WSIP/B1/LB/01: Rehabilitation of Fulleli Canal	3
2.	Policy, Legal and Administrative Framework	8
2.1	Introduction	8
2.2	Pakistan Legal Framework	8
2.3	Lender Policy	12
2.4	Review of Government and World Bank Resettlement Policies	15
2.5	WSIP Social Impact Management Framework	16
2.6	Entitlement Matrix	17
3.	Description of the Sub Project	22
3.1	General Institutional Arrangements, Roles & Responsibilities	22
3.2	Location of the Sub- Project	24
3.3	Right of Way	25
3.4	Scope of Works	26
3.5	Assessment of Potential Impacts	42
4.	Socio-Economic Studies	49
4.1	Approach and Methodology	49
4.2	Socio-Economic Profile of Sub- Project Area	50
4.3	Socio-Economic Profile of Col	58
5.	Assessment of Impacts	64
5.1	General	64
5.2	Identification of PAPs	64
5.3	Stone Pitching	64
5.4	Embankment Rehabilitation	65
5.5	Construction of Hydraulic Structures	67
5.6	Bridge Replacement and Road Realignment	73
5.7	Construction Camp	75
5.8	Indirect Impacts	77
5.9	Impacts on Trees	77
5.10	Summary	77
6.	Public Consultation and Information Disclosure	79
6.1	Introduction	79
6.2	Objectives of Consultation	79

Sindh Water Sector Improvement Project

6.3	Methodology	79
6.4	Consultations with Project Affected Persons	80
6.5	Consultation with Local Women Community	80
6.6	Meetings with Secondary Stakeholders	80
6.7	Grass Root Stakeholders Consultation	81
6.8	Summary of Consultations	81
7.	Relocation and Compensation Plan	82
7.1	General	82
7.2	Loss: Land (Agricultural)	82
7.3	Loss: Privately Owned Pump Houses	85
7.4	Loss: Community or Institutional Structures	86
7.5	Loss: Income	86
7.6	Establishment of Construction Camp	87
8.	Organisational Responsibilities for Implementation of the RAP	88
8.1	Sindh Irrigation and Drainage Authority	88
8.2	Left Bank Area Water Board	88
8.3	Board of Revenue	89
8.4	Project Coordination and Monitoring Unit (PCMU)	89
8.5	Monitoring and Evaluation Consultants	89
8.6	Project Implementation Consultants	90
8.7	Contractor	91
8.8	Grievance Redress	91
8.9	Organisation Structure	93
8.10	Training and Capacity Building	93
9.	Budget	95
10.	Implementation of RAP	97
10.1	Introduction	97
10.2	Implementation Schedule	97
10.3	RAP Implementation Detail	100
11.	Monitoring and Evaluation	105
11.1	Introduction	105
11.2	Monitoring and Evaluation	105
11.3	Internal Monitoring	105
11.4	External Monitoring and Evaluation	106
11.5	Monitoring Framework	107
Appendices		108
Appendix A. Additional Details of Survey Participants and Consultations		109
A.1.	Detail of Officials Participating in Field Surveys	109
A.2.	Consultees	110
A.3.	List of Women Participants	111

Sindh Water Sector Improvement Project

A.4.	Names of Sample Surveyed Villages	112
Appendix B.	Survey Questionnaires and Data Collection Tools	113
Appendix C.	Details of Project Affected Persons and Assets	129
C.1.	Details of Privately Owned Structures	130
C.2.	Details of Farmers and Owners of Private Land in the Col	131
C.3.	Details of Government Owned Structures	132
C.4.	Expenditure of Affected household	132
Appendix D.	Deh Maps	133
D.1.	RD 62+000	133
D.2.	RD 145+000	134
D.3.	RD 170+000	135
D.4.	RD 231+000	136
Appendix E.	Grass Root Consultations	137
Appendix F.	Pictorial View	140
F.1.	Women Consultation in the Project Area	142
Appendix G.	Satellite View of Embankment Rehabilitation Col	144

Tables

Table 2.1:	Comparison of Pakistan's LAA and WB Resettlement Policy	16
Table 2.2:	Entitlement Matrix	18
Table 3.1:	Salient Features of Fulleli Canal	24
Table 3.2:	Hydraulic Structures to be Replaced – Contract WSIP/B1/LB/01	26
Table 3.3:	Hydraulic Structures to be Rehabilitated – Contract WSIP/B1/LB/01	27
Table 3.4:	Fulleli Canal - Stone Pitching Locations	29
Table 3.5:	Fulleli Canal - Bank Rehabilitation Locations	30
Table 3.6:	Scoping of <i>Potential</i> Impacts of Contract WSIP/B1/LB/01	42
Table 3.7:	Assessment of Impacts for Contract WSIP/B1/LB/01	44
Table 3.8:	Fulleli Canal - Stone Pitching Locations	47
Table 3.9:	Col for Embankment Rehabilitation Works	48
Table 4.1:	Demographic of Population of Sub-Project Area	51
Table 4.2:	Cropping Pattern of Hyderabad District	52
Table 4.3:	Cropping Pattern of Tando Muhammad Khan District	52
Table 4.4:	Cropping Pattern of Badin District	52
Table 4.5:	Literacy Rate in the Project Corridor	55
Table 4.6:	Access to Social Amenities in the Project Area	55
Table 4.7:	Pressing Needs of Men (Multiple Responses)	57
Table 4.8:	Women Role in Socio-economic Activities (Multiple Response)	57
Table 4.9:	Pressing Needs of Women (Multiple Responses)	58
Table 4.10:	Population of Farmers of Private Land in Col	59
Table 4.11:	Income and Poverty Status of the Affected People	60
Table 4.12:	Poverty status of Fulleli Canal (Below Poverty Line)	61
Table 4.13:	Expenditure of Affected Household	61
Table 4.14:	Distribution of Crop Expenditure between Land Owner and Share Cropper	62
Table 4.15:	Landholding Status	63
Table 5.1:	Summary of Resettlement Requirements	67
Table 5.2:	Cultivated Land in the Col of Hydraulic Structure Works	70
Table 5.3:	Permanent Land Acquisition Requirements for Hydraulic Structure Works	71

Sindh Water Sector Improvement Project

Table 5.4:	Temporary Land Acquisition Requirements for Contract WSIP/B1/LB/01	72
Table 5.5:	Cultivated Land in the Col of Hosri Bridge (RD 62)	74
Table 5.6:	Permanent Land Acquisition Requirements for Bridge Replacement Works	74
Table 5.7:	Summary of Resettlement Impacts	78
Table 6.1:	Impacts and Mitigations Discussed during Consultations	81
Table 7.1:	Permanent Land Acquisition Requirements for Contract WSIP/B1/LB/01	83
Table 7.2:	Yield price and total value of affected crop/acre	84
Table 7.3:	Construction Camp Compensation Plan – Provision of these entitlements is the responsibility of the contractor	87
Table 8.1:	Grievance Redress Committee	92
Table 9.1:	Budget for Implementation of the RAP	96
Table 10.1:	RAP Implementation Schedule	98
Table 11.1:	Monitoring Framework	107

Figures

Figure 1.1:	Sub-project Location for Works on Contract WSIP/B1/LB/01	4
Figure 3.1:	Institutional Setup for Project Implementation	22
Figure 3.2:	Eroded Embankments on the Fulleli Canal	25
Figure 3.3:	Encroachment in Hyderabad	25
Figure 3.4:	Sub-project Area for Works on Contract WSIP/B1/LB/01	28
Figure 3.5:	Proposed Embankment Rehabilitation	31
Figure 3.6:	Location of Embankment Works – Fulleli Canal: Head to Tail	32
Figure 3.7:	Extent Embankment Works – Fulleli Canal: Hyderabad	33
Figure 3.8:	Extent Embankment Works – Fulleli Canal: Tando Mohamed Khan	34
Figure 3.9:	Extent Embankment Works – Fulleli Canal: Matli	35
Figure 3.10:	Layout plan for Replacement of Head and Cross-Regulators at RD140	37
Figure 3.11:	Layout for Replacement of Head and Cross-Regulators at RD170	38
Figure 3.12:	Replacement of Hosri Bridge	39
Figure 3.13:	Location Plan of Construction Camp at RD 170	40
Figure 3.14:	Baseline land use at Location of Proposed Contractor's Camp	41
Figure 3.15:	Satellite View of Proposed Contractor's Camp	45
Figure 3.16:	Col of Road Realignment	46
Figure 3.17:	Proposed Stone Pitching Cross-Section	46
Figure 4.1:	Livestock in the Project Area	53
Figure 4.2:	Women Engaged in Agriculture	58
Figure 4.3:	Employment in the Col	60
Figure 4.4:	Cropping in the Project Area	62
Figure 5.1:	Mosque on Left Berm of Fulleli Canal, RD 134	66
Figure 5.2:	Proposed Works to Avoid Demolition of Mosque at RD 134	66
Figure 5.3:	View of the Privately owned Pump Houses at 30 th Mile Cross-Regulator	68
Figure 5.4:	A view of Government Owned Pump house at RD 145	69
Figure 8.1:	Organisational Structure for RAP Implementation	93

Sindh Water Sector Improvement Project

Abbreviations

Acronym	Definition	Acronym	Definition
ACS	Additional Chief Secretary	ISEA	Integrated Social and Environmental Assessment
ADB	Asian Development Bank	IUCN	International Union for Conservation of Nature
AFs	Affected Families	LAA	Land Acquisition Act
APL	Adaptable Program Loan	LBOD	Left Bank Outfall Drain
APs	Affected Pearson	M&E	Monitoring and Evaluation
AWB (s)	Area Water Board (s)	MAF	Million Acre –Feet
BCM	Billion Cubic Meters	MD	Managing Director
BER	Bid Evaluation Report	MIS	Management Information System
BHU	Basic Health Unite	MRL	Maximum Residue Limit
BP	Bank Procedures	NAM	New Accounting Model
CAS	Country Assistance Strategy	NARC	National Agriculture Research Centre
CBC	Community Based Contract	NCB	National Competitive Bidding
CBOs	Community Based Organizations	NDP	National Drainage Program
CCA	Cultivable Command Area	NFDC	National Fertilizer Development Centre
CFAA	Country Financial Accountability Assessment	NGO	Non Governmental Organizations
Cfs	Cubic feet per second	NIP	Non Inspection Path
CM	Community Member	NRP	National Resettlement Policy
CoA	Chart of Accounts	O&M	Operation and Maintenance
Col	Corridor of Impact	OECD	Overseas Economic Cooperation Fund
Cs	Cusecs	OFWM	On-Farm Water Management
DA	Designated Account	OP	Operational Procedure
DFID	Department for International Development	OPL	Official Poverty Line
DGAE	Director General Agricultural Extension	P&D	Planning & Development
DGAE&WM	Director General Agricultural Engineering and Water Management	PAP	Project Affected People
DO	Development Objective	PCMU	Project Coordination & Management Unit
Dos	Direct Outlets	PDO	Project Development Objective
DPR	Delivery Performance Ratio	PFAA	Provincial Financial Accountability Assessment
EA	Environmental Assessment	PIC	Project Implementation Consultants
EIA	Environmental Impact Assessment	PIFRA	Program to Improve Financial Reporting and Auditing
EMF	Environmental Management Framework	PIP	Project Implementation Plan
EMP	Environmental Management Plan	PMCA	Project Management Consultant/Procurement Agent
EMU	Environmental Management Unit	PMP	Pest Management Plan
EPA	Environmental Protection Agency	PP	Plant Protection
Eol	Expression of Interest	PSC	Project Steering Committee
ERR	Economic Rate of Return	PSR	Project Supervision Rating
		RAP	Resettlement Action Plan

Sindh Water Sector Improvement Project

Acronym	Definition	Acronym	Definition
ESP	Environmental and Social Plan	PRC	Project Resettlement Committee
FAO	Food and Agriculture Organization	RD	Reduce Distance
FFS	Farmer Field School	RFP	Request for Proposal Packages
FGD	Focus Group Discussion	RP	Resettlement Plan
FM	Financial Management	SA	Special Accounts
FMR	Financial Management Report	SAP	Social Action Plan
FO	Farmers Organization	SCARP	Salinity Control and Reclamation Program
GB	General Body	SEPA	Sindh Environmental Protection Agency
GCA	Gross Command Area	SIDA	Sindh Irrigation and Drainage Authority
GDP	Gross Domestic Product	SIL	Specific Investment Loan
GIS	Geographic Information Systems	SIMF	Social Impact Management Framework
GPs	Good Practices	SMP	Social Management Plan
GPN	General Procurement Notice	SOFWMP	Sindh On-farm Water Management Project
GoP	Government of Pakistan	Sq.ft	Square Fit
GoS	Government of Sindh	SWMO 2002	Sindh Water Management Ordinance 2002
Ha	Hectare	SWSIP	Sindh Water Sector Improvement Project
I&D	Irrigation and Drainage	TCP	Technical Cooperation Programmes
IAS	International Accounting Standards	TI	Transparency International
IBIS	Indus Basin Irrigation System	ToF	Training of Facilitators
IBRD	International Bank for Reconstruction and Development	ToR	Terms of Reference
ICB	International Competitive Bidding	UNDB	United Nations Development Business
ICR	Implementation Completion Report	VR	Village Road
IDA	International Development Association	WAC	Water Allocation Committee
IDMTA	Irrigation and Drainage Management Transfer Agreement	WAPDA	Water and Power Development Authority
IEE	Initial Environmental Examination	WB	World Bank
IFC	International Finance Corporation	WCA	Water Course Association
IFRS	International Financial Reporting Standards	WSIP	Water Sector Improvement Project
INTOSAI	International Organization of Supreme Audit Institutions	WTO	World Trade Organization
IP/ NIP	Inspection Path/ Non-Inspection Path	WTS	Walk Through Survey
IPD	Irrigation and Power Department	WWF	World Wildlife Fund
IPM	Integrated Pest Management	IPSNM	Integrated Plant and Soil Nutrients Management

Glossary of National Terms

Term	Definition	Term	Definition
Abiana	Irrigation water charges	Mogha	Ungated outlet from distributary/ minor or canal
Chaks or Dehs	Tertiary irrigation command area	Mohanas	A fish hunting community by profession.
Cabin	Wooden Kiosk		
Hari	Tenant	Pancho	An irrigation practice where water is let to cascade from one field to another

Sindh Water Sector Improvement Project

Term	Definition	Term	Definition
Kharif	Summer crop season (April-October)	Rabi	Winter crop season (November-March)
Warabandi	Rotational system for water distribution	Pacca	House or building constructed with concrete or burned bricks
Semi-Pacca	House or building constructed with burnt bricks and mud	Kacha	House constructed with un-burnt bricks and mud, or temporary wooden poles etc
Jhoopra	Hut	Otaq	Formal sitting/living arrangements for men guests
Washing Ghats	Areas designed along the canal/minor for laundry purpose	Tehsil / Taluka	A sub- division of a district headed by Assistant Commissioner, generally a district comprises of 3 to 5 tehsils

DEFINITIONS OF TERMS

The following terms and definitions have been used in this report (RP):

Term	Definition
Affected Person/People	Any person affected by project-related changes in use of land, water, natural resources, or income losses.
Affected Family/Household	All members of a household residing under one roof and operating as a single economic unit, who are adversely affected by the Project, or any of its components. It may consist of a single nuclear family or an extended family group.
Col (Corridor of Impact)	It is an area falling within the Right of Way (RoW) used to determine the area of specific impact from the proposed works.
Compensation	Payment in cash or in kind of the replacement cost of the acquired assets or structures.
Cut-off-date	For non-land related entitlements: The date of the start of the census survey For land related entitlements: Date of notification under section 4 of the Land Acquisition Act
Encroacher	Person(s) who extends his/her structure beyond area of ownership into adjacent areas
Entitlement	Range of measures comprising compensation, income restoration, transfer assistance, income substitution, and relocation, which are due to affected people, depending on the nature of their losses, to restore their economic and social base.
Income Restoration	Includes re-establishing income sources and livelihood of the affected persons according to their status
Involuntary Resettlement	Any resettlement, which does not involve willingness of the persons being adversely affected, but are forced through an instrument of law.
Shops	Commercial structures, like groceries, vulcanizing shops, tailoring shops, beauty parlour, market stalls, hotels, movie houses, and similar establishments.

Sindh Water Sector Improvement Project

Term	Definition
Indigenous Peoples	The term 'Indigenous Peoples' is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing characteristics as defined by the World Bank Operational Policy/Bank Policy 4.10 ¹ .
Land Acquisition	The process whereby a person is compelled by a government agency to acquire all or part of the land a person owns or possesses to the ownership and possession of the government agency for public purpose in return for compensation.
Market Value	The value of an asset determined by market transaction of similar assets and finally arrived at after negotiations with the owners. It includes transaction costs and without the depreciation and deductions for salvaged building material.
Marginally Affected	Land or structure means less than 10 percent of the land or structure is affected and where the remaining unaffected portion is still viable for use.
Participation	A process that allows stakeholders to influence and share control over development initiatives, decisions and the use of resources that affect them.
Project Area	The area specified by the Project Document in the Official Notification and includes the areas within administrative limits of the Provincial Government.
Project Director (PD)	The officer selected by the SIDA, Government of the Sindh responsible for execution of the project.
Project Impacts	Loss of physical and non-physical assets, including houses, communities, productive land, income-earning assets and sources, use of resources, cultural sites, social structures, networks/ties, cultural identity and mutual help mechanisms.
Rehabilitation	Compensatory measures provided under the World Bank Policy Framework on involuntary resettlement other than payment of the replacement cost of acquired assets/ structures.
RoW (Right of Way)	It is an area allocated to any canal, distributary, minor road, sui gas pipeline or any high transmission line etc on its right and left sides for its safeguard, patrolling or any future development on its either side.
Relocation	The physical relocation of an AP from her/ his pre-Project place of residence or business.
Replacement Cost	The value determined to be fair compensation for land based on its productive potential, the replacement cost of houses and structures (current fair market price of building materials and labour without depreciation or deductions for salvaged building material), and the market value of residential land, crops, trees, and other commodities.
Resettlement Effect	Loss of physical and non-physical assets, including houses, communities, productive land, income-earning assets and sources, use of resources, cultural sites, social structures, networks/ties, cultural identity and mutual help mechanisms.
Severely Affected	Land or structure means more than 10 percent of total land or structure is affected or even less than 10 percent is affected but the remaining portion is no longer viable for

¹ World Bank Operational Manual available at <http://go.worldbank.org/DZDZ9038D0>

Sindh Water Sector Improvement Project

Term	Definition
	use.
Squatter	People who occupy and use land without possessing it or having any legal title, or right to use/ possess the land / asset for residential or commercial purpose.
Stakeholders	Include the affected persons and communities, proponents, private and public businesses, the NGOs, host communities and other concerned departments/ agencies.
Vulnerable	The marginalized or those distinct people who might face the risk of marginalization and suffer disproportionately from resettlement effects, including the women, children, destitute persons, Encroacher/Informal Settlers; those with historical or cultural usufruct rights; and landless groups. Generally, people who are living below the poverty line are called vulnerable persons, people/family.

Executive Summary

Introduction

Development of agriculture and agro-based industries is the present need of the country. Agriculture is an important source of employment and exports (two thirds of employment and 80% of exports); irrigation represents more than 95% of the total consumptive use of water. However, this massive infrastructure is deteriorating and is in need of rehabilitation. In response to this the Government of Sindh has launched the Sindh Water Sector Improvement Project (WSIP-1) with the financial support of the World Bank to improve the efficiency of irrigation water distribution in Ghotki, Nara and Left Bank Area Water Boards (AWBs). The project is being executed through the Sindh Irrigation and Drainage Authority (SIDA) with the active involvement of AWBs and Farmers Organizations (FOs) with support from the Project Implementation Consultants (PICs). The WSIP interventions include rehabilitation of canals and existing structures, construction of new head and cross regulators, construction of buffalo wallows, provision of washing ghats and new foot and village road bridges on selected reaches of the Main, Branch, Distributary and Minor Canals.

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

The B1 project component includes the rehabilitation of the Main and Branch Canals of the Ghotki, Nara and Left Bank Canal systems covering some 830 km of Main Canals and 1,130 km of Branch Canals. This Resettlement Action Plan covers works to Fulleli Canal under Left Bank Canal Area Water Board (AWB) to be implemented under contract WSIP/B1/LB/01. The proposed contract works have been prepared based on consultations with the AWB at each stage of identification, prioritization and planning. The RAP has been prepared to comply with national legislative requirements, the World Bank's loan requirements, and the Social Impact Management Framework prepared for WSIP and addresses the impacts associated with this sub-project.

Scope of Works

The scope of work for this sub-project is as follows:

- Replacement of three cross-regulators
- Replacement of Akram Wah Sluices with a single sluice structure
- Replacement of head regulators to off-taking minor, distributary and canals
- Construction of temporary canal diversions

- Selected sections of meandering canal to be protected to prevent erosion (stone pitching)
- Inspection and Non-Inspection Paths to be rehabilitated in critical sections
- Replacement of Hosri road bridge (RD 62) and realignment of the road
- Establishment of temporary camps for the contractor's equipment and work force.

The works detailed above constitute the proposed sub-project and are all considered within this RAP.

Purpose of the Resettlement Action Plan

The potential for direct economic and social impacts to arise from implementation of this sub-project have been identified. This RAP has been prepared as a plan for i mitigations of these impacts and to, at least, maintain living standards of those affected by the sub-project activities. It includes the findings of socio-economic studies, census survey, consultations, parameters for entitlement packages for PAPs, the institutional framework, mechanisms for consultation, grievances resolution and the implementation timeframe.

The principal objective of the RAP is to ensure that all affected persons losing assets, infrastructure and livelihood as a result of the project are eligible to receive compensation and livelihood assistance. Such compensation and assistance shall be provided irrespective of ownership of title to the land.

Policy Legal and Administrative Framework

Land based entitlements due to registered land owners are in accordance with the Land Acquisition Act of Pakistan, which also meets the requirements of World Bank Policies.

Pakistan law does not provide for the payment of compensation or livelihood assistance to PAPs who do not hold a title to the land on which they depend for shelter or livelihood. However, World Bank policy requires that all affected persons losing assets, infrastructure and livelihood as a result of a project are eligible to receive compensation and livelihood assistance, irrespective of ownership to a title to the land. To ensure compliance with World Bank policy, entitlements are provided by an Entitlement Matrix which is based on the Social Impact Management Framework, prepared by the Government of Sindh for WSIP in 2006. This Entitlement Matrix ensures the following:

- Compensation for lost assets regardless of rights to land on which they are sited
- Valuation of assets and land at the prevailing market rate
- Assistance in relocation for any PAP, regardless of legal entitlement to the land they occupy, in the form of a cash transport allowance
- Provision of additional allowance for those who may suffer impacts to their livelihood

- Permission for PAPs to rebuilt affected assets on alternative government owned sites (without transfer of title).

The matrix was updated in May 2016 to clarify some entitlement policies based on implementation of contracts WSIP/B1/NC/01 and WSIP/B1/NC/02 (in the Nara Area Water Board) and their associated Resettlement Action Plans.

Collection of Primary Data

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

- Village profile for the collection of macro level information relating to the existence of socio-economic infrastructure in the rural settlements falling within Col.
- Census survey to document the PAPs, their assets, family profiles and economic status.
- Socio-economic survey to develop an overall baseline profile of the people of the area in respect to their socio-economic behaviour, vulnerability and attitudes towards the developmental activity to be carried out in the area.
- Gender data collection survey targeting the female population of the Col exclusively in order to supplement the socio-economic data collection.

Consultations were made with the stakeholders and general public. Consultative meetings and focus group discussions were held to elicit and record the views and concerns of the local community on the proposed rehabilitation works. The concerns raised by the stakeholders were considered and engineering designs have been adjusted in order to enhance the projects acceptability for the general public on socio-economic considerations. The main objectives of the consultations were to provide a platform for the stakeholders to voice their suggestions to the project team and to develop a sense of collective ownership for the activities of the sub-project.

Socio-economic Baseline of Col

Agriculture is heavily practised within the sub-project area, and also within the Col for this contract. The land in sub-project area is fertile and canal water is the main source of crop cultivation. 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 (May to October). Sugarcane is a cash crop and commonly grown in the sub-project area due to the availability of the surrounding sugar mills. The most commonly grown crops in the Col are wheat, rice, sugarcane and fodder for livestock.

A total of 11 households (comprising 91 PAPs) are farming land within the Col of the sub-project. Of the 11 households, two are land owners, and nine are sharecroppers. A further 7 land owning households have constructed pump houses illegally within the Col.

Those households owning land are living above the poverty line, while the sharecroppers are all living below the poverty line.

The majority of the agricultural land within the Col (approximately 31 acres out of a total of approximately 33 acres) which is to be acquired is farmed by the sharecroppers. Sharecropping agreements made with land owners are verbal only, and there is no formal duration of the agreement, meaning they may be terminated at any time. Income from agricultural land is shared between the land owner and sharecropper on a 50:50 basis.

Sharecroppers do not employ any agricultural labourers, whereas the land owners employ a small number of labourers (between four and ten) over a short period of time (between three and five days per year). However these labourers are employed over a much larger area of land than shall be impacted by the proposed works.

All sharecroppers obtain a secondary income from livestock rearing. This income accounts for approximately 10 to 15% of their total income. As the livestock are kept at their residences outside the Col, this income source shall not be impacted by the proposed works.

The caste system is very prevalent within the Col. Each PAP belongs to a caste, and conflicts are most commonly resolved by the head of the caste. Where conflicts cannot be resolved in this way, they may be resolved by the village head, political leaders, or, as a last resort, in a court of law.

Scope of Resettlement

Surveys of the Col identified the following structures located within the government owned Right of Way. Removal of these structures is required for implementation of the works:

- Seven privately owned irrigation pump houses
- One government owned pump house supply water to Noonari village
- One government owned irrigation office

There shall be no direct impact to residential or commercial structures associated with this sub-project.

The works have been designed to avoid the need to demolish pump houses supplying water to Tando Mohammad Khan and supplying water to a sugar mill at RD 145.

Provision has also be included in the civil works contract to avoid the need to demolish a grave yard situated at the 30th Mile cross-regulator site and a mosque on the berm of the canal. No further community structures were identified within the Col.

The permanent acquisition of approximately 33 acres of privately owned agricultural land shall be required prior to mobilisation of the contractor.

Tree cutting along the canal embankments and at the proposed structure sites is also required. All trees are owned by the Government, and their replacement shall be covered in the civil works contract. Tree cutting is discussed in detail in the Environmental Impact Assessment and Management Plan for Contract WSIP/B1/LB/01.

The works shall directly impact a total of 25 households. A summary of the identified direct social and economic impacts resulting from this sub-project are provided in the following table.

Table ES.1: Summary of Sub-Project Impacts

Type of Loss	Application	Definition of Impacted Person	Unit	Total
Loss of Land (Agricultural)	Permanent loss of entire land or where partial loss but the remaining land is less than 0.5 acre or is rendered economically unviable.	Legal owner with valid title or customary or usufruct rights.	Impacted Acres (Impacted Households)	33.1 (6)
		Tenant, lease holder and share cropper	Impacted Acres (Impacted Households)	27.45 (9)
	Temporary loss of land	Legal owner with valid title or customary or usufruct rights.	Impacted Acres (Impacted Households)	4.4 (3)
Loss of privately owned pump houses	Loss of pump house	Owner of structure (regardless of ownership of title to land on which structure is situated)	Number of Impacted Pump Houses (Impacted Households)	7 (7)

Type of Loss	Application	Definition of Impacted Person	Unit	Total
Loss of Structures (Community or institutional)	Entire loss of structures or where only partial impact, but the remaining structure is rendered unviable for continued use.	Community or institution	Number of Impacted Structures	2

The final extent of the contractor's camp shall be determined by the contractor during mobilisation of the contractor, and it is not possible to accurately define the direct impacts at this time. The potential impacts, to be identified prior to construction of the camp, include the following:

- Temporary loss of cultivated land leading to temporary loss of income for those farming the land (including farm owners, sharecroppers and labourers)
- Temporary land acquisition leading to temporary loss of income for the land owners

There shall be no impact to privately, community or government owned structures as a result of establishment of the contractor's camp.

Cut-off Date

The cut-off date for eligibility for all entitlements, except land based entitlements due to registered owners, has been set as the 16th August 2014. The 16th August 2014 was the first working day of PIC field team in the field during the 2014 field visit, during which the consultants updated the impact assessment and survey of the population of the Col. Any person constructing assets in the Col after this date shall not be eligible for entitlements under this Resettlement Action Plan.

The cut-off date for eligibility for land related entitlements due to registered owners shall be the date of the section 4 notification issued under the Land Acquisition Act of Pakistan.

Public Consultation and Information Disclosure

The PAPs were made fully aware of the sub-project and Resettlement Action Plan through consultative meetings, individual and group discussions about the sub-project and the Resettlement Action Plan. During these consultations, entitlements and mitigations were discussed. Where possible, the views expressed during these consultations have been incorporated in the sub-project design and this Resettlement Action Plan. During these consultations, entitlements were discussed and agreed upon. The Entitlement Matrix included within this document reflects the agreements reached during consultations.

Compensation, Relocation and Income Restoration

The reconstruction of the privately and government owned pump houses, as well as the government owned irrigation office shall be implemented by the contractor for Contract WSIP/B1/LB/01. The civil works contract shall provide for the reconstruction of the new pump house building and shifting of the existing pumping equipment. The shifting of the pump equipment and re-commissioning of the pumping equipment can be completed within a single day, minimising the length of time during which water supply would not be available.

The contractor will liaise with the AWB, and confirm the date during which they shall shift the pumping equipment of each impacted structure. The AWB shall be responsible for notifying the affected community of Noonari village, and the households impacted by the loss of irrigation pump houses, of the hours during which their water supply shall be affected.

Permanent acquisition of private land will be required for the realignment of the road at the location of the replacement bridge at RD 62, and realignment of off-taking canals at 30th mile cross regulator and RD 170 of Fulleli canal. Compensation shall be paid to the legal land owner for the land to be acquired as per the requirements of the Land Acquisition Act. The cost of the permanent land will be borne by the project proponent. SIDA and AWB are responsible for the land acquisition.

The sharecroppers on the impacted land shall be provided with cash compensation equivalent to 50% of the market value of gross harvest for one year's production or for the remaining period of tenancy/lease, whichever is greater. As all sharecropping agreements are verbal and no period has been defined, this RAP makes provision for the payment of cash compensation equivalent to market value of gross harvest for one year's production. The compensation rate has been calculated based on the crops commonly grown in the Col. Rice and sugarcane are commonly grown during the Kharif season and wheat is commonly grown during rabi.

It is not possible to anticipate the crops which shall be grown at the time of implementation of the sub-project. However, an allowance has been included in the RAP budget based on 50% of the average value of the crops grown in the Col (rice, wheat, sugarcane and fodder) to be paid to the sharecropper to compensate for loss of standing crops. Actual crop compensation due shall be assessed dependent upon the crops grown at the time of acquisition.

Entitlements to sharecroppers are valued at 50% in recognition of the 50:50 sharing of costs and sales between the land owners and sharecroppers. Note land owners are not entitled to compensation beyond that provided by the Land Acquisition Act.

Institutional Framework

A strong institutional framework is already in place under WSIP for the implementation of this Resettlement Action Plan. SIDA will be responsible for implementing the RAP and coordination with relevant parties, including the Board of Revenue. SIDA may delegate some responsibilities to the AWB, however, SIDA shall remain responsible for ensuring all actions are implemented. With the exception of temporary land acquisition, reconstruction of government structures and privately owned pump houses, compensation will not be part of the civil works contract but shall be paid by SIDA.

The disbursement of compensation and allowances, vacation of the Col and the permanent acquisition of land, shall be fully implemented prior to the mobilisation of the contractor for the works in order to prevent any delays to construction.

A Grievance Redress Committee shall be formed to provide a mechanism to mediate conflict and cut down on lengthy litigation. The Grievance Redress Mechanism will provide a forum to people to raise objections or concerns about project impacts and their mitigations.

Resettlement Budget

The total cost for the implementation of this Resettlement Action Plan is estimated to be PKR 66,500,047 (USD 665,000). This includes compensation to sharecroppers, permanent land acquisition costs, cost of monitoring and evaluation, training and administrative costs.

Monitoring and Evaluation

SIDA shall complete internal monitoring of implementation of the RAP in close coordination with the Environmental Management Unit (EMU) of SIDA. Internal monitoring shall be supplemented by external monitoring and evaluation by the Monitoring and Evaluation Consultants for WSIP. A monitoring framework is provided in this RAP.

1. Introduction

1.1 The Indus Basin Irrigation System

In order to fully utilize the river water resources of Pakistan, the Indus Basin Irrigation System (IBIS) has emerged as the largest contiguous irrigation system in the world. Irrigated agriculture within the IBIS provides not only food security to the country (supplying 90% of food production²), but also economic growth (accounting for over 25% of the country's Gross Domestic Product and 44% of employment in 2013³). The Indus River is therefore a critical resource for Pakistan.

The IBIS comprises of three large dams, eighty five small dams, nineteen barrages, twelve inter-river link canals, forty-five canal commands and 0.7 million tube wells. The IBIS irrigates 18.21 million hectares (45 million acres)⁴ of farm land producing wheat, rice, fruits, vegetables, sugarcane, maize and cotton for local use as well as for export.

Sindh province is the second biggest beneficiary of the IBIS (after Punjab) with three barrages and 14 canal commands. The irrigation system has a total length of 19,066 km (11,916 miles) of canals, which serve a gross command area (GCA) of 5.8 million ha (14,391 million acres). There are about 42,000 watercourses (tertiary channels), which have an aggregate length of approximately 120,000 km (75,000 miles) which supply irrigation water directly to agricultural land. Approximately 59 billion cubic meters (48 million acre-feet) of water is diverted annually to the canal commands. Yet the province suffers from low water availability and land productivity².

1.2 Sindh Water Sector Improvement Project

1.2.1 Objectives

The Government of Sindh has launched the first phase of Water Sector Improvement Project (WSIP) with the financial support of the World Bank (WB). The overarching project objective is to improve the efficiency and effectiveness of irrigation water distribution in three areas of the Sindh Province, namely the Ghotki, Nara and Left Bank Area Water Boards (AWBs). Improvement is measured with respect to reliability, equity and user satisfaction.

²Project Appraisal Document on a Proposed Credit to Pakistan for a Sindh Water Improvement Phase 1 Project, World Bank, 2007

³ World DataBank, World Bank, <http://databank.worldbank.org/data/home.aspx>, [accessed 13/01/15]

⁴<http://www.tbl.com.pk/indus-basin-irrigation-system-of-pakistan/>

1.2.2 Components of WSIP

WSIP is intended to begin addressing these complex issues with an optimal mix of institutional strengthening, capacity building and investments in irrigation infrastructure. As such, WSIP is being implemented in different phases, mainly, through the Sindh Irrigation and Drainage Authority (SIDA) and AWBs.

Phase-1 of WSIP consists of following separate components:

- Component A: Community Development and Capacity Building
- Component B: Rehabilitation and Improvement of Irrigation and Canal Systems
- Component C: Management Plan for Major I&D Infrastructure
- Component D: Monitoring and Evaluation of the Project Impact and Environmental Management Plan; and
- Component E: Project Coordination, Monitoring, Technical Assistance and Training

Poor operation and maintenance in the irrigation sector has necessitated investment into the rehabilitation of irrigation systems in the Nara, Ghotki and Left Bank AWBs. These rehabilitation activities are included within Component B of WSIP, which has been sub-divided into two further sub-components: B1 (rehabilitation of Main and Branch Canals) and B2 (rehabilitation of Minor and Distributary Canals). Under each sub-component, a number of rehabilitation packages have been prioritised, designed, let, or are to be let as individual construction contracts.

An Integrated Social and Environmental Assessment (ISEA) was conducted for WSIP at the feasibility stage by the Government of Sindh in 2006, and includes a Social Impact Management Framework and Entitlement Matrix to be implemented for WSIP.

In accordance with the Social Impact Management Framework, this Resettlement Action Plan has been prepared for Contract WSIP/B1/LB/01, Rehabilitation of Fulleli Canal, which is to be implemented within the Left Bank AWB under component B1 of WSIP.

1.2.3 Project Administration

WSIP is being implemented under a sector loan agreement between Government of Pakistan (GoP) and the WB. SIDA is the project proponent and is executing the project through the Nara, Ghotki and Left Bank AWBs under the supervision of Project Director (WSIP). The Project Coordination and Monitoring Unit (PCMU), sitting within the Planning and Development Department of the Government of Sindh, is responsible for overall monitoring and coordination of the project implementation activities.

The association of Mott MacDonald Ltd and MM Pakistan (Pvt) Ltd was appointed in 2009 by the Managing Director of SIDA as the Project Implementation Consultants (PIC) for WSIP phase 1. PIC were appointed to assist SIDA in the implementation of WSIP, including undertaking the detailed designs, environmental assessment, environmental management plans, resettlement actions plans, procurement of works and construction supervision for the rehabilitation works proposed under component B.

1.2.4 Works under WSIP Component B1

Improvement works under component B1 include remodelling of the Main and Branch canals on the basis of their sanctioned discharge, strengthening of embankments, rehabilitation and reconstruction of regulating structures, installation of gauges and flow measurement structures, rehabilitation and

reconstruction of bridges where necessary, planting of trees and any other crucial rehabilitation works identified during the design period.

Two contracts have already been awarded within the Nara AWB: Contract WSIP/B1/NC/01 (Rehabilitation of the Upper and Lower Nara Canals), which is now complete, and Contract WSIP/B1/NC/02 (Rehabilitation of Makhi Complex and Khipro Canal) which is currently under construction by CWE.

A third major contract within the Nara AWB, Contract WSIP/B1/NC/03, is planned for the rehabilitation of the Mithrao Canal. A further two major contracts have been identified: Contract WSIP/B1/GF/01 (Rehabilitation of Ghotki Feeder Canal in the Ghotki AWB); and, Contract WSIP/B1/LB/01 (Rehabilitation of Fulleli Canal in the Left Bank AWB).

The detailed designs for Contract WSIP/B1/NC/03, Contract WSIP/B1/GF/01 and Contract WSIP/B1/LB/01 are complete. The pre-qualification of contractors and the preparation of the Environmental Impact Assessments (EIAs), Environmental Management Plans (EMPs), and Resettlement Action Plans (RAPs) for each contract are in progress.

1.3 Contract WSIP/B1/LB/01: Rehabilitation of Fulleli Canal

1.3.1 General

Contract WSIP/B1/LB/01 (the 'sub-project') of B1 component is to be carried out within Left Bank AWB and includes replacement of major hydraulic structures, embankment reinstatement and stone pitching at limited selected locations along Fulleli Canal, and replacement of a bridge crossing.

1.3.2 Sub-project Area

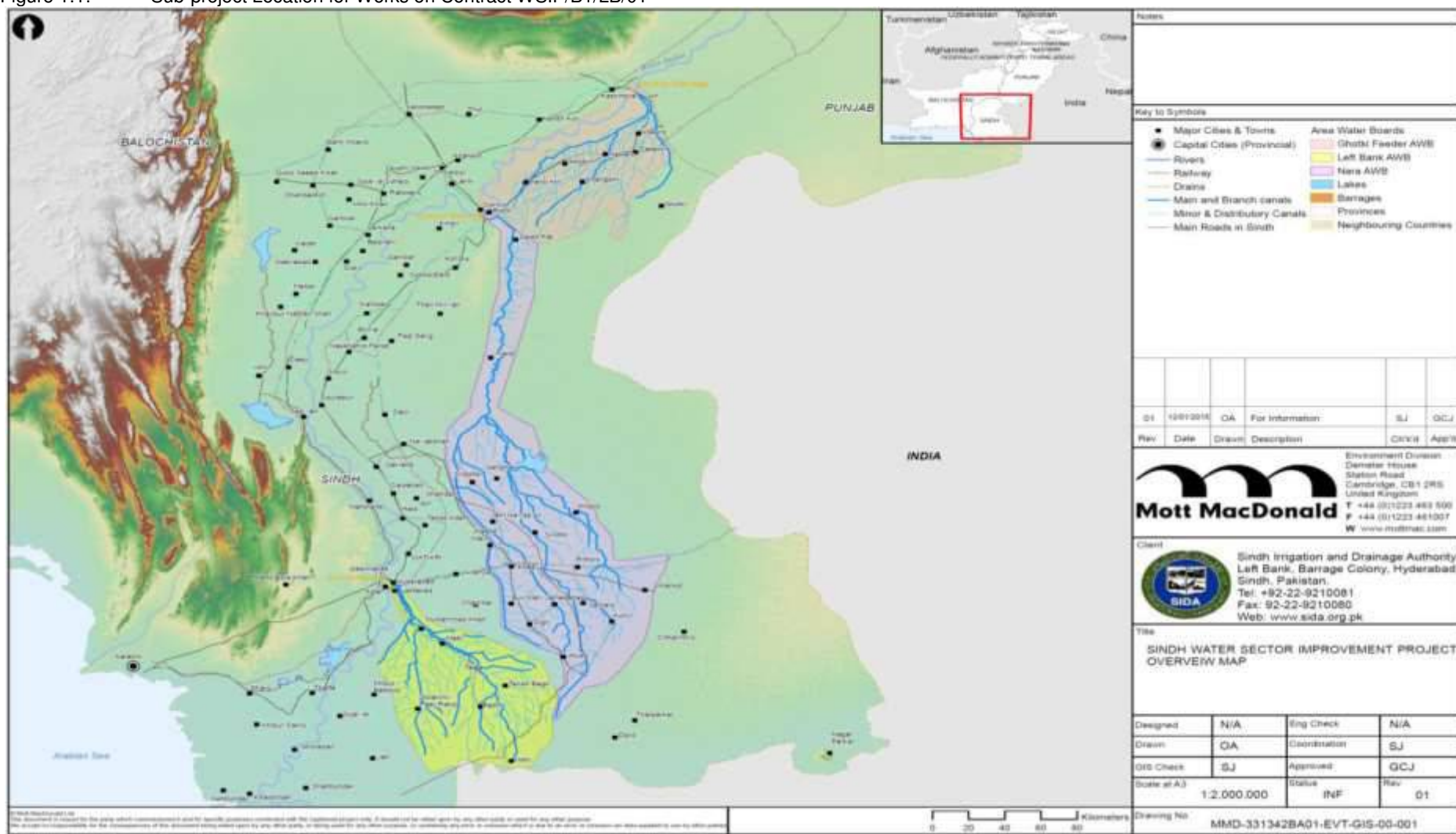
The project location lies in the vicinity of Hyderabad, Tando Muhammad Khan and Badin districts. The Fulleli Canal offtakes from RD 4 of the 'combined channel'. This short (1.2 km) channel carries the discharge of both the Fulleli Canal and the Old Fulleli Canal, and connects the head regulators of both these structures to a regulator situated directly upstream of Kotri Barrage on the left bank of the River Indus, near Hyderabad.

The area surrounding the Fulleli Canal is dominated by agricultural lands, tree thickets and orchards except where it passes through the three urban areas of Hyderabad, Matli and Tando Muhammad Khan.

The sub-project area is shown in the following figure.

Sindh Water Sector Improvement Project

Figure 1.1: Sub-project Location for Works on Contract WSIP/B1/LB/01



1.3.3 Sub-project Objectives

The sub-project interventions will be executed by a Contractor, selected through the International Competitive Bidding (ICB) process. The proposed engineering interventions are aligned with the objectives of WSIP as follows:

- i. **To ensure authorized discharge flow requirements:** Due to deferred maintenance of structures and embankments, the Fulleli Canal irrigation system is in poor condition and is unable to sustain a safe running of the authorized discharge. The rehabilitation works have been designed to enhance the water carrying efficiency of the system through the rehabilitation and replacement of regulation structures.
- ii. **To ensure equitable resource distribution:** The poor maintenance of hydraulic structures is leading to lack of fair distribution of irrigation water. All structures will be rebuilt to ensure transparent and equitable distribution of water.
- iii. **To protect interests of the community:** Replacement of regulating structures will benefit the community's agricultural interest and ensure canal crossings which are used by the public are maintained at the regulator sites (cross-regulator structures are also designed to carry public road crossings). A replacement bridge is also proposed to ensure to ensure continued access across the Fulleli Canal to Hosri town nearby.
- iv. **To meet irrigation system safety standards:** The civil work activities include rehabilitation of reach of the canal embankments. This shall reduce the risk of canal breaches. Hydraulic structures shall also be provided with sufficient freeboard (distance from water level to deck level) to prevent flooding of public crossings and sufficient guards to prevent vehicles or members of the public entering the canals.

1.3.4 Type and Category of Sub-project

It is anticipated that the sub-project may have some adverse social impacts associated with the displacement of a limited number of privately and government owned structures.

The Fulleli Canal has a culturable command area of approximately 342,500 hectares (846,337 acres). Within this command area, agriculture is practiced to a large scale. Assuming an average farm size of 3.1 ha (7.6 acres) per family and an average family size of 6.8 persons⁵, it is determined that approximately 751,290 people are directly or indirectly dependent upon the irrigation water supplied through the Fulleli Canal.

⁵ Project Appraisal Document on a Proposed Credit to Pakistan for a Sindh Water Improvement Phase 1 Project, World Bank, 2007

Sindh Water Sector Improvement Project

A major disruption of flow or pollution of the canal water has the potential to impact the large number of people in the command area who are dependent of the water supplies for agriculture, as well as those in urban areas who rely on the canal for drinking water supplies.

As such impacts have the potential to impact an area far broader than the immediate sub-project area itself, this sub-project has been categorised as A.

1.3.5 Need of Study

World Bank funded projects require a RAP for any project that results in involuntary land acquisition or related impacts. The scope and level of detail of resettlement planning will vary with circumstances, depending on the project's complexity and the magnitude of its effects. As a minimum requirement the RAP must ensure that the livelihood of PAPs is restored to pre-project level. As the proposed Contract WSIP/B1/LB/01 has direct social and economic impacts a RAP has been prepared to address these issues.

The WB seeks to promote the improvement of the living standards of PAPs. Thus, resettlement activities should result in visible improvements in the economic conditions and social well-being of affected people and communities, or at least return them to their baseline condition. The WB Involuntary Resettlement Policy (OP- 4.12) applies under all conditions of potential physical or economic displacement resulting from the acquisition or use of land and other assets for a project regardless of the total number of people impacted.

Physical displacement could bring about disruption and impoverishment to communities. Therefore it should be avoided or minimized by exploring all viable alternatives. If displacement is inevitable, compensation plans should be developed in the early stages of the planning process of the project.

This document forms the RAP for the sub-project to be implemented under Contract WSIP/B1/LB/01. The RAP is a substantial component of any development project that causes a change in the existing land use patterns or requires the resettlement of people or businesses. Projects related to canal rehabilitation may cause a series of resettlement effects. The need for resettlement mostly arises due to the clearance of an area of land to enable the execution of construction works, or as a result of land acquisition through expropriation or other regulatory measures. During this process structures, social networks and social services may be partially or completely and temporarily or permanently damaged.

This RAP has been prepared to highlight the social consequences of rehabilitation activities in the Corridor of Influence of the sub-project and propose appropriate measures to reduce the adverse effects. This RAP has been prepared in accordance with the Social Impact Management Framework for WSIP, Pakistan Government Policy and World Bank Policy.

This document forms Volume I of the RAP. Volume I should be read alongside the Volume II of the RAP: Socio-Environmental Baseline and Impact Maps, which also acts as Volume II of the EIA/EMP for this contract.

1.3.6 Objectives of the Resettlement Action Plan

The potential for direct economic and social impacts to arise from implementation of this sub-project have been identified. As such this RAP has been prepared as a plan for implementation of mitigations of these effects and to, at least, maintain living standards of those affected by the sub-project activities. It includes the findings of socio-economic studies, consultations, parameters for entitlement packages for PAPs, the institutional framework, mechanisms for consultation, grievances resolution and the implementation timeframe.

Sindh Water Sector Improvement Project

Development projects that displace people involuntary can generally give rise to economic, social and environmental problems. Involuntary resettlement may cause severe long term hardship, impoverishment and environmental damage without the application of appropriate measures to mitigate these impacts. This RAP provides details regarding the likely impacts resulting from the sub-project intervention and the mitigation measures that will be adopted to address these adverse impacts.

The principal objective of the RAP is to ensure that all affected persons losing assets, infrastructure and livelihood as a result of the project are eligible to receive compensation and livelihood assistance. Such compensation and assistance shall be provided irrespective of ownership of title to the land.

The following are the specific objectives of this RAP:

- Identify specific social and resettlement impacts of the project by types and their mitigation
- Identification of those to be resettled as a result of project implementation
- Present a strategy for achieving the objectives of the World Bank policy and the Social Impact Management Framework for WSIP
- Provide a framework for implementation of strategies to ensure timely acquisition land, payment of compensation and delivery of other benefits to PAPs.
- Provide details on the policies governing land acquisition and resettlement, the range of entitlements to improve the living standards, income earning capacity and production levels of PAPs or at least restore them to pre-sub-project levels.
- Provide details on the public information consultation and participation and grievance redress mechanism in sub-project planning, design and implementation.
- Identify and provide an estimate of required resources for implementation of recommended strategies, including monetary budget
- To provide a framework for supervision, monitoring and evaluation of resettlement implementation.

2. Policy, Legal and Administrative Framework

2.1 Introduction

This chapter provides an overview of the relevant donor (World Bank) policies, Pakistan laws and the Social Impact Management Framework (SIMF) prepared for WSIP with which this RAP complies.

2.2 Pakistan Legal Framework

2.2.1 General

The Land Acquisition Act (LAA) of 1894 is the main law regulating land acquisition for public purposes in Pakistan. Each province has its own interpretation of the LAA, and some provinces have issued provincial legislations. The LAA and its implementation rules require that following an impact assessment and valuation effort, land and crops are compensated in cash at market rate to titled landowners and registered land tenants/users, respectively. The LAA mandates that land valuation is to be based on the latest 3-5 years average registered land sale rates though, recently, the median rate over the past 1 year, or even current rates, were applied in some cases. Due to widespread practice of land under-valuation by the Revenue Department, current market rates are now frequently applied, plus 15% Compulsory Acquisition Surcharge as required under the LAA.

Based on the LAA only legal owners and tenants registered with the Land Revenue Department or possessing formal lease agreements, are eligible for compensation. Users of the Rights of Way (RoW) are not considered "affected" by project activities and thus not entitled to any mitigating measure, compensation, or livelihood support. Also, there is no legal obligation to provide compensation to title-less land users, unregistered tenants or encroachers either in form of house-for-house or land-for-land replacement, or in form of cash. It is to be noted, however, that there are precedents where legally ineligible PAPs have been compensated or rehabilitated. Projects such as Chotiari, Ghazi Barotha, and National Highways Authority road construction have awarded compensation to unregistered tenants and other categories of PAPs (sharecroppers and encroachers).

The LAA also does not automatically mandate for specific rehabilitation/assistance provisions benefiting the poor or vulnerable groups, 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.

2.2.2 The 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. Also, there is no legal obligation to provide compensation to title-less land users, unregistered tenants or encroachers for rehabilitation. However, after independence and with

Sindh Water Sector Improvement Project

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 AP (Share-croppers, squatters).

The exceptions to the rule can be explained by the fact that the law is not rigid and is broadly interpreted depending on operational requirements, local needs, and socio-economic circumstances.

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.

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

Section 3

According to 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 Government of Sindh 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 the 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 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)

Sindh Water Sector Improvement Project

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.

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 Irrigation Department of an enquiry under section 11 of the Act for the determination of claims and objections. The Irrigation Department shall be required to depute an authorised representative to attend the enquiry.

All notices under section 9 must be made not less than 15 days 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 earlier 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.

Sindh Water Sector Improvement Project

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 14 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.

Land Acquisition under the Proposed Sub-project

The execution of the sub-project shall require the permanent acquisition of approximately 33 acres of privately owned land at RD 62+000 IP/NIP, RD 145+000 IP, 170+000 IP and RD 231+000 NIP side of Fulleli canal. The cost of the permanent land acquisition will be borne by the project proponent. Temporary land acquisition will be required for temporary canal diversion - the contractor will be responsible for temporary land acquisition. The contractor shall pay a monthly rent as per market value (or any other value as agreed with the land owner or registered tenant) to the land owner or registered tenant. The contractor shall repair or replace any damaged assets on private land at his own cost or else compensate the owner for the damage or loss.

2.3 Lender Policy

2.3.1 World Bank's Involuntary Resettlement Policy (OP 4.12)

2.3.1.1 General

The World Bank lays down policy guidance for the projects and programs that affect the human population to ensure that local residing people benefit from development projects and adverse effects on human environment caused by the project can be avoided or mitigated. Under the above policy displaced persons of development projects are entitled to compensation regarding loss of land, structural assets, crops, livelihood activities etc. A social assessment has been carried out to evaluate the project's potential positive and negative/adverse effects on the people and to examine project alternatives where adverse effects can be minimized.

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 resettlement policy framework, in order to address the involuntary resettlement.

Sindh Water Sector Improvement Project

For the proposed sub-project, livelihood of some affected persons may be affected due to their dislocation from their existing location.

In view of the above, the OP 4.12 will be triggered; this RAP has been developed in accordance with this OP.

This policy covers direct economic and social impacts from Bank-assisted investment projects, and is caused by:

- The involuntary taking of land 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 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 would be adopted regarding project affected persons;

- Inform about options and rights pertaining to resettlement matters
- Consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives
- Provide prompt and effective compensation at full replacement cost for losses of assets attributable directly to the sub-project
- Provide assistance such as moving allowances during relocation; and offer 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
- Provide with development assistance
- Counselling in respect of credit facilities, trainings, or job opportunities; and
- Measures to assist the displaced persons in their efforts to improve their livelihoods, or at least to restore, in real terms.

2.3.1.2 Criteria for Eligibility

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

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 a RAP⁶.
3. Those 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 and offered alternative resettlement sites, while those under criteria 3 are offered resettlement assistance in lieu of compensation for the land they occupy. 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.

All affected persons losing assets, infrastructure and livelihood as a result of the project are eligible to receive compensation and livelihood assistance irrespective of ownership of title to the land.

2.3.1.3 Disclosure

In accordance with OP 4.12, the Government of Sindh shall provide the World Bank with a copy of this RAP. Following clearance by the World Bank, this RAP shall be made publically available by the World Bank and be published on the WSIP website (www.wsip.com.pk). The RAP shall also be translated by the project proponent (SIDA) into Sindhi and Urdu and shall be made publically and freely available at the following locations:

- SIDA office at Hyderabad,
- AWB office at Hyderabad,
- Fulleli Canal, RD 145 – Irrigation office
- Fulleli Canal, RD 170 – Irrigation office
- Fulleli Canal, RD 231 – Irrigation office

The latter three locations are all situated within the project area, and shall therefore be easily accessible to PAPs.

2.3.2 World Bank Policy on Access to Information

The World Bank allows access to any information in its possession (with exceptions, such as where such information could cause harm to specific parties or interests). The policy is based on the following five principles:

- Maximizing access to information;
- Setting out a clear list of exceptions;

⁶ No such process has been identified for this sub-project in this RAP.

Sindh Water Sector Improvement Project

- Safeguarding the deliberative process;
- Providing clear procedures for making information available; and
- Recognizing requesters' right to an appeals process.

Exceptions to access to information include:

- Personal information (of Bank staff)
- Communications within and between Governors and/or Executive Directors' Offices
- Proceedings of the World Bank Ethics Committee
- Information subject to Attorney-Client Privilege
- Information which may compromise the safety and security of individuals, the environment and assets and documents belonging to the World Bank or its staff
- Information restricted under separate disclosure regimes or investigative information
- Information provided to the World Bank in confidence
- World Bank corporate administrative matters
- World Bank deliberative information
- Some financial information

All other information held by the World Bank is to be made available in accordance with the World Bank Access to Information Policy⁷. Where access to information is denied, the requester may file an appeal where the World Bank has violated this policy, or there is a public interest case to override the exceptions to the policy.

2.4 Review of Government and World Bank Resettlement Policies

2.4.1 Comparison of Policies

The World Bank Operational policy explicitly makes adequate provision for the affected persons who are either displaced or suffer losses, as a result of development project to be catered for. Livelihoods of persons to be affected must be prevented but in cases where it is inevitable, minimal displacements should 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.

Land Acquisition Act, 1894 makes provision for compensation to be paid to only affected persons having suffered any loss and can produce any form of title that is legal in form of occupancy, ownership or legal binding tenancy agreement to the land in question. However, the World Bank policy accepts all forms of losses without exception to be catered for.

⁷ Available at <https://policies.worldbank.org/sitepages%2FExtranetAppPage.aspx?url=ExtranetPreviewPage&docid=3797>

The World Bank policy requires that the persons affected by any development project be assisted during their transition period in the resettlement site and efforts made to restore their livelihoods whereas the Land Acquisition Act, 1894 is silent on that. The table given below highlights some comparison between the Land Acquisition Act, 1894 and the World Bank Policy on Involuntary resettlement.

Table 2.1: Comparison of Pakistan's LAA and WB Resettlement Policy

Pakistan's Land Acquisition Act, 1894	WB Involuntary Resettlement Policy
Land 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 sharecrop/lease tenants.	Crop losses compensation provided to landowners and sharecrop/lease tenants whether registered or not
Land valuation based on the market value of the land at date of publication of section 4 notification (refer to section 23 of the LAA)	Land valuation based on current market rate/replacement value
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 (GRC), 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 get aware of the same	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 APs and vulnerable groups, or resettlement expenses	The WB policy requires rehabilitation for income/livelihood, for severe losses, and for expenses incurred by the APs during the relocation process.

2.4.2 Remedial Measures to Bridge the Gap

In principle, Pakistan's Law and World Bank 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 the local governments and the specific project proponents. To clarify these issues and reconcile eventual gaps between Pakistan's Law and WB Policy, this RAP for the rehabilitation of the Fulleli Canal sub-project has been prepared which ensures the following:

- Compensation for any privately owned land lost as a result of the works
- Compensation for lost assets regardless of rights to land on which they are sited
- Valuation of assets and land at the prevailing market rate
- Assistance in relocation for any PAP, regardless of legal entitlement to the land they occupy, in the form of a cash transport allowance
- Provision of additional allowances for vulnerable PAPs
- Provision of additional allowance for those who may suffer commercial losses

This RAP is prepared in compliance with World Bank Operational Policy and Bank Policy 4.12 as well as national laws.

2.5 WSIP Social Impact Management Framework

The section of Social Impact Management Framework (SIMF) relevant to preparation of this RAP is summarised in this section. The SIMF was prepared for WSIP by the Government of Sindh and cleared by the World Bank in 2006. This RAP has been prepared in accordance with this SIMF, with amendments to the SIMF where required to meet updated World Bank policies.

The SIMF provides the overall guidance on process and procedure required for addressing social impacts caused by the sub-projects and for social screening and preparation and implementation of RAPs, and/or other mitigation plans as necessary. The SIMF requires that RAPs describe distinctly and clearly how the sub-project would improve, or at least restore economic livelihoods of Project Affected Persons through adequate asset compensation and economic rehabilitation measures.

The SIMF requires that RAPs shall be guided by the following policy objectives:

- Land acquisition is an integral part of the project design, and should be dealt with from the earliest stages of project preparation.
- Both involuntary resettlement and the negative impacts on people by acquisition of assets should be avoided or minimised whenever feasible, exploring all viable alternative project designs.
- Persons to be affected should have their former living standards and income earning capacity improved or at least restored. In the case of displacement, they should be provided with adequate support during transition period.
- Project stakeholders, including PAPs are consulted and given the opportunity to participate, as practicable, in the design, implementation, and operation of the project.
- Particular attention will be paid to the protection of marginalised, disadvantaged and vulnerable groups, including women and children and promoting and providing, wherever possible, opportunities for such groups to take advantage of the investment.

The SIMF also provides for a low income allowance to be provided to all PAPs without land title and living below the poverty line, in case of loss of residential, commercial, industrial and institutional land.

2.6 Entitlement Matrix

The criteria for assessing entitlements for compensation and rehabilitation assistance to different categories of PAPs is defined within the entitlement matrix (Table 2.2) and has been followed during the preparation of this RAP. This version of the entitlement matrix is based on the entitlement matrix given within the SIMF (November 2006), but with updates to reflect implementation of contracts WSIP/B1/NC/01 and WSIP/B2/NC/02, their associated RAPs, and findings of consultations with PAPs.

Sindh Water Sector Improvement Project

Table 2.2: Entitlement Matrix

No;	Type of Loss	Application	Definition of Entitled Person	Entitlement Policy
1	Loss of Land (Agricultural)	Partial but permanent loss of land and the remaining land farmed is economically viable and at least equal to or more than 0.5 acres (marginal impact on household income and living standard)	Legal owner with valid title or customary or usufruct rights	PAPs will be entitled to: <ul style="list-style-type: none"> • Compensation as per Pakistan Land Acquisition Act
			Tenant, leaser holder and sharecropper	PAPs will be entitled to: <ul style="list-style-type: none"> • 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 any 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 any share cropping agreements in place between owner and tenant (typically 50%).
			PAPs without valid title	PAPs will be entitled to the following: <ul style="list-style-type: none"> • Cash compensation equivalent to market value of standing crops that could not be harvested.
		Permanent loss of entire land or where partial loss but the remaining land is less than 0.5 acre or is rendered economically unviable. (Severe impact on household income and living standards).	Legal owner with valid title or customary or usufruct rights.	PAPs will be entitled to: <ul style="list-style-type: none"> • Equivalent area of land with equivalent productive potential at location acceptable to PAP, OR • Compensation as per Pakistan Land Acquisition Act
			Tenant, lease holder and share cropper	PAPs will be entitled to: <ul style="list-style-type: none"> • 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 any 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 any share cropping agreements in place between owner and tenant (typically 50%).

Sindh Water Sector Improvement Project

No;	Type of Loss	Application	Definition of Entitled Person	Entitlement Policy
2	Loss of Land (Residential, commercial, industrial or institutional land)	Temporary loss of land	PAPs without valid title	PAPs will be entitled to the following: <ul style="list-style-type: none"> Cash compensation equivalent to market value of standing crops that could not be harvested
			Legal owner with valid title or customary or usufruct rights.	PAPs will be entitled to: <ul style="list-style-type: none"> Monthly rent at market value
			Tenant, lease holder and share cropper	PAPs will be entitled to: <ul style="list-style-type: none"> Market value of gross harvest for production over period of temporary loss (rounded up to the nearest year). Compensation to be reduced to mirror any share cropping agreements in place between owner and tenant (typically 50%)
			PAPs without valid title	PAPs will be entitled to the following: <ul style="list-style-type: none"> Cash compensation equivalent to market value of standing crops that could not be harvested
		Partial loss of residential, commercial, industrial or institutional land with remaining land sufficient to reorganize	PAPs with valid title or customary and usufruct rights	PAPs will be entitled to the following; <ul style="list-style-type: none"> Cash compensation for affected portion of the land at replacement value
			PAPs such as tenants and leaseholders	PAPs will be entitled to the following; <ul style="list-style-type: none"> Reimbursement for loss of income for the un-expired lease period
			PAPs without valid title	See below
			PAPs with valid title or customary and usufruct rights	PAPs will be entitled to the following; <ul style="list-style-type: none"> An equivalent area of land of similar characteristics and access to facilities in an acceptable location, OR Compensation as per Pakistan Land Acquisition Act
			PAPs such as tenants and leaseholders	PAPs will be entitled to the following; <ul style="list-style-type: none"> An equivalent area of leased land for un-expired lease period, OR Reimbursement for un-expired lease period
			PAPs without valid title	PAPs will be entitled to the following; <ul style="list-style-type: none"> Permission to reside on alternative Government owned site without transfer of title
			PAPs living below the poverty line	PAPs will be entitled to the following: <ul style="list-style-type: none"> Low income allowance equal to two months
		Loss of residential, commercial, industrial or institutional land without sufficient remaining land. PAPs will be required to relocate.		

Sindh Water Sector Improvement Project

No;	Type of Loss	Application	Definition of Entitled Person	Entitlement Policy
				household income, or two months minimum wage (whichever is greater)
3	Loss of Privately Owned Structures (Residential, commercial, industrial or agricultural)	Partial loss of structure and the remaining structure viable for continued use by current occupier	Legal owner of affected structure with valid or customary or usufruct rights	PAPs will be entitled to the following: <ul style="list-style-type: none"> • Cash compensation for affected part of the structure at replacement value; AND • Allowance to cover repair of the remaining structure.
			Owner of affected structures without valid title to the land (squatter/encroacher)	PAPs will be entitled to the following: <ul style="list-style-type: none"> • 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.	Owner of structure (regardless of ownership of title to land on which structure is situated)	PAPs will be entitled to the following: <ul style="list-style-type: none"> • Transport allowance for shifting to new location; AND • Cash compensation for entire structure at replacement value; OR • Structure of equivalent standard in acceptable location
			Tenant / leaseholder in the affected structure	PAPs will be entitled to the following: <ul style="list-style-type: none"> • Transport allowance for shifting to new location; AND • Transition allowance equivalent to three months' rent
4	Loss of Structures (Community or institutional)	Partial loss of structure and the remaining structure viable for continued use by current occupier	Community or 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.	Community or institution	Replacement under the civil works contract
5	Loss of income (trade/ livelihood/ occupation or business incomes)	Temporary or permanent loss of commercial income	Impacted business owner	PAPs will be entitled to the following: <ul style="list-style-type: none"> • Livelihood allowance equivalent to three months household income, or three months minimum wage (whichever is greater)

Sindh Water Sector Improvement Project

No;	Type of Loss	Application	Definition of Entitled Person	Entitlement Policy
		Temporary or permanent loss of agricultural/commercial/institutional wages	Impacted employee or labourer	PAPs will be entitled to the following: <ul style="list-style-type: none"> • Livelihood allowance equivalent to three months household income, or three months minimum wage (whichever is greater)
6	Loss of access to common resource and facilities	Loss of access to rural common property resources and urban civic amenities	Communities/ households	PAPs will be entitled to the following: <ul style="list-style-type: none"> • Replacement of common property resources/ amenities; OR • Access to equivalent amenities/ services
7	Loss of trees	Affected trees.	Owner of trees	PAPs will be entitled to cash compensation equivalent to market value on the basis of type, age and productive value.
8	Loss of public infrastructure	Infrastructure (electric water supply, sewerage & telephone lines; public health centre; public water tanks)	Relevant agencies.	Compensation in cash at replacement cost to respective agencies.
9	Losses to host Communities.	Affected amenities and services	Host community	Restore losses as a result of resettlement for amenities / services equivalent to the provided to PAPs
10	Temporary Losses	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.
		Severely affected structures	Affected 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.
11	Loss of Land (unused)	Partial but permanent loss of land	Legal owner with valid title or customary or usufruct rights	PAPs will be entitled to: <ul style="list-style-type: none"> • 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	PAPs will be entitled to: <ul style="list-style-type: none"> • Compensation as per Pakistan Land Acquisition Act

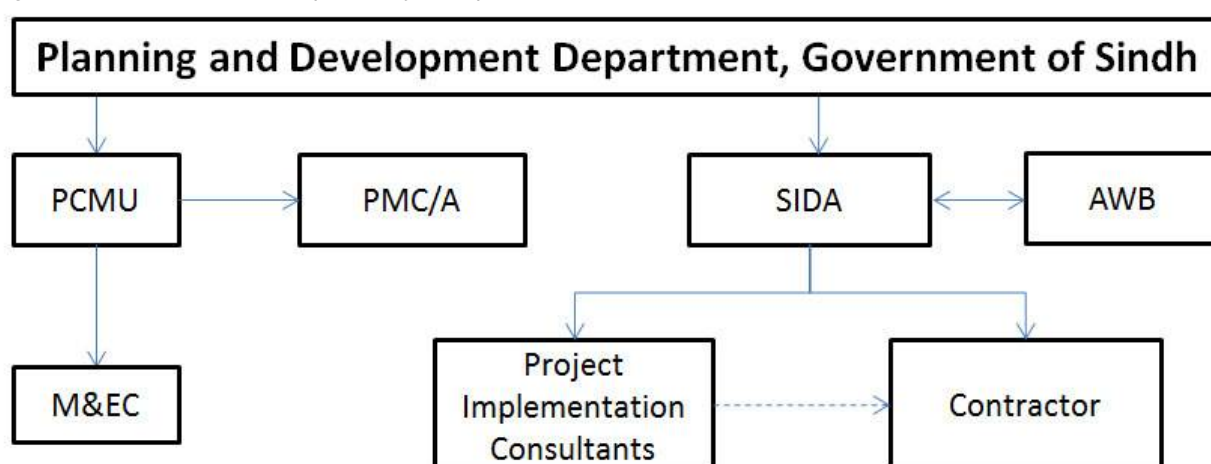
3. Description of the Sub Project

Please refer to Chapter 1 for an overview of WSIP.

3.1 General Institutional Arrangements, Roles & Responsibilities

An organogram for institutional arrangements for sub-project implementation is shown in the following figure. The roles and responsibilities of each party are detailed in the following sections.

Figure 3.1: Institutional Setup for Project Implementation



3.1.1 The Sindh Irrigation and Drainage Authority (SIDA)

3.1.1.1 General

The Sindh Irrigation and Drainage Authority (SIDA) is the project proponent, and therefore the sub-project proponent. SIDA has a Board of Management chaired by the Minister of Irrigation and Power Department (IPD) Government of Sindh.

SIDA is responsible for providing necessary support for the implementation of all WSIP components, including; maintaining consolidated project accounts, preparing disbursement applications and operation of the Designated Account and transfer of funds to other implementing agencies, and contributing to the project's overall management information system. SIDA is also responsible for procurement of major contracts under WSIP, including Contract WSIP/B1/LB/01. SIDA's Board meet quarterly to address project issues and make key decisions regarding investments as well as institutional strengthening. It will work closely with IPD in facilitating operation of the canal system during sub-project implementation.

SIDA shall act as the Employer, under the contract for WSIP/B1/LB/01.

3.1.1.2 Environmental Monitoring Unit (SIDA-EMU)

The responsibility for social and environmental management and monitoring will rest with the EMU established under SIDA. EMU are responsible for the environmental and social assessment, assisting in

Sindh Water Sector Improvement Project

designing investments in a participatory way incorporating social and environmental issues, and monitoring the long term operational as well as construction phase impact of the project and major investments in the Province. These responsibilities extend to all investments made under WSIP, including this sub-project.

The EMU may seek necessary assistance from the social and environmental team of PIC in relation to works under component B1 and B2 of WSIP.

3.1.2 Project Coordination and Monitoring Unit (PCMU)

Project Coordination and Monitoring Unit (PCMU), established under the Planning and Development Department, Government of Sindh, monitor and coordinate all project implementation activities under WSIP, including this sub-project. It is responsible for carrying out project monitoring and evaluation studies and overall supervision of the environmental and social plans for WSIP (including this sub-project). PCMU shall engage a team of independent consultants (known as the Monitoring and Evaluation Consultants) to assist them in monitoring and evaluation.

3.1.3 Monitoring and Evaluation Consultants (M&EC)

M&EC assist PCMU in supervision and monitoring of the overall project as well as sub-projects (including Contract WSIP/B1/LB/01) in terms of environmental management and social plans. They provide continuous feedback to the Government of Sindh, Project Steering Committee (via PCMU) and implementing agencies on the project's performance and impact of its various components, so that corrective actions can be taken in a timely manner.

3.1.4 Project Management Consultants/Procurement Agent (PMC/A)

The Project Management Consultants/Agent (PMCA) oversees the procurement of consultancy services, works and goods to ensure these are in accordance with the World Bank's guidelines. PMC/A also oversees recruitment of project staff from the market place in a transparent manner with involvement of project implementing partners and Transparency International Pakistan (TIP). The team has a mandate to oversee the work performance of project staff and the consultants in carrying out their responsibilities, examining the functions of consulting services and the payments made to the consultants.

3.1.5 Fulleli Canal Area Water Board

Fulleli Canal AWB is responsible for the operation and maintenance of Fulleli Canal. The AWB shall hand-over operational responsibility of Fulleli Canal at the major structures to be replaced within the sub-project area to the contractor who shall implement the works under this sub-project. These areas of the canal shall be handed over to the contractor for the entire duration of the works at each structure. The AWB is required to complete any permanent land acquisition prior to the commencement of works under this sub-project, and also assist the contractor in the completion of any temporary land acquisition that the contractor finds appropriate for the execution of the works.

Following completion of the works, the contractor shall hand over control of the canal within the sub-project area back to the Fulleli Canal AWB who shall maintain responsibility for operation and maintenance for the operational phase.

3.1.6 The Project Implementation Consultants (PIC)

The association of Mott MacDonald Ltd and MM Pakistan (Pvt) Ltd was appointed in 2009 as the Project Implementation Consultants (PIC) for WSIP phase 1. PIC were appointed to assist SIDA in the implementation of WSIP, including undertaking the detailed designs, environmental assessment,

Sindh Water Sector Improvement Project

environmental management plans, resettlement actions plans, procurement of works and construction supervision for the rehabilitation works proposed under component B.

PIC have completed the detailed designs for this sub-project and are responsible for the preparation of this RAP as well as the EIA/EMP. PIC shall assist SIDA in the prequalification and procurement of a contractor to complete the works for this sub-project under Contract WSIP/B1/LB/01. Following contract award, PIC shall act as the 'Engineer' under the contract and maintain responsibility for supervision of the contract (on behalf of SIDA), including supervision of construction quality and the contractor's compliance with the EMP, for the duration of the works.

3.1.7 The Contractor

A contractor shall be appointed by SIDA under contract WSIP/B1/LB/01 to complete the works proposed in this sub-project.

3.2 Location of the Sub- Project

This sub-project includes the rehabilitation of the Fulleli Canal which offtakes from the left bank of the River Indus (via a 1.2km combined channel) at Kotri Barrage, near Hyderabad city. Administratively, the project area lies within the districts of Hyderabad, Tando Muhammad Khan and Badin. The salient features of the Fulleli Canal are provided in the following table, and the sub-project area is shown in Figure 3.4.

Table 3.1: Salient Features of Fulleli Canal

Canal	Total Length (km)	Design Discharge (m ³ /s)	Number of Offtakes
Fulleli canal	90	508	23

The Fulleli Canal is approximately 87m (285ft) wide at its head, reducing to 18m (60ft) at the tail. The canal flows through three major urban areas, namely:

- Hyderabad,
- Tando Mohamed Khan
- Matli

Where the canal flows through these urban areas, there is heavy encroachment up to and onto the embankments, and in some extreme cases, into the canal where buildings have been constructed out from the bank. It is noted that no major works to the canal are proposed within these heavily inhabited areas under Contract WSIP/B1/LB/01. Outside of urban areas, trees are common on both embankments of the canal, and agriculture is practiced adjacent to the embankment toes in many cases.

The water allocation for Fulleli Canal was increased by approximately 20% in the year 2000, from 425m³/s (15,025ft³/s) to 508m³/s (17,957ft³/s). Although government funding was made available to expand two of the major cross-regulators on the canal, no works were under taken to enlarge the prism of the canal. As a result, the canal is experiencing heavy erosion of the canal embankment and deterioration of the regulating structures as they pass flows far in excess of the design capacity.

The existing situation is unsafe. The canal is being run with a discharge in excess of the design discharge and with minimal freeboard in several locations. In several places the canal is either close to breaching or has reportedly breached in recent years. In other locations erosion of the banks of the canal is endangering properties.

Figure 3.2: Eroded Embankments on the Fulleli Canal



3.3 Right of Way

The Right of Way (RoW) is a strip of government owned land beyond the outer toe of both embankments of the canal that runs parallel to the embankments for the entire length of the canal. As discussed above, the RoW is heavily inhabited in urban areas (as shown in the figure below). Beyond the urban areas, the RoW is dominated by barren land, open water and a mixture of reeds, tree thickets and grass/shrub land interrupted by occasional cultivated areas where agricultural practices have extended into the government owned land.

Figure 3.3: Encroachment in Hyderabad



The RoW is assumed to be 45m (150ft) wide as measured adjacent to the outer toe of the existing embankments. Where permanent land acquisition is required for the completion of this sub-contract, the extent of government owned land has been confirmed through reference to the Deh maps.

It is noted that the Corridor of Impact (Col) for this RAP is within the RoW, but does not cover the *entire* RoW – see section 4.2.1 for further details. The Col varies down the entire length of the RoW, dependent upon the proposed embankment section and existing cross-section design.

Beyond the RoW, agriculture is practiced to a larger scale, with wheat, rice, sunflower, vegetable and sugar cane being the dominant crops in the area. Cultivated areas are interrupted by large expanses of barren and often flooded land. Villages and smaller hamlets are present within the agricultural land, housing farm labourers who work on the agricultural land (which is generally owned by larger landlords) as well as their families.

3.4 Scope of Works

3.4.1 General

The works detailed in this section constitute the proposed project and are all considered within this RAP.

Full details of all proposed works can be found in Volumes I and II of the Design Report for Contract WSIP/B1/LB/01. Unlike other major contracts planned or implemented under WSIP, major embankment rehabilitation works are not proposed under Contract WSIP/B1/LB/01, instead a number of discreet reaches are to be rehabilitated. The scope of works was finalised during a workshop held in April 2014 with the Left Bank AWB and may be summarized as follows:

- Replacement of Hydraulic Structures
 - Replacement of 30th Mile cross-regulator, Imam Wah cross-regulator and Ali Pur cross-regulator
 - Replacement of Akram Wah Sluices with a single sluice structure
 - Replacement of head regulators to five off-taking minor and distributary canals
- Rehabilitation of nine head regulators
- Replacement of Bridges
 - Replacement of Hosri bridge (RD 62)
- Embankment Rehabilitation
 - Selected sections of meandering canal to be protected with stone pitching to prevent erosion
 - Inspection and Non-Inspection Paths to be reclaimed and replaced where necessary

In accordance with design, the proposed civil works activities will remain within the Government owned RoW with the exception of the following works:

- Realignment of Gunni Wah and Pandhi Wah canals at the 30th Mile
- Realignment of Iman Wah canal at Iman Wah regulating complex.

A summary of the works to be carried out for each of the structures is shown in Table 3.2 and Table 3.3.

Table 3.2: Hydraulic Structures to be Replaced – Contract WSIP/B1/LB/01

Structure	RD
30 th Mile Cross-Regulator	140
Guni Wah Head Regulator	140
Pandhi Wah Head Regulator	140
Imam Wah Cross-Regulator	170
Imam Wah Head Regulator	170
Jagsi Minor Head Regulator	198
Ali Pur Cross-Regulator	231
Sultani Branch Canal Head Regulator	231

Sindh Water Sector Improvement Project

Structure	RD
Khanote Minor Head Regulator	231
Imam Wah Janubi head Regulator	231
Akram Wah Sluice Structure	231

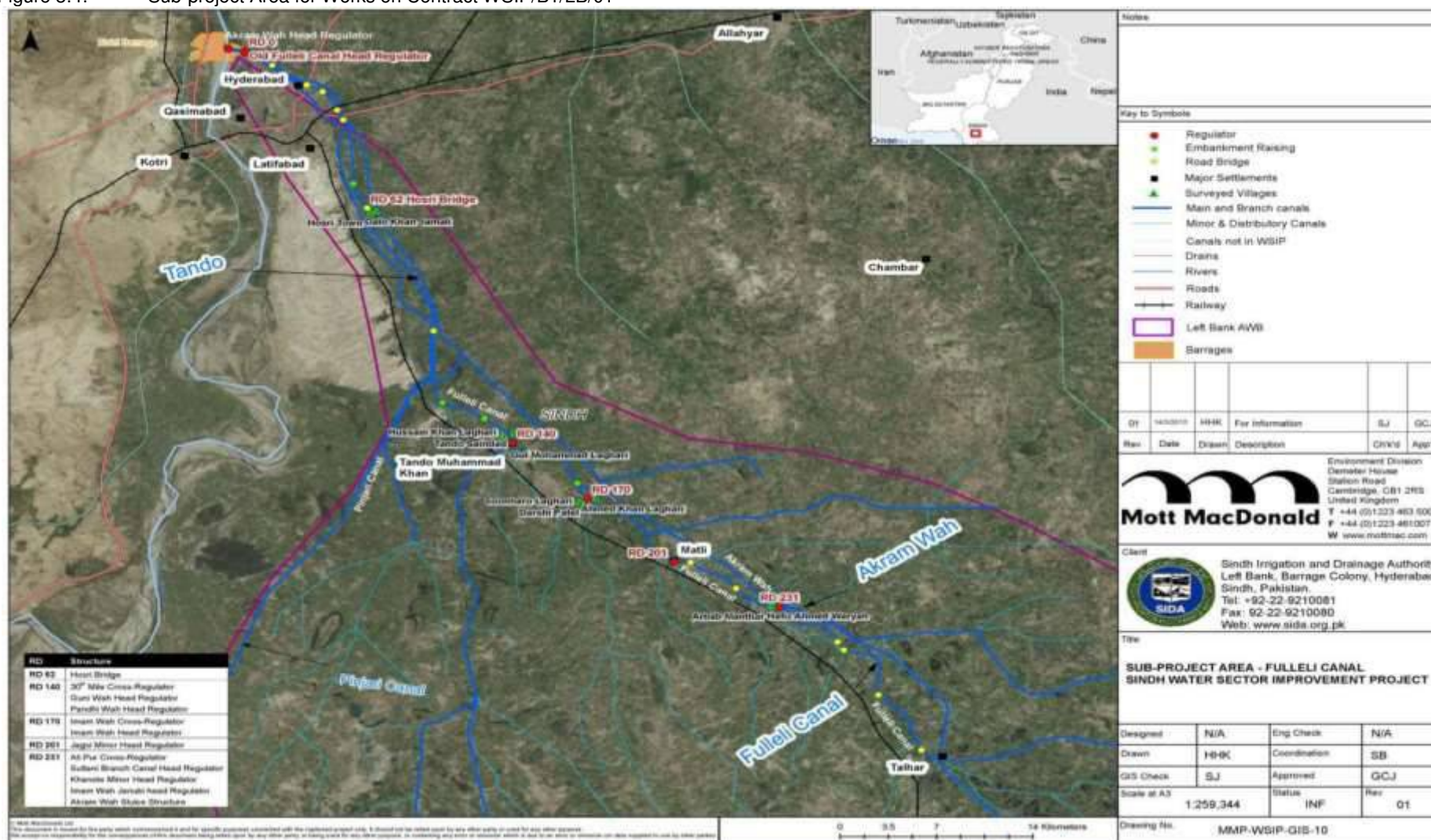
Table 3.3: Hydraulic Structures to be Rehabilitated – Contract WSIP/B1/LB/01

Structure	RD	Rehabilitation requirements
Gaja Branch Supplement Head Regulator	115	<ul style="list-style-type: none"> • Install new upstream and downstream erosion protection • Rehabilitate hydro-mechanical equipment • Concrete patch repairs • New bridge approach slabs • Replace upstream right wing wall
Murad Wah Head Regulator	168	<ul style="list-style-type: none"> • Install new upstream and downstream erosion protection • Rehabilitate hydro-mechanical equipment • New bridge approach slabs • Brickwork at upstream left abutment
Malti Branch Head Regulator	185	<ul style="list-style-type: none"> • Install new stone protection in main canal banks • Install new stone protection downstream • Rehabilitate hydro-mechanical equipment • New bridge approach slabs • Repairs to upstream pier nose
Mubarik Wah Head Regulator	191	<ul style="list-style-type: none"> • Reinstate downstream banks and provide erosion protection • Rehabilitate hydro-mechanical equipment • Patch repairs to structure • New bridge approach slabs
Mehra Wah Head Regulator	221	<ul style="list-style-type: none"> • Reinstate upstream and downstream banks and provide erosion protection • Rehabilitate hydro-mechanical equipment • Patch repairs to structure • New bridge approach slabs • Increase freeboard of upstream wing walls and pier
Mir Wah Head Regulator	284	<ul style="list-style-type: none"> • Install new stone pitching downstream • Rehabilitate hydro-mechanical equipment • Replace bridge deck slab and parapet walls • Patch repairs to structure • New bridge approach slabs
Chanri Distributary Head Regulator	292	<ul style="list-style-type: none"> • Install new stone pitching upstream and downstream • Rehabilitate hydro-mechanical equipment • Patch repairs to structure • Demolish existing guide wall • New bridge approach slabs • Bridge deck slab to be rehabilitated
Nasir Distributary Head Regulator	293	<ul style="list-style-type: none"> • Repairs to parapet walls and walkway slab • Install new stone pitching downstream • Rehabilitate hydro-mechanical equipment
Manik Distributary Head Regulator	293	<ul style="list-style-type: none"> • Repairs to parapet walls and walkway slab • Rehabilitate hydro-mechanical equipment

The locations of the works are shown in the following figure.

Sindh Water Sector Improvement Project

Figure 3.4: Sub-project Area for Works on Contract WSIP/B1/LB/01



3.4.2 Reconstruction of Embankments

Protection works at discrete locations shall be provided to help prevent breaching and to allow proper access for the AWB staff.

3.4.2.1 Stone Pitching

A number of reaches, as detailed in the following table, have been prioritised for stone protection.

Table 3.4: Fulleli Canal - Stone Pitching Locations

Approximate RD (upstream end)	Bank	Approximate Length of Stone Pitching Required (ft)
5	Left	190
5	Right	110
8	Right	1,360
9	Left	470
14	Left	1,060
15	Left	340
21	Left	920
23	Left	270
30	Left	690
32	Left	400
32	Right	370
35	Left	450
35	Right	440
53	Left	290
53	Left	170
55	Right	1,760
56	Left	430
57	Right	620
57	Left	420
60	Left	370
61	Right	1,330
61	Left	1,060
96	Right	210
97	Left	200
100	Left	260
105	Left	310
111	Left	120
128	Right	1,410
131	Left	460
136	Left	280
141	Left	310
143	Left	380
148	Left	1,080
150	Left	180
151	Left	1,000

Approximate RD (upstream end)	Bank	Approximate Length of Stone Pitching Required (ft)
153	Left	430
155	Left	350
156	Left	4,090
173	Right	120
201	Right	1,330
210	Left	550
221	Right	270
226	Right	1,280

In these reaches, the eroded banks shall first be cut back to remove any deposited fine material and then filled with compacted layers of earth to the design bank top. Finally, stone pitching, on a gravel bedding over a fabric filter, shall be placed on the bank top.

3.4.2.2 Embankment Rehabilitation

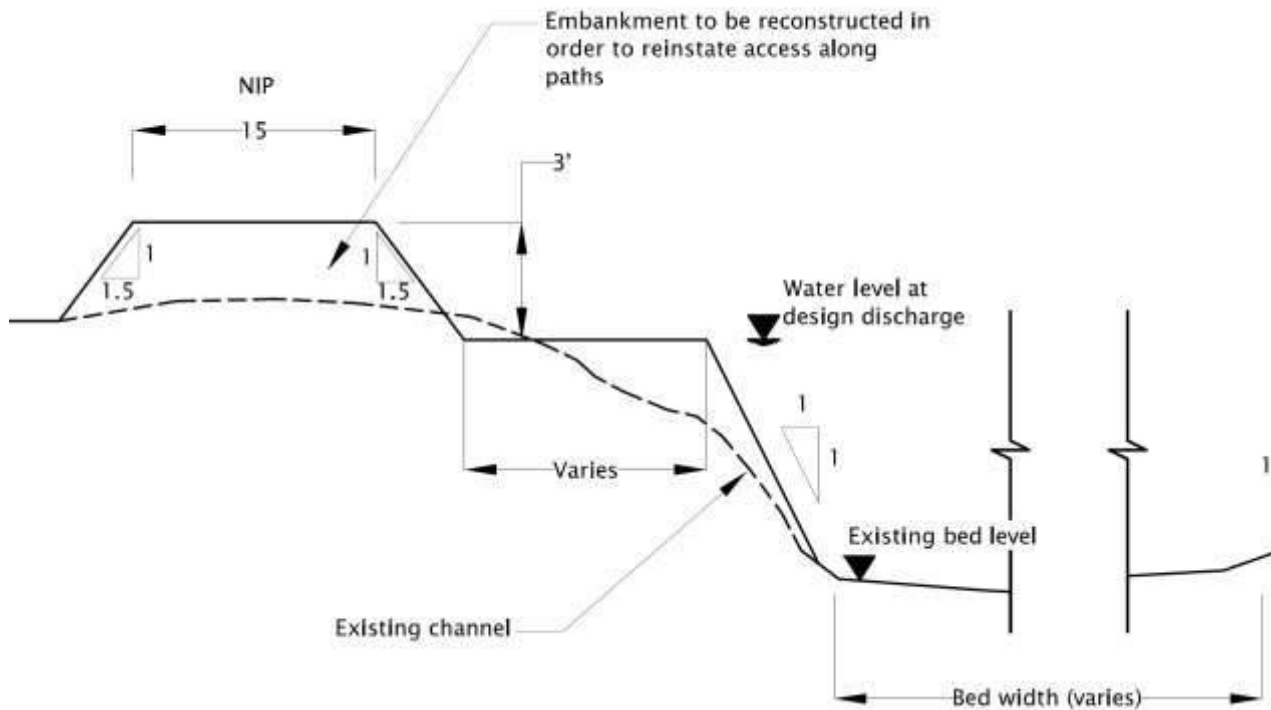
Sections of the Fulleli Canal where access along the NIP or IP is not possible and where the embankment no longer provides sufficient freeboard have also been identified; these are shown in the following table. These works will be carried out during the canal closure period.

Table 3.5: Fulleli Canal - Bank Rehabilitation Locations

Approximate RD (upstream end)	Bank	Approximate Length of Bank Rehabilitation Required (ft)
51	Right	2,000
120	Left	4,000
133	Left	2,000
135	Right	1,000
165	Left	4,000

At these locations the embankments shall be reconstructed using fill material taken from within the canal prism, and access shall be reinstated along the IP and NIP as shown in the following figure.

Figure 3.5: Proposed Embankment Rehabilitation



Prior to filling works for these embankments, the top 0.15m (six inches) of material shall be removed from the footprint of the embankments and disposed of. Vegetation and all trees shall be cleared from this area.

3.4.2.3 Location of Embankment Works

The proposed locations of embankment works are shown in the following figures. These figures show that only stone pitching is proposed to embankments within urban areas. Embankment rehabilitation works are only proposed outside built up areas. Satellite views of the areas of proposed embankment rehabilitation are provided in Appendix G. The Col delineated in Appendix G includes necessary work space for the contractor.

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Figure 3.6: Location of Embankment Works – Fulleli Canal: Head to Tail



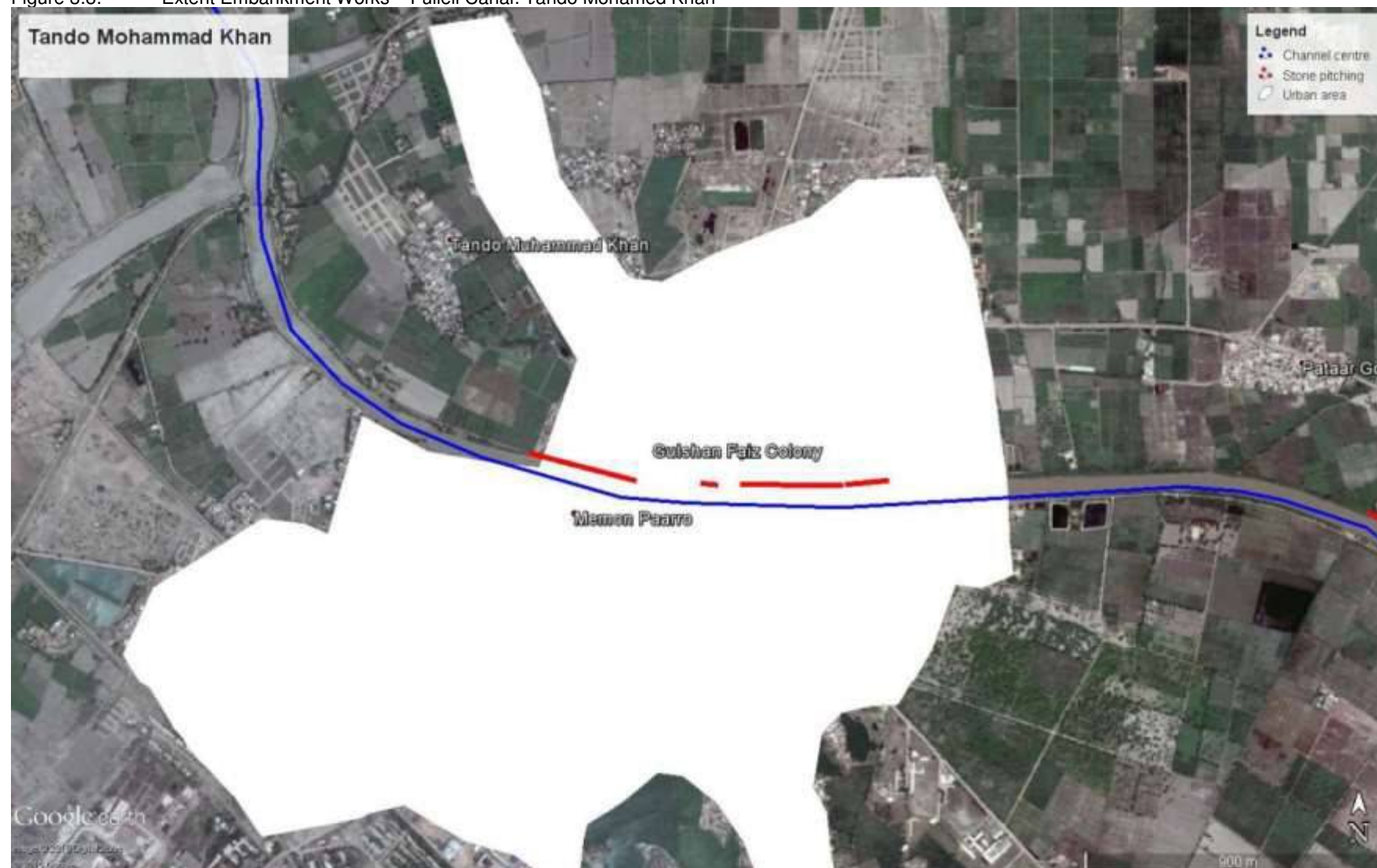
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Figure 3.7: Extent Embankment Works – Fulleli Canal: Hyderabad



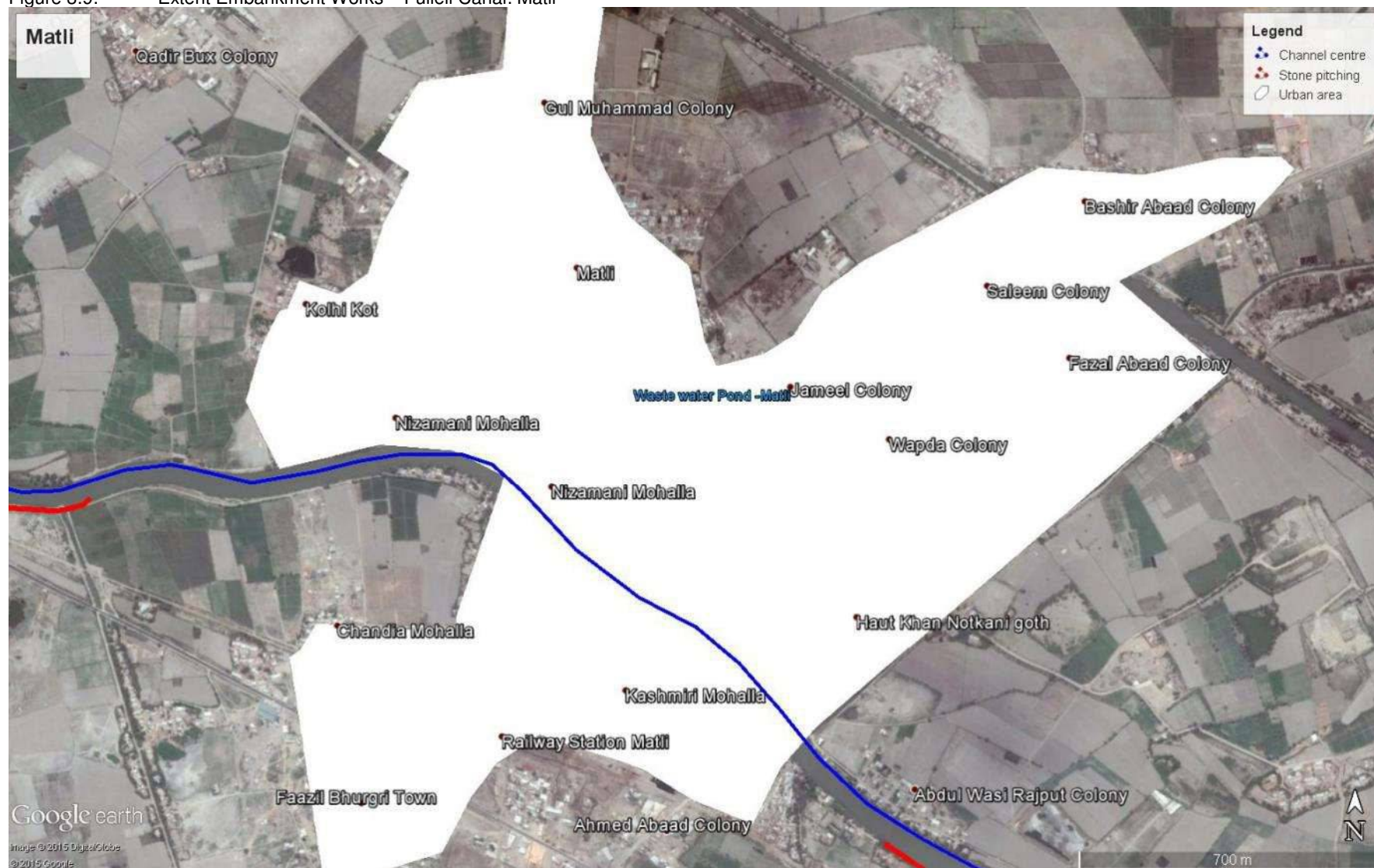
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Figure 3.8: Extent Embankment Works – Fulleli Canal: Tando Mohamed Khan



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Figure 3.9: Extent Embankment Works – Fulleli Canal: Matli

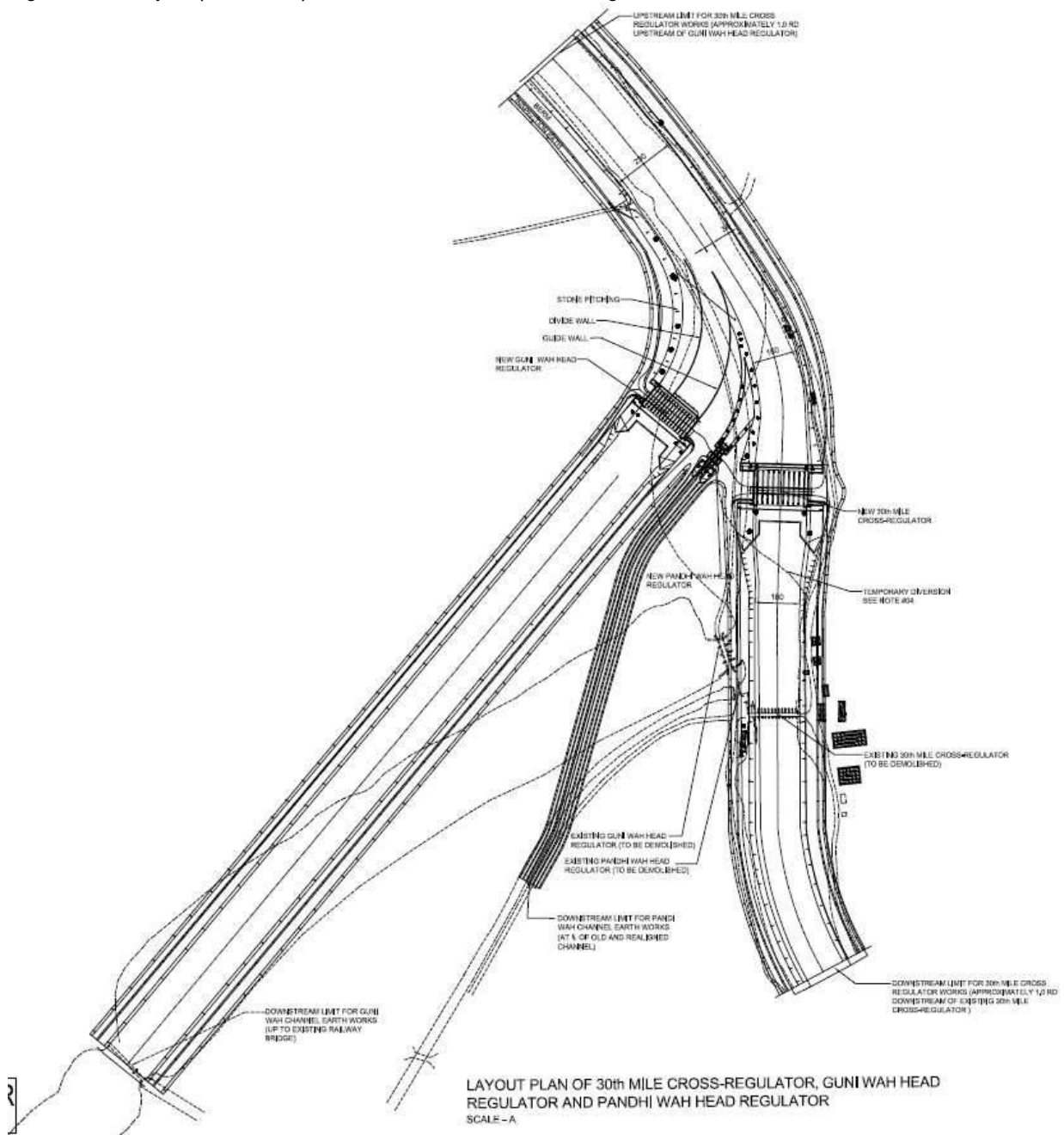


3.4.3 Hydraulic Structures

The permanent acquisition of approximately 30 acres of privately owned land shall be required for the realignment of Gunni Wah and Pandhi Wah canals at the 30th Mile (RD 140) and approximately three acres shall be required for the realignment of Iman Wah Jagir at Iman Wah regulating complex. The existing land use of this area is a mixture of cultivated and uncultivated land. All canal realignments required at Ali Pur shall be achieved within the RoW.

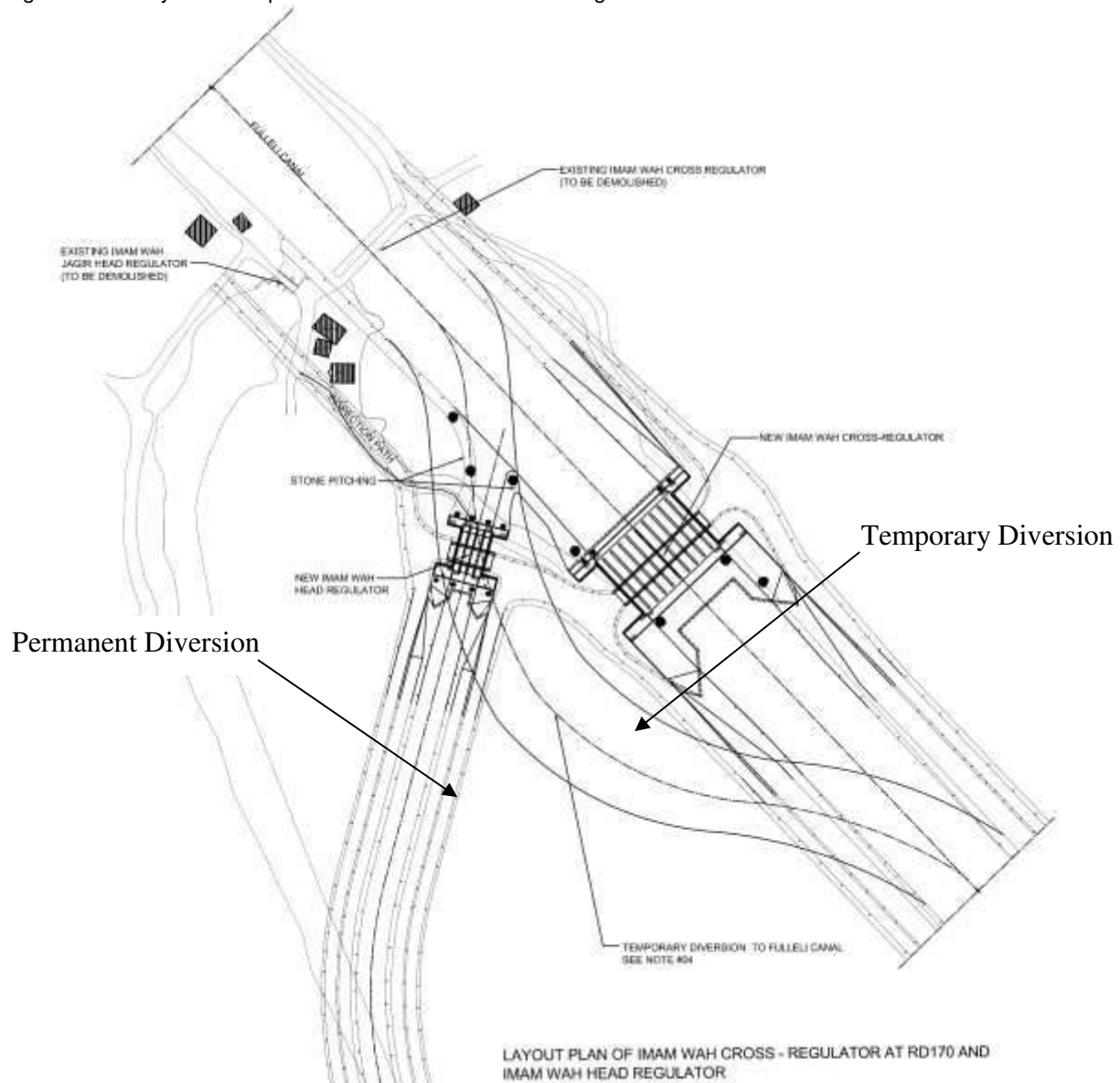
The layout of the realigned canals and regulating groups at 30th Mile (RD 140) is shown in Figure 3.10 and shows the realignment of offtaking canals.

Figure 3.10: Layout plan for Replacement of Head and Cross-Regulators at RD140



All cross-regulators shall be constructed within the current alignment of the canal, and temporary diversion channels shall be constructed to divert the canal around the structures during construction to provide a dry area for construction, as shown for Iman Wah cross-regulator in Figure 3.11. This figure also shows the realignment of Iman Wah Jagir through private land.

Figure 3.11: Layout for Replacement of Head and Cross-Regulators at RD170

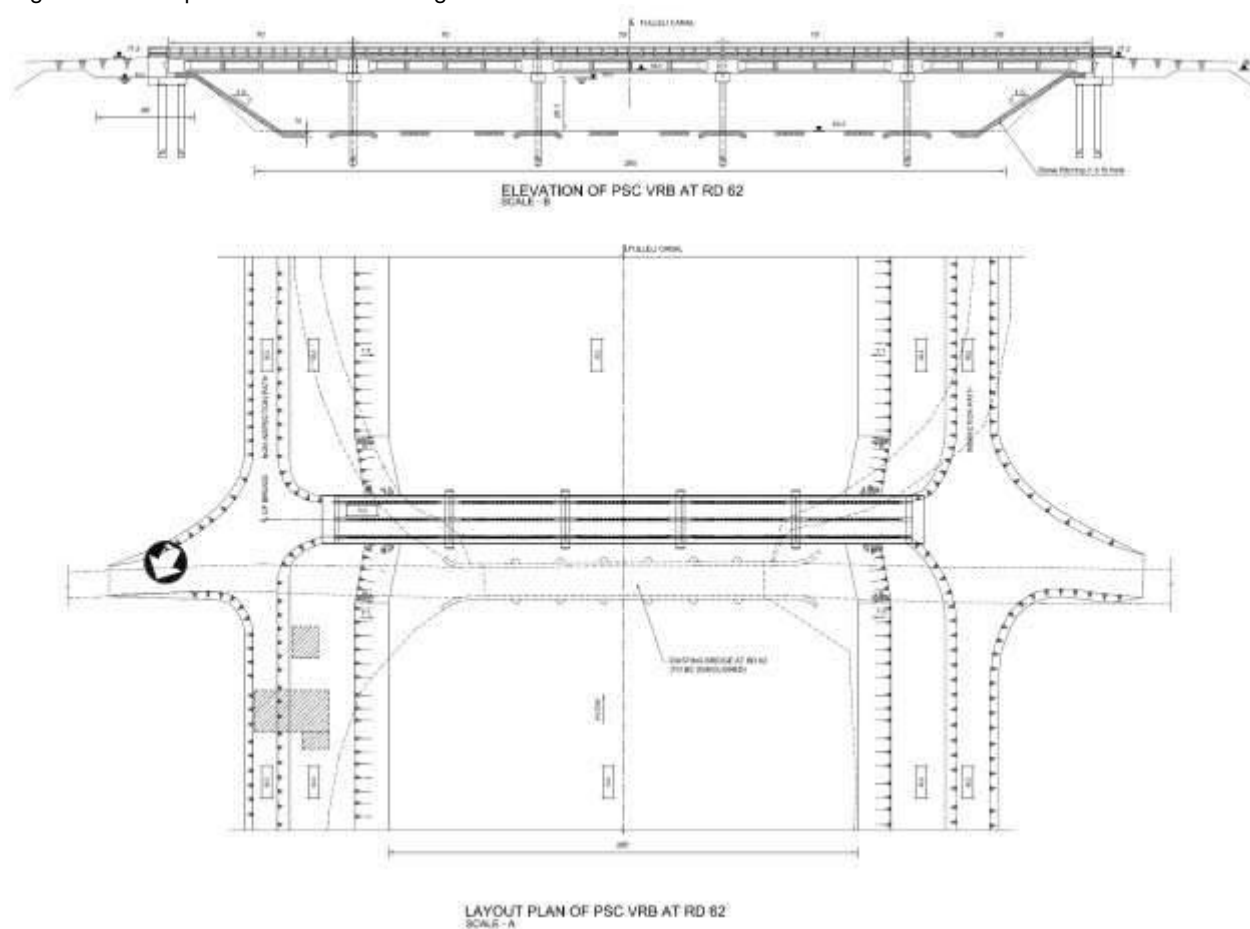


As all new structures are to replace the existing structures, there will be no major changes to water levels such that may be associated with the construction of a new weir where previously one did not exist.

3.4.4 Replacement of Bridges

The village road bridge at RD 62 (Hosri bridge) is to be replaced immediately upstream of its existing position as shown in the following figure. A short length of new road shall be required to tie in with the existing road layout.

Figure 3.12: Replacement of Hosri Bridge



3.4.5 Establishment of Construction Camp

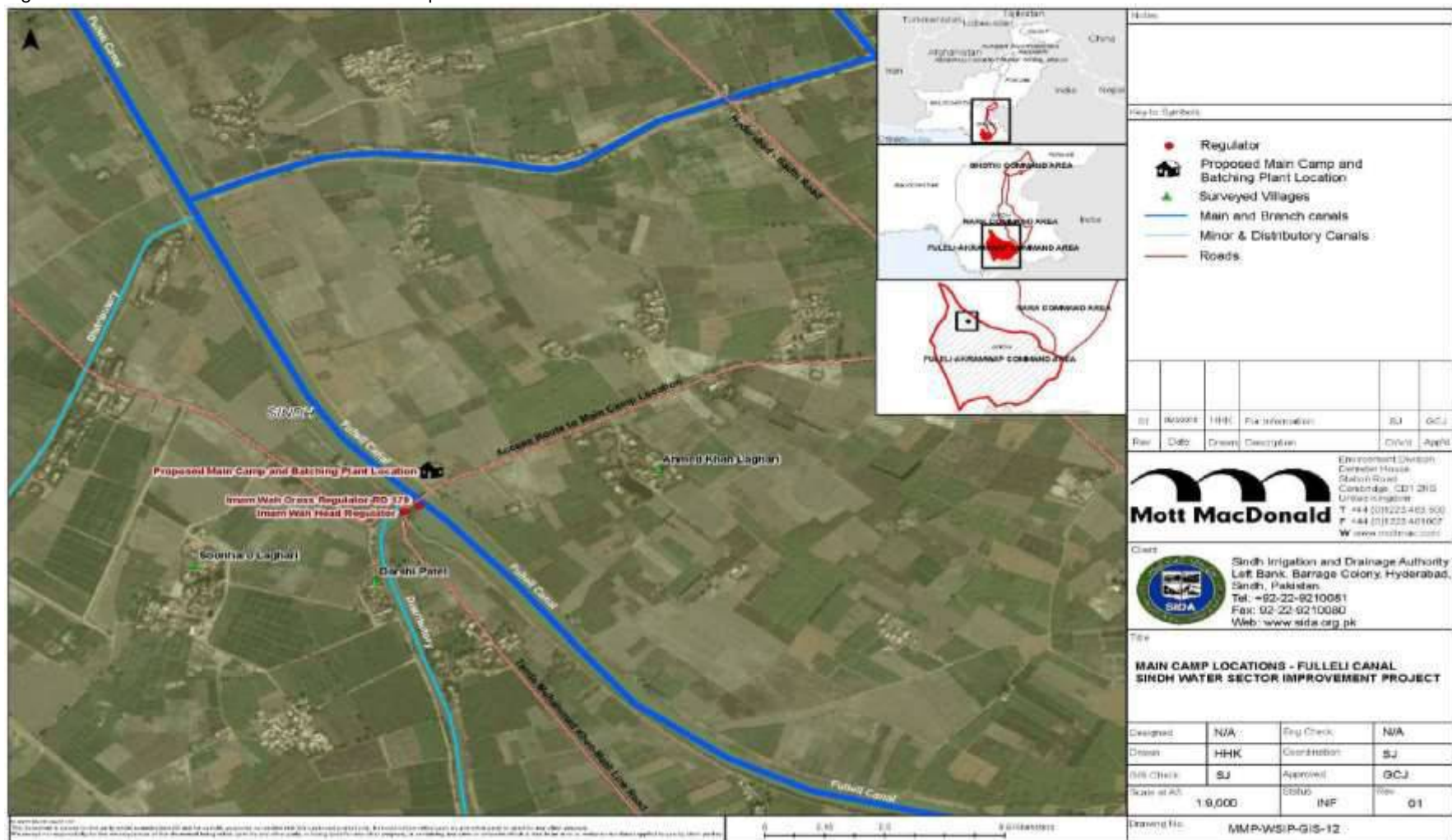
The main construction camp shall be located at RD 170 of the Fulleli Canal as shown in Figure 3.13. The camp shall cover an area of up to 10,000m² (107,584ft²). The majority of this area shall be for the provision of a manufacturing and fabrication yard, and an office and dormitory shall also be provided here. This site will include the following facilities:

- Batching plant
- Material storage (including hazardous materials)
- Workshops
- Laboratory
- Site Offices
- Contractors accommodation
- Labour camp including welfare facilities such as kitchen & dining room
- Sanitation facilities
- Sewage disposal system
- Parking for vehicles and plant
- Generators

The main camp site shall be powered with a 90 kW generator, alongside a 45 kW standby generator. Approximately 100 people shall be resident in the main camp. There are no community settlements in the immediate vicinity of the proposed camp location.

Sindh Water Sector Improvement Project

Figure 3.13: Location Plan of Construction Camp at RD 170



The proposed area is privately owned cultivated (as shown in the following figure) and barren land. The area would require temporary acquisition by the contractor. There are no structures within the footprint of the camp.

Figure 3.14: Baseline land use at Location of Proposed Contractor's Camp



Note that while an area of 10,000m² (2.5 acres) of land is allowed for the construction camp, this is the maximum area that may be required. It is possible that the contractor shall require a smaller area (dependent upon his chosen methodology for completing the works) which is to be determined during mobilisation of the contractor.

3.4.6 Works Schedule

The length of Contract WSIP/B1/LB/01 is estimated to span 24 months, scheduled in order to make use of two closure periods during which the earthworks may be completed. The final programme shall be confirmed by the contractor following contract award but prior to mobilisation.

3.4.7 Labour Requirements

It is estimated that approximately 300 personnel shall be employed on the contract at its peak. Of these, 100 shall be skilled or semi-skilled, and shall include the following positions:

- Machine operators
- Engineers
- Surveyors
- Masons
- Electricians
- Mechanics

Approximately 200 unskilled labourers shall be engaged on the project, and this shall include drivers, construction labourers, watchmen and camp staff. It is expected that these can be sourced from within the sub-project area.

In addition, approximately 30 management staff shall be engaged by the contractor. These shall be engaged from the contractor's home office.

3.5 Assessment of Potential Impacts

3.5.1 Scoping

Prior to field studies, a scoping exercise was carried out to identify the construction activities which have the *potential* to result in direct economic or social impacts. The following table provides an assessment of the potential impacts under contract WSIP/B1/LB/01.

Table 3.6: Scoping of *Potential* Impacts of Contract WSIP/B1/LB/01

Work Component	Description	Loss of Shelter	Loss of Assets/Access to Assets	Loss of Income Source/ Means of Livelihood	Restriction of Access to Parks/ Protected Areas
Establishment of Construction/ Labour Camps (temporary works)	A temporary construction camp shall be established by the contractor at RD 170, with sub camps at RD 62, 140 and 231. Depending upon their exact location, loss of shelter and acquisition of agricultural (or other) land may be required.	√	√	√	-
Construction of temporary haulage and access routes	Haulage routes shall be required within the RoW, where illegally constructed assets may be present or agriculture may be illegally practiced.	√	√	√	-
Construction of temporary canal diversions	Diversions are to be constructed within the RoW, where squatters may be present and agriculture practiced.	√	√	√	-
Replacement of cross-regulators	Works are to be carried out within the canal	-	-	-	-
Replacement of off-taking head regulators and realignment of head reaches	Realignment of canal head reaches shall be constructed within and outside the RoW. Potential impact to assets and acquisition of agricultural (or other) land	√	√	√	-
Construction and rehabilitation of VRBs	Bridges shall be constructed over the canal	-	-	-	-
Realignment of roads at location of new VRBs	Realignment of roads linking to the new VRBs have the potential to impact any structures or crops illegally established within the RoW, and may extend into privately owned land, for which permanent acquisition would be required	√	√	√	-
Rehabilitation of embankments	Although all works are to be completed within the RoW, a number of assets have been illegally constructed on the canal embankments, especially within the urban areas which may result in physical displacement. No agriculture is practiced on the	√	√	√	-

Work Component	Description	Loss of Shelter	Loss of Assets/Access to Assets	Loss of Income Source/ Means of Livelihood	Restriction of Access to Parks/ Protected Areas
	embankments.				
Stone pitching to canal embankments	Stone pitching works are to be completed within the canal prism, with minimal bank top works (see further details in section 3.5.4.1). No assets or agricultural is practiced within the footprint of these works.	√	-	-	-

3.5.2 Alternative Options Considered for Minimizing Impacts

Where the scoping exercise above identified areas of work which have potential direct economic or social issues, the design of these elements were reviewed and amended to reduce the resettlement requirements as discussed in the sections below.

Construction and Labour Camps

The establishment of the construction and labour camps was identified to have the potential to cause direct economic and social impacts. In order to remove the potential for these impacts, sites for these camps have been identified in which no assets or access routes to assets are present. However, as there is insufficient government owned land, the main camp at RD 170 shall be situated in privately owned farm land for which temporary land acquisition shall be required. Loss of standing crops may result.

The majority of this area shall be for the provision of a manufacturing and fabrication yard, and an office and dormitory shall also be provided here. Approximately 100 people shall be resident in the main camp.

Site Access and Haulage

The Contractor will utilise the existing roads, IPs and NIPs to access the site, removing any potential direct social or economic impacts within the RoW.

Construction of Temporary Canal Diversions

The alignment of temporary canal diversions has been chosen during the design period to ensure the removal of assets within the RoW shall not be required. However, the loss of standing crops illegally farmed in the RoW may still result from this component of works.

Realignment of Off-taking Canal Head Reaches

The layout of the replacement off-taking head regulators and canals has been adjusted following field visits in order to minimise the direct impacts, however, the potential for impacts still remain and are assessed as part of this RAP.

Realignment of Roads

As for the off-taking canals, the alignment of the roads has been optimised following field visits in order to minimise the direct impacts, however, the potential for impacts still remain and are assessed as part of this RAP.

Rehabilitation of the Embankments

Due to the high number of settlements on the embankments in urban areas, works to fully reinstate the embankments in urban areas would result in significant direct social and economic impacts. In recognition of this, only critical sections of embankments have been prioritised for full rehabilitation under this contract in order to minimise potential impact. The areas for full embankment rehabilitation are shown in Figure 3.6, and are beyond urban areas. As a result, the need for removal of privately owned assets (residential and commercial) is removed. However, a potential impact to community structures (graveyard) still remains. No agriculture is practiced on the embankments to be rehabilitated.

3.5.3 Sub-Project Activities Resulting in Direct Social and Economic Impacts

The following table provides an assessment of the impacts resulting from works under contract WSIP/B1/LB/01 following implementation of the design and planning mitigation measures detailed in section 3.5.2, and included in the proposed works detailed in section 3.4. These impacts are considered further in Chapter 5.

Table 3.7: Assessment of Impacts for Contract WSIP/B1/LB/01

Work Component	Loss of Shelter or Assets/Access to Assets	Loss of Income Source/ Means of Livelihood	Comments on Impact
Establishment of main camp		√	Loss of standing crops
Construction of temporary canal diversions	-	√	Loss of standing crops in the RoW
Replacement of off-taking head regulators and realignment of head reaches	√	√	Removal of assets and loss of agricultural land within and beyond the RoW
Realignment of road at location of new VRB	√	√	Removal of assets and loss of agricultural land within and beyond the RoW
Rehabilitation of embankments	√	-	Impact to community grave site

3.5.4 Corridor of Impact (Col)

The Col for the works are defined in the following section. In each case, the Col includes the contractor's working area.

3.5.4.1 Col for Construction Camp

An area of up to 10,000m² (107,584ft²) has been identified for use by the contractor for the construction camp (as shown in the following figure). However, the contractor may not require the entire area, depending upon his chosen methodology. The exact alignment and extent of the construction camp within this location is to be proposed by the contractor upon mobilisation, therefore it is not possible to fully define the Col for the construction camp at this stage.

Figure 3.15: Satellite View of Proposed Contractor's Camp



3.5.4.2 Col for Hydraulic Structures

The Col for the hydraulic structures shall include the footprint of the proposed hydraulic structures, realigned canals and temporary canal diversions.

3.5.4.3 Col for Road Realignment

The Col for the bridge replacement includes the footprint of the bridge itself and the short stretch of road to be realigned – as shown in the following figure. The realignment of roads has been assessed in this RAP.

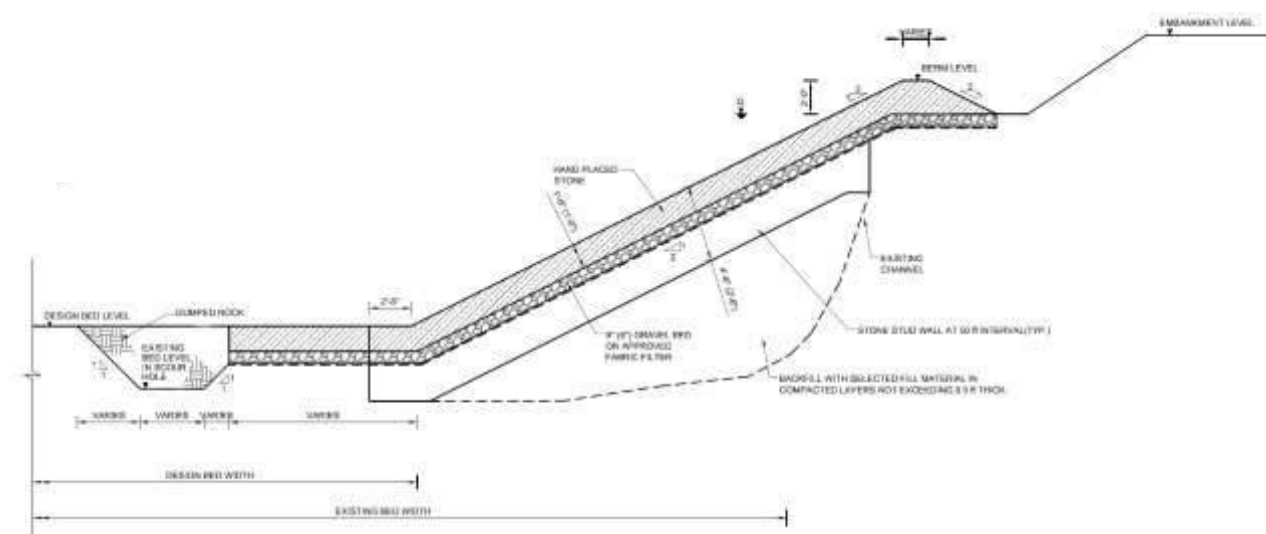
Figure 3.16: Col of Road Realignment



3.5.4.4 Col for Embankment Works

The majority of the works for the stone pitching shall be completed within the canal as shown in the following figure, therefore the Col for the stone pitching works shall be minimal.

Figure 3.17: Proposed Stone Pitching Cross-Section



The Col for the stone pitching works is shown in the following table.

Sindh Water Sector Improvement Project

Table 3.8: Fulleli Canal - Stone Pitching Locations

Upstream RD	Downstream RD	Bank	Col measured from Bank Top (ft)
5	5.19	Left	7
5	5.11	Right	7
8	9.36	Right	7
9	9.47	Left	7
14	15.06	Left	7
15	15.34	Left	7
21	21.92	Left	7
23	23.27	Left	7
30	30.69	Left	7
32	32.40	Left	7
32	32.37	Right	7
35	35.45	Left	7
35	35.44	Right	7
53	53.29	Left	7
53	53.17	Left	7
55	56.76	Right	7
56	56.43	Left	7
57	57.62	Right	7
57	57.42	Left	7
60	60.37	Left	7
61	62.33	Right	7
61	62.06	Left	7
96	96.21	Right	7
97	97.20	Left	7
100	100.26	Left	7
105	105.31	Left	7
111	111.12	Left	7
128	129.41	Right	7
131	131.46	Left	7
136	136.28	Left	7
141	141.31	Left	7
143	143.38	Left	7
148	149.08	Left	7
150	150.18	Left	7
151	152.00	Left	7
153	153.43	Left	7
155	155.35	Left	7
156	160.09	Left	7
173	173.12	Right	7
201	202.33	Right	7
210	210.55	Left	7
221	221.27	Right	7
226	227.28	Right	7

The out of canal works shall be more significant for the embankment rehabilitation (see proposed section in Figure 3.5), and as such the Col is larger. The Col for the embankment rehabilitation is as follows:

Sindh Water Sector Improvement Project

Table 3.9: Col for Embankment Rehabilitation Works

Upstream RD	Downstream RD	Bank	Col measured from Canal Bank (ft)
51	53	Right	32
120	124	Left	27
133	135	Left	27
135	136	Right	32
165	169	Left	27

4. Socio-Economic Studies

4.1 Approach and Methodology

4.1.1 Techniques and Sample Size

In order to have comprehensive and detailed information the following techniques and tools of data collection were used. It is also significant to note that representatives from SIDA participated during the field survey. A list of SIDA staff accompanying the team is provided in Appendix A.

4.1.1.1 Sample Design

A census of all assets falling within the Col was conducted.

4.1.1.2 Village Profile

A comprehensive village profile was prepared to document the socio-economic and demographic data of settlements adjacent to the major work areas in the study area. During the field survey, 10 villages were randomly selected from within the sub-project area:

1. Hosri Town
2. Dato Khan Jamali
3. Tando Saindad
4. Hussain Khan Leghari
5. Gul Mohammad leghari
6. Soonharo Leghari
7. Darshi Patel
8. Ahmed Khan leghari
9. Arbab Manthar
10. Hafiz Ahmed Waryah

Data was collected from each of these villages, using the Village Profile questionnaire. Consultations events were also held at four locations in the sub-project area, as detailed in Chapter 6.

4.1.1.3 Pretesting of Questionnaire

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

4.1.1.4 Women Survey

A separate questionnaire was developed covering various aspects relating to women in the sub-project area adjacent to the major works areas. Female members of the PIC team conducted the field survey with male sociologists in the sub-project area and held meetings with the affected families.

4.1.2 Collection of Primary Data

The preparation of the RAP required the collection of data/information from the field settings. To achieve this end, comprehensive questionnaires for data collection were prepared as given in Appendix B. The

questionnaires were filled during the consultative meetings and during field visits. Four types of questionnaires were developed for data collection, as described below:

- Village profile for the collection of macro level information relating to the existence of socio-economic infrastructure in the rural settlements falling adjacent to major work areas.
- Census survey to document the Project Affected Persons (PAPs) in the Col, their assets, family profiles and economic status.
- Socio-economic survey to develop an overall baseline profile of the people of the area in respect of their socio-economic behaviour, vulnerability and attitudes towards the developmental activity to be carried out in the area.
- Gender data collection survey targeting the female population of the project area exclusively in order to supplement the socio-economic data collection.

Consultations were carried out with the stakeholders and general public. Consultative meetings and focus group discussions were held to learn about the views and concerns of the local community on the proposed rehabilitation works. The concerns raised by the stakeholders were discussed with the project design team in order to enhance the projects acceptability for the general public on socio-economic considerations. The main objectives of the consultation were to provide a platform to the stakeholders, to voice their concerns or suggestions to the project team and to develop a sense of collective ownership for the activities of the project. For further details of the consultations, see Chapter 6.

PICs were initially active in the field from October 2011 to January 2012. PIC remobilised to the field to update the baseline data in September 2014.

4.1.3 Collection of Secondary Data

Secondary data relating to the socio- economic characteristics of the sub-project area was collected from the concerned local government offices, police, building and road, and agriculture departments at Hyderabad.

Official Websites of Hyderabad, Tando Mohammad Khan, and Badin districts were also searched. The population census reports for the concerned districts were also consulted.

4.2 Socio-Economic Profile of Sub- Project Area

4.2.1 Location of Canal

Fulleli Canal AWB falls under the administrative jurisdiction of Hyderabad, Tando Muhammad Khan and Badin Districts. Hyderabad District is sub-divided into four Talukas namely, Hyderabad, Qasimabad, Latifabad and Hyderabad City. Tando Muhammad Khan District is a newly created district and comprises of three Talukas, namely Tando Mohammad Khan, Bulri Shah Karim and Tando Ghulam Hyder. Badin District is sub-divided in to four Talukas namely Badin, Tando Bago, Shaheed FazalRaho and Talhar.

4.2.2 Brief Description of Hyderabad District

Hyderabad district is divided in four talukas. Namely Hyderabad city, Latifabad, Hyderabad (Rural) and Qasimabad Taluka. The total population of the district is 1,498,865, consisting of 785,634 male and 713,231 female.

The capital of Hyderabad District is Hyderabad city. Hyderabad has a hot and humid climate with cool and breezy nights. It is very well connected by road, rail and air with all the major cities of Pakistan, and a rapid modernization program is currently under way seeing the construction of transport infrastructures, shopping

malls, and hotels. Hyderabad Airport has been reopened after a long time and flights for major cities in Pakistan has resumed. Hyderabad has 4 universities and a huge number of schools, and colleges.

4.2.3 Brief Description of Tando Muhammad Khan District

Tando Muhammad Khan is newly created district. It is located in the south of the province. District Tando Muhammad Khan is situated at a distance of 35 km from Hyderabad and shares its boundaries with District Hyderabad, Tando Allahyar, Badin and Thatta. It is located between 22°-11' and 22°-09' North Latitude and 60°-19', 62°-15' East longitudes. North of the district, Hyderabad and Tando Allahyar districts are located, Badin district lies on to the south and east. The western boundary is shared by district Thatta and the River Indus flows through the north-west portion of the district. Tando Mohammad Khan District comprises three Talukas: Tando Mohammad Khan, Bulri Shah Karim and Tando Ghulam Hyder. The district Tando Muhammad Khan has an area of 1,733 km². The population of Tando Muhammad Khan district is 423,091 persons.

4.2.4 Brief Description of Badin District

District Badin has rich oil and gas reserves and is famous for growing high yielding sugarcane varieties. Badin district is situated between 24°-5' to 25°-25' north latitude and 68 21' to 69 20' east longitude and is bounded on the north by Hyderabad District on the east by Mirpurkhas and Tharparker districts, on the south by the Arabian Sea and the Rann of Kutch, which also forms part of the disputed boundary with India. The west it is bounded by Thatta and Hyderabad districts. High yielding sugarcane varieties grow in the project area. The total area of the district is 6726 km², according to the 1998 census of Pakistan; it had a population of 1,136,044, the male population 597,573 and female 538471. The literacy rate (male/female) 24.63%, growth rate of population 3.22% and density of per sq.km is 168.9.

4.2.5 Population of the Sub-Project Area

The age and population of the surveyed villages is given in the following table

Table 4.1: Demographic of Population of Sub-Project Area

Age Group	Male	% Age	Female	% Age	Total	Percentage
< 5	1484	6.62	1571	7.01	3055	13.63
6-9	1029	4.59	1204	5.37	2233	9.966
10-18	1943	8.67	2139	9.54	4082	18.21
19-65	6054	22.01	6646	29.65	12700	56.66
Above 65	164	0.73	182	0.81	346	1.54
Total	10,674	47.62	11,742	52.38	22,416	100

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

4.2.6 Cropping Pattern in the Sub-Project Area

4.2.6.1 The Cropping Pattern of Hyderabad District

About 70 percent of the population is employed in agriculture and agro-based industries. The land of the project area is fertile and irrigated by canals. During the kharif season, cotton, sugarcane, sorghum, maize and vegetables are grown. During the rabi season, wheat, rabi fodder and rabi vegetables are grown. Hyderabad is known as the district of garden due to the cultivation of fruits including Banana, Beri, Mango, Jaman and Guava.

Sindh Water Sector Improvement Project

Table 4.2: Cropping Pattern of Hyderabad District

Cropping Seasons	
Rabi Crops	Kharif Crops
i) Wheat	i) Sugarcane
ii) Oilseed (Rape Seed, Sunflower and Mustered)	ii) Cotton
iii) Rabi Fodder (Barseem/Losern)	iii) Rice
iv) Vegetables (Onion, Tomato, Potato, Cabbage and Peas)	iv) Millet
v) Orchard (Banana, Beri, Mango, Jaman and Guava,)	v) Maize
	vi) Sorgham
	vii) Kharif Fodder
	viii) Vegetables
	ix) Orchard (Banana, Beri, Mango, Jaman and Guava,)

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

4.2.6.2 The Cropping Pattern of Tando Mohammad Khan District

About 75 percent of the population of this district is employed by agriculture and agro-based industries. The project area is fertile land, irrigated by canals, and is very rich in the growing of rice, wheat and sugarcane. The other crops in the area are maize, jawar, bajra, gram, sunflower oil seeds and barley. The details of cropping pattern are given in the following table.

Table 4.3: Cropping Pattern of Tando Muhammad Khan District

Cropping Seasons	
Rabi Crops	Kharif Crops
i) Wheat	i) Sugarcane
ii) Gram	ii) Cotton
iii) Oilseed (Rape Seed, Sunflower and Mustered)	iii) Rice
iv) Barley	iv) Millet
v) Pluses	v) Maize
vi) Rabi Fodder (Barseem/Losern)	vi) Pluses
vii) Vegetables (Onion, Tomato, Potato, Cabbage and Peas)	vii) Kharif Fodder
viii) Orchard (Banana, Beri, Mango, Jaman and Guava,)	viii) Vegetables
	ix) Orchard (Banana, Beri, Mango, Jaman and Guava,)

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

4.2.6.3 The Cropping Pattern of Badin District

About 70 percent of the population of this district is employed by the agriculture sector and agro-based industries. The project area is fertile land, irrigated by canals and is very rich in cultivation of rice, cotton, wheat and sugarcane. The other crops in the area are rice, maize, sunflower /oil seeds, jawar, bajra, gram and barley. The main occupation of the people is agriculture. The details of cropping pattern are given in the following table.

Table 4.4: Cropping Pattern of Badin District

Cropping Seasons	
Rabi Crops	Kharif Crops
i) Wheat	i) Rice
ii) Gram	ii) Cotton
iii) Oilseed (Rape Seed, sunflower and Mustered)	iii) Sugarcane
iv) Barley	iv) Millet

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Cropping Seasons	
Rabi Crops	Kharif Crops
v) Pluses	v) Maize
vi) Rabi Fodder (Barseem/Losern)	vi) Pluses
vii) Vegetables (Onion, Tomato, Potato, Cabbage and Peas)	vii) Kharif Fodder
viii) Orchard (Banana, Beri and Guava)	viii) Vegetables
	ix) Orchard (Banana, Beri and Guava)

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

4.2.7 Animal Husbandry in the Sub-Project Corridor

Over all in the sub-project area people own very good breeds of buffaloes, cows and bulls, goats and sheep. Livestock is the main source of milk, meat and ghee for the local population. Livestock is also a source of income as people of the area keep cow/bulls, goat and sheep to sell annually at Karachi market. Donkeys and camels are used for load carrying. Domestic poultry is also a source of income.

Figure 4.1: Livestock in the Project Area



4.2.8 Castes and Languages

Social organization in all villages is strongly based on Biradari (tribal) system, where each caste has a caste leader. The main castes in the sub-project area are Laghari, Bheel, Chandio, Jamali, Khoso, Kolhi, Junejo, Mallah, Mangar, Sama, Somra, Shaikh, Dengno, Arbab, Shora, Rajput, Shah, Rind, Solangi, Khaskheli and Jatoli. These castes are not related to religion and are not immutable.

Sindhi language is commonly spoken as mother tongue of majority of the communities in the project area. However, Urdu, Punjabi and Sareiki languages are also spoken and understood in the area.

4.2.9 Existing religions in the Area

Existing religions in the sub-project area are Muslim, Agha Khani, Christian, Hindu, Oadd, Bagri, Shakari and Meghawar.

4.2.10 Social Cohesion Conflict in the Sub-Project Area

4.2.10.1 General

The majority of families in the study area live in joint family systems (parents live with their elders and children). The sharing of resources is beneficial in terms of joint incomes, manpower (agricultural practices) and basic amenities such as water, electricity, housing and food.

Social organization in all villages is strongly based on the tribal system, where each tribe has a tribal leader. The families belonging to the same tribe have strong interactions with one another and generally keep separate identities. For example, in the marriages of their young, they prefer to marry within their own tribe. Such interactions between different tribes are less common. During the survey it was found that most communities had built their own religious structures and maintenance of these religious structures was by the villagers themselves.

4.2.10.2 Conflict Resolution within Tribes and Castes

During the field survey of villages it was observed that most activities are carried out under the instruction of the head of tribe. The caste system in the rural area of the Sindh is very rich, and decisions about conflict, right of vote, marriage settlements and other matters usually resolved by the head of tribe. Most of the conflicts in the Col are mutually resolved within the tribe at the village level. Those living within the Col feel obliged to accept the decision of their tribe leader.

It has been observed in rural Sindh that where more than one tribe has settled within a single village, each tribe has their own tribe leader. Overall there is a village leader from the same village and who belongs to an influential political family or a land lord and is from a financially sound family of the village. The majority of conflicts are resolved by tribe leader, and if not solved at this level, the matter shall be elevated to the village leader.

Occasionally, where the conflict cannot be resolved at a village level, the matter may go to the political leaders of the area. Of the conflicts reaching this level, more than 90 percent matters were resolved by the political leaders of the area.

In extreme cases where resolution at all other levels has failed, conflicts may go to police and ultimately a court of law. The police and the court of law are the last options and these are rarely exercised

4.2.11 Education and Literacy Ratio in the Sub-Project Area

During field survey 10 villages and scattered hamlets were selected randomly for socio-economic analysis. According to the results of the survey, the total population of the 10 surveyed villages and hamlets is 22,416 persons, comprising of 10,674 males and 11,742 females. The number of literate persons comes to 5688 (consisting of 3,146 boys and 2,542 girl students) which accounts for 25.37 percent of the total population. Out of total literate, persons having primary level education are 30.78 percent, middle level 23.33 percent and matric level 19.02 percent. While the respondents with intermediate level and graduation levels are 14.47 percent and 12.40 percent respectively. The information in respect of literacy levels of the surveyed villages is furnished in the following table.

Sindh Water Sector Improvement Project

Table 4.5: Literacy Rate in the Project Corridor

Sr. No.	Education Level	Literacy Rate		Total	Percentage	
		Male	Female			
1	Primary	962	789	1751	7.81	(30.78)
2	Middle	733	594	1327	5.92	(23.33)
3	Matric	594	488	1082	4.82	(19.02)
4	Intermediate	457	366	823	3.67	(14.47)
5	Above	400	305	705	3.15	(12.40)
Sub-Total Educated		3,146	2,542	5688	25.37	(100)
7	Illiterate	6,703	8,331	15034	67.07	
8	Children	825	869	1694	7.56	
Grand Total		10,674	11,742	22,416	100	

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

4.2.12 Social Amenities in Project Area

The result of the survey revealed that electricity is available in the project corridor with 100 percent of the population having access to this facility. About the quality of services, about 45 percent of the respondents availing this facility showed their dissatisfaction. Education is the other important facility which is available in the area. Primary school is available in all surveyed villages. 60 percent of the population showed their dissatisfaction with the quality of this service. Road facilities are available to 50 percent of the villages surveyed. Gas facility is only available to five percent of the population of the area, while 45 percent population of the area have BHU facility. Availability of sewerage facility is not reported in the area. Other amenities like water supply tanks and land lined telephone services are not available in the surveyed villages as reported by the respondents. The information in respect of access to social amenities and their quality of services are given in the table below.

Table 4.6: Access to Social Amenities in the Project Area

Access to Social Amenities in the Project Area					
Sr. No.	Facility	Available (%)	Not Available (%)	Satisfactory (%)	Unsatisfactory (%)
Fulleli Canal					
A.	Elevation of PSC VRB (RD 62+000)				
1	Electricity	100	-	65	35
2	Gas	-	100	-	-
3	Water Supply/Tank	100	-	45	55
4	Telephone (Land Line)	-	100	-	-
5	Sewerage/ Drainage	-	100	-	-
6	Road	100	-	40	60
7	BHU	100	-	55	45
8	School (Primary only)	100	-	60	40
B.	30 Mile Cross Regulator at RD-140 Guni Wah Head Regulator and Pandhi Wah Head Regulator				
1	Electricity	100	-	55	45
2	Gas	25	75	60	40
3	Water Supply/Tank	-	100	-	-
4	Telephone (Land Line)	-	100	-	-
5	Sewerage/ Drainage	-	100	-	-
6	Road	100	-	35	65
7	BHU	100	-	45	55

Sindh Water Sector Improvement Project

Sr. No.	Facility	Available (%)	Not Available (%)	Satisfactory (%)	Unsatisfactory (%)
8	School (Primary only)	100	-	50	50
C. Imam WaH Cross Regulator at RD-170 and Imam Wah Jagir					
1	Electricity	100	-	65	35
2	Gas	-	100	-	-
3	Water Supply/Tank	-	100	-	-
4	Telephone (Land Line)	-	100	-	-
5	Sewerage/ Drainage	-	100	-	-
6	Road	25	75	30	70
7	BHU	25	75	20	80
8	School (Primary only)	75	25	45	55
D. Dokia Distributary and Dando Distributary Head Regulator RD-224					
1	Electricity	100	-	40	60
2	Gas	-	100	-	-
3	Water Supply/Tank	-	100	-	-
4	Telephone (Land Line)	-	100	-	-
5	Sewerage/ Drainage	-	100	-	-
6	Road	-	100	-	-
7	BHU	-	100	-	-
8	School (Primary only)	25	75	20	80
E. Ali Pur Cross Regulator RD-231 Sultani Branch ,Imam Wah Junubi and Khanoth Minor					
1	Electricity	100	-	40	60
2	Gas	-	100	-	-
3	Water Supply/Tank	-	100	-	-
4	Telephone (Land Line)	-	100	-	-
5	Sewerage/ Drainage	-	100	-	-
6	Road	25	75	30	70
7	BHU	-	100	-	-
8	School (Primary only)	25	75	25	75
Overall					
1	Electricity	100	-	55	45
2	Gas	5	95	60	40
3	Water Supply/Tank	-	100	-	-
4	Telephone (Land Line)	-	100	-	-
5	Sewerage/ Drainage	-	100	-	-
6	Road	50	50	27	73
7	BHU	45	55	24	76
8	School (Primary only)	65	35	40	60

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

4.2.13 Gender

4.2.13.1 Pressing Needs of the Men

It has been pointed out by the men during survey that 26.61 percent wanted to have dispensary facility. The second and onward prioritized needs were electricity (23.18 percent), road (19.31 percent), irrigation

Sindh Water Sector Improvement Project

water (13.73 percent), gas (10.30 percent) and middle school (6.87 percent). The pressing needs of men are presented in the table below.

Table 4.7: Pressing Needs of Men (Multiple Responses)

Sr. No.	Items	Number	Percentage (%)
1	Dispensary	62	26.61
2	Electricity	54	23.18
3	Road	45	19.31
4	Irrigation Water	32	13.73
5	Gas	24	10.30
6	Middle School	16	6.87
Total		233	100

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

4.2.13.2 Status of Women

The survey has revealed that participation percentage of women in various socio-economic activities in the project corridor is generally high, 100 percent in case of household activities and child caring. Their participation percentage in case of farm / crop stood at 64 percent, livestock rearing 61 percent, and 89 percent in social obligations (such as attendance at marriages). However, decision making and participation of women in issues such as settlement of marriages remained confined to one percent. As far as other activities are concerned, their involvement in case of child caring and household matters is the highest. Information in respect of women participation is presented in the table below.

Table 4.8: Women Role in Socio-economic Activities (Multiple Response)

Sr. No.	Activity	(%)	(%)	(%)	(%)	Overall (%)
1	Households Activities	100	100	100	100	100
2	Child Care	100	100	100	100	100
3	Farm/Crop	65	55	58	78	64
4	Livestock Rearing	66	65	58	56	61
5	Social Obligations	88	90	92	87	89
6	Decision Making	1	1	1	1	1

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

About 67 percent of the women in the study area are illiterate while 25 percent have education level between primary to intermediate. The remaining eight percent of the population are aged under five years.

Figure 4.2: Women Engaged in Agriculture



4.2.13.3 Pressing Needs of Women

Pressing needs of the women correspondents in the study area are given in the following table:

Table 4.9: Pressing Needs of Women (Multiple Responses)

Sr. No.	Items	Number	Percentage (%)
1	Health (RHC)	46	24.86
2	Electricity	42	22.70
3	Irrigation Water	33	17.84
4	Road	25	13.52
5	Girls Primary School	21	11.35
6	Gas Facility	18	9.73
Total		185	100

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

The result of the field survey revealed that first priority of the women of the area is health facility and second priority is electricity. The remaining pressing needs are irrigation water, road maintenance, girls' primary school and gas facility.

4.2.14 Non-Government Organization in the Project Corridor

During the field survey it was observed that many NGOs are working in the study area. These are the National Rural Support Programme (NRSP), Thar Deep Rural Development Programme (TRDP), Strengthening Participatory Organization (SPO), Marvi Stop Service (MSS), Dharti Dost. These NGOs are focussed particularly in the fields of health, education, livestock, poultry, health and hygiene, infrastructure, micro-credit and environment. NGOs are working in the whole districts not specifically in project area but the population of the study area are also benefited.

4.3 Socio-Economic Profile of Col

The socio-economic profile of the Col includes the description of the households who depend upon the assets and land situated within the Col. Note that no residents are situated within the Col.

Sindh Water Sector Improvement Project

The socio-economic characteristics of the sub-project corridor are based on the village profile, socio-economic surveys, focus group meetings and information collected from the secondary sources. The results of the survey are described in the following sections.

4.3.1 Population of Col

There are no Project Affected Persons (PAPs) resident within the Col for the sub-project, however, 11 households (91 PAPs) are farming privately owned land within the Col.

Of the 11 households depending upon the privately owned land falling within the Col, two are land owners, and nine are sharecroppers. The affected land is required for the diversion of offtaking canals. The households who own or farm privately owned land within the Col are detailed in Appendix C.2 and the demographic of the affected populations owning or farming private land in the Col is given in the following table.

Table 4.10: Population of Farmers of Private Land in Col

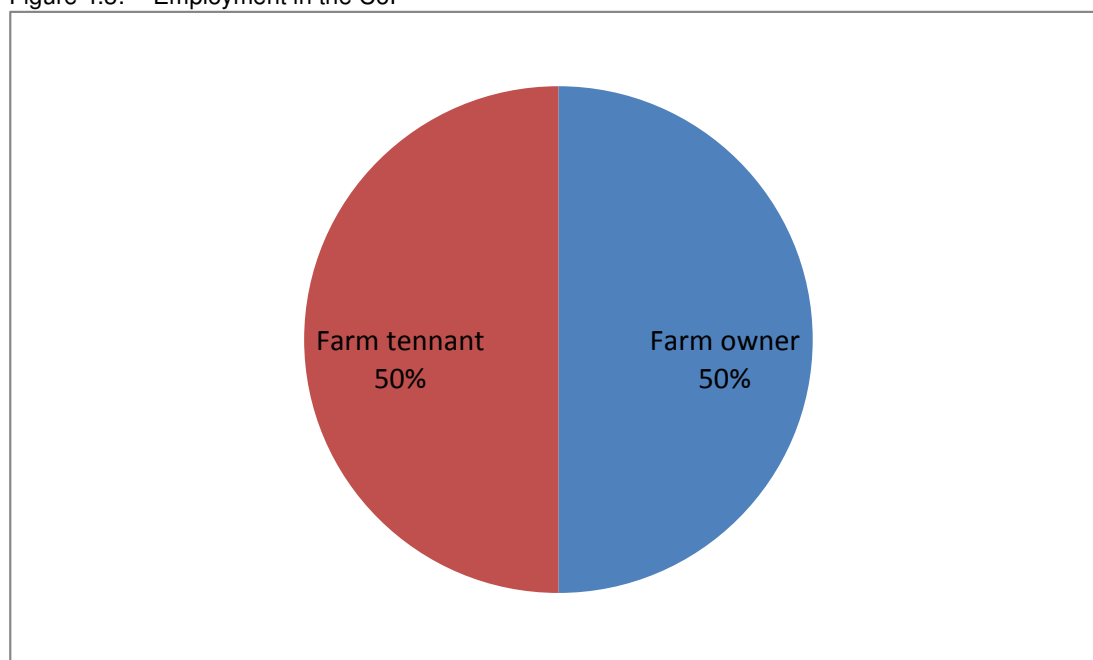
Sr No.	Name of Affected Person	Father's Name	Status	Adult		Children		Total
				Male	Female	Male	Female	
1	Shamoo	Wasto	Sharecropper	1	2	2	1	6
2	Ghulam Mustafa	Majid Rajput	Sharecropper	2	2	1	2	7
3	Amarshi	Maghi	Sharecropper	2	1	1	2	6
4	Suleman Cheepal	Khan Mohammad	Sharecropper	3	3	2		8
5	Bhoomo	Magho	Sharecropper	2	3	2	3	10
6	Patyo	Parkhan	Sharecropper	2	4	1	3	10
7	Magho	Arshi	Sharecropper	3	3	1	2	9
8	Shawlo	Rashoo	Sharecropper	2	3			5
9	Amarshi	Bhoorio Thakur	Sharecropper	2	3	1	1	7
10	Abdul Karim		Farm Owner	3	4	4	3	14
11	Haji Lakhano Laghari		Farm Owner	3	3	1	2	9
Total				25	31	16	19	91

In addition to those detailed in the table above, a further seven households (52 PAPs) have illegally constructed pump houses within the RoW of the canal which falls within the Col.

4.3.2 Employment and Income Sources of PAPs

The income sources of PAPs is given in the following figure.

Figure 4.3: Employment in the Col



4.3.3 Income Levels

The overall income and poverty status of PAPs is provided in the following table.

Table 4.11: Income and Poverty Status of the Affected People

Sr. No.	Profession of the AFs	No. of Affected Households	Total No. of PAPs.	Total Monthly Income (Rs)	Average Monthly Income Per Household (Rs)	Average Income Per Capita (Rs./Month)
1	Farming Owner	9	75	412,000	45,778	5,493
2	Farming Tenant (sharecropper)	9	68	81,800	9,089	1,203
	Total	18	143	493,800	27,433	3,453

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014*

Livestock reared beyond the Col accounts for approximately 10 to 15% of the income of the farming households in the Col. In addition, family members of some households have income from jobs in nearby towns.

The result of the survey indicate that nine affected households working as a tenant are living below the officially determined poverty line (see table below), while nine land owners are living above the officially determined poverty line. The income levels have been considered in relation to the poverty line of Pakistan, which has been set in this RAP to be PKR 2,307 per capita per month. This is calculated from the 2010-2011 poverty line of PKR 1,745/capita/month as quoted in the Pakistan Economic Survey of 2013-2014². This value has been adjusted based on the annual consumer price inflation quoted by the World Bank³:

- 11.9% in 2011: PKR 1,952.66
- 9.7% in 2012: PKR 2,142.06
- 7.7% in 2013: PKR 2,307.00

Sindh Water Sector Improvement Project

Table 4.12: Poverty status of Fulleli Canal (Below Poverty Line)

	Name of Affected Person	Father's Name	Deh/ Village	Taluk a	Distri ct	RD	Profession	Monthly Income	PAPs	Per Capita Income	Status Above/ Below
1	Shamoo	Wasto	Panhwa ri	Latifa bad	Hyder abad	62 (R/S)	Farming Sharecropper	7,000	6	1,166	B
2	Ghulam Mustafa	Majid Rajput	Bora	Latifa bad	Hyder abad	62 (L/S)	Farming Sharecropper	13,000	7	1,857	B
3	Amarshi	Maghi	Dodi	T.M Khan	T.M Khan	145 (R/S)	Farming Sharecropper	6,500	6	1,083	B
4	Suleman Cheepal	Khan Mohammad	Dodi	T.M Khan	T.M Khan	145 (R/S)	Farming Sharecropper	10,800	8	1,350	B
5	Bhoomo	Magho	Dodi	T.M Khan	T.M Khan	145 (R/S)	Farming Sharecropper	12,000	10	1,200	B
6	Patyo	Parkhan	Dodi	T.M Khan	T.M Khan	145 (R/S)	Farming Sharecropper	10,000	10	1,000	B
7	Magho	Arshi	Dodi	T.M Khan	T.M Khan	145 (R/S)	Farming Sharecropper	11,500	9	1,278	B
8	Shawlo	Rashoo	Dodi	T.M Khan	T.M Khan	145 (R/S)	Farming Sharecropper	5,000	5	1,000	B
9	Amarshi	Bhoorio Thakur	Dodi	T.M Khan	T.M Khan	145 (R/S)	Farming Sharecropper	6,000	7	857	B

4.3.4 Expenditure of Affected Household

During the field survey, PAPs were asked their monthly/ yearly expenditure. They informed the consultants that their income and expenditure varies every month, average expenditure is provided in the following table.

Table 4.13: Expenditure of Affected Household

Sr. No	Profession of the AFs	No. of Affected Households	Total No .of PAPs.	Total Monthly Expenditure (Rs)	Average Monthly Expenditure Per Household (Rs)	Average Expenditure Per Capita (Rs./Month)
1	Farming Owner	9	75	361,000	40,111	4,813
2	Farming Tenant	9	68	106,000	11,778	1,559
	Total	18	143	467,000	25,944	3,267

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

Further details are available in Appendix C.

4.3.5 Agriculture

The lands in sub-project area and areas of the Col are fertile and canal water is the main source of crop cultivation. 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 (May to October). Sugarcane is a cash crop and commonly grown in the sub-project area due to the availability of the surrounding sugar mills. The most commonly grown in the Col crops are wheat, rice, sugarcane and fodder for livestock.

Figure 4.4: Cropping in the Project Area



The canal irrigation system is the major source of crop cultivation in the Col.

The agricultural land within the Col which is not farmed by the land owner is farmed by sharecroppers. Agreements between land owners and sharecropper are verbal only, and there is no formal duration of any agreement, meaning they may be terminated at any time. Income from agricultural land is shared between the land owner and sharecropper on a 50:50 basis. The typical distribution of expenditures between the land owners and sharecroppers is detailed in the following table and is based on the results of consultation with sharecroppers and landowners in the Col.

Table 4.14: Distribution of Crop Expenditure between Land Owner and Share Cropper

Item	Percentage to be Paid	
	Owner	Tenant
Ploughing	-	100%
Seed	50%	50%
Transplanting	-	100%
Fertilizer	50%	50%
Pesticide	50%	50%
Water Charger	50%	50%
Harvesting	50%	50%
Thrashing	50%	50%
Land Tax	100%	-
Other labour costs (application of fertilizers and pesticides, watering etc)	-	100%

4.3.6 Landholding Status

The landholding status of project area shows that 44.45 percent small size (1.0-5.0 acres) farmers, 22.22 percent small size (5.1-12.5 acres) farmers, 11.11 percent medium (12.6-25 acres) size farmers and 22.22 percent large size farmers (25 acres and above) were identified. The details of the land holding status are given in Table 4.15.

Sindh Water Sector Improvement Project

Table 4.15: Landholding Status

Sr. No.	Category	Landholding (Acres)	Size	No. of Landholder	Percentage
1	Small	1.0-5.0		4	44.45
2	Small	5.1 -12.5		2	22.22
3	Medium	12.6 - 25		1	11.11
4	Large	25- and above		2	22.22
Total				9	100

Source: Census Survey of the Project Area, Project Implementation Consultants, August to September 2014.

5. Assessment of Impacts

5.1 General

Prior to implementation of works under this sub-project, clearance of certain measurements of land (defined as the Col) will be required. It has been found during the field survey that farm owners have constructed pump houses on the berms of the canal to lift the water for crop irrigation. All structures within the Col shall require removal prior to the implementation of the works. 33 acres of privately owned agricultural land shall also require acquisition prior to implementation of the works. The Col is defined in section 3.5.4.

5.2 Identification of PAPs

A Project Affected Person (PAP) is defined as any person, whose land, assets, infrastructure, source of livelihood or access to resources is likely to be affected by the project activities. PAPs can be divided into the following two groups:

1. Directly and Partially Affected Persons: This group includes people whose land, houses, other built-up property, access to resources or source of livelihood will be affected due to project activities.
2. Indirectly Affected Persons: This group includes people who will not lose their land, houses or built-up property, but whose social relations and/or free mobility would be disrupted due to project activities. All those living within the primary impact zone are considered to fall within this category.

Any person whose land, assets, infrastructure, source of livelihood or access to resources is likely to be affected by the sub-project activities within the Col of the embankment works or canal realignment is therefore considered to be a PAP. In the context of contract WSIP/B1/LB/01, this includes the owners of pumps to be removed from Col, as well as those whose land shall be permanently acquired and those farming this land as tenants.

The impact to the indirectly affected persons is covered within the Environmental Impact Assessment and Environmental Management Plan (EIA/EMP) for Contract WSIP/B1/LB/01. The EIA/EMP stipulates a number of actions taken during the planning and design as well as actions to be implemented by the contractor to prevent any significant impact to this group. This group is not considered within the RAP.

PICs were initially active in the field from September to 2010 to January 2011 to identify the PAPs. PIC remobilised to the field to update the list of PAPs from August and September 2014 in order to capture any changes to the population of the Col since January 2011.

The impacts in this chapter are separated by works activities.

5.3 Stone Pitching

Please refer to section 3.4.2.1 and 3.5.4.1 for details of the proposed stone pitching works.

The majority of the stone pitching works shall be undertaken within the canal itself (below the normal water level). Only a narrow (approximately 7 ft) width of stone pitching shall be laid on the bank top. Although stone pitching is proposed along the Fulleli canal banks as the canal passes through urban areas, the land is government owned, and no structures are built this close to the canal edge in these reaches. The fact

that these areas are uninhabited is understandable given that stone pitching has been proposed in areas where the canal banks are unstable.

As part of the works, the contractor shall first fill a small section of the canal prism. This shall be completed with heavy excavation plant and compaction plant from within the canal during the closure period. Access for this activity shall be via the canal itself and there shall be no direct impact to urban areas surrounding the works area.

Following fill and compaction, the contractor shall place the stone on the newly formed canal bank. Although no large machinery shall be required for placement of the stone (the contract drawings stipulate that stone shall be hand laid), the contractor may prefer to stockpile stone on the canal bank. In order to achieve this, access to the canal embankment shall be required by light machinery (truck or tractor and trolley). Where access to the canal banks is limited due to encroachment on the embankments, the contractor shall stockpile stone at the toe of the canal bank (within the canal prism) during the closure period, thus removing any direct impact associated with access requirement.

There shall be no direct social or economic impacts resulting from the proposed stone pitching works.

5.4 Embankment Rehabilitation

Please refer to section 3.4.2.2 and 3.5.4.1 for full details of the proposed embankment rehabilitation works. Satellite views of the embankment rehabilitation Col can be found in Appendix G. The Col delineated in Appendix G includes necessary work space for the contractor.

Impact on Privately Owned Structures

A survey of the Col for the embankment rehabilitation works has identified no privately owned structures situated within the Col for embankment rehabilitation works.

Loss of Shelter

A survey of the Col for the embankment rehabilitation works has identified no shelter situated within the Col for embankment rehabilitation works.

Impact on Community Structures

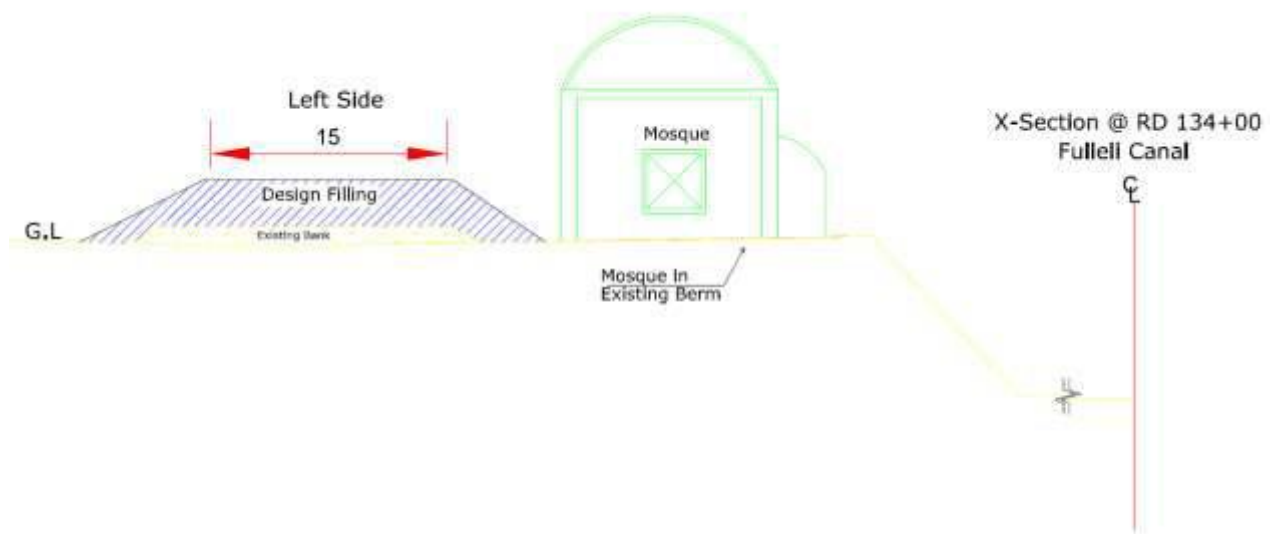
A survey of the Col for the embankment rehabilitation works has identified a mosque located at RD 134 on the left berm of the canal, pictured below:

Figure 5.1: Mosque on Left Berm of Fulleli Canal, RD 134



Demolition of this mosque shall be avoided as this is offset from the canal embankment. The embankment raising shall be implemented behind the mosque as shown in the following figure.

Figure 5.2: Proposed Works to Avoid Demolition of Mosque at RD 134



No other community structures have been identified within the Col of the embankment works.

Impact on Government Structures

A survey of the Col for the embankment rehabilitation works has identified no government structures situated within the Col for embankment rehabilitation works.

Loss of Cultivated Land

A survey of the Col for the embankment rehabilitation works has identified no cultivated land situated within the Col for embankment rehabilitation works.

Permanent Land Acquisition

The Col for the embankments works falls within the Government owned right of way. There shall be no permanent land acquisition required for this component of the works.

Temporary Land Acquisition

No temporary land acquisition is required for the completion of this component of the works.

Access to Resources

There are no pump houses located within the Col for this component of the works. There shall be no impact to drinking water supplies resulting from this component. There shall be no other impact relating to access to resources resulting from this component.

Occupation and Income

As there shall be no loss of any commercial structure or cultivated land as a result of this component of the works, there shall be no impact to occupation or income.

Vulnerable Groups

No vulnerable professional groups like working boys in shops, tea stall have been found in the sub-project area of Contract WSIP/B1/LB/01.

During the surveys of the sub-project area, it was found that no women headed households exist in the Col of this component of works.

5.5 Construction of Hydraulic Structures

The works considered under this component include construction of new hydraulic regulating structures, permanent realignment of canals at the location of these structures and temporary canal diversions. Please refer to section 3.4.3 for details of the proposed works at hydraulic structures.

Impact on Privately Owned Structures

The only privately owned structures which shall be impacted are the pump houses located at the 30th Mile cross-regulator site, as detailed in the table below.

Table 5.1: Summary of Resettlement Requirements

Sr. No.	Type of Structure	Number of Structures		Total (Left + Right Bank)
		Left Bank	Right Bank	
1	Rooms (Pump house)	6	1	7

Source: Survey of the Project Area, Project Implementation Consultants, August to September- 2014

Full details of the pump houses can be found in Appendix C. Examples of pump houses are shown in the following figure.

Figure 5.3: View of the Privately owned Pump Houses at 30th Mile Cross-Regulator



Two further privately owned pump houses were identified within the Col at RD 145 (30th Mile cross-regulator) which belong to the Fuji Sugar Mill. These pump houses are situated on the berm (between the canal prism and the embankments) of the existing canal immediately downstream of the cross-regulator. Following consultation with the design team, it was determined that works shall be excluded from the vicinity of these pump houses. This is possible as the pump houses do not fall within the proposed alignment of the downstream canal, or within the proposed footprint of the embankments to be raised. Notes shall be added to the construction drawings (which form part of the contract for the works) to ensure there shall be no impact to these structures.

As the other seven pump houses are situated on the embankments (which are to be raised as part of the works) and not the canal berms (where no works are proposed) it is not possible to protect these structures in this manner.

Loss of Shelter

No resettlement of privately owned residential structures is required as a result of works under this component.

Impact on Community Structures

No mosques exist in the Col. However, a single grave is situated downstream of the 30th mile cross-regulator within the berm of the proposed canal which is visited by Sufi worshipers. Demolition of this grave site shall be prevented through the construction of retaining walls around the site which shall be included as an item within the civil works contract.

Impact on Government Structures

At RD 145 (30th Mile), two water supply pump houses (side-by-side) for Tando Mohammad Khan and one Irrigation Office fall within the Col for these works. An abandoned pump house is also present in the Col at RD 145, but this is not considered within this RAP. The two operational pump houses which supply Tando Mohammad Khan are situated on the berm of the canal, downstream of the existing cross-regulator, and adjacent to the pump houses for the sugar mill discussed above. As for the sugar mill pump houses, demolition of these pump houses shall be prevented during construction by excluding works from the area. Notes shall be added to the construction drawings (which form part of the contract for the works) to ensure there shall be no impact to these structures.

However, demolition of the Irrigation office at RD 145 shall be unavoidable. Full details of this office can be found in Appendix C.

Figure 5.4: A view of Government Owned Pump house at RD 145



Loss of Cultivated Land

Due to diversion of the canals, loss of standing crops grown within the Col shall result at RD 145 and 170. Approximately 33 acres of cultivated land, farmed by 9 households, shall be impacted due to this component of the works. Those farming this land are detailed in the following table – full details can be found within Appendix C. This table shows that of the nine households farming this land, seven are sharecroppers, and the impacted land represents the total area of land which they farm. The remaining two are larger land owners, and the impacted areas are just a small portion of the total area of land which they farm.

Sindh Water Sector Improvement Project

Table 5.2: Cultivated Land in the Col of Hydraulic Structure Works

#	Name	RD	Profession	Family Size	Total Land Cultivated by Household (acres)	Impacted Land (acres)	Impacted land as % of total Land Cultivated	Affected Crops
1	Amarshi	145+000 (R/S)	Farming (sharecropper)	6	5	5	100%	Sugarcane
2	Suleman Cheepal	145+000 (R/S)	Farming (sharecropper)	8	5	5	100%	Sugarcane
3	Bhoomo	145+000 (R/S)	Farming (sharecropper)	10	4	4	100%	Sugarcane
4	Patyo	145+000 (R/S)	Farming (sharecropper)	10	4	4	100%	Wheat and Rice
5	Magho	145+000 (R/S)	Farming (sharecropper)	9	4	4	100%	Wheat and Rice
6	Shawlo	145+000 (R/S)	Farming (sharecropper)	5	3.85	3.85	100%	Sugarcane
7	Amarshi	145+000 (R/S)	Farming (sharecropper)	7	5	5	100%	Wheat and Rice
8	Abdul Karim	170+000 (R/S)	Farming (Owner)	14	120	1	<1%	Wheat and Rice
9	Haji Lakhano Laghari	170+000 (R/S)	Farming (Owner)	9	45	1.53	3%	Wheat and Rice
				Total		33.38		

Permanent Land Acquisition

Permanent acquisition of private land will be required for the realignment of off-taking canals at 30th mile cross regulator, RD 170+000 and RD231+000 of Fulleli canal. The land is currently cultivated (see details of farmers in section Table 5.2). The land is owned by four different owners. The cost of the permanent land acquisition will be borne by the project proponent. Additional realignment works shall be completed within Government owned land. The permanent land acquisition requirements for this component of the works are summarised in the following table and are to be confirmed by the Board of Revenue during acquisition of this land. Note that the records held by the local government offices are incomplete in some areas.

Table 5.3: Permanent Land Acquisition Requirements for Hydraulic Structure Works

Structure Site	Deh	Survey Number	Privately Owned		Government Owned	
			Acre	Ghunta	Acre	Ghunta
30 th Mile Cross-Regulator (RD 145+000)	Dodi	87/2	0	27		
	Dodi	87/3	0	6		
	Dodi	86	1	35		
	Dodi	114/1	0	21		
	Dodi	114/2	1	2		
	DodiChak #2	Record unavailable	25	23		
Sub total			29	34		
Iman Wah Cross-Regulator (RD 170+000)	FathpurJagir	488/1	1	11		
	FathpurJagir	489/0	1	21		
	FathpurJagir				0	20
	Sub total			2	32	0
Ali Pur Cross-Regulator (RD 231+000)	Daabgri				3	9
	Sub total					3
GRAND TOTAL			32	26	3	29

The Deh maps are provided in Appendix D.

Permanent acquisition of land shall be fully implemented prior to the mobilization of the contractor for the works in order to prevent any delays to construction. SIDA and AWB are responsible for permanent land acquisition.

Temporary Land Acquisition

Temporary land acquisition will be required for canal diversions during the construction period. The contractor will be responsible for temporary land acquisition. Monthly rent as per market value will be paid to the owner by the contractor. The owners will be compensated for any damage to his lands or assets thereon, or else damaged assets shall be restored to their former condition at the contractor's cost. Temporary land acquisition requirements are detailed in the following table.

Sindh Water Sector Improvement Project

Table 5.4: Temporary Land Acquisition Requirements for Contract WSIP/B1/LB/01

Structure Site	Deh	Survey Number	Privately Owned		Government Owned	
			Acre	Ghunta	Acre	Ghunta
30 th Mile Cross-Regulator (RD 145+000)	N/A					
Iman Wah Cross-Regulator (RD 170+000)	FathpurJagir	489/1	2	0		
	FathpurJagir	490	0	15		
		Sub total	2	15		
Ali Pur Cross-Regulator (RD 231+000)	Daabgri				0	35
	Daabgri	7/1	1	10		
	Daabgri	8/2	0	14		
	Daabgri	8/3	0	17		
		Sub total	2	1	0	35
		GRAND TOTAL	4	16	0	35

The land is owned by three separate owners.

Access to Resources

There shall be no impact to drinking water supply resulting from this component of the works. The pumps providing water to Tando Mohammad Khan shall not be impacted. There shall be no other impact relating to access to resources resulting from this component.

Occupation and Income

There shall be no impact to the owner of the sugar mill, as the water pumps which supply this facility shall be safeguarded during construction.

Without sufficient mitigation, there shall also be an impact to the seven households who have constructed pump houses to supply water to their farmland. This impact shall also extend to all those who farm this land (including sharecroppers, farm tenants and farm labourers).

There shall be a long term impact to tenant farmers (sharecroppers) in the Col of this component of works, initially from the loss of any standing crops within the Col, and in the long term due to loss of available land to cultivate. The long term impact shall be greater for sharecroppers who do not farm any additional land outside the Col (this is true for all 7 of the affected sharecroppers – see Table 5.2), and this impact shall be significant if the affected sharecroppers are unable to find land to farm outside the Col in the future. It is noted that between 10 and 15% of the income of the effected sharecroppers is from rearing livestock outside the Col. This source of income shall not be impacted as a result of the proposed sub-project works.

There shall be a long term and permanent impact to the owners of farm land within the Col, due to loss of income (rent, or income from crops grown where the owner farms the land).

With regards to agricultural labourers, it is noted that the seven impacted sharecroppers do not employ any agricultural labourers. All farm labour tasks are completed by the farmers and members of their households. For the land owned by the two impacted land owners, labour needs are minimal owing to mechanisation of agricultural processes by the land owners and involvement of family members in

agricultural activities. However, during harvest the land owners reported that they employ a small number of labourers on a short term basis. Mr Abdul Karim employs ten labourers for three days per year over the 120 acres of land which his household farms. Mr Haj Lakhani Laghari employs four labourers for four of five days per year over the 45 acres of land which his household farms. Given that the impacted land is only a small portion of the total land holding of these two households (less than 1% and 3%), the temporal employment of labourers shall not be impacted.

Vulnerable Groups

No vulnerable professional groups like working boys in shops, tea stall have been found in the sub-project area of Contract WSIP/B1/LB/01.

During the surveys of the sub-project area, it was found that no women headed households exist in the Col of this component of works.

5.6 Bridge Replacement and Road Realignment

The works considered under this component include construction of a replacement bridge at RD 62 and realignment of the existing road to the new bridge.

Impact on Privately Owned Structures

A survey of the Col has identified no privately owned structures situated within the Col for this component of the works.

Loss of Shelter

A survey of the Col has identified no shelter situated within the Col for this component of the works.

Impact on Community Structures

A survey of the Col has identified no community structures situated within the Col for this component of the works.

Impact on Government Structures

During the field survey it was found that one water supply pump house exists at RD 62+000 for Noonari village within the Col of the road realignment associated with the replacement bridge. However, it is noted that this pump house has not been operational for the last one year. Full details of this pump house can be found in Appendix C.

Loss of Cultivated Land

Due to the realignment of the road associated with the replacement bridge, the loss of standing crops grown within the Col shall result. 0.45 acres of cultivated land, farmed by two households, shall be impacted. Those farming this land are detailed in the following table – full details can be found within Appendix C. This table shows that the two households farming this land are sharecroppers, and the impacted land represents only a portion of the total area of land which they farm.

Note, that those named below are not the owners of the land - private land to be acquired is detailed under 'Permanent Land Acquisition'.

Sindh Water Sector Improvement Project

Table 5.5: Cultivated Land in the Col of Hosri Bridge (RD 62)

#	Name	Profession	Family Size	Total Land Cultivated by Household (acres)	Impacted Land (acres)	Impacted land as % of total Land Cultivated	Affected Crops
1	Shamoo	Farming (sharecropper)	6	12	0.25	2%	Rice and Lady Finger
2	Ghulam Mustafa	Farming (sharecropper)	7	12	0.20	2%	Wheat and Rice
Total					0.45		

Permanent Land Acquisition

Permanent acquisition of private land will be required for the realignment of the road at RD 62+000. The land is currently cultivated (see Table 5.5 for the details of farmers of this land) and owned by two separate owners. The cost of the permanent land acquisition will be borne by the project proponent. The permanent land acquisition requirements are summarised in the following table and are to be confirmed by the Board of Revenue during acquisition of this land.

Table 5.6: Permanent Land Acquisition Requirements for Bridge Replacement Works

Structure Site	Deh	Survey Number	Privately Owned	
			Acre	Ghunta
Hosri Bridge (RD 62+000)	Phanwari	260	0	8
	Bora	2	0	10
GRAND TOTAL			0	18

The Deh map for acquisition at RD 62 is provided in Appendix D.

Permanent acquisition of land shall be fully implemented prior to the mobilization of the contractor for the works in order to prevent any delays to construction. SIDA and AWB are responsible for permanent land acquisition.

Temporary Land Acquisition

There shall be no requirement to temporarily divert the canal during construction, therefore there are no temporary land acquisition impacts associated with this component of the works.

Access to Resources

The water supply pump house for Noonari village shall be removed as part of this component of the works. This shall have no impact on the current water supply for Noonari village as this pump house is currently non-operational and the residents of Noonari have made alternative arrangements for supply of water. Currently, water is provided through a gravity fed two inch diameter pipeline from the Old Fulleli Canal (situated to the west of Fulleli Canal), and it has been reported that this arrangement is satisfactory.

The residents of Noonari village are responsible for the payment of electricity bills for the continued operation of the pump house. Following non-payment of the electricity bills in 2013, the pump house became non-operational.

Although there shall be no immediate impact, removal of this pump house shall remove the potential for water supplies to be provided via the pump house in the future, should the residents of Noonari village

Sindh Water Sector Improvement Project

decide to recommission this supply route, therefore it is included in this RAP for reconstruction under the civil works contract.

There shall be no other impact relating to access to resources resulting from this component.

Occupation and Income

There shall be a long term impact to the two tenant farmers (sharecroppers) in the Col of this component of works, initially from the loss of any standing crops within the Col, and in the long term due to loss of available land to cultivate. However, as the impacted land accounts for only a small portion of the total land farmed by these households (just 2% - see Table 5.5), the impact shall be minor.

With regards to agricultural labourers, it is noted that the seven impacted sharecroppers do not employ any agricultural labourers. All farm labour tasks are completed by the farmers and members of their households.

Vulnerable Groups

No vulnerable professional groups like working boys in shops, tea stall have been found in the sub-project area of Contract WSIP/B1/LB/01.

During the surveys of the sub-project area, it was found that no women headed households exist in the Col of this component of works.

5.7 Construction Camp

Please refer to section 3.4.5 for full details of the contractor's construction camp. The location for the establishment of the contractor's camp has been identified in this section. However, it is noted that the decision over the final extent of the camp within this location shall be determined by the contractor upon mobilisation. A suitable area of 2.5 acres has been identified for the construction camp. However, it is likely that the entire area shall not be required by the contractor.

Potential impacts, and the actions proposed to limit these impacts are detailed in the following sections.

Impact on Privately Owned Structures

There are no privately owned structures within the footprint of the proposed location of the contractor's construction camp. Therefore, there shall be no impacts to privately owned structures as a result of this component of the works.

Loss of Shelter

No shelter is present within the footprint of the proposed location of the contractor's construction camp. Therefore, there shall be no loss of shelter as a result of this component of the works.

Impact on Community Structures

There are no community structures within the footprint of the proposed location of the contractor's construction camp. Therefore, there shall be no impacts to community structures as a result of this component of the works.

Sindh Water Sector Improvement Project

Impact on Government Structures

There are no government structures within the footprint of the proposed location of the contractor's construction camp. Therefore, there shall be no impacts to government structures as a result of this component of the works.

Loss of Cultivated Land

Up to 2.5 acres of cultivated land shall be temporarily lost as a result of establishment of the construction camp. Those cultivating the land are to be identified by PIC, following submission of the contractor's layout plan for the camp. The land within the proposed camp footprint is farmed by both those owning the land, and by sharecroppers. As the extent and position of the camp within the proposed area have not yet been finalised, it is not possible to definitively identify those who shall be impacted at this stage. Please refer to section 7.6 for further details on identification of those cultivating land to be impacted by the establishment of the camp.

Permanent Land Acquisition

There shall be no permanent land acquisition associated with this component of the works. Land acquired for the construction camp shall be handed over to the land owner(s) following completion of the contract.

Temporary Land Acquisition

Up to 2.5 acres of private land shall be temporarily acquired for the two year duration of the contract. The contractor will be responsible for temporary land acquisition. Monthly rent as per market value will be paid to the owner by the contractor. The owner will be compensated for any damage to his lands or assets thereon, or else damaged assets shall be restored to their former condition at the contractor's cost. . Please refer to section 7.6 for further details on identification of those owning land to be impacted by the establishment of the camp.

Access to Resources

No restriction in access to resources shall result from the establishment of the camp.

Occupation and Income

There shall be a short term (two year) impact to all those farming land within the footprint of the construction camp. This impact shall be felt by the land owners, sharecroppers and any farm labourers employed to farm this land (seasonally or otherwise). The severity of the impact shall be greater where the impacted land accounts for a large proportion of the total land farmed and/or owned by those affected.

Please refer to section 7.6 for further details on identification of those cultivating land and labourers working on land to be impacted by the establishment of the camp.

Vulnerable Groups

No vulnerable professional groups like working boys in shops, tea stall have been found in the sub-project area of Contract WSIP/B1/LB/01.

During the surveys of the sub-project area, it was found that no women headed households exist in the Col of this component of works.

5.8 Indirect Impacts

Please refer to the EIA/EMP for Contract WSIP/B1/LB/01 for an assessment of indirect impacts to residents of the sub-project area, including: dust; community disturbance (including traffic and water resources); and, noise. Proposed mitigations are also included in the EIA/EMP.

5.9 Impacts on Trees

To mitigate the adverse impacts, provision for re-plantation through the contractor has been proposed: the contractor shall plant five trees for every one tree which is cut. Full details of trees to be cut are included in the EIA/EMP for Contract WSIP/B1/LB/01.

5.10 Summary

The impacts associated with each component of works are summarised in the following table.

Sindh Water Sector Improvement Project

Table 5.7: Summary of Resettlement Impacts

Type of Loss	Application	Definition of Entitled Person	Unit	Stone Pitching	Construction of Haulage and Access Routes	Embankment Rehabilitation	Construction of hydraulic structures ⁸	Construction of bridges and Realignment of Roads	Establishment of Construction Camp	Total
Loss of Land (Agricultural)	Permanent loss of entire land or where partial loss but the remaining land is less than 0.5 acre or is rendered economically unviable.	Legal owner with valid title or customary or usufruct rights.	Impacted Acres (Impacted Households)				32.65 (4)	0.45 (2)		33.1 (6)
		Tenant, lease holder and share cropper	Impacted Acres (Impacted Households)				27 (7)	0.45 (2)		27.45 (9)
	Temporary loss of land	Legal owner with valid title or customary or usufruct rights.	Impacted Acres (Impacted Households)				4.4 (3)		To be confirmed	4.4 (3)
		Tenant, lease holder and share cropper	Impacted Acres						To be confirmed	-
Loss of privately owned pump houses	Loss of pump house	Owner of structure (regardless of ownership of title to land on which structure is situated)	Number of Impacted Pump Houses (Impacted Households)				7 (7)			7 (7)
Loss of Structures (Community or institutional)	Entire loss of structures or where only partial impact, but the remaining structure is rendered unviable for continued use.	Community or institution	Number of Impacted Structures				1	1		2
Loss of income (trade/ livelihood/ occupation or business incomes)	Temporary or permanent loss of agricultural/commercial/institutional income or wages	Impacted business owner Impacted employee or labourer	Impacted Households						To be confirmed	-

⁸ This component of works includes the following activities: replacement of cross-regulators; replacement of offtaking head regulators and realignment of head reaches; and, construction of temporary canal diversions.

6. Public Consultation and Information Disclosure

6.1 Introduction

To comply with World Bank's requirements and policies on environmental and social assessments, the borrower for projects resulting in involuntary resettlement is required to prepare and publicly disclose a RAP. The RAP must be prepared through a process of public consultation with all interested and affected parties. Proper consultation with affected parties can increase the effectiveness and reduce the cost of RAP implementation for the sponsor or other responsible parties. The proposed sub-project of Contract WSIP/B1/LB/01 will impact the local environment of the area as well as communities living in and around the sub-project area to some extent. This chapter provides details of consultations carried out with stakeholders during the preparation of this Resettlement Action Plan.

6.2 Objectives of Consultation

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

- Provide key project information to the stakeholders, and to solicit their views on the project and its potential or perceived impacts,
- Discuss and agree on mitigation measures,
- 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 sub-project and RAP;
- Ensure that views and concerns of the stakeholders are incorporated into the sub-project design and implementation with the objectives of reducing or offsetting negative impacts and enhancing benefits of the proposed sub-project;
- Create a sense of ownership among the stakeholders regarding the sub-project;
- Increase public confidence about the proponent, reviewers and decision makers; and
- To ensure the transparency in all the sub-project activities.

6.3 Methodology

The consultants carried out public consultations at various locations in the proposed sub-project area of Contract WSIP/B1/LB/01. The stakeholder's consultation during the work targeted the sub-project area, administration, government officials, shops keepers and local community in and around the sub-project area:

- Selection of the stakeholders for consultation, reconnaissance of the proposed sub-project sites
- Discussions with the SIDA officials, Irrigation department, AWB public and private employees stakeholders, local public representative, local shopkeepers, and Project Affected Persons (PAPs).
- Appraising the targeted stakeholders initially for the purpose of consultation and working out a schedule for holding regular consultation meetings;
- Meetings with the stakeholders through the participation of consultants' environmental and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc

6.4 Consultations with Project Affected Persons

As per Bank policy, PAPs and their representatives were consulted to introduce the sub-project formally to the local community and to obtain their views on the sub-project and discuss impacts to the PAPs as well as mitigation measures. The entitlements were discussed during these consultations, and the entitlement matrix (as provided in section 2.6) reflects the agreed mitigations.

Group discussions were made with affected households. Various focus group meetings /discussions /scoping sessions were carried out with all expected sub-project affected persons during months from October 2011 to January 2012. Second round consultations were held in documents were revised in August and September 2014. During these consultations, a question answer session was initiated to elicit the following information:

- Demographic characteristics of the village, such as population, number of households, housing characteristics, availability of social amenities, ethnic groupings etc.
- Livelihood activities of the sub-project affected persons.
- Women's role in socio- economic life.
- Existing health and education facilities in the villages of the sub-project area.
- Views on the proposed works and the RAP.

6.4.1 Cut Off Date

The cut-off date for eligibility for all entitlements, except land based entitlements due to registered owners, has been set as the 16th August 2014. The 16th August 2014 was the first working day of PIC field team in the field during the 2014 field visit, during which the consultants updated the impact assessment and survey of the population of the Col. Any person constructing assets in the Col after this date shall not be eligible for entitlements under this Resettlement Action Plan.

The cut-off date for eligibility for land related entitlements due to registered owners shall be the date of the section 4 notification issued under the Land Acquisition Act of Pakistan.

6.5 Consultation with Local Women Community

Consultation sessions with the local women were also held. The consultant's female interviewer conducted these consultations. The women of the area were keenly interested in the consultations and provided good information. The participants included housewives, students, and farm workers. Names and occupations of those attending the consultations are given in Appendix A.3.

As far as education is concerned, the majority of the women were illiterate. Most of them belonged to poor families living in small houses outside the Col. They pointed out the following issues and concerns, associated with this sub-project:

- Most of the women demanded proper compensation, rehabilitation and assistance.
- Risk of safety, security and privacy will be increased due to the working of outsiders during construction.
- Some women were interested to work with their male family members during construction work, which will reduce the burden on their budget.

6.6 Meetings with Secondary Stakeholders

As per the participatory approach, staff of SIDA and Left Bank AWB were involved in the survey for the RAP. A list of officials contacted is given in Appendix A.

6.7 Grass Root Stakeholders Consultation

The grass root consultations were carried out at the following sub-project locations:

- RD 62+000 Hosri Bridge
- 30th Mile cross regulator
- RD 170+000 Village laghari
- RD 231+000 Alipur cross regulator

The location of the meeting, consultants and local participants of these consultations are given in Appendix E. Detailed list of persons contacted during grass root consultation is given in Appendix A, and pictorial views are provided in Appendix F.

6.8 Summary of Consultations

The following table reviews the mains impacts that were discussed and mitigations that were agreed during the consultations.

Table 6.1: Impacts and Mitigations Discussed during Consultations

Impact	Discussion	Agreed Mitigation
Removal of privately owned pump houses	PAPs shall either require compensation for new pumps or assistance to shift existing pumps to prevent any interruption in supplies from these pump houses. If PAPs are to rebuild the pump houses, when will they be able to rebuild them? There will be a delay between demolition of the existing pumps and completion of the civil works before the PAPs can rebuild the pump houses. How will they supply water during this period?	The reconstruction of the pump houses and shifting of pumps shall be included within the civil works contract. The contractor shall be required to switch supplies within a single day to minimise disturbance of supply. The entitlement matrix has been updated accordingly. The affected households at Fulleli Canal in Fulleli Canal AWB sub-project area requested that their pump houses should be reconstructed near the original location so that water supply shall not be interrupted.
Removal of the mosque at RD 134	This is a community structure. Who will receive compensation and how will we ensure it is rebuilt?	The design has been adjusted to avoid removal of this mosque
Removal of graveyard at 30 th Mile cross-regulator	This is a sacred structure visited by Sufi worshippers. Removal is sinful.	Removal of the graveyard shall be prevented through the construction of retaining walls around the grave. The civil works contract has been updated to include this item
Removal of 2 pump houses supplying water to Tando Mohammed Khan	These are important pump houses supplying water to Tando Mohammed Khan. Demolition of these structures shall disrupt supply and impact a large number of people	Works shall be excluded from the vicinity of these pump houses. Notes are to be added to the contract drawings to highlight this.
Permanent land acquisition	The land owner shall be paid for his land, but a number of sharecroppers farm this land. Will they receive any of the compensation?	Sharecroppers to be identified and compensated as per the entitlement matrix. Compensation to be provided.
Migrant workforce entering the sub-project area	How will the free mobility of women and children be maintained during implementation of the works?	The proposed construction camp is located away from any major settlement to minimise this impact. The Contractor shall be required to deliver training on cultural sensitivities of the local populations during the induction of all migrant staff.

7. Relocation and Compensation Plan

7.1 General

This RAP has been prepared on the basis of the findings of the census survey and by adopting the legal and policy framework of Government of Pakistan and the World Bank policies as reflected in the Entitlement Matrix prepared as part of the Social Impact Management Framework for WSIP (see section 2.5). This Entitlement Matrix was discussed during consultations as part of the proposed mitigation measures. The Resettlement Action Plan focuses on providing assistance in the form of compensation for the lost assets and additional assistance aimed at restoring the livelihoods of PAPs to their pre-project condition. This section details the applicable entitlements, grouped by the type of loss in order to remain consistent with the Entitlement Matrix and the impacts for this project as detailed in section 5.10.

Note that, where required, compensation rates have been inflated to 2016 prices by applying annual consumer price inflation as quoted by the World Bank⁹ which provides inflation rates up to year 2014. For inflation beyond 2014, reference is made to Trading Economics¹⁰.

7.2 Loss: Land (Agricultural)

7.2.1 Application: Permanent and Entire Loss

7.2.1.1 Entitled Person: Title Holder

Entitlement: Compensation as Per Land Acquisition Act

Permanent acquisition of private land will be required for the realignment of the road at RD 62, and off-taking canals at 30th mile cross regulator and RD 170 of Fulleli canal. In order to mitigate the impacts to land owners identified in Chapter 5, compensation shall be paid for the land to be acquired as per the requirements with the Land Acquisition Act (LAA). The cost of the permanent land will be borne by the project proponent. SIDA and AWB are responsible for the land acquisition. SIDA will write an official letter to the Deputy Commissioner (DC) of the related district with the Deh map (provided in Appendix D) and the list of land owners whose land will be acquired. DC will appoint an Assistant Commissioner as a land acquisition officer and he will deal the land acquisition matters.

The Assistant Commissioner will follow the procedure for acquisition under the LAA, as detailed in section 2.2.2 of the RAP.

⁹ <http://databank.worldbank.org/data/home.aspx>

¹⁰ <http://www.tradingeconomics.com/pakistan/inflation-cpi/forecast>

Sindh Water Sector Improvement Project

The land compensation cost per acre has been collected from the Revenue Department in Tando Mohammad Khan. The Assistant commissioner Tando Mohammad Khan is the land acquisition officer for the sub-project area and responsible for paying the land compensation to the land owners. The Revenue Department indicated that the cost of land is PKR 1,500,000 per acre, including compensation for loss of standing crops (as applicable under the Land Acquisition Act). An additional 15% has been allowed in accordance with the Land Acquisition Act, therefore the total estimated compensation rate is PKR 1,725,000 per acre.

The details of land to be acquired are given in the following table. The Deh maps are provided in Appendix D.

Table 7.1: Permanent Land Acquisition Requirements for Contract WSIP/B1/LB/01

Structure Site	Deh	Survey Number	Privately Owned		Government Owned	
			Acre	Ghunta	Acre	Ghunta
Hosri Bridge (RD 62+000)	Phanwari	260	0	8		
	Bora	2	0	10		
	Sub total		0	18		
30 th Mile Cross-Regulator (RD 145+000)	Dodi	87/2	0	27		
	Dodi	87/3	0	6		
	Dodi	86	1	35		
	Dodi	114/1	0	21		
	Dodi	114/2	1	2		
	DodiChak #2	Record unavailable	25	23		
	Sub total		29	34		
Iman Wah Cross-Regulator (RD 170+000)	FathpurJagir	488/1	1	11		
	FathpurJagir	489/0	1	21		
	FathpurJagir				0	20
	Sub total		2	32	0	20
Ali Pur Cross-Regulator (RD 231+000)	Daabgri				3	9
	Sub total				3	9
GRAND TOTAL			33	4	3	29

7.2.1.2 Entitled Person: Sharecropper

Entitlement: Gross Harvest for One Year's Production

The Entitlement Matrix requires that sharecroppers shall be provided with cash compensation equivalent to market value of gross harvest for one year's production or for the remaining period of tenancy/lease, whichever is greater. As all sharecropping agreements are verbal and no period has been defined, this RAP makes provision for the payment of cash compensation equivalent to market value of gross harvest for one year's production.

Sindh Water Sector Improvement Project

The compensation rate has been calculated based on the crops commonly grown in the Col (refer to Table 7.2). Rice and sugarcane are commonly grown during the Kharif season and wheat is commonly grown during rabi. Therefore the compensation rate has been calculated as the sum of the per acre value of:

- The average of rice and sugar cane (kharif)
- Wheat (rabi)

This equates to PKR 158,000 per acre. 50% of this value (PKR 79,000) shall be provided as the sharecropper's compensation, in line with the 50:50 agreements between the sharecroppers and land owners. Land owners are not entitled to compensation beyond that provided by the Land Acquisition Act.

The budget includes the provision of cash compensation to sharecroppers of PKR 79,000 per acre, to be paid to the sharecroppers (tenants) named in Appendix C.2.

Impacted sharecroppers shall also be prioritised for employment by the contractor under this contract.

Entitlement: Crop Compensation

The compensation rate has been calculated based on the value average yield and value of cultivated crops. This information was collected from within the sub-project area by PIC, and is presented in the table below.

Table 7.2: Yield price and total value of affected crop/acre

Crop	Average yield (kg/acre)	Price (PKR/40Kg) in 2014	Price (PKR/40Kg) with inflation to 2016 rates	Value (PKR/acre) - 2016
Wheat	1,600	1,200	1,320	53,000
Rice	3,200	850	940	75,000
Cotton	1,200	2,300	2,600	78,000
Sugarcane	36,000	135	150	134,000
Oil seed	600	2,500	2,800	42,000
Fodder	8,800	75	82	18,000

It is not possible to anticipate the crops which shall be grown at the time of implementation of the sub-project. The average value of the crops grown in the Col is calculated to be PKR 70,000 per acre. A provisional allowance of 50% of this value has been provided in the budget to be paid to sharecroppers to compensate for any loss of standing crops. This is in line with the 50:50 sharecropping agreement between the sharecroppers and land owners. Land owners are not entitled to compensation beyond that provided by the Land Acquisition Act. Actual crop compensation due shall be assessed dependent upon the crops grown at the time of acquisition.

7.2.2 Application: Temporary Loss

7.2.2.1 Entitled Person: Title Holder

Entitlement: Rent of Land at Market Rate - *Provision of this entitlement is the responsibility of the Contractor*

Temporary land acquisition will be required for canal diversions during the construction period. The contractor will be responsible for temporary land acquisition detailed in Chapter 5. Monthly rent as per market value will be paid to the owner by the contractor. The owner will be compensated for any damage to his lands or assets thereon, or else damaged assets shall be restored to their former condition at the contractor's cost.

Additional entitlements may apply for the establishment of the contractor's camp – please refer to section 7.6.

7.2.2.2 Entitled Person: Sharecropper

Entitlement: Gross Harvest for One Year's Production - *Provision of this entitlement is the responsibility of the Contractor*

This loss may result from establishment of the contractor's camp - please refer to section 7.6 for details of this entitlement.

Entitlement: Crop Compensation - *Provision of this entitlement is the responsibility of the Contractor*

This loss may result from establishment of the contractor's camp - please refer to section 7.6 for details of this entitlement.

7.3 Loss: Privately Owned Pump Houses

7.3.1 Application: Permanent and Entire Loss

7.3.1.1 Entitled Person: Owner of Structure

Entitlement: Reconstruction of Pump House

This entitlement shall apply irrespective of ownership (by the structure owner) of as title to the land on which a pump house is situated.

The seven privately owned irrigation pump houses to be removed from the canal embankments at RD 145 shall be reconstructed under the civil works contract. The contract shall include reconstruction of the new pump house buildings on rehabilitated embankments and shifting of the existing pumping equipment for each affected pump house. The shifting of the pump equipment and re-commissioning of the pumping equipment can be completed within a single day for each pump house, minimising the length of time during which irrigation water shall not be available. The pump houses shall be reconstructed immediately adjacent to the existing pump house locations on the newly constructed canal embankments. Earthworks at the existing location of the pump houses shall be completed following the shifting of each pump house.

The contractor will liaise with the AWB, and confirm the date during which they shall shift the pumping equipment. The AWB shall be responsible for notifying the affected farmers of the hours during which their irrigation supply shall be affected.

The contractor shall not be responsible for ensuring that pumping equipment is operable where such equipment was not operable prior to the contractor shifting the pump equipment.

Cash compensation for the affected pump houses is not proposed as the affected assets shall be reconstructed under the civil works contract.

7.4 Loss: Community or Institutional Structures

7.4.1 Application: Entire Loss

7.4.1.1 Entitled Person: Affected Community or Institution

Entitlement: Reconstruction of Community or Institutional Structures

The reconstruction of the pump house supplying water to Noonari village at RD 62 (Hosri bridge) shall be replaced under the civil works contract. The contract shall include reconstruction of the new pump house building and shifting of the existing pumping equipment. The shifting of the pump equipment and re-commissioning of the pumping equipment can be completed within a single day, minimising the length of time during which water supply would not be available.

The contractor will liaise with the AWB, and confirm the date during which they shall shift the pumping equipment. The AWB shall be responsible for notifying the affected community of Noonrari village of the hours during which their supply shall be affected. However, it is noted that the pumping station is currently non-operational, and as such, there is unlikely to be any impact.

The contractor shall not be responsible for ensuring that pumping equipment is operable where such equipment was not operable prior to the contractor shifting the pump equipment.

The reconstruction of the Irrigation Office at RD 145 shall also be included within the civil works contract.

As reconstruction of these structures will be included within the civil works contract and resettlement of the structures is not considered in the budget for this RAP.

No further government owned structures shall be impacted by the sub-project works.

A graveyard is situated downstream of the 30th mile cross-regulator within the berm of the proposed canal. This grave is visited by Sufi worshippers. Demolition of this grave site shall be prevented through the construction of retaining walls around the site which shall be included as an item within the civil works contract.

A mosque is located at RD 134 of the Fulleli canal. Demolition of this mosque shall be avoided as described at 5.4

7.5 Loss: Income

It is anticipated that the sub-project will make a positive impact on the economy of the area. A number of employment opportunities will be created during the rehabilitation work, particularly for the unskilled labour.

7.5.1 Application: Loss of Income from Agricultural Wages

7.5.1.1 Entitled Person: Impacted Labourer

Entitlement: Livelihood Allowance - *Provision of this entitlement is the responsibility of the Contractor*

This loss may result from establishment of the contractor's camp - please refer to section 7.6 for details of this entitlement.

7.6 Establishment of Construction Camp

Provision of entitlements for losses resulting from the establishment of the construction camp (as detailed in this section) is the responsibility of the Contractor.

The final extent of the contractor's camp shall be determined by the contractor during mobilisation of the contractor, it is not possible to define the compensation requirements at this time. The potential impacts (as detailed in Chapter 5) include the following:

- Temporary loss of cultivated land leading to temporary loss of income for those farming the land (including farm owners, sharecroppers and labourers)
- Temporary land acquisition leading to temporary loss of income for the land owners

The contractor shall be obliged to compensate those impacted according to the following table. Note that a single PAP may be due multiple types of compensation (for example, a land owner who also farms the land shall be owed monthly rent and compensation for loss of income from planted crops).

Table 7.3: Construction Camp Compensation Plan – **Provision of these entitlements is the responsibility of the contractor**

Entitled Person	Definition of Entitled Person	Compensation Due	Remarks
Land owner	Legal owner of land to be acquired	Monthly rent at market value	A signed agreement must be made between the contractor and land owner.
Land farmer	Farmer of any crops planted on the affected land (regardless of the farmers legal right to the farmed land)	Equivalent to market value of gross harvest for one year's production: PKR 158,000/acre	
Agricultural labourer	Agricultural labourer engaged on the affected land	Equivalent to three months wages, or three months of minimum wage, whichever is greater. The minimum wage is set at PKR 11,000 per month	The affected labourers shall also be offered employment on the construction contract

The contract documents for contract WSIP/B1/LB/01 state that the contractor must not commence construction of the contractor's camp until camp layout plans have been submitted to, and approved by, PIC. On receipt of the camp layout plans, the social team of PIC shall survey the area within the finalised footprint of the proposed camp. As part of the approval, and based upon the findings of the social survey, the value and recipient of compensation to be paid by the contractor to the following entitled groups shall be detailed:

- Land farmers
- Agricultural labourers

The contractor shall be responsible for entering into a signed agreement with the land owners, and paying compensation to those identified in the approval letter.

8. Organisational Responsibilities for Implementation of the RAP

This chapter describes the institutional roles and responsibilities associated with the implementation of this RAP for the sub-project. An overview of the general institutional arrangements for WSIP is provided in section 3.1.

The responsibilities of each party in the implementation of the RAP are summarised within the context of the implementation schedule in Chapter 10.

8.1 Sindh Irrigation and Drainage Authority

SIDA are overall responsible for the implementation of this RAP through the Environmental Management Unit and Social Cell. This includes disbursement of funds for compensation and permanent acquisition of land identified in this RAP. The AWB will assist SIDA for implementation of this RAP. Note that SIDA shall maintain overall responsible for any RAP implementation activities which may be delegated to other parties.

8.1.1 Environmental Management Unit and Social Cell

The Environment Management Unit (EMU) and Social Cell established within SIDA will be responsible for all implementation activities within the RAP. While EMU and the Social Cell shall delegate a number of these tasks to other parties (as detailed in the following sections), they shall maintain direct responsibility for the following specific tasks:

- Review this RAP
- Translation and disclosure of this RAP
- Establishment of the Grievance Redress Committee (GRC)
- Settlement of any issues arising in the field
- Referring issues which cannot be solved by the project team to the GRC
- Preparation of final budget arrangement of funds through the AWB
- Notification of PAPs on embankments
- Verification of PAPs
- Completion of file of each PAP
- Preparation of relevant reports and preparation of final report on disbursement
- Under taking on stamp paper by PAP and verification
- Internal monitoring
- Supervision of permanent land acquisition

SIDA shall oversee and monitor implementation of this RAP. A Social Organiser and two engineers from the Left Bank AWB will ensure the implementation of the RAP and work closely with PIC field staff and the contractor.

8.2 Left Bank Area Water Board

SIDA shall delegate responsibility for the following tasks to be implemented by the Left Bank AWB:

- Direct liaison with the Board of Revenue for permanent land acquisition required for this sub-project
- Resolution of any land acquisition issues and cases

- Ensuring there is no further encroachment into the Col following the cut-off date defined in this RAP. This shall be achieved through the Assistant Manager for Social Mobilisation within the AWB.
- The Social Mobilisation Team of the AWB shall assist SIDA in the following:
 - Disclosure of the translated RAP among the PAPs
 - Notification of PAPs on embankments
 - Information dissemination, awareness raising and liaison with affected communities.
- Transfer of resettlement funds to Board of Revenue
- Provide support to the contractor during the construction period in order to resolve any issues arising from temporary land acquisition (borrow areas) and minimise any delays to the construction progress.
- Vacation of the Col (following compensation payment by SIDA)

Left Bank AWB shall designate a Social Organiser and two engineers to be responsible for RAP implementation tasks. These staff shall work closely with PIC field staff and the contractor, and shall be supervised by SIDA.

Following the practice adopted by the Nara AWB for contract WSIP/B1/NC/02 where the establishment of borrow areas was required, the Left Bank AWB shall depute the Social Organiser to assist the contractor with day to day temporary land acquisition requirements. The two engineers shall work under oversight of SIDA's Sociologist/Participation Specialist and coordinate the Board of Revenue and land owners for the completion of permanent land acquisition.

8.3 Board of Revenue

The Assistant Commissioner of the Tando Mohammad Khan District Board of Revenue shall be responsible for permanent acquisition of land on behalf of the AWB. He shall acquire the land on behalf of the AWB following procedures of the Land Acquisition Act (see section 2.2.2). The Assistant Commissioner also acts as the Land Acquisition Officer.

The Assistant Commissioner shall also be responsible for the disbursement of funds to PAPs through cross cheques during a public event. PAPs shall present the stamp paper to the Assistant Commissioner, who shall verify the identity of the PAP, disburse the compensation through cross cheque and add his stamp to the stamp paper, confirming disbursement of the compensation.

The funds shall be provided by the AWB.

8.4 Project Coordination and Monitoring Unit (PCMU)

The Project Coordination and Monitoring Unit (PCMU) shall be responsible for coordination of the implementation of this RAP and for monitoring of implementation progress, assisted by the Monitoring and Evaluation Consultants (M&EC). PCMU shall also oversee any acquisition of public or private land or assets associated with the implementation of this sub-project.

PCMU shall undertake regular monitoring of progress in implementing this RAP to ensure timely actions are taken in response to any issues experienced.

8.5 Monitoring and Evaluation Consultants

The M&EC are responsible for reviewing and clearing this RAP. Following this, they also have a role in the implementation of the RAP as monitoring and evaluation is important tool for managers to determine the status and success of any project. The M&EC will provide continuous feedback to SIDA and PCMU on the implementation progress of this RAP, identify problems in implementation and suggest corrective actions.

Sindh Water Sector Improvement Project

The purpose of RAP monitoring is to verify that:

- Actions and commitments described in the RAP are implemented fully and on time,
- Eligible affected people receive their full compensation entitlements within the agreed timeframe,
- RAP actions and compensation measures are effective in sustainably enhancing (or at least restoring) affected people's living standards and income levels,
- Complaints and grievances lodged by PAPs are followed up and that where necessary, appropriate corrective actions are taken up and implemented,
- Progress of any community development activities or reconstruction/relocation of community structures defined in the RAP
- Performance of contractor in providing employment opportunities for PAPs, and
- Payments for loss of income.

Monitoring

The M&EC shall monitor progress of implementation of this RAP against the following indicators:

- Value of compensation disbursed against anticipated budget for each impact (refer to Chapter 9)
- Status of compensation disbursement
- Progress in acquisition of private land and vacation of Col following acquisition
- Grievances redress activities
- Impacts and disbursement of entitlements by the contractor to PAPs, associated with establishment of the contractor's camp
- Entitlement Matrix in the context of the anticipated impacts

The M&EC shall be responsible for monitoring performance of the implementing parties against these indicators.

Evaluation

As part of their evaluation activities under this RAP, the M&EC shall evaluate the following within the sub-project area:

- Impact of construction activities in sub-project area in particular on PAPs and livestock
- Socio-economic impact and impact on the level of un-employment and household incomes amongst PAPs and within the sub-project area

The evaluation of the success of the implementation of this RAP against the objectives of the plan should be completed by the M&EC within one year of completion of the civil works contract.

8.6 Project Implementation Consultants

The Project Implementation Consultants are responsible for the preparation of this RAP.

During construction, PIC shall be responsible for supervision of the contractor, including the arrangements the contractor makes for the temporary acquisition of land required to complete his works. PIC shall be responsible for identifying PAPs resulting from the establishment of the construction camp, as detailed in section 7.6.

8.7 Contractor

The contractor appointed to implement this sub-project under Contract WSIP/B1/LB/01 shall be responsible for all temporary land acquisition required for the completion of his works and payment of appropriate compensations as detailed in section 7.6. This shall include the mutual agreement with land owners for the provision of rent or actions in kind in exchange for the temporary use of their land for the establishment of camps or borrow areas, as well as payment of compensation to farmers and labourers who depend on the land to be acquired.

The contractor shall prepare and keep signed agreements between the contractor and land owners for the temporary use of private land, detailing monetary rent and/or acts in kind, agreed with the land owner in exchange for the temporary use of his land. The agreements shall also state the condition of the land that is to be handed over to the land owner following use by the contractor.

The contractor shall also be responsible for the reconstruction of the privately owned irrigation pump houses, the government owned water supply pump house and the irrigation office, under the contract for civil works.

The contractor shall also be responsible for staff training, including training of migrant staff on cultural sensitives within the local population.

8.8 Grievance Redress

8.8.1 Review of Social Task Force and Grievance Redress Committee Performance on Previous Contracts

The Resettlement Action Plans prepared for Contracts WSIP/B1/NC/01 and WSIP/B1/NC/02 (both implemented within the Nara AWB) included the establishment of a Social Task Force (STF) at AWB level. The objective of the STF was to ensure that measures are taken in a timely fashion to prevent potential grievances. STF was comprised of AWB, SIDA, PIC, and Board of Revenue. Initially, during the execution of Contract WSIP/B1/NC/01 and WSIP/B1/NC/02 the STF did not formally meet at regular periods. However, the issues on which the STF were intended to advise upon were dealt with by AWB, including land acquisition. Therefore, it has been decided that a STF shall not be established for implementation of contract WSIP/B1/LB/01.

Formal establishment and meetings of the GRC were rarely undertaken. Examples of grievances during the execution of these contracts were as follows:

- Delay in payment for permanent land acquisition
- Delay in payment of compensation to PAPs
- Arrangements for borrow material by contractor

These grievances were resolved by individual members of the GRC to the satisfaction of the complainant, but rarely as a united committee. Timely establishment of the GRC may have made resolution of these grievances more efficient.

8.8.2 Grievance Redress Mechanism

The main objective of the grievance redress mechanism will be to arrive at mutually acceptable solutions to grievances through free and open discussions. It will also provide a forum to people who might have objections or concerns about their compensation to raise their objections and through conflict resolution

Sindh Water Sector Improvement Project

address their issues adequately. The project will establish a grievance redress committee (GRC) at a sub-project level for the affected persons in line with the Social Impact Management Framework for WSIP. The GRC shall meet at least quarterly to consider outstanding grievances.

Grievance redress arrangements should be disseminated to the PAPs with clear information on where and how grievances can be submitted, as well as the process for grievance redress, both at the subproject level and through the court system.

The committee is responsible for the facilitation of resolution of disputes and grievances which may arise during the implementation of this plan. The committee shall be formed of the following members:

Table 8.1: Grievance Redress Committee

Representative	Members
Assistant Commissioner	Chairman
Project Director, WSIP	Member
Land Acquisition Collector	Member
Sociologist/Participation Specialist, SIDA	Member (Secretary)
Local dignitary	Member
2 nr. Affected Person Representatives	Members

Any grievance which cannot be resolved at a project level (i.e. by the contractor, PIC, SIDA or AWB) shall be referred to the GRC. If the affected person is not satisfied with the decision of GRC, he/she, as last resort may submit the complaint to the court of Law. The committee will establish community complaints register at sub-project sites. Committee will register and file any grievance redress cases and would bring these into the notice of Project Director. Revenue department will be involved for land acquisition and crop compensation.

Grievances may be submitted to the GRC through any of the following means:

- By individual(s) through the complaints registrations system on the WSIP website (<http://www.wsip.com.pk/Complaint/>)
 - These complaints are submitted directly to the Managing Director of SIDA and the PMC/A Team Leader and will be forwarded to the GRC Chairman
- By individual(s) in writing directly to the GRC Chairman
- By individual(s) in person at the Left Bank AWB office
 - Director AWB shall forward grievances to the GRC chairman
- Referred to GRC chairman by the Contractor or PIC (for grievances submitted to the Contractor or PIC in the first instance but that cannot be not resolved by them)

The following standards shall underpin the proposed systems for handling any submitted grievances:

- All grievances received will be formally recorded by the GRC chairman in a Grievance Register to be maintained by the GRC
- A written acknowledgement shall be issued by the GRC chairman to the affected person within three working days of receipt.
- The GRC shall meet to discuss the Grievance within 5 working days of receipt. Attendees, minutes of the meeting and actions arising from the meeting shall be entered into the Grievance Register.
- If required, a second meeting of the GRC shall be held within 20 working days of receipt of the grievance, thus allowing 15 working days for deliberation by the GRC, receipt of legal advice and undertaking of investigations as may be necessary. Attendees, minutes of the meeting and actions arising from the meeting shall be entered into the Grievance Register.

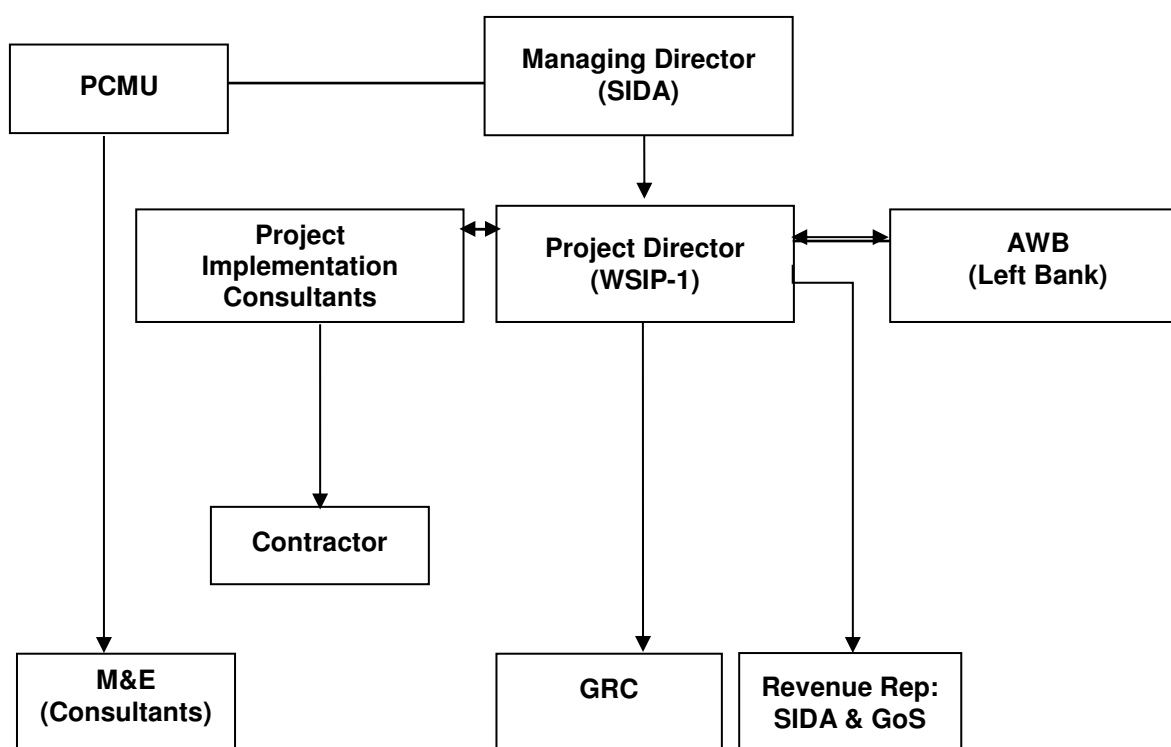
- The final decision of the GRC (arising from the first or second meeting) shall be recorded in the Grievance Register, including any further actions to be taken and both shall be communicated to the affected person in writing within 30 days of receipt of the grievance.
- If a final decision cannot be reached by the GRC within 30 days, the findings of the GRC to date shall be communicated to the affected person in writing. The GRC shall agree upon a timeframe for resolution of the grievance which shall be recorded in the Grievance Register and shall also be communicated to the affected person in writing within 30 days of receipt of the grievance.
- Attendees, minutes and actions arising from any subsequent meetings shall continue to be entered into the Grievance Register, and the affected person shall be updated, in writing, on findings at 30 day intervals.
- If, at any time, the affected person is not satisfied with the decisions or findings of the GRC, they may register their complaint in a court of law.

All costs incurred by the GRC shall be borne by SIDA.

8.9 Organisation Structure

The organizational chart for the implementation of the Resettlement Action Plan is shown in the following figure:

Figure 8.1: Organisational Structure for RAP Implementation



8.10 Training and Capacity Building

Training and capacity building of all primary and secondary stakeholders is an important part of the sub-project implementation and will be an integral part of the sub-project. It helps to create and develop a similar approach among the project stakeholders. For this purpose, a training programme of two days is planned to impart training to all relevant officials of AWB representative affected people. The amount of Rs. 100,000 has been provided in the budget for two days training. The training cost will be borne by the

project proponent. The training will be provided by training specialists. During the training session following topics will be covered (sections 8.10.1 to 8.10.4):

8.10.1 Principles and Procedures of Involuntary Resettlement

- World Bank policy on involuntary resettlement.
- Identification of PAPs.
- Consultations with affected persons.

8.10.2 Consultation and Participation

Training regarding sub-project objectives and its impacts will be given to the expected stakeholders. All expected impacts will be discussed with the community. How they will be satisfied and their trust gained will be ensured.

8.10.3 Grievance Redress

Training shall be provided to the GRC in order to brief them on the requirements of this Resettlement Action Plan, World Bank policy and the Pakistan legal framework under which the committee must act.

8.10.4 Skill Development

In addition to the training of the implementation stakeholders, SIDA shall complete skills development training to PAPs. Technical skill development programme for PAPs is considered essential as their regular sources of livelihood and income generation will be directly affected as a result of rehabilitation works. Furthermore, in the contemporary world, the Sustainable Livelihoods Approach (SLA) is strongly perceived as a way to improve understanding of the livelihoods of poor people. It draws on the main factors that affect poor people's livelihoods.

9. Budget

This section provides the compensation and assistance cost estimates as well as costs for administration of the RAP.

The details of estimated budget are given in the following table.

Sindh Water Sector Improvement Project

Table 9.1: Budget for Implementation of the RAP

Type of Loss	Application	Entitled Person	Entitlement	Unit	Quantity	Unit Cost (PKR)	Cost (PKR)
A: Compensation							
Loss of Land (Agricultural)	Permanent loss of entire land or where partial loss but the remaining land is less than 0.5 acre or is rendered economically unviable.	Legal owner with valid title or customary or usufruct rights.	Compensation as per Land Acquisition Act	Acres of impacted land	33.1	1,725,000	57,097,500
		Sharecropper	Sharecropping allowance	Acres of impacted land	27.45	79,000	2,168,550
			Crop compensation	Acres of impacted land	27.45	35,000	960,750
Loss of privately owned pump houses	Loss of pump house	Owner of structure (regardless of ownership of title to land on which structure is situated)	Replacement under civil works contract	Number of Pump Houses	7	Reconstruction Covered under civil works contract	
Loss of Structures (Community or Institutional)	Entire loss of structure	Institution owning structure	Replacement under civil works contract	Number of government owned structures	2	Reconstruction Covered under civil works contract	
Sub-total (A)							60,226,800
B: Training Cost							
	Training Cost	-	-	Lump Sum	-	100,000	100,000
Sub-total (B)							100,000
C: Monitoring and Evaluation							
	Monitoring and Evaluation	-	-	Lump Sum	-	2% of (A)	1,204,536
	Administrative Costs	-	-	Lump Sum	-	3% of (A)	1,806,804
Sub-total (C)							3,011,340
D: Contingencies							
	Contingency	-	-	-	-	5% of (A) + (C)	3,161,907
GRAND TOTAL							66,500,047
US\$ (US\$ = PKR 100)							665,000

10. Implementation of RAP

10.1 Introduction

The following implementation schedule is proposed to ensure the timely implementation of this RAP.

The implementation schedule reflects the sequencing and duration of activities planned, the schedule recognizes that activities will be taking place simultaneously and allows, within reason, for staggered starts. The schedule proposed shall ensure necessary land acquisition can be complete prior to mobilization of the contractor.

10.2 Implementation Schedule

The basic steps for preparation and implementation of this RAP are summarized in Table 10.1. The responsibility for each step is also detailed. Within the schedule the time at which contract WSIP/B1/LB/01 is awarded is referred to as month 0.

Sindh Water Sector Improvement Project

Table 10.1: RAP Implementation Schedule

#	Activity	Responsibility	Month												
			-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1-24	24+	
1	Preparation and Revision of RAP	PIC													
2	Review and Approve of RAP	SIDA/M&EC		X											
3	Coordinate/Monitor RAP Implementation	PCMU													
4	Prevent Encroachment into Col	AWB													
5	Establish Grievance Redress Committee	SIDA		X											
6	*Supervision of Land Acquisition	SIDA													
7	*Resolution of Land Acquisition Issues	AWB													
8	*Notification of LA to Board of Revenue (BoR)	AWB		X											
9	*Section 4 Notification under LAA	BoR		X											
10	*Surveys and Setting Out	BoR		X											
11	Translation and Disclosure of RAP	SIDA		X											
12	*Section 5 Notification under LAA	BoR			X										
13	*Period for Objections to LA	PAPs													
14	*Period for Investigation into Objections to LA	BoR													
15	Finalisation of Resettlement Budget	SIDA					X								
16	Notification of Sharecroppers	SIDA													
17	*Review of Objections to LA by Commissioner	BoR						X							
18	Transfer of Funds to BoR	AWB						X							
19	*Section 6 Declaration under LAA	BoR						X							
20	*Preparation of Land Acquisition Plan (map)	BoR													
21	Disbursement of Compensation to PAPs	BoR													
22	*Section 9 Notification under LAA	BoR								X					
23	*Period to Register Interest in Land	PAPs													
24	*Section 11 Enquiry under LAA (if required)	BoR									X				
25	Period for Grievance Redress	GRC													
26	*Acquisition under Section 12 of LAA	BoR										X			
27	*Handover of Land to AWB	BoR											X		

Sindh Water Sector Improvement Project

#	Activity	Responsibility	Month												
			-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1-24	24+	
28	Mobilisation of Contractor	-										X			
29	Temporary Land Acquisition	Contractor													
30	Reconstruction of Pump Houses	Contractor													
31	Assist in Temporary Land Acquisition	AWB													
32	Supervision of Contractor	PIC													
33	Internal Monitoring	SIDA													
34	External Monitoring	M&EC													
35	Evaluate RAP	M&EC													

* = Action required for permanent land acquisition;

LA = Land Acquisition;

LAA = Land Acquisition Act:

? = If required

10.3 RAP Implementation Detail

The methodology for the implementation of the RAP as outlined in Table 10.1 is discussed in the following sections. SIDA shall maintain overall responsibility for implementation of the RAP.

10.3.1 General

10.3.1.1 Preparation of RAP

The RAP has now been completed by PIC and is to be reviewed and approved as per the following section. Any necessary revisions are to be agreed and incorporated by PIC.

10.3.1.2 Review and Approval of RAP

This RAP shall be submitted in the first instance to Project Director SIDA for review. SIDA shall then forward this to M&EC and the World Bank for their review, and approval (following any agreed revisions).

10.3.1.3 Internal and External Monitoring

SIDA shall carryout internal monitoring, and M&EC shall complete external monitoring, from the point at which the RAP is approved until completion of the civil works. Further details are provided in Chapter 11. Both parties shall monitor the land acquisition and compensation and vacation of PAPs.

10.3.1.4 Translation and Disclosure of the RAP

SIDA shall translate this RAP and ensure the translated version of this RAP remains available to the public at a location within the sub-project area.

10.3.1.5 Establish Grievance Redress Committee

SIDA shall establish the Grievance Redress Committee as detailed in chapter 8.

10.3.1.6 Evaluate the RAP

Following completion of Contract WSIP/B1/LB/01, the M&EC shall evaluate the success of this RAP. Further details are provided in Chapter 11.

10.3.2 Land Acquisition

10.3.2.1 Supervision of Land Acquisition

SIDA shall remain active in the supervision of land acquisition. Initially they shall ensure that the Board of Revenue has been notified and the acquisition process has commenced according to the LAA

10.3.2.2 Notification of Land Acquisition to Board or Revenue

The AWB shall notify the Board of Revenue (Tando Muhammad Khan District) of the permanent land acquisition requirements and request the Board of Revenue to begin acquisition proceedings under the

Land Acquisition Act on their behalf. SIDA and the AWB shall provide all required information to the Board of Revenue.

10.3.2.3 Section 4 Notification

The Board of Revenue shall issue a notification under section 4 of the LAA of intention to acquire land. The notification shall be published in the official Gazette and displayed at a convenient and prominent location close to the land to be acquired. It is also recommended that the AWB begin consultations with the land owner(s) at this stage.

10.3.2.4 Surveys and Setting Out

Following the section 4 notification, officers of the Board of Revenue shall be permitted to enter the land to be acquired to take any necessary measurements if required by the Board of Revenue.

10.3.2.5 Section 5 Notification

After any investigations required (section 10.3.2.4), the Board of Revenue shall issue a notification under section 5 of the LAA stating the location and area of land to be acquired. The notification shall be published in the official Gazette and displayed at a convenient and prominent location close to the land to be acquired. The notification shall include the address to which any objections should be submitted.

10.3.2.6 Period for Objections to Land Acquisition

During this period, any person with an interest in the land, or who may be affected by its acquisition is required to raise objections within 30 days of notification under Section 5 of the LAA. Objections shall be submitted in writing to the address provided on the Section 5 notification.

10.3.2.7 Period for Investigations into Land Acquisition

The Board of Revenue shall provide any person who has submitted a written objection (within 30 days of notification under Section 5 of the LAA) an opportunity for their objection to be heard, following which the Board of Revenue shall make further enquires (if required) and shall submit the case to the Commissioner along with their recommendation and details of enquires made.

10.3.2.8 Review of Objections by Commissioner

The Commissioner shall review any objections which are submitted by the Board of Revenue and make a final decision as to any further actions required. The decision of the Commissioner shall be considered final.

10.3.2.9 Section 6 Declaration

Following review of objections (if any) by the Commissioner, the Board of Revenue shall issue a declaration under Section 6 of the LAA stating the following:

- Location of land to be acquired
- Purpose of acquisition
- Area (size) of land to be acquired

- Location that the plan (map of acquisition) is available for inspection

This declaration shall be published in the official Gazette.

10.3.2.10 Preparation of Land Acquisition Plan

Following the Section 6 declaration, the Board of Revenue shall mark out the land to be acquired and prepare a plan (map) of the area to be acquired (if the plan has not already been prepared).

10.3.2.11 Section 9 Notification

The Board of Revenue shall place a notification on the land to be acquired stating the intention to acquire the land and notifying those with an interest in the land, or an objection to the measurements given in the section 6 declaration, that they must appear before the Board of Revenue at a time and place stated on the notification.

10.3.2.12 Period to Register Interest in Land

Following notification under Section 9, all those with an interest in the land to be acquired (including co-proprietor, sub-proprietor, mortgagee or tenant) are required to submit details of their interest (such as details of any rent and income from the land in the last three years) to the Board of Revenue. A period of no less than 15 days shall be allowed for people to register their interest.

10.3.2.13 Section 11 Enquiry

Should any objections be received during the 15 days following notification under Section 9 the Board of Revenue shall hold an enquiry to determine the true area of land, compensation due and to whom it is due. If no objections are received, there shall be no need to hold an enquiry.

10.3.2.14 Acquisition under Section 12

If no objections are received within 15 days on the Section 9 notification, the Board of Revenue shall take possession of the land. If objections are received, and an enquiry is held, the Board of Revenue shall file their findings and notify interested people of the final award and then take possession of the land.

10.3.2.15 Handover of Land to AWB

Following acquisition under Section 12, the Board of Revenue shall handover the land to the AWB.

10.3.3 Temporary Land Acquisition

The temporary acquisition of privately owned land for the purpose of temporary diversions shall be arranged between the contractor and the land owner. The contractor shall prepare and keep signed agreements for the temporary use of private land, detailing monetary rent and/or acts in kind, agreed with the land owner in exchange for the temporary use of his land. The agreements shall also state the condition of the land that is to be handed over to the land owner following use by the contractor. The contractor shall make copies of these agreements available at the request of SIDA or PIC

10.3.3.1 Assist in Temporary Land Acquisition

In recognition of the risk of delays resulting from inefficient temporary acquisition, an officer of the AWB, with appropriate authority (delegated or otherwise), should be made available to the contractor, throughout the entire construction period, to assist in the resolution of temporary land acquisition issues.

10.3.3.2 Supervision of Contractor

PIC shall be responsible for supervision of the contractor, and shall require the contractor to submit signed copies of agreements for temporary land acquisition wherever the contractor has used private land for the completion of the works.

10.3.4 Payment of Compensation

10.3.4.1 Prevent Encroachment into the Col

The AWB shall monitor encroachment into the Col and provide eviction notices to any encroachers who have arrived, or do arrive, following the cut-off date provided in this RAP. The notice should inform the encroachers of the cut-off date and inform them that they shall not be eligible for compensation or assistance under this RAP. A copy of the grievance redress mechanism should also be provided to them.

10.3.4.2 Finalisation of Resettlement Budget

SIDA shall finalise the Resettlement budget, based on the findings of this RAP. This shall include verification of the crops grown in the Col for the purpose of finalising the crop compensation requirements.

10.3.4.3 Notifications of PAPs

SIDA shall prepare a unique package for each affected sharecropping households, each household owing land within the Col. The packages shall include the following information:

- Inventory of losses (cropped land) of each PAP in the household
- Compensation to be paid to each PAP in the household
 - For sharecroppers, this shall include: crop compensation (50%), sharecropping compensation and vulnerability allowance
 - For land owners who have an agreement with a sharecropper to farm their land: crop compensation (50%)
 - For land owners who farm the land they own within the Col, this shall include: crop compensation (100%)
- The date, time and venue for the disbursement of compensation
- Detailing the requirement to present their National Identity Card (NIC) and submit a copy of their NIC on the date of disbursement.
- Detailing the requirement to obtain a stamp paper from the local court confirming the PAPs identity.
- For any PAP under the age of 18 or without a NIC, the PAP must provide an affidavit with photograph signed by the head of local government.
- The requirement to hold an open a bank account in order to receive compensation
- Details of the Grievance Redress Mechanism

These packages shall be distributed to the PAPs no later than one month prior to the date of disbursement of funds.

10.3.4.4 Transfer of Funds to Board of Revenue

Following finalisation of the budget, AWB shall transfer the resettlement funds to the Board of Revenue.

10.3.4.5 Disbursement of Compensation to PAPs

Disbursement of compensation shall be carried out in public by the Board of Revenue. The identity of PAPs shall be verified through his/her NIC (or signed affidavit in the case of eligible PAPs under 18 years of age) and stamp paper. Following verification, payment of compensation shall be paid through a crossed cheque to the name of the PAPs. Payments of less than PKR 5,000 may be made in cash.

10.3.4.6 Period for Grievance Redress

The GRC shall be active to review any grievances received from the time at which PAPs are formally notified. The GRC shall aim to resolve all grievances prior to mobilisation of the contractor.

11. Monitoring and Evaluation

11.1 Introduction

The World Bank requires proper monitoring of implementation of the RAP and reporting on its 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 RAP and to identify problems and successes as early as possible to allow timely adjustment to implementation arrangements. For these reasons, RAP monitoring and evaluation activities should be adequately funded, implemented by qualified specialists and integrated into the overall project management process.

Monitoring involves periodic checking to ascertain whether activities are progressing as per schedule, while evaluation is essential in reviewing the performance of the RAP against its original objectives. RAP implementation will be monitored both internally and externally.

SIDA being the proponent of the sub-project will be responsible for internal monitoring through the EMU and the Social Cell will prepare monthly progress report on the implementation of this RAP. In addition, SIDA shall engage a Resettlement Specialist to provide necessary technical assistance and monitor the implementation the RAP activities. The monitoring framework is given in Table 11.1.

11.2 Monitoring and Evaluation

Monitoring and evaluation is an important tool for managers to determine the status of the sub-project. Only through a well-planned and organized system of monitoring and evaluation, the progress against the given targets for various components of a development project can be achieved. Such evaluation is possible through the review of quarterly and annual reports.

In general, the purpose of RAP monitoring is to verify that:

- Actions and commitments described in the RAP are implemented fully and on time,
- Eligible affected people receive their full compensation entitlements within the agreed timeframe,
- RAP actions and compensation measures are effective in sustainably enhancing (or at least restoring) affected people's living standards and income levels,
- Complaints and grievances lodged by PAPs are followed up and that where necessary, appropriate corrective actions are taken up and implemented,
- If necessary, changes in RAP procedure are made to improve delivery of entitlements to Project affected people.
- Progress in community/institutional structure reconstruction,
- Progress of liaison with construction contractor for employment opportunities for PAPs, and
- Payments for loss of income.

11.3 Internal Monitoring

The RAP includes indicators and benchmarks for achievement of the objectives under this project, which can be categorized as under:

- Process indicators, which include project inputs, expenditures, staff deployments etc.
- Output indicators are results in terms of land acquired, numbers of affected persons compensated and mitigated, additional assistance provided, employment of local labour etc; and,

- Impact indicators related to the long-term effects/benefits of the project on people's lives in the project-affected area.

The first two types of indicators, related to process and immediate outputs and results, will be monitored internally by SIDA. This 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 RAP implementation, and adjust the work progress, where necessary, in case of any delays or problems. Specific activities under RAP implementation that will be monitored are the following:

- Information campaign and consultation with PAPs
- Reconstruction of affected structures
- Land acquisition
- Grievances redress activities
- Status of compensation disbursement
- Sub-project employment

Field offices of SIDA will be responsible for monitoring the day-to-day RAP activities of the sub-project. A performance data sheet will be developed to monitor the sub-project at the field level. Monthly reports will be received from the concerned quarters.

Field level monitoring will be carried out through;

- Review of census information for all PAPs.
- Consultation and informal interviews with PAPs.
- Key informant interviews
- Community public meetings and
- In depth case studies

Monthly and quarterly reports will be submitted by the field offices and SIDA will be responsible for overall monitoring at sub-project level.

11.4 External Monitoring and Evaluation

M&EC shall be responsible for external monitoring of the RAP for this sub-project and monitoring of their implementation. They shall review and clear the RAP. The M&EC shall provide continuous feedback to SIDA, via PCMU, on the sub-project's performance and impact of its various components so that corrective actions could be taken in a timely manner. The M&EC activities are likely to cover:

- Establishment of STF and GRC
- Any acquisition of public and private land and assets.
- Agreements reached and arrangements made for temporary acquisition of assets (such as temporary land acquisition).
- Impact of construction activities in sub-project area in particular on population and livestock as part of the evaluation of the RAP implementation
- Socio-economic impact and impact on the level of un-employment and household incomes in the sub-project areas as part of the evaluation of the RAP implementation

11.5 Monitoring Framework

SIDA will be responsible for implementation of RAP and will prepare monthly progress reports on RAP activities and consequently submit these to the WB for review.

Table 11.1: Monitoring Framework

Aspect	Indicator	Verification
Affected Persons are compensated in a fair and mutually accepted manner for their damages by the project authorities.	The PAPs are correctly identified.	List of PAPs in resettlement plan List of PAPS updated by the SIDA staff and concerned AWB.
Gender/Vulnerable	Gender /Vulnerable are correctly identified.	List of gender/vulnerable and their compensation is calculated according to World Bank Policy.
Loss of community structures	Community structures (grave sites) are protected from demolition	Consultation with community
Grievance Mechanism is in place	Social Complaint Register for checking Grievance Committee is in place	Social Complaint Register: Consultation with affected persons during internal and external monitoring
Resettlement Action Plan is effectively implemented	Staff training according to the monitoring plan	Training reports including list of trainees and types of training
	The skill and knowledge acquired during the training are effectively employed for implementation of social action plan	Internal monitoring record. External monitoring visit reports
	Level of interaction and participation of stakeholders.	Stakeholders' suggestion incorporated.
	Type of expertise and level of input and output of such expertise.	Social and Resettlement Expertise.
Local employment on the construction contract	Number of PAPs employed as unskilled labourers	Contractor's employment records
	Number of PAPs employed as skilled labourers	
	Local unskilled labourers by FO area (Left Bank AWB)	
	Local skilled labourers by FO area (Left Bank AWB)	
	Local unskilled labour employed form outside Left Bank AWB	
	Local skilled labour employed form outside Left Bank AWB	

Appendices

Appendix A. Additional Details of Survey Participants and Consultations	109
Appendix B. Survey Questionnaires and Data Collection Tools	113
Appendix C. Details of Project Affected Persons and Assets	129
Appendix D. Deh Maps	133
Appendix E. Grass Root Consultations	137
Appendix F. Pictorial View	140
Appendix G. Satellite View of Embankment Rehabilitation Col	144

Appendix A. Additional Details of Survey Participants and Consultations

A.1. Detail of Officials Participating in Field Surveys

List of Officials Contacted During Survey				
Sr. No.	Name	Designation	Organization	Contact No.
Elevation of PSC VRB (RD 62+000)				
1	Mohammad AyoobBoro	Sub Darogha	AWB	0301-3619871
2	Mashooq Ali	Darogha	AWB	0333-2753244
3	Allahyar	Beldar	AWB	0342-3660774
4	Noor Hussain Panhwar	Teacher	Government	-
5	Sajid Magnahar	Teacher	Government	-
30 Mile Cross Regulator at RD-140 Guni Wah Head Regulator and Pandhi Wah Head Regulator				
6	Kamal Noonarl	(Chairman Pandhi Wah)	FO	-
7	Haji Abdul Karim Jamali	(General Secretary of Pandhi Wah)	FO	0300-2142540
8	Mir Asif Talpur	Land Lord	-	0300-2190118
9	Mir Mazaharul Haq	Land Lord	-	0334-2630533
10	Akhtar Hussain Nahyoon	Darogha	AWB	0305-31089404
11	Noor Mohammad Jiskani	Pump Operator (Foji Sugar Mill)		0331-6240296
12	NaeemRahoo	Pump Operator	AWB	
13	ShakeelMemon	Adminstrator (Foji Sugar Mill)		
14	Ajmal Awan	Audit Officer (Foji Sugar Mill)		0333-2804577
15	Lal Jamal	Head Clerk (Foji Sugar Mill)		0333-2806959
Imam WaH Cross Regulator at RD-170 and Imam Wah Jagir				
16	Rafiq Laghari	Tandail	AWB	03000-281660
17	Mumtaz Ali Laghari	Khalasi	AWB	0313-2329927
18	Mohammad Raheem	Teacher	Government	0333-2805441
19	Basheer Ahmed Khaskheli	Teacher	Government	0344-3451123
20	Sain Bux Laghari	Tapedar	Revenue	
Ali Pur Cross Regulator RD-231 Sultani Branch ,Imam Wah Junubi and Khanoth Minor				
21	Shafi Mohammad	Beldar	AWB	0306-2878363
22	Abdul Karim Waryah	Ex,Dariogha	AWB	
23	Jan Mohammad	Tandail	AWB	0302-3979227
Department Wise Officials Contacted				
24	Ali Warayo Rind	Assistant Engineer FO	SIDA	03003081028
25	Aftab Ahmed Soomro	Director	Public Works Department	022-9200087 0300-3210121
26	Mohammad Waseem	Assistant Engineer	AWB	0333-2629639

Sindh Water Sector Improvement Project

List of Officials Contacted During Survey				
Sr. No.	Name	Designation	Organization	Contact No.
27	Qamber Dharejo	-	AWB	0333-2602742
28	Sultan Nizamani	Assistant Engineer	AWB	-
29	Akbar	Darogo	AWB	-
30	Mashoque Ali	-	AWB	0333-2753244
31	Mr. Subhan ali Shoro	Assistant commissioner Tando Muhammad Khan	Board of Revenue	0223342637
32	Abdul jamil	Office Assistant	Board of Revenue	-
33	Manzoor Sial	Assistant commissioner Matli	Board of Revenue	-
34	Mumtaz talpur	Mukhtiarkar of Tando Muhammad Khan	Board of Revenue	-

A.2. Consultees

List of local attendees during survey			
Sr. No.	Name	Designation	Contact No.
Elevation of PSC VRB (RD 62+000)			
1	Mohammad Ilyas	Owner	0321-3006779
2	Shahzad Ali	Student	0301-3577584
3	Usman Bhai	Shopkeeper	0301-3621786
4	Dildar Ali	Tenant	0312-5660251
5	Razaq Punjabi	Owner	0301-3565704
6	Shah Nawaz Panhwar	Shopkeeper	-
7	Parvez Rajput	Tenant	0308-3949803
30 Mile Cross Regulator at RD-140 Guni Wah Head Regulator and Pandhi Wah Head Regulator			
8	Khalid Dino Moughal	Teacher	0334-8112721
9	Fida Hussain Khaskheli	Teacher	-
10	Nazeer Ahmed Laghari	Owner	-
11	Allah Dito Khaskheli	Teacher	0336-4062076
12	Ghulam Sheedi	Private Service	-
13	Mohammad Dawood Laghari	Tenant	0331-3343080
Imam WaH Cross Regulator at RD-170 and Imam Wah Jagir			
14	Khameso Laghari	Owner	-
15	Dadan Laghari	Owner	0333-2807130
16	Dital Laghari	Govt.Servant	-
17	HamarshiKolhi	Tenant	0312-3352389
18	Raju Kolhi	Tenant	0307-3161467
19	Aziz Laghari	Owner	0347-3905778
20	Nabi Bux	Owner	0347-3365622
21	Ayub Shah	Tenant	-
22	Gul Beg Khaskhelil	Tenant	-
Dokia Distributary and Dando Distributary Head Regulator RD-224			
23	Khameso Mallah	Tenant	0302-4726757

Sindh Water Sector Improvement Project

List of local attendees during survey			
Sr. No.	Name	Designation	Contact No.
24	Arbab Manthar	Owner	0331-3830501
25	Ghulam Mustafa	Owner	0331-3843135
26	Mohammad Ali	Tenant	-
Ali Pur Cross Regulator RD-231 Sultani Branch ,Imam Wah Junubi and Khanoth Minor			
27	Haji Siddiqu	Owner	-
28	Haji Fateh Mandhro	Owner	
29	Arbab Mubarak	Owner	0341-3574689
30	Mohammad Hasan Khaskheli	Tenant	-
31	Habibullah	Tenant	-

A.3. List of Women Participants

List of local attendees during survey			
Sr. No.	Name	Village	Ownership
Elevation of PSC VRB (RD 62+000)			
1	ChampaKolhi	Kolhi Goth	Farm worker
2	Suneeta	Kolhi Goth	Farm worker
3	Sanjeela	Kolhi Goth	Farm worker
4	Laso	Kolhi Goth	Housewife
5	Heema	Kolhi Goth	Farm worker
6	Saba	Hoosri Town	Farm worker
7	Naila	Hoosri Town	Housewife
8	Zarina	Hoosri Town	Student
9	Aasia	Hoosri Town	Housewife
30 Mile Cross Regulator at RD-140 Guni Wah Head Regulator and Pandhi Wah Head Regulator			
10	Zarina	Mallah Goth	Farm worker
11	Maryam	Mallah Goth	Student
12	Shahzadi	Mallah Goth	Farm worker
13	Shama	Mallah Goth	House Wife
14	Saveeta	Mallah Goth	Farmworker
15	Raheema	Mallah Goth	Farm worker
Imam WaH Cross Regulator at RD-170 and Imam Wah Jagir			
16	Rizwana	Hussain Laghari	House Wife r
17	Sohni	Hussain Laghari	Farm worker
18	Sheetal	Hussain Laghari	House Wife
19	Laila	Hussain Laghari	Farm worker
Dokia Distributary and Dando Distributary Head Regulator RD-224			
20	Sahib Khatoon	Arbab Manthar	Farm worker
21	Sadori	Arbab Manthar	Housewife
22	Kanwal	Arbab Manthar	Housewife
23	Sana	Arbab Manthar	Student
24	Bhoori	Arbab Manthar	Housewife
Ali Pur Cross Regulator RD-231 Sultani Branch ,Imam Wah Junubi and Khanoth Minor			
25	Sakina	Hafiz Ahmed	Farm worker
26	FizaKhatoon	Hafiz Ahmed	House Wife

List of local attendees during survey			
27	Ameeran	Hafiz Ahmed	Farm worker
28	Zahida	Hafiz Ahmed	Student
29	Malookan	Hafiz Ahmed	House Wife
30	Wazeeran	Hafiz Ahmed	House Wife
31	Naseeban	Hafiz Ahmed	Farm worker

A.4. Names of Sample Surveyed Villages

Sr.#	Name of Village	Fulleli Main Canal	Location
1	Hoosroi Town	Elevation of PSC VRB (RD 62+000)	Near Hosri Town
2	Dato Khan Jamali	Elevation of PSC VRB (RD 62+000)	Near Hosri Town
3	TandoSaindad	30 Mile Cross Regulator at RD-140 Guni Wah Head Regulator and Pandhi Wah Head Regulator	Near TandoSaindad
4	Hussain Khan Laghari	30 Mile Cross Regulator at RD-140 Guni Wah Head Regulator and Pandhi Wah Head Regulator	Left of the Head Regulator
5	Gul Mohammad Laghari	30 Mile Cross Regulator at RD-140 Guni Wah Head Regulator and Pandhi Wah Head Regulator	Adjacent to the Head Regulator
6	Soonharo Laghari	Imam Wah Cross Regulator at RD-170 and Imam Wah Jagir	Adjacent to the Head Regulator
7	Darshi Patel	Imam Wah Cross Regulator at RD-170 and Imam Wah Jagir	Left of the Head Regulator
8	Ahmed Khan Laghari	Imam Wah Cross Regulator at RD-170 and Imam Wah Jagir	Left of the Head Regulator
9	Arbab Manthar	Dokia Distributary and Dando Distributary Head Regulator RD-224	Right of the Head Regulator
10	Hafiz Ahmed Waryah	Ali Pur Cross Regulator RD-231 Sultani Branch ,Imam Wah Junubi and Khanoth Minor	Left of the Head Regulator

Appendix B. Survey Questionnaires and Data Collection Tools

ASSETS INVENTORY CENSUS QUESTIONNAIRE Water Sector Improvement Project (WSIP) SOCIAL AND ENVIRONMENT ASSESMENT STUDY

ID.No. _____

1. Location Name of Distry /Minor: _____

1.2 RD: _____

2. IDENTIFICATION

2.1 Name of Affected Person: _____

2.2 Father's Name: _____

2.3 Respondent NIC No: _____

2.4 Permanent Address of the Respondent:

Village: _____ Sub-Village _____ Town _____

Tehsil _____ District: _____

2.5 Category of Respondent: (Tick relevant)

<input type="checkbox"/> 1	Resident Land Owner	<input type="checkbox"/> 2	Absentee Land Owner	<input type="checkbox"/> 3	Tenant
<input type="checkbox"/> 4	Business Owner Operator	<input type="checkbox"/> 5	Business Tenant Operator	<input type="checkbox"/> 6	Encroacher
<input type="checkbox"/> 7	Squatter/ Informal Settlers	<input type="checkbox"/> 8	Other (Specify) _____		

2.6 Demographic Profile of Respondent (Children up to 10 yrs (#): M____, FM ____=T____)

Sr. No.	Relationship with Respondent (See codes)	Sex Male=1 Female=2	Age (Yrs.)	Education (See Codes)	Name of Business/ Occupation (See Codes)		Income from Business/ Occupation (Rs. / Annum)		Health Condition
					Main	Secondary	Main	Secondary	
1	SELF								
2									
3									
4									
5									
6									
7									
8									
9									
10									

Demographic Codes: a) **Relationship:** 1=Self, 2=Wife, 3=Son, 4=Daughter, 5=Father, 6=Mother, 7=Brother, 8=Sister, 9=Grand Father, 10=Grand Mother, 11=Sister in Law, 12=Nephew, 13=Father-in-Law, 14=Mother- in- Law, 15=Niece, 17=Uncle, 18=Aunty, 19=other

b) **Sex:** 1=Male, 2=Female(c).

c) **Education:** 1= Primary 2= Middle 3= Metric, 4= Intermediate, 5= BA/BSc, 6= MA/MSc, 7=LLB, 8=Engineer, 9=MBBS, 10=Technical Diploma, 11=Dars-e-Nizami, 12=Can Read Quran, 13= Can Insert Signatures, 14= Illiterate

d) **Occupations:** 1=Agriculturist, 2=Shopkeeper, 3= Trader, 4= Govt. Servant, 5=Private Servant, 6=Timber Labor, 7=General Labor, 8=Livestock, 9=Fishing, 10=Driver, 11=Health Related, 12=Educator/Teacher, 13=House-Maid, 14= House Wife, 15=Gone Abroad, 16=Gone out City within Pakistan

e) Health: **1= Good, 2= Average, 3= Poor**

3. DETAIL OF AFFECTED PROPERTY

3.1 Type of Affected Property (a) Land (b) Structure (c) Land & Structure

3.2 Offset from the Outer Edge of Existing RoW _____ Ft.

3.3 Located At (RS / LS) _____

3.4 In case of affected land provide following details:

Type of Land	Total Land Owned	Affected Land
--------------	------------------	---------------

Sindh Water Sector Improvement Project

	Acre (within and outside this village)	Width (ft.)	Length (ft.)
a) Agriculture			
b) Commercial			
c) Residential			
d) Grazing Land			
e) Forest Land			
f) Wasteland			
g) Others (specify)			

3.5 If Structure, specify category of Structure: (tick relevant)

(a).Commercial_____ (b).Residential_____ (c).Otaq (Guest House)_____

3.6 Information about Commercial Structures:

Structure	Size (ft)		Type of structure (codes)			Estimated cost (Rs.)	Year of construction	Affected structures (ft.)	Ownership documents Yes-----No---
	W	L	Roof	Wall	Floor				
Shop									
Cabin									
Adda									
Other									

3.7 Information About Residential Structure:

Structure	Sr. No	Size (ft)		Type of Structure			Estimated cost (Rs.)	Year of construction	Similar const. cost at present (Rs.)	Affected structures (ft) (WxL)	Owners hip status
		W	L	Roof	Wall	Floor					
Living Rooms	1										
	2										
	3										
	4										
Kitchen	1										
	2										
Bathroom/ Latrine	1										
	2										
Shed (Animal)	1										
	2										
Other	1										
	2										

Types of Structures (codes)

Walls: 1= Bricks + Cement + Cement Plaster 2= Bricks+Cement+Mud Plaster 3= Bricks+Mud+Mud Plaster 4= Mud Masonry

Roofs: 1= RCC 2= RBC 3= Tiles+T.Irons+Girders 4= Tiles+Wooden Planks 5= Asbestos/ Iron Sheets 6= Mud+Wood 7= Mud+Thatched

Floors: 1= Mosaic 2= Concrete with Plaster 3= Bricks+Cement 4= Mud

3.6 Details about Shareholders, if any:

Sr.No.	Name	Relationship with Respondent	Share in % age	Document Available (Yes/No)
1.				
2.				
3.				
4.				
5.				

Sindh Water Sector Improvement Project

3.7 Details about Affected Crops:

Sr. No.	Crops	Area		Production (Kgs)	Total Costs (Rs.)	Qty Sold (Kgs)	Price (Rs./40Kgs)
		Marla	Kanal				
1.							
2.							
3.							
4.							
5.							

3.10 Details about other Affected Assets

Type of Asset	No.	Value (Rs.)	When Purchased / Installed (No. of Yrs.)
Peter Engine			
Hand Pump/Donkey Pump			
Electric Motor			
Tube Well			
Lined Watercourse			
Other (specify)			

4. COMPENSATION PREFERENCES

4.1 Do you have some other place to move? Yes _____ No _____

4.2 In case of Yes:

a) How far away from this place? _____ (km)

b) Do you own this place? Yes _____ No _____

5. IN CASE OF TENANT

5.1 Name of Owner: _____ Name of Occupation / Business _____

Av. Monthly Income (Rs.) _____ Av. Monthly Rent (Rs.) _____

5.2 Type of Tenancy a) Residential b) Commercial c) Agriculture Land

5.3 For how long you are at tenancy: _____ Month _____ Year

5.4 Have you made any investment: Yes _____ No _____

5.5 If yes, Provide following details:

Structure	Size (ft)		Estimated Cost (Rs.)	Year of Construction	Cost for Similar Replacement (Rs.)
	W	L			
House (Rooms)					
Shop					
Cabin					
Other(specify)					

7. COMMENTS / OBSERVATIONS

7.1 General Remarks of the Respondents

General Observations of Interviewers

Name of Interviewer _____ Dated _____

Sindh Water Sector Improvement Project

Socio-economic and Poverty Assessment Baseline Survey Water Sector Improvement Project (WSIP) SOCIO-ECONOMIC AND POVERTY ASSESSMENT BASE LINE SURVEY

IDENTIFICATION

Case No. _____

1.1 Name of Respondent _____ 1.2 Father's Name _____

1.3 Respondent NIC No: _____

1.4 Permanent Address of the Respondent:

Village: _____ Town _____ Tehsil _____ District: _____

1.5 Located At: Head / Middle / Tail (of the Distributary / Minor)

1.6 Category of Respondent: (Tick relevant)

1	Resident Land Owner	2	Absentee Land Owner	3	Tenant
4	Business Owner Operator	5	Business Tenant Operator	6	Encroacher
7	Squatter/ Informal Settlers	8	Other (Specify) _____	9	

1.7 Demographic Profile of Respondent (Children up to 10 yrs (#): M __, FM __=T ____)

Sr. No.	Relationship with Respondent (See codes)	Sex Male=1 Female=2	Age (Yrs.)	Education (See Codes)	Name of Business/ Occupation (See Codes)		Income from Business/ Occupation (Rs. / Annum)		Health Condition
					Main	Secondary	Main	Secondary	
1	SELF								
2									
3									
4									
5									
6									
7									
8									
9									
10									

Demographic Codes:

- a) Relationship: 1=Self, 2=Wife, 3=Son, 4=Daughter, 5=Father, 6=Mother, 7=Brother, 8=Sister, 9=Grand Father, 10=Grand Mother, 11=Sister in Law, 12=Nephew, 13=Father –in-Law, 14=Mother- in- Law, 15=Niece, 16=Uncle, 17=Aunt, 18=Others
- b) Sex: 1=Male, 2=Female
- c) Education: 1= Primary 2= Middle 3= Matric, 4= Intermediate, 5= BA/BSc, 6= MA/MSc, 7=LLB, 8=Engineer, 9=MBBS, 10=Technical Diploma, 11=Dars-e-Nizami, 12=CanRead Quran, 13= Can Insert Signatures, 14= Illiterate
- d) Occupations: 1=Agriculturist, 2=Shopkeeper, 3= Trader, 4= Govt. Servant, 5=Private Servant, 6=Timber Labour, 7=General Labour, 8=Livestock, 9=Fishing, 10=Driver, 11=Health Related, 12=Educator/Teacher, 13=House-Maid, 14= House Wife, 15=Gone Abroad, 16=Gone out City within Pakistan
- e) Health Condition 1=Good, 2=Average, 3=Poor

2. LANGUAGE SPOKEN _____

3. Agriculture

3.1 Agricultural Implements

Sr. No.	Items	Nos.	Year of Purchase	Present Value
1	Tractor			
2	Fodder Cutter			

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3	Seed Drill			
4	Reaper Machine			
5	Thresher			
6	Spray Pump			
7	Scraper			
8	Others			

3.2 LAND UTILIZATION

Land	Acres	Kanal	Marla
Total Area owned			
Total Cultivated Area			
a. Area Under Rabi (winter) Crops			
b. Area Under Kharif (summer) Crops			
Uncultivated Area			

3.3 Cropping Pattern, Yield and Cost

Code	Crops	Area Sown		Production (Kgs)	Total costs incurred (Rs.)	Price (Rs/40kg)
		Acres	Kanal			
1	Rice					
2	Sugarcane					
3	Cotton					
4	Maize					
5	Millets					
6	Potato					
7	Fodder (kharif)					
8	Vegetables(kharif)					
9	Barley					
10	Wheat					
11	Oilseed					
12	Fodder (Rabi)					
13	Vegetables(Rabi)					
14	Orchards					
15	Other					

3.4 Source of Irrigation

1. Canal 2. Tube well 3. Canal + Tube well 4. Lift Irrigation 5. Barani 6. Other. _____

3.5 Prevalent Land Rate

Residential _____ Agriculture Land _____
Cultivable Waste _____ Other _____

3.6 Land Rent (Rs./ Year) _____

3.7 Tube well Water (Rs./Hr.) _____

4. POSSESSION OF HOUSEHOLD ITEMS

Item	No	Value (Rs.)	Item	No	Value (Rs.)
Refrigerator			Van/Pickup		
Deep Freezer			Gas Cylinder		
Television			VCR		
Electric Fan			Telephone/PTCL		
Electric Iron			Mobile		
Radio/Tape Recorder			Electric Water Pump		
Bicycle			Computer		
Motor Cycle/Scooter			Air Cooler		
Car			Other		

5. AVERAGE MONTHLY EXPENDITURE ON FOOD AND NON- FOOD ITEMS (RS.)

a. Food Items	Expenses	b. Non-Food Items	Expenses
Meat		Bath Soap	
Ghee		Washing Soap	
Sugar		Gas Cylinder	
Flour		Fuel Wood	
Legumes		Kerosene Oil	
Vegetables		Other	

Sindh Water Sector Improvement Project

Species			
Tea Leaves			
Others			

c. Estimated Monthly Expenditure

1. Kitchen _____ 2. Others _____

5.. HOUSING CONDITIONS

5.1 Total Area of the House: _____ Kanal _____ Marla
 5.2 Year of Construction _____
 5.3 Present Value of the House (Rs.) _____
 5.4 Type of Structure a) Katcha _____ b) Pacca _____ c) Semi-Pacca _____

6. ACCESS TO SOCIAL AMENITIES (TICK)

Social Amenities	Available	Satisfactory	Non-Satisfactory	No Access
Electricity				
Gas				
Water Supply				
Telephone				
Sewerage/Drainage				
BHU				
School				

7. LIVESTOCK INVENTORY

Livestock	No.	Present Value (Rs.)
Buffaloes		
Cows		
Horse		
Donkey		
Camel		
Sheep/Goat		
Poultry		
Other		

9. WOMEN'S PARTICIPATION AND ROLE IN DIFFERENT HOUSEHOLD ACTIVITIES

9.1 Participation and Decision Making (Tick):

Activities

Household activities
 Child caring
 Farm/Crop activities
 Livestock rearing
 Sale & Purchase of properties
 Social obligations (marriage, birthday & other functions)
 Local representation (councilor/political gathering)

Participation Extent (%)	Decision Making Extent (%)

10. PERCEPTION OF RESPONDENT FOR ACTION ASSOCIATED WITH THE PROJECT

Possible impacts/effects of the Project	1	Increase	2	Decrease
Employment opportunities				
Industrial Development Opportunities				
Living standard				
Unemployment				
Income generating activities				
Electricity Supply Quality				
Mobility (Access to Resources)				
Other specify				

11. Does any NGO / FO Exist in your Area?

253277/EVT/WER/265/H May 2016

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Yes _____ No _____

If yes,

Name of NGO / FO _____

Are you member of this NGO / FO _____

Are you member of this NGO / FO _____

Role of NGO / FO _____

12. General Observations of Interviewers

Name of Interviewer _____ Date. _____

Village Profile
Water Sector Improvement Project

Serial No. _____

ENVIRONMENTAL AND SOCIAL ASSESSMENT STUDY

IDENTIFICATION:

- a. Name of Union Council: _____
- b. Name of Main Village: _____
- c. Total Number of Settlements in the Village: _____
- d. Name of Settlement / Chak of Scoping Session: _____
- e. Persons Attending the Scoping Session: Total _____ Males _____ Females _____

1. ETHNICITY AND POPULATION

Name of the Main Caste	Name of the Clan	Name of HEAD or Prominent Member of Caste / Clan	Total Household of Respective Caste	Population		
				Male	Female	Total
1						
2						
3						
4						
5						
6						
7						
8						

2. LANGUAGES SPOKEN IN THE VILLAGE:

- 2.1 Urdu _____ 2.2 Sindhi _____
- 2.3 Punjabi _____ 2.4 Others _____

NUMBER OF EDUCATED PERSONS IN THE SETTLEMENT / VILLAGE

Level	Male (No.)	Female (No.)	Total (M+F)
Primary Level			
Middle			
Metric			
Intermediate			
Graduation			
Post Graduation			
Others			

3. EDUCATION FACILITIES AVAILABLE IN THE SETTLEMENT / VILLAGE

Description	No. of institutions		Enrolment		No. of Teachers	
	Boys	Girls	Boys	Girls	Male	Female
Primary School.						
Middle School						
High School						
Inter College						
Degree College						
Madrasa						
Vocational						

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4. HEALTH FACILITIES (Within Village)

Facility Within Village	Exists Yes=1 No=2	Whether Functioning Yes=1 No=2	Medical Staff Available (Nos.)	Nearby Similar facility (near of place)
Hospital				
Basic Health Unit				
Mother Child Care Centre				
Child Immunization Centre				

4. IS THERE ANY PRIVATE MEDICAL PRACTITIONER IN THE VILLAGE?

1 M.B.B.S (No.) _____

2 Homeopathic (No.) _____

3 Hakeem (No.) _____

4 Paramedical (No.) _____

5. DOES ANY CHILD BIRTH ATTENDANT AVAILABLE IN THE VILLAGE? YES ☐ No ☐

If yes, what type?

- 1) Doctor ☐
- 2) Others Specify ☐

6. OCCURRENCE OF DISEASES DURING LAST FIVE YEARS

1 Malaria 2 Typhoid 3 Cholera 4 HIV 5 Measles

6 Polio 7 T.B. 8 Diaphorea 9 Hepatitis 10 Others Specify

7. NUMBER OF HOUSES IN THE VILLAGE

1. Katcha _____ 2) Pacca _____ 3) Semi-Pacca _____ 4) Hut _____

8. AVAILABLE UTILITIES(No. of houses having facility)

8.1 Water supply system

Municipal Supply	1 <input type="text"/>	Spring	2 <input type="text"/>	Hand Pump,	3 <input type="text"/>
Electric Motor Pump,	4 <input type="text"/>	Water Channel	5 <input type="text"/>	Other,	6 <input type="text"/>
Water Carrying System	Self Carried	1 <input type="text"/>	Tanker	2 <input type="text"/>	Donkey Back
	Tapped	4 <input type="text"/>	Other	5 <input type="text"/>	3 <input type="text"/>

Wastewater Disposal System:

Sewerage System, 1 Open Drains, 2 Soakage Pits 3

Latrine:

Fields 1 Within House, Flush System 2

Electricity:

Yes 1 No 2

Sindh Water Sector Improvement Project

9. ACCESS TO SOCIAL AMENITIES

Type of Amenity	Available in the Village 1= Yes 2= No	Available in Nearby Village / Locality 1= Yes 2= No	Distance from the Village (km)
Electricity			
Gas			
Fuel cylinder			
Telephone (Land Line)			
Post Office			
Bank			
Mosque			
Graveyard			
Other			

10. ACCESSIBILITY OF THE VILLAGE THROUGH:

1. Metalled Road _____ 2. Soling _____ 3. Katcha _____.

11. DISTANCE OF VILLAGE FROM ROAD / TRACK: ----- km

12. AVAILABILITY OF TRANSPORT IN THE VILLAGE?

Public Transport Yes _____ No _____

Private Transport Yes _____ No _____

13. OCCUPATIONAL STATISTICS (No of Households with Major Source of Income of the head of family)

1. Agriculturist _____
2. Shopkeepers _____
3. Transporters _____
4. Livestock Farmers _____
5. Employment (Public) _____
6. Employment (Private) _____
7. Daily wage Earners /Laborer _____
8. Poultry Farmers _____

14. LAND STATISTICS OF VILLAGE

Acres

Kanal

- | | | |
|-----------------------------------|-------|-------|
| 1) Cultivated Land | _____ | _____ |
| 2) Fallow Land | _____ | _____ |
| 3) Cultivable Waste Land (Banjar) | _____ | _____ |
| 4) GhairMumkin | _____ | _____ |
| 5) Total Land | _____ | _____ |

15. IRRIGATION WATER SOURCE AND AREA IRRIGATED

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	Acres	Kanal
1. Canal Only	_____	_____
2. Tube well Only	_____	_____
3. Canal+ Tube well	_____	_____
4. Barani	_____	_____

16 Do the farmers sell water to other farmers?

Yes ☐ No ☐

If yes why? _____

17. CONFLICT RESOLUTION MECHANISM

17.1 Who are the influential in your village?

1. Politician / Landlord ☐
2. Nazim /Councilor ☐
3. Religious Scholars ☐
4. Heads of Families ☐
5. Others(Specify) ☐

18.2 How the matters related to property, dispute about the control and consumption of the natural resources of the area are and matters of common interest settled?

- a) Punchyat ☐
- b) Head of the Caste ☐
- c) Nazim of the Area ☐
- d) Head of Families ☐

19. N UMBER OF ANIMAL IN THE VILLAGE

Animal type	Masculine		Feminine		Total
	Young Stock (upto 3 yrs)	Adult	Young Stock (upto 3 yrs)	Adult	
Buffalo					
Cow					
Sheep					
Goat					
Horses					
Donkeys					
Mules					
Others					

20. Pressing Needs of the ProjectArea:

21 COMMENTS/OBSERVATIONS OF THE INTERVIEWER:

Sindh Water Sector Improvement Project

Interviewed by: _____ Date: _____

LIST OF PARTICIPANTS/ RESPONDENTS

Sr. No.	Name	Father's Name	Village / Settlement
1)			
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			

SINDH WATER SECTOR IMPROVEMENT PROJECT, PHASE – 1

Gender Data Collection

Year: _____

Questionnaire No. _____

1. Location /Identification

- a. Name of village _____
- b. Name of canal _____
- c. WC/minor/ distributary no. _____
- d. Taluka / Distt. _____

2. Biographical Data

- a. Name of respondent _____
- b. Father's/ Husband's name _____
- c. Marital status:
 - i. Married _____
 - ii. Single _____
 - iii. Widow _____
 - iv. Divorced _____

- d. Literacy status
 - i. Literate _____
 - ii. Illiterate _____

- e. If literate years of schooling/ level of education
 - i. Primary _____
 - ii. Middle _____
 - iii. High _____
 - iv. Graduate _____
 - v. Others _____

- f. Do you own any property in your name?
 - i. Yes _____
 - ii. No _____

- g. If yes, then
 - i. Land _____
 - ii. House _____
 - iii. Livestock _____
 - iv. Any other _____

- h. What is total house hold composition?
 - i. Boys _____
 - ii. Girls _____
 - iii. Total _____

- i. What are your specific household activities?
 - i. Food preparation _____
 - ii. Cleaning / housekeeping _____
 - iii. Manage house budget _____
 - iv. Caring of children _____
 - v. Any other, (specify) _____

Sindh Water Sector Improvement Project

j. What are your specific farm activities?

- i. Livestock rearing _____
- ii. Poultry farming _____
- iii. Milking of animals _____
- iv. Harvesting of crops _____
- v. Weeding _____
- vi. Vegetable sowing / harvesting _____
- vii. Any other (specify) _____

k. Role Of Women In Decision Making

- i. Are you involved in : _____
- ii. Marriage of children yes _____, No _____
- iii. Sale & purchase of property yes _____, No _____
- iv. Decision regarding schooling of children yes _____, No _____
- v. Decision to attend social factions yes _____, No _____

l. How many adult female including you are living in this house?

- i. 1 _____, 2 _____, 3 _____, 4 _____, 5 _____

m. Mention three basic facilities that women need most:

- i. _____
- ii. _____
- iii. _____

3. Health

a. Which of health facilities are available at your village?

- i. BHU _____
- ii. Dispensary _____
- iii. Private doctor _____
- iv. Hakeem _____

b. Which were the strongly hit diseases in last year?

- i. Diarrhea _____
- ii. Measles _____
- iii. Hepatitis _____
- iv. Typhoid _____
- v. Tuberculosis _____
- vi. Heart diseases _____

c. In case of emergency who takes you to hospital?

- i. Husband _____
- ii. Mother-in-law _____
- iii. Father in law _____
- iv. Alone _____

d. Do you face any problem / difficulty for transport while rushing towards hospital?

- i. Yes _____
- ii. No _____

e. If yes, then what would you prefer

- i. Have proper transport arrangement _____
- ii. To be reside at some proper place _____

f. What are the basic health needs or facilities which you want in your area?

- i. _____

Sindh Water Sector Improvement Project

- ii. _____
- iii. _____

4. Education

- a. Is there any school for girls in the village?
 - i. Yes _____ No _____
- b. If yes, then how many girls of village are studying in that school?
 - i. _____ %

5. Participation in FO/ WCA

- a. Did women aware about their land ownership?
 - i. Yes _____
 - ii. No _____
- b. How many members are there in FO/WCA? _____
- c. Status of membership
 - i. Ordinary membership yes _____, No _____
 - ii. Office bearers yes _____, No _____
- d. What was women contribution in FO/ WCA affairs?
 - i. _____
 - ii. _____
 - iii. _____
- e. Do you receive any training for this? Yes _____, No _____
- f. If yes, state the following

Month / year	Place	Type of Training	Organization / Project

- g. Do you think that participation of women in FO/ WCA affairs will make it successful?
 - i. Yes _____, No _____

- h. If yes ; state the reasons

- i. What are the suggestions for efficient and effective functioning of FO/WCA?

- j. What factors prohibit an average woman of this village to come forward and participate effectively in FA/WCA affairs at village level?

6. Income Generation

- a. Do you contribute to family income
 - i. Yes _____, No _____
- b. If yes, what is source of your income?

Sindh Water Sector Improvement Project

Sources

Annual Income (Rs)

- i. Farm labour
- ii. Fire wood collection
- iii. Embroidery
- iv. Domestic Services
- v. Any other

7. Skill Development

a. Do you think that different kind of trainings can enhance your income generating resources?

i. Yes _____, No _____

b. If yes, which training you would like to obtain?

- i. Sewing/ stitching
- ii. Embroidery
- iii. Teaching
- iv. Handicrafts
- v. Any other (specify)

8. Pressing needs of women in project area

Sr. no	Needs / facilities	To what extent in %age

Name of interviewer: _____

Appendix C. Details of Project Affected Persons and Assets

C.1. Details of Privately Owned Structures

Sr No.	Name of Affected Person	Name of Canal	Deh/Village	Taluka	District	Address		Profession	Monthly Income (2014)	Family Size	Per Capita Income	Poverty Status		Affected structure	
						RD						Status Above/Below	Name of Structure	Type of Construction/Unit	Size of structure
1	Mohsan Shah	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)		Farming (Owner)	40,000	6	6,667	A	Room (Pump house)	Pacca	120
2	Qazi Mazhar	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)		Farming (Owner)	45,000	7	6,429	A	Room (Pump house)	Pacca	120
3	Aslam Khawaja	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)		Farming (Owner)	35,000	8	4,375	A	Room (Pump house)	Pacca	100
4	Anwar Khawaja	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)		Farming (Owner)	42,000	8	5,250	A	Room (Pump house)	Pacca	120
5	Mushtaq Khawaja	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)		Farming (Owner)	35,000	7	5,000	A	Room (Pump house)	Pacca	100
6	A.D khawaja	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)		Farming (Owner)	50,000	8	6,250	A	Room (Pump house)	Pacca	100
7	Pir Mazhar ulhaq	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (R/S)		Farming (Owner)	50,000	8	6,250	A	Room (Pump house)	Pacca	120
Total									297,000	52					

C.2. Details of Farmers and Owners of Private Land in the Col

Sr No.	Name of Affected Person	Father's Name	Name of canal	Deh/ Village	Taluka/	District	Address	Profession	Monthly Income (2014)	Poverty Status		Affected structure		
							RD			Family Size	Monthly Expenditure	Total Land	Affected Land	Affected Crops
1	Shamoo	Wasto	Fulleli Canal	Panhwari	Latifabad	Hyderabad	62+000 (R/S)	Farming (Sharecropper)	7,000	6	9,000	12 Acres	0.25 Acres	Rice and Lady Finger
2	Ghulam Mustafa	Majid Rajput	Fulleli Canal	Bora	Latifabad	Hyderabad	62+000 (L/S)	Farming (Sharecropper)	13,000	7	12,000	12 Acres	0.20 Acres	Wheat and Rice
3	Amarshi	Maghi	Fulleli Canal	Dodi	T.M Khan	T.M Khan	145+000 (R/S)	Farming (Sharecropper)	6,500	6	7,000	5 Acres	5 Acres	Sugarcane
4	Suleman Cheepal	Khan Mohammad	Fulleli Canal	Dodi	T.M Khan	T.M Khan	145+000 (R/S)	Farming (Sharecropper)	10,800	8	16,000	5 Acres	5 Acres	Sugarcane
5	Bhoomo	Magho	Fulleli Canal	Dodi	T.M Khan	T.M Khan	145+000 (R/S)	Farming (Sharecropper)	12,000	10	16,000	4 Acres	4 Acres	Sugarcane
6	Patyo	Parkhan	Fulleli Canal	Dodi	T.M Khan	T.M Khan	145+000 (R/S)	Farming (Sharecropper)	10,000	10	14,000	4 Acres	4 Acres	Wheat and Rice
7	Magho	Arshi	Fulleli Canal	Dodi	T.M Khan	T.M Khan	145+000 (R/S)	Farming (Sharecropper)	11,500	9	16,000	4 Acres	4 Acres	Wheat and Rice
8	Shawlo	Rashoo	Fulleli Canal	Dodi	T.M Khan	T.M Khan	145+000 (R/S)	Farming (Sharecropper)	5,000	5	8,500	3 Acres 34 Ghunta	3 .85 Acres	Sugarcane
9	Amarshi	Bhoorio Thakur	Fulleli Canal	Dodi	T.M Khan	T.M Khan	145+000 (R/S)	Farming (Sharecropper)	6,000	7	7,500	5 Acres	5 Acres	Wheat and Rice
10	Abdul Karim		Fulleli Canal	Faehpur Jagir	T.M Khan	T.M Khan	170+000 (R/S)	Farming (Owner)	80,000	14	60,000	120 Acres	1 Acre	Wheat and Rice
11	Haji Lakhano Laghari		Fulleli Canal	Faehpur Jagir	T.M Khan	T.M Khan	170+000 (R/S)	Farming (Owner)	35,000	9	25,000	45 Acres	1.53 Acres	Wheat and Rice

C.3. Details of Government Owned Structures

Sr.	No.	Affected Structure	Name of Canal	RD	Name of Structure	Type of Construction	Affected structure	
							No. Of Structures	Size of Structures
	1	Pump House	Fulleli Canal	62+000 (R/S)	Room	Pacca	1	120
	2	Irrigation office	Fulleli Canal	145+000 (L/S)	Room	Pacca	1	240
	3	Abandoned irrigation pumping station	Fulleli Canal	145+000 (L/S)	Room	Pacca	1	120

C.4. Expenditure of Affected household

Sr No.	Name of Affected Person	Address				RD	Profession	Poverty Status				Expenditure
		Name of Canal	Deh/Village	Taluka	District			Monthly Income (2014)	Family Size	Per Capita Income	Status Above/Below	
1	Mohsan Shah	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)	Farming (Owner)	40,000	6	6,667	A	50,000
2	Qazi Mazhar	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)	Farming (Owner)	45,000	7	6,429	A	40,000
3	Aslam Khawaja	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)	Farming (Owner)	35,000	8	4,375	A	38,000
4	Anwar Khawaja	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)	Farming (Owner)	42,000	8	5,250	A	35,000
5	Mushtaq Khawaja	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)	Farming (Owner)	35,000	7	5,000	A	30,000
6	A.D khawaja	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (L/S)	Farming (Owner)	50,000	8	6,250	A	37,000
7	Pir Mazhar ulhaq	Fulleli Canal	TandoSaindad	TM Khan	TM Khan	145+000 (R/S)	Farming (Owner)	50,000	8	6,250	A	46,000
8	Shamoo	Fulleli Canal	Panhwari	Latifabad	Hyderabad	62+000 (R/S)	Farming (Sharecropper)	7,000	6	1167	B	9,000
9	Ghulam Mustafa	Fulleli Canal	Bora	Latifabad	Hyderabad	62+000 (L/S)	Farming (Sharecropper)	13,000	7	1857	B	12,000
10	Amarshi	Fulleli Canal	Dodi	TM Khan	TM Khan	145+000 (R/S)	Farming (Sharecropper)	6,500	6	1083	B	7,000
11	Suleman Cheepal	Fulleli Canal	Dodi	TM Khan	TM Khan	145+000 (R/S)	Farming (Sharecropper)	10,800	8	1350	B	16,000
12	Bhoomo	Fulleli Canal	Dodi	TM Khan	TM Khan	145+000 (R/S)	Farming (Sharecropper)	12,000	10	1200	B	16,000
13	Patyo	Fulleli Canal	Dodi	TM Khan	TM Khan	145+000 (R/S)	Farming (Sharecropper)	10,000	10	1000	B	14,000
14	Magho	Fulleli Canal	Dodi	TM Khan	TM Khan	145+000 (R/S)	Farming (Sharecropper)	11,500	9	1278	B	16,000
15	Shawlo	Fulleli Canal	Dodi	TM Khan	TM Khan	145+000 (R/S)	Farming (Sharecropper)	5,000	5	1000	B	8,500
16	Amarshi	Fulleli Canal	Dodi	TM Khan	TM Khan	145+000 (R/S)	Farming (Sharecropper)	6,000	7	857	B	7,500
17	Abdul Karim	Fulleli Canal	Faehpur Jagir	TM Khan	TM Khan	170+000 (R/S)	Farming (Owner)	80,000	14	5714	A	60,000
18	Haji Lakhano Laghari	Fulleli Canal	Faehpur Jagir	TM Khan	TM Khan	170+000 (R/S)	Farming (Owner)	35,000	9	3889	A	25,000
Total									143			

Appendix D. Deh Maps

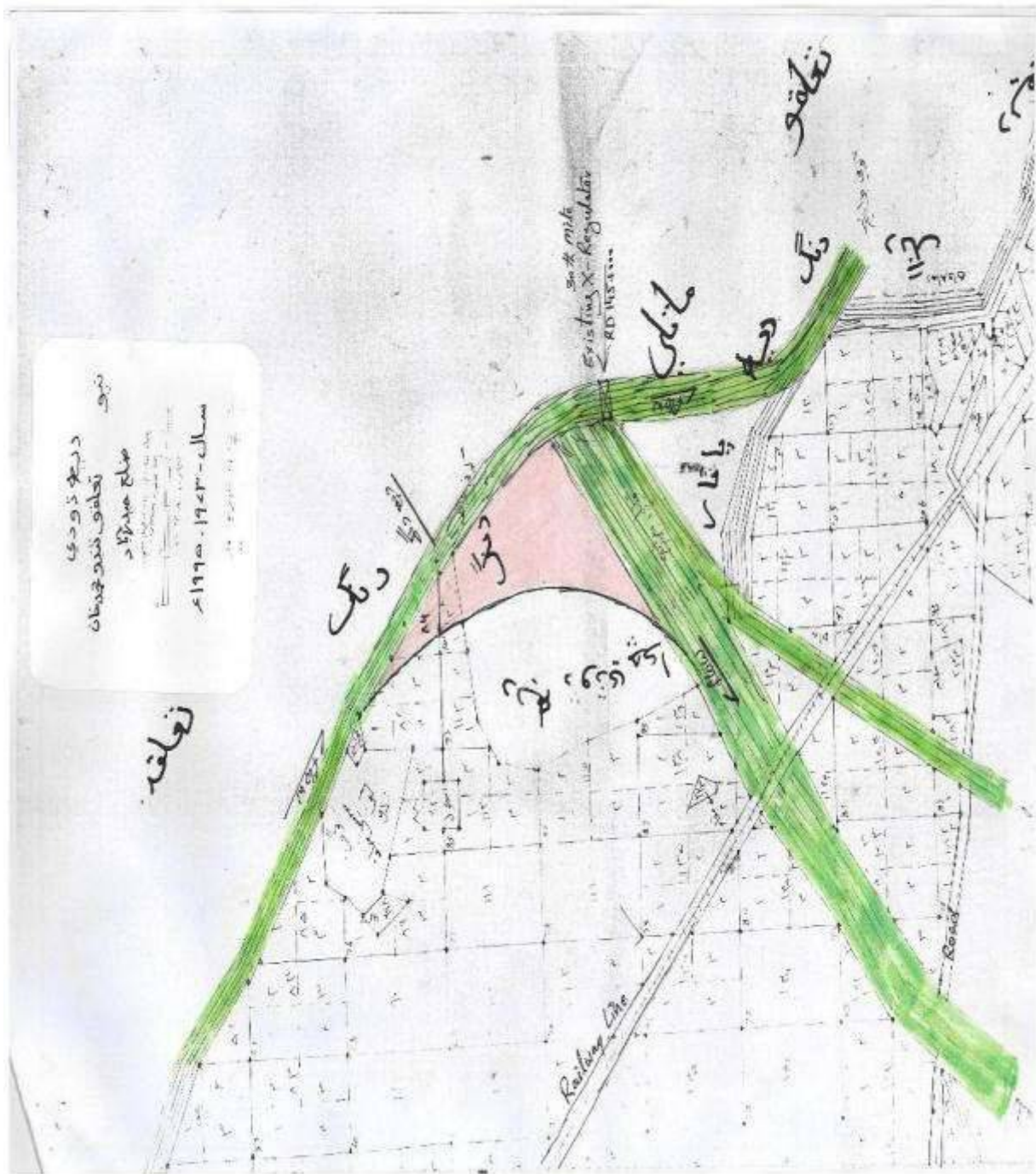
D.1. RD 62+000



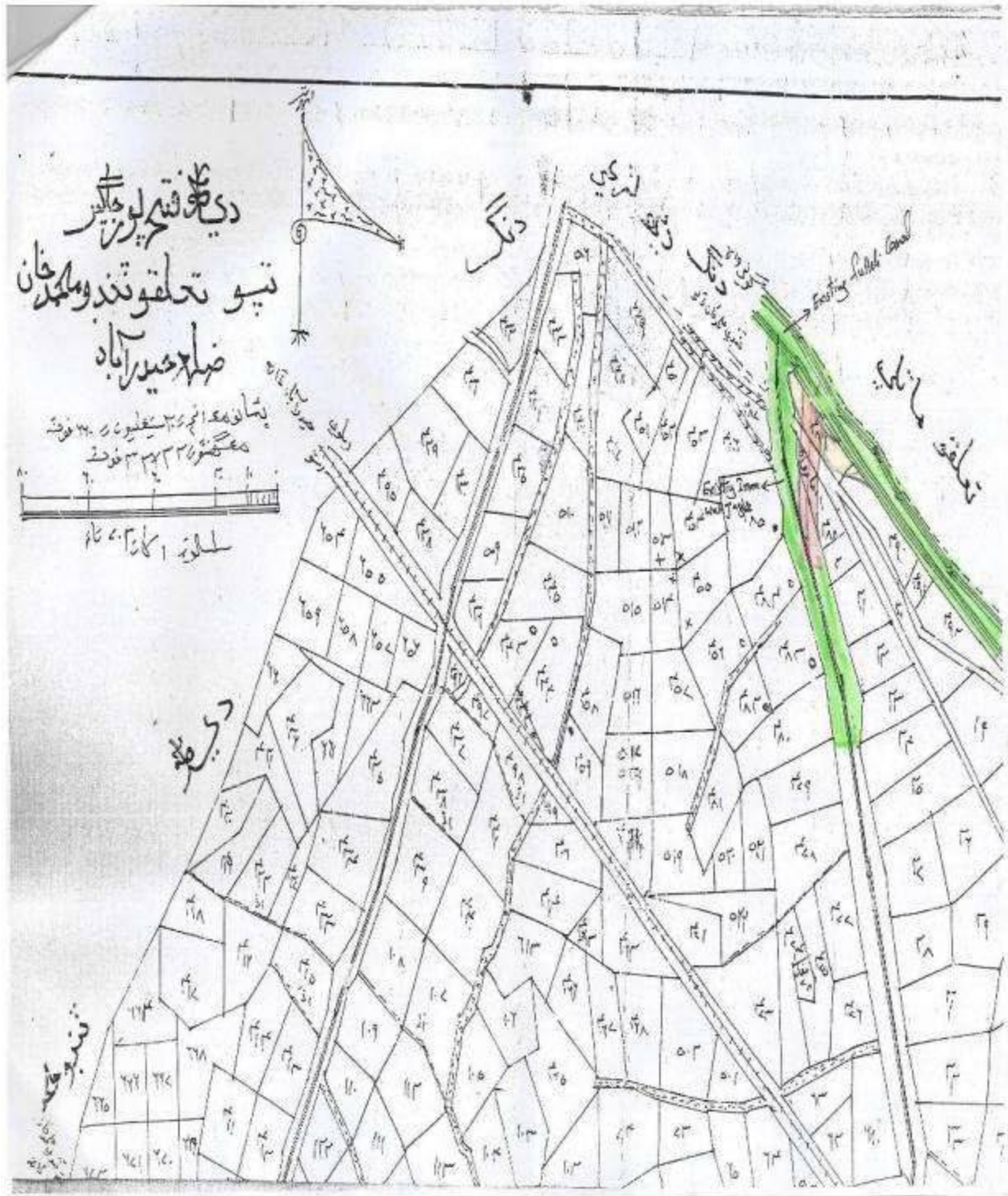
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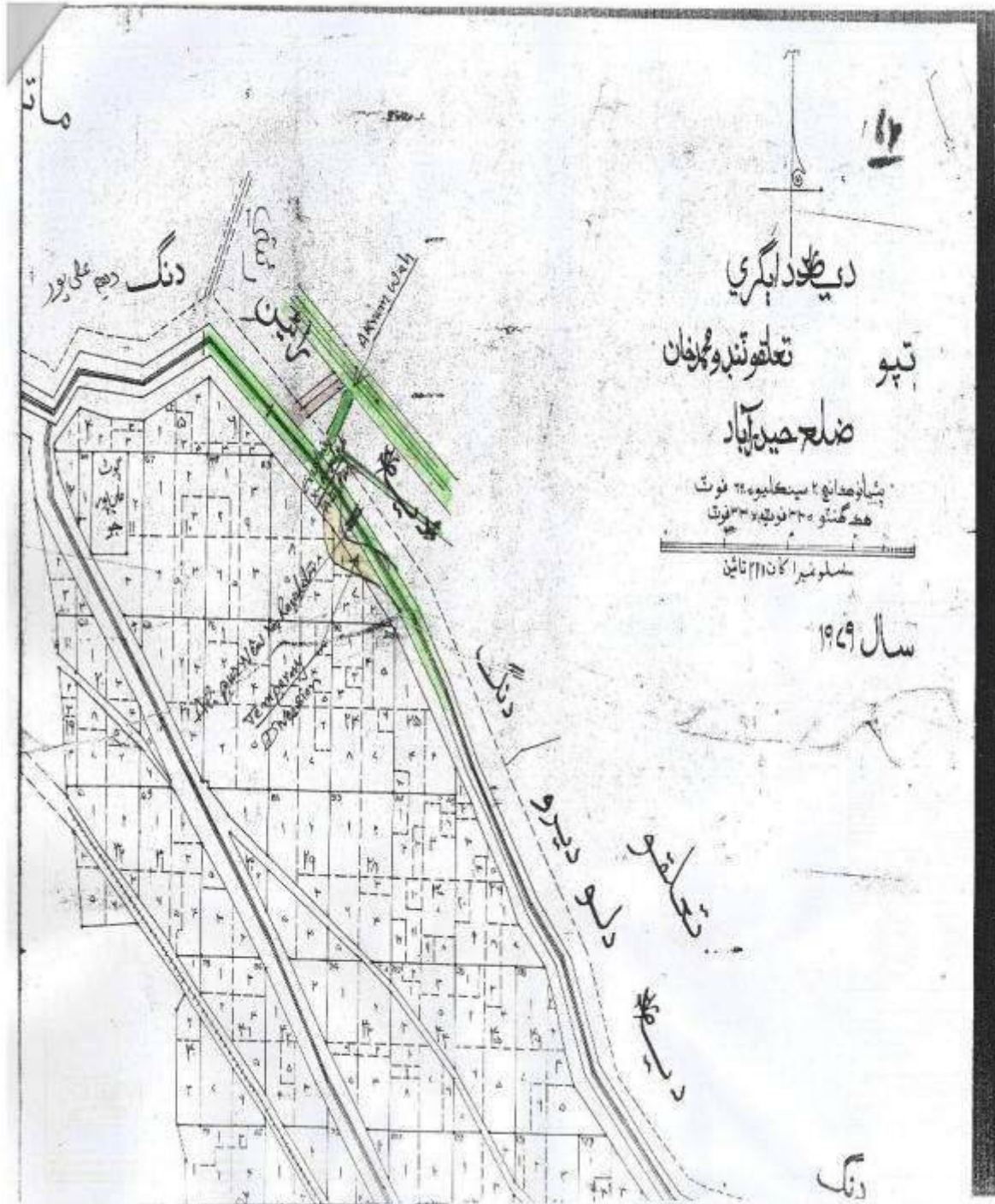
D.2. RD 145+000



D.3. RD 170+000



D.4. RD 231+000



Appendix E. Grass Root Consultations

The location of the meeting, consultants and local participants of these consultations are given in the following table.

Details of Grass Root Consultation with respect to Project Components are given below:

Location	Names and No. of Participants	Key Issues Discussed
RD 62+000 Place: Village Hosri Fulleli Canal Consultation Date: 16-08-2014	SIDA Nazir Ahmed Essani Jamal Magan J.Ram PIC Khadim Ali Memon Neill Brauders Nazir Ahmed Lashari Mohammad Raheem Ishfaq Ali Makhdoom Mujeeb-ur-Rahman MohammadJuman Shadab Bughio Anwar Solangi	The Aims & objectives of Consultative Meeting were briefed by Mr.Mohammad Raheem, Sr: Sociologist (PIC), Rehabilitation works of the Fulleli Canal will be carried out under Contract WSIP/B1/LB/01 The participants were informed during the consultative meeting about the civil works, those will be carried out under Contract WSIP/B1/LB/01 Govt: of Sindh with the help of Govt:of Pakistan and world Bank to improve the water supply efficiency of the Fulleli Canal. PIC: What are your opinion/suggestion about the canal works? Community: Canal works shall be carried put to ensure the water supply in the off- taking canals Community: How to control the water logging and salinity. PIC: Canal banks shall be strengthened in critical reaches; PIC: New Canal Head Regulators will be constructed to pass more water Community: We need to protect our lands from waterlogging and salinity PIC: For the construction of new Head Regulators private land may be required shall you people cooperate to get some private land? Community: The land near the bridge RD 62+000 belongs to Ex. Mayor of Hyderabad Mr. Chandio you have to discuss with him. PIC; During construction of new bridge water supply pumphouse will be demolished. Community: The water supply room shall be rebuilt by construction company it is village water supply scheme for our village. We are poor and have no funds to rebuild the scheme. PIC: During Construction works no religious structures will be affected. Community:: We shall cooperate with contractor to carryout the canal works. PIC: Canal berms will be strengthened near the bridge that will affect your animal parking on the berms. Community: We will take away the animal during the construction works and fully cooperate in the construction works. Canal banks are weak and required Killa bushing to avoid the over toping.
Total No. of Participants: (27)	Community 1.Ghulam Mustafa 2.M.Saleem Rajpoot 3.m Ayoub 4. Abdul Shakoor 5. G. Muraza 6. AllahyarA. Rasheed Rajpoot 7. Mohammad Ali 8.,Akhtar Hussain 9.Nazeer Ahmed Beldar 10.Shahnawaz 11. Khan Muhammad Maci 12. m Iqbal 13. RamjiKolhi 14. Bhwan Bagri 15. Rano Kolhi	Community: Assure the employment of local community in project works Community: Construction and rehabilitation works may be carried out during the canal closure period. Community: Education and health facilities shall be provided by the project in the command of Fulleli canal.
30th Mile cross regulator Consultation Date: 17-09-2014	PIC Khadim Ali Memon Neill Brauders Nazir Ahmed Lashari Mohammad Raheem Ishfaq Ali Makhdoom	The Aims & objectives of Consultative Meeting were briefed by Mr.Mohammad Raheem, Sr: Sociologist (PIC), Rehabilitation works of the Fulleli Canal will be carried out under Contract WSIP/B1/LB/01 The participants were informed during the consultative meeting about the civil works, those will be carried out under Contract WSIP/B1/LB/01 Govt: of Sindh with the help of Govt: of Pakistan and world Bank to improve the water supply efficiency of the Fulleli Canal.

Sindh Water Sector Improvement Project

Location	Names and No. of Participants	Key Issues Discussed
Total No. of Participants: (21)	<p>Mujeeb-ur-Rahman MohammadJuman Shadab Bughio Anwar Solangi</p> <p>Community 1. Mr Mazhar-ul-Haque 2.Mir Inayat Talpur 3. Mir MoazamTalpur 4.Noor Muhammad 5.Naeem Raho 6.shakeel Memon 7.Ajmal Awan 8. Lal Jamal 9. Muhammad Saleh 10.Wali Muhammad 11. Muhsammad Bux 12. Umaid Ali</p>	<p>PIC: What are your opinion/suggestion about the canal works?</p> <p>Community:.. Canal works shall be carried out but keep in mind to protect the agricultural land in the canal command area/</p> <p>Land is severely affected by the waterlogging and salinity. What steps are you taking to control water logging and salinity?</p> <p>PIC. Farmers are responsible for the water logging and salinity by applying extra water to their crops.</p> <p>Community: Lining of the canal is the solution.</p> <p>PIC: It is very expensive to line Fulleli canal.</p> <p>Community: Govt: has lot of money and can manage.</p> <p>PIC: For the construction of new Head Regulators private land may be required shall you people cooperate to get some private land?</p> <p>Community: Land surrounding the cross regulator belongs to Mir Family, you have to talk to them.</p> <p>Mr. Mazhar-ul-Haque the land lord of the 30th mile cross regulator said our land is near the Tando Muhammad City and expensive. Government shall pay the cost of land. No one will prove the land without compensation</p>
RD 170+ooo Village laghari Consultation Date: 18-09-2014	<p>PIC Mohammad Raheem Ishfaq Ali Makhdoom Mujeeb-ur-Rahman MohammadJuman Shadab Bughio Anwar Solangi</p> <p>Community 1.Mir Aijaz Talpur 2.Maula Bux Leghari 3.Punho Khan Leghari 4.Ghulam Muhammad leghari 5. Muhammad Hassan leghari 6. M. Refiqueleghari 7. Mumtaz leghari 8. Haji Abdul karim 9. M. Hassan leghari 10. Riaz Ahmed 11. A. Majeed leghari</p>	<p>The Aims & objectives of Consultative Meeting were briefed by Mr.Mohammad Raheem, Sr: Sociologist (PIC), Rehabilitation works of the Fulleli Canal will be carried out under the will be carried out under Contract WSIP/B1/LB/01</p> <p>The participants were informed during the consultative meeting about the civil works, those will be carried out under Contract WSIP/B1/LB/01</p> <p>Govt: of Sindh with the help of Govt: of Pakistan and world Bank to improve the water supply efficiency of the Fulleli Canal.</p> <p>PIC: What are your opinion/suggestion about the canal works?</p> <p>Community: Government must do some work on the canal but the works shall be carried out where required.</p> <p>Fulleli Canal has created ware logging and salinity in the area, crops are severely damaged by high water table.</p> <p>Land lords are over watering the crop and that created water logging and salinity in the area. Water to be applied to the crop as per requirement.</p> <p>Lining of the canal banks is the solution to control seepage from canal.</p> <p>PIC: Lining of the canal is very expensive, shall you people contribute for the lining of the canal.</p> <p>You are the beneficiaries of the canal must contribute.</p> <p>Community: Our land has been damaged by water logging and getting low crop yield to meet the crop and family expensive.</p> <p>PIC: You are also keeping animals and earning money it is also a part of income from crop.</p> <p>Community: Local people shall be employed in the construction works.</p> <p>Religious structures on the canal banks shall be avoid to be demolished.</p> <p>PIC: For the construction of new Head Regulators private land may be required shall you people cooperate to get some private land?</p> <p>Community: Land which will be required for project works belongs to Mir AjazTalpur you have to talk to him and get permission.</p> <p>We are working as share cropper on the land and have no any legal right to say anything.</p>

Sindh Water Sector Improvement Project

Location	Names and No. of Participants	Key Issues Discussed
		During the discussion with Haji Abdul karim about land required for the project works. He said land is the only source of our livelihood. Land is very expensive Government shall pay reasonable price for required land in advance
RD 231+00 Alipur cross Regulator	PIC Mohammad Raheem Ishfaq Ali Makhdoom Mujeeb-ur-Rahman	The Aims & objectives of Consultative Meeting were briefed by Mr. Mohammad Raheem, Sr: Sociologist (PIC), Rehabilitation works of the Fulleli Canal will be carried out under the will be carried out under Contract WSIP/B1/LB/01 The participants were informed during the consultative meeting about the civil works, those will be carried out under Contract WSIP/B1/LB/01
Consultation Date: 19-09-2014	MohammadJuman ShadabBughio Anwar Solangi	Govt: of Sindh with the help of Govt: of Pakistan and world Bank to improve the water supply efficiency of the Fulleli Canal. PIC: What are your opinion/suggestion about the canal works?
Total No. of Participants: (23)	Community Jan Mohammad Mahboob Ali Anwar Ali Solangi Munwar Solangi Sikandar AliMallah Ali BuxMallah Kanderodangno Abdul Majeed Machi Haji khan Machi Manzoor Ahmed Ali AkberDangno Soomar Waryah Abdul Hamid Machi Muhammad Ismail	Community: Canal works are not required canal is flowing properly PIC: Cross regulators will be rebuilt. Community: More water will create more problems, land is severely affected by waterlogging, crop yields are severely affected, Government shall line the canal banks to avoid water logging. PIC: For the construction of new Head Regulators private land may be required shall you people cooperate to get some private land? Community: Land is very expensive Government shall pay reasonable price for required land in advance Jan Mohammad land owner at Ali pur regulator said I need land compensation before the work start. Our suggestion to the consultants to carry out the construction works during canal closure period to avoid land acquisition. Local labour shall be employed in the project work.
Response of Religious Structure: The outcome of the meetings with the affectees regarding religious structures is that, first priority should be given to avoid these structures because shifting of the structures is not acceptable to the affectees.		

Appendix F. Pictorial View

Photo F.1: Pump house at RD-62



Photo F.2: Pump house at RD-140



Photo F.3: Picture of PIC field team and local community



Sindh Water Sector Improvement Project

Photo F.5: Picture of PIC field team and local community



Photo F.6: Mr Kieth Macpherson, Mr Junejo and Mr Nizamani with local land lord

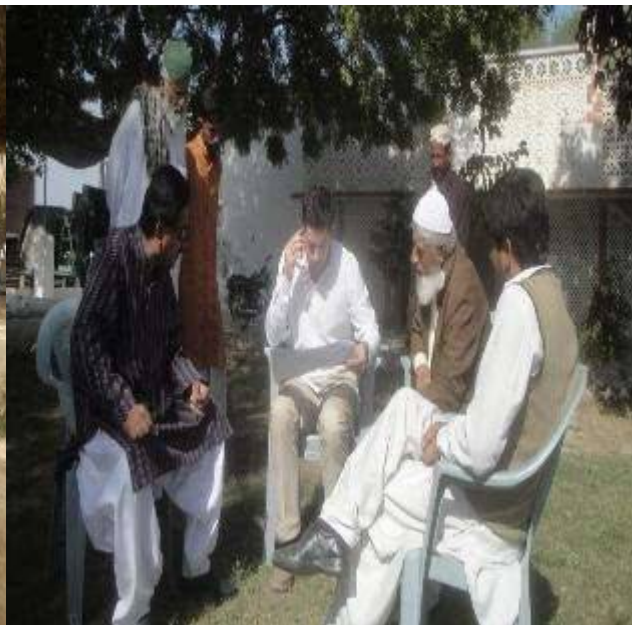


Photo F.7: Mr Kieth Macpherson, Mr Junejo and Mr Nizamani with local land lord



Photo F.8: Picture of PIC field team and local community



F.1. Women Consultation in the Project Area

Photo F.9: PIC Female Interviewer with local women while local women are washing cloths



Photo F.10: Female Interviewer of PIC meeting with local community at Fulleli canal



Photo F.11 PIC Female Interviewer organised a consultative meeting within Col of Fulleli Canal



Photo F.12: Female Interviewer busy in data collection at Fulleli canal



Photo F.13: PIC Female Interviewer organised a consultative meeting within Col of Fulleli Canal



Photo F.14: Female Interviewer busy in data collection at Fulleli canal



Photo F.15: Female Interviewer busy in data collection at Fulleli canal



Photo F.16: Female Interviewer of PIC meeting with local community at Fulleli canal



Appendix G. Satellite View of Embankment Rehabilitation Col

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