RESETTLEMENT ACTION PLAN

WEST BENGAL MAJOR IRRIGATION AND FLOOD MANAGEMENT PROJECT (WBMIFMP)

SPMU- WBMIFMP Irrigation & Waterways Directorate Government of West Bengal India

Contents

EXECUT	IVE SUMMARY	·II
СНАРТЕ	R 1: INTRODUCTION	1
1.1	Project Background	1
1.2	Project Components	1
1.3	IMPLEMENTING AGENCY	3
1.4	NEED FOR DISPLACEMENT / RELOCATION	4
1.5	Project Cost	4
1.6	STRUCTURE OF THE REPORT	4
СНАРТЕ	R 2: APPROACH AND METHODOLOGY	5
2.1	INTRODUCTION	5
2.2	Тне Арргоасн	5
2.3	Methodology	5
2.4	DATA COLLECTION	
2.5	Tools	6
2.6	DEFINITIONS OF TERMS AND PHRASES	6
2.7	LIMITATIONS OF THE STUDY	8
СНАРТЕ	R 3: SOCIO-ECONOMIC PROFILE	9
3.1	DISTRICT PROFILE	
3.1	1.1 Demographic Profile of the District	
3.1	1.2 Literacy	
3.1	1.3 Economy of the District	
3.1	1.4 Land Type and Land Use	
3.1	1.5 Physiographic Condition of the Project Locations	
3.1	1.6 Hydro-Geology	
3.1	1.7 Soil Quality	
3.1	1.8 Climatic Condition	
3.2	SOCIO-ECONOMIC PROFILE OF THE AFFECTED AREA	
3.3	SOCIO-ECONOMIC CONDITION OF THE AFFECTED PEOPLE	
	3.1 Social Category of the Affected Households:	
3.3	3.2 Distribution of Head of the Household by Age Group:	
3.3	3.3 Women Headed Families	
3.3	3.4 Economic Condition	
3.3	3.5 Access to Entitlements	
3.3	3.6 Structures in Project Locations	
3.3	3.7 Structures with Amenities	43
СНАРТЕ	R 4: STAKEHOLDER ANALYSIS AND CONSULTATION	
4.1	OBJECTIVE OF PUBLIC CONSULTATION	44
4.2	METHODOLOGY	44

4.3	STAKEHOLDER ANALYSIS	44
4.3.	1 Primary Level Stakeholders	45
4.3.	2 Secondary Stakeholders	46
4.4	FGD AND CENSUS SURVEY	46
4.5	CONSULTATION MEETING WITH GOVT. DEPARTMENTS	49
4.6	STAKEHOLDER'S CONCERNS / OPINION	49
4.7	ISSUES ADDRESSED IN RAP / ESMP	50
4.8	INFORMATION DISCLOSURE	51
CHAPTER	5: IMPACT ASSESSMENT	52
5.1	Positive Impacts	52
5.2	Adverse Impact	52
5.3	THE PROJECT COMPONENT / ACTIVITIES THAT GIVE RISE TO DISPLACEMENT	52
5.4	THE ZONE OF IMPACT OF SUCH COMPONENT OR ACTIVITIES	53
5.5	IMPACT ON LAND / STRUCTURES / HOUSEHOLDS	53
5.5.	1 Affected Households and Displacement	53
5.5.	2 Project Affected Population	53
5.5.	3 Structural Ownership	54
5.6	DISTRIBUTION OF STRUCTURES BY SOCIAL GROUPS	55
5.6.	1 Structure in Private Land	58
5.7	IMPACT ON COMMON PROPERTY RESOURCES / FACILITIES / UTILITIES	58
5.8	Loss of Income and Livelihood	
5.9	THE ALTERNATIVES CONSIDERED TO AVOID OR MINIMIZE RESETTLEMENT	60
CHAPTER	6: RESETTLEMENT	61
6.1	OBJECTIVE OF THE RESETTLEMENT ACTION PLAN (RAP)	61
6.2	ACT / POLICY / SCHEME APPLICABLE FOR RAP	
6.2.		
6.2.		
6.2.		
6.3	CUT-OFF DATE	
6.4	NEED FOR LAND AND RESETTLEMENT	
6.5	ELIGIBILITY	
6.6	PRINCIPLES OF RESETTLEMENT ACTION PLAN	
6.7	TEMPORARY OCCUPATION OF LAND	
6.8	Use of Irrigated Multi-Cropped Land	
6.9	ENTITLEMENT MATRIX	
6. <i>9</i> .		
6.9.		
6.9. 6.9.		
6.9. 6.9.		
6.9.		68
6.0	C Tomporary Polocation	
6.9.		68
6.9. CHAPTER 7.1		68 72

7.2	GENDER ACTION PLAN	73
7.3	MONITORING OF GENDER ACTIONS	75
СНАРТЕ	ER 8: INSTITUTIONAL ARRANGEMENT AND IMPLEMENTATION STRUCTURE	76
8.1	INTRODUCTION	76
8.2	INSTITUTIONS FOR POLICY, PLANNING, IMPLEMENTATION, MONITORING AND EVALUATION	76
8.3	RAP IMPLEMENTATION ORGANIZATION	77
8.3	3.1 Formation of District Level Committee	77
8.3	3.2 Formation of Block Level Committee	78
8.3	3.3 Association of BDO for Land Clearance and Eviction	78
8.3	3.4 Role and Responsibilities	78
8.3	3.5 Competent Authorities	79
8.4	Implementation Schedule for RAP	80
СНАРТЕ	ER 9: MONITORING AND EVALUATION	82
9.1	INTRODUCTION	82
9.2	CONCURRENT MONITORING	82
9.3	MID AND END TERM IMPACT EVALUATION	82
9.4	Monitoring and Evaluation Frame	83
9.5	INSTITUTIONAL STRENGTHENING AND MONITORING SUPPORT	83
СНАРТЕ	ER 10: GRIEVANCE REDRESSAL MECHANISM	85
СНАРТЕ	ER 11: RAP BUDGET	87
ANNE	XURE- 1: LIST OF STRUCTURE LOCATED ON PRIVATE LAND EXPECTED TO BE AFFECTED	
ANNE	xure- 2: Format for Voluntary Land Donation	XIX

List of Tables

TABLE 1: STAGES OF DATA COLLECTION	6
TABLE 2: PRIMARY AND SECONDARY DATA COLLECTION	6
TABLE 3: DEMOGRAPHIC PROFILE OF WHOLE PROJECT DISTRICT	9
TABLE 4: PROJECT DISTRICT WISE SC & ST POPULATION CONCENTRATION	10
TABLE 5: LITERACY RATE IN PROJECT DISTRICT	
TABLE 6: WORKER AND NON-WORKER POPULATION	
TABLE 7: MALE WORK FORCE (MAIN AND MARGINAL)	
TABLE 8: FEMALE WORK FORCE (MAIN AND MARGINAL)	
TABLE 9: PROJECT DISTRICT WISE LAND HOLDING STATUS	
TABLE 10: LAND HOLDING PATTERN	
TABLE 11: OPERATIONAL HOLDING PATTERN AMONG FARMERS IN PROJECT DISTRICTS	
TABLE 12: PROJECT DISTRICT WISE LAND USE PATTERN	
TABLE 13: LAND USE (LU) AND LAND COVER (LC) OF PROJECT LOCATIONS	
TABLE 14: PHYSIOGRAPHIC CONDITION OF PROJECT DISTRICTS	
TABLE 15: PROJECT DISTRICT WISE MAJOR SOIL CLASS AND AREA COVERAGE	
TABLE 16: MEAN MAXIMUM AND MINIMUM TEMPERATURE IN PROJECT AREA FOR 2014	
TABLE 17: SEASON WISE AVERAGE ANNUAL RAINFALL	21
TABLE 18: TOTAL SEASONAL RAINFALL IN DIFFERENT RAIN-GAUGES DURING MONSOON, 2016	
TABLE 19: MONTH WISE RAINFALL FROM 2013-17 IN BANKURA	
TABLE 20: MONTH WISE RAINFALL FROM 2013-17 IN BARDHHAMAN	
TABLE 21: MONTH WISE RAINFALL FROM 2013-17 IN HOOGHLY	
TABLE 22: MONTH WISE RAINFALL FROM 2013-17 IN HOWRAH	
TABLE 23:RELATIVE HUMIDITY (IN %) BY STATION AND MONTH	
TABLE 24: SOCIAL CATEGORIES OF THE AFFECTED HOUSEHOLDS	
TABLE 25: DISTRIBUTION OF HEAD OF THE HOUSEHOLDS BY AGE GROUP	
TABLE 26: DISTRIBUTION OF HEAD OF HOUSEHOLD BY SEX	
TABLE 27: AVERAGE INCOME OF THE FAMILIES IN DIFFERENT PROJECT LOCATIONS	
TABLE 28: AVERAGE INCOME BY SOCIAL CATEGORIES IN PROJECT LOCATIONS	
TABLE 29: SCHEMATIC ENROLMENT	
TABLE 30: SCHEMATIC ENROLMENT BY SOCIAL CATEGORY IN PROJECT LOCATIONS (IN %)	
TABLE 31: DISTRIBUTION OF DIFFERENT STRUCTURES IN THE PROJECT AREA	
TABLE 32: STRUCTURES BY PROJECT LOCATIONS	
TABLE 33: STRUCTURES BY PROJECT LOCATIONS	
TABLE 34: RESIDENTIAL STRUCTURES IN DIFFERENT SIDES OF EMBANKMENTS	
TABLE 35: TYPOLOGY OF RESIDENTIAL STRUCTURES	
TABLE 36: TYPE OF RESIDENTIAL STRUCTURES	29
TABLE 37: AVERAGE AREA OF THE STRUCTURE	
TABLE 38: ENCROACHER, SQUATTER AND OWNERSHIP STATUS OF RESIDENTIAL STRUCTURES	
TABLE 39: STRUCTURAL OWNERSHIP BY PROJECT LOCATIONS	
TABLE 40: RESIDENTIAL CUM BUSINESS STRUCTURES IN PROJECT LOCATIONS	
TABLE 41: STRUCTURE TYPES	
TABLE 42: STRUCTURE TYPES BY PROJECT LOCATIONS	
TABLE 43: AVERAGE AREA OF THE STRUCTURE	33

TABLE 44: ENCROACHMENT, SQUATTING AND OWNERSHIP	33
TABLE 45: OWNERSHIP CATEGORY OF STRUCTURES AND ITS LOCATION	33
TABLE 46: TYPES OF RESIDENTIAL CUM BUSINESS STRUCTURES BY ENCROACHER, SQUATTER & OWNERSHIP	
TABLE 47: BOUNDARY WALL CATEGORIES	34
TABLE 48: STRUCTURAL TYPOLOGY BY PROJECT LOCATIONS	35
TABLE 49: ENCROACHER, SQUATTER AND OWNERSHIP	35
TABLE 50: OWNERSHIP STATUS BY PROJECT LOCATIONS	35
TABLE 51: STRUCTURES OF TOILETS	36
TABLE 52: TOILETS BY PROJECT LOCATIONS	36
TABLE 53: ENCROACHER, SQUATTERS AND OWNERSHIP	36
TABLE 54: ENCROACHER / SQUATTER BY PROJECT LOCATIONS	37
TABLE 55: CATTLE SHED IN PROJECT LOCATIONS	37
TABLE 56: STRUCTURAL PREVALENCE BY PROJECT LOCATION	37
TABLE 57: STRUCTURAL OWNERSHIP	
TABLE 58: LOCATION OF CATTLE SHED AND NATURE OF OWNERSHIP	38
TABLE 59: TYPE OF STRUCTURES IN DIFFERENT PROJECT LOCATIONS	39
TABLE 60: TYPES OF STRUCTURES IN DIFFERENT SITES OF THE PROJECT LOCATIONS	39
TABLE 61: LOCATION AND OWNERSHIP OF STRUCTURES	40
TABLE 62: BUSINESS SHOPS IN PROJECT LOCATIONS	
TABLE 63: NUMBER OF SHEDS IN PROJECT LOCATIONS	40
TABLE 64: STRUCTURE TYPES IN DIFFERENT PROJECT LOCATIONS	41
TABLE 65: STRUCTURAL OWNERSHIP	41
TABLE 66: DISTRIBUTION BY STRUCTURAL OWNERSHIP BY PROJECT LOCATIONS	
TABLE 67: NUMBER OF BEDIS IN PROJECT LOCATIONS	42
TABLE 68: BEDIS IN DIFFERENT PROJECT LOCATIONS	
TABLE 69: STRUCTURAL OWNERSHIP	42
TABLE 70: DISTRIBUTION OF STRUCTURES BY PROJECT LOCATIONS	43
TABLE 71: STRUCTURES WITH AMENITIES	43
TABLE 72: FGD with stakeholder community	47
TABLE 73: CONCERNS / OPINION OF STAKEHOLDERS	
TABLE 74: ISSUES ADDRESSED IN ESMP	
TABLE 75: NO. OF HOUSEHOLDS AND STRUCTURES EXPECTED TO BE AFFECTED	53
TABLE 76: PROJECT AFFECTED PERSONS BY AGE AND SEX	54
TABLE 77: STRUCTURAL OWNERSHIP BY SOCIAL CATEGORIES	
TABLE 78: DISTRIBUTION OF HOUSEHOLDS BY OWNERSHIP CATEGORIES	55
TABLE 79: STRUCTURAL TYPOLOGY BY SOCIAL GROUPS	56
TABLE 80: AVERAGE AREA OF THE STRUCTURES BY SOCIAL GROUPS	57
TABLE 81: DETAILS OF PRIVATE STRUCTURE IN PRIVATE LAND EXPECTED TO BE AFFECTED	
TABLE 82: ANTICIPATED IMPACT ON COMMON UTILITIES / FACILITIES	
TABLE 83: ENTITLEMENT MATRIX	
TABLE 84: COMPETENT AUTHORITIES FOR APPROVALS	
TABLE 85: IMPLEMENTATION SCHEDULE FOR RAP	
TABLE 86: MONITORING AND EVALUATION	
TABLE 87: GRIEVANCE REDRESSAL	
TABLE 88: RAP BUDGET	
TABLE 89: LIST OF RESIDENTIAL HOUSE LOCATED ON PRIVATE LAND	I

TABLE 90: LIST OF HOUSE CUM SHOP LOCATED ON PRIVATE LAND	۰VII
TABLE 91: LIST OF BOUNDARY WALL LOCATED ON PRIVATE LAND	۰VII
TABLE 92: LIST OF TOILET LOCATED ON PRIVATE LAND	VIII
TABLE 93: LIST OF CATTLE SHED LOCATED ON PRIVATE LAND	X
TABLE 94: LIST OF BUSINESS SHOP LOCATED ON PRIVATE LAND	XIII
TABLE 95: LIST OF SHED LOCATED ON PRIVATE LAND	XVI
TABLE 96: LIST OF BEDI LOCATED ON PRIVATE LAND	VII

Abbreviations

APD	Additional Project Director
BDO	Block Development Officer
BL&LRO	Block Land and Land Reform Officer
BL&LRO	Block Land and Land Reform Officer
BLC	Block Level Committee
DL&LRO	District Land and Land Reform Officer
DL&LRO	District Land and Land Reform Officer
DLC	District Level Committee
DM	District Magistrate
DPIU	District Project Implementation Unit
DPMU	District Project Management Unit
DVC	Damodar Valley Corporation
FGD	Focus Group Discussion
GoWB	Government of West Bengal
GoWB	Government of West Bengal
GP	Gram Panchayat
GRC	Grievance Redressal Committee
HR	Human Resource
IAY	Indira Awas Yojana
IWD	Irrigation and Water Ways Development Department
LBMC	Left Bank Main Canal
MIS	Management Information System
NGO	Non-Government Organisation
OP	Operational Policy
PAF	Project Affected Families
PAP	Project Affected Person
PD	Project Director
PMAY	Pradhan Mantri Awas Yojana
PMC	Project Management Consultant
PMC	Project Management Consultant
R&R	Rehabilitation and Resettlement
RAP	Resettlement Action Plan
RBMC	Right Bank Main Canal
RFCTLARR	Right to Fair Compensation & Transparency in Land Acquisition, Resettlement and
	Rehabilitation
ROR	Record of Rights
ROW	Right of Way
RRI	River Research Institute
SHG	Self-Help Group
SPMU	State Project Management Unit
WBMIFMP	West Bengal Major Irrigation and Flood Management Project
WRIDD	Water Resources Investigation and Development Department

Executive Summary

Project Background: The Government of West Bengal is planning to implement "West Bengal Major Irrigation and Flood Management Project (WBMIFMP)" with the objective of augmenting water supply in the canal distribution network, improving irrigation management to ensure sustainable conjunctive use of water resources in the DVC command area in the State and reducing impact of flood and drainage congestion in the Lower Damodar Sub-Basin by various structural measures. The project will be implemented by Irrigation and Waterways Department (IWD) in the districts of Purba (East) & Paschim (West) Bardhhaman, Bankura, Hooghly and Howrah districts of the State. The project has four components, i.e., (1) Component A: Irrigation Management, (2) Component B: Modernization of Irrigation Infrastructure, (2), (3) Component C: Flood Management and (4) Component D: Project Management.

Need of Land and Relocation: The project activities such as embankment strengthening, desilting and flood wall construction will be taken up in the existing structures and within the right-of-way / river bed. So, no additional private land is required for the project purpose and portion of embankment situated on private land will be purchased as per Government Order for land purchase by Govt. of West Bengal. But, the embankment / the right-of-way has been encroached upon in many places and structures are existing on the identified working zones which may be impacted due to project activities. Majority of such structures, by different structural categories, are constructed by the encroachers and squatters who are likely to be impacted apart from the structures existing on legal lands. The project does not require additional land beyond the land already in possession of the government. The project activities have been designed and planned to create the least obstruction / interference on the land and other assets of people as well as various utility structures, lying in the vicinity of working zone.

Methodology of RAP Preparation: For the preparation of RAP, a detail study was conducted, adopting an integrated approach of primary data collection of affected households, secondary source information collection, physical observation of the situation, stakeholder consultation, meetings in different identified project locations, discussions with key informants and conducting FGDs. The study followed an observational design entailing both qualitative and quantitative methods. The methodology covered interview with the project affected families / persons, focus groups discussion with the local community, observation of the structures presents and interview of structure owner, discussion with local project authorities and other local institutions and discussion with other key stakeholders.

Project District Overview: Among all the project districts, Howrah is having highest population density and Bankura has the lowest. The sex ratio of Hooghly district is highest and the decadal growth rate of project district varies from 9.5 percent in Hooghly to maximum of 13.5 percent at Howrah. All these districts have Scheduled Caste (SC) population and average SC population (31.2%) in project districts is marginally below the state average (32.65%). All five Project districts have a presence of tribes. Bankura has the highest percentage of tribal population (11 percent of the total population), followed by Bardhhaman (7 percent) and Hooghly (4 percent). The tribal population in Howrah is less than one percent of the total population. The average literacy rate (78.7) in project districts is higher than state (76.3%) and national (73%) average. There is a gap between male and female literacy, which is most pronounced in Bankura. Elsewhere the gender gap is less than the national average (16.2%).

The male worker population in the project districts is around 51.0 percent and female worker population is around 49.0 percent. Male main worker and marginal worker population is higher than female worker population whereas female non-worker population is higher than male. All the project districts are having significant percentage of marginal and small farmers. The study conducted adjacent to the project sites in

project blocks reveals that the average land holding of farmers / families in the project areas (villages near the project sites in the project blocks) found to be 77 Katha or 1.28 acres (one acre is equal to 60 Katha). The average land holding in West Bardhhaman is found to be highest with 162 Katha (2.7 acres) and lowest in Howrah (53.28 Katha) and Hooghly (61.47 Katha). In Bankura, the average land holding is 82.95 Katha and 98.81 Katha in East Bardhhaman.

Socio-Economic Profile of the Affected Area: The project sites are dominated with population of other categories (65.38 percent) followed by scheduled caste population (33.78 percent). Among the affected families, the tribal population is marginal with 0.84 percent, though project districts have larger tribal population. Majority of the head of affected families in the project locations belongs to 18 to 60 age group (77.9 percent) followed by 60+ age category (22.0). About 9.7 percent families are headed by women out of total 2253 identified potentially affected families. Of the total households, 38.3 percent are below the average annual income of Rs.50,000/- whereas majority of 42.6 percent are in the average annual income category of Rs.50,000 to Rs.1,00,000/-. Percentage of households in the higher income group such as income level more than Rs.3,00,000 are less in comparison to lower income groups. Around 99.69 percent families have access to different schemes of the government (single or multiple schemes).

Structures in Project Locations: The identified project locations are having a total of 2637 structures of different nature. Of the different type of structures, majority are the residential structures to the tune of 40.8 percent, followed by business shops (26.3 percent) and cattle sheds. (12.4 percent).

Residential Structures: Among the residential structures, 34.20 percent are pucca houses, 40.33 percent are semi-pucca, 18.96 percent are kutcha houses and 5.67 percent are bamboo sheds. The average area of the residential structures assessed to be 469.80 Sq. Ft., irrespective of the type of residential structure. Majority of the residential structures are owned by the family of other categories (for whom the legality of ownership could not be verified as they could not produce proper records or documents in support of their claim) (48.1 percent) followed by squatters (39.4 percent) and encroachers (12.6 percent).

Residential Cum Business Structure: There are 78 residential cum business structures of which 44.9 percent are pucca whereas 47.4 percent are semi-pucca structures. Percentage of kutcha, bamboo shed and other structures are relatively less in the project locations. Average area of the residential cum business structures is about 452.42 Sq. Ft. Of the total, 19.2 percent are structures in the encroached area, 44.9 percent are of different squatters and 35.9 percent belongs to other categories.

Business Shop: The project area is having 694 business shops of which 53.6 percent are semi-pucca structures followed by 40.2 percent pucca, 3.3 percent bamboo and 2.2 percent are kutcha structures. About 11.4 percent shops are in encroached area (constructed by encroachers), 55.5 percent are by the squatters and 33.0 percent are of other categories.

Other Structures: The project locations are also having other structures, such as sheds (169 temporary / permanent; around 3.0 percent encroachers are having such structures whereas 50.3 percent by squatters and 46.7 percent by other categories); BEDIs (13 Bedis of which 46.2 percent are of squatters and 53.8 percent by other categories); Boundary walls (61 boundaries of which 67.2 percent pucca, 29.5 percent semi-pucca, 9.8 percent are in the encroached land and 31.1 percent are of squatters and remaining 59.0 percent are in different other category); toilets (158 toilets of which 81.5 percent are semi-pucca and 15.9 percent pucca structures, 3.8 percent are in encroached area and 55.1 percent by the squatters while remaining 41.1 percent are by other categories) and Cattle sheds (328 cattle sheds of which 3.7 percent are pucca, 42.1 percent are semi-pucca, 27.4 percent are kutcha and remaining 26.8 percent are bamboo sheds. About 5.8 percent

are in encroached land, 60.1 percent are under squatters and remaining 34.1 percent are of other categories)

Potential Impact: The project will have long term positive impact on socio-economic condition of the people in the command after its completion along with environmental benefits. But short term and reversable adverse impact is anticipated on encroachers / squatters and the structures that are already constructed or under construction. The project would have such adverse impact, mainly of temporary nature, on certain categories of people, mostly encroachers and squatters, and also on some utility structure and community assets due to construction activities. The project "Component C" which is basically designed for flood management through embankment strengthening and flood wall construction will give rise resettlement / relocation. The zone of impact of such activities will be limited to the area proposed for embankment strengthening and flood wall construction in two project districts, i.e., Hooghly and Howrah.

The project is likely to affect 1736 families / households with differential degree. All the anticipated affected families do not have residential structures in the identified working zones. On the other hand, few families also have more than one type of structure (residential, house cum shop, business shops etc.), which are temporary or permanent in nature. There are 1876 structures existing in the project locations and all these structures belong to 1736 households. In the residential structures, majority are semi-pucca (62.32 percent) and kutcha structures (27.97.0 percent). Similar distribution is observed in case of residential house cum shop where majority are semi-pucca (86.05 percent) and kutcha (6.98 percent) structures. In case of business shops also, 89.86 percent are semi-pucca and 3.62 percent are kutchha structures. Prevalence of other types of structures are less. Pucca structure with concrete roof from Residential hose, house cum shop and business shop category will not be affected to the possible extent. The project is likely to affect 5529 persons in 1736 households, i.e., average of 3.18 persons per affected family. About 57.03 percent of the likely to be affected persons are male and remaining 42.97 percent are female.

Among the affected households, Encroachers and squatters together comprise 61.88 percent in residential structures, 76.74 percent in residential cum business units (house cum shop), 40.98 percent in case of having boundary walls, 58.86 percent in having toilets, 65.85 percent in having cattle sheds and 72.22 percent in terms of having business units / shops, 53.2 percent having sheds and 46.15 percent having Bedi.

Different common property resources and utilities such as electric pole / light post, platforms for religious rituals (pandals / BEDI), pump house, transformer, drinking water sources (tube well) etc. may require relocation / replacement due to construction activities which may create inconvenience for the local people for a short duration (during shifting period).

The project will have minimal impact on the income and livelihood of people. The loss of income and livelihood will occur to the persons who have their commercial establishments / shops on or near to the embankment (work sites only) and the owners of the land whose land may have to be occupied on temporary basis, not exceeding three years from the date of such need-based occupation.

Consideration of Alternatives: To avoid resettlement of encroachers / squatters, the project has been taking several measures in terms of (1) identification of areas for construction works that have no or minimum impact on habitation / settlements, (2) preparing structural designing that are conducive, (3) minimizing area coverage on both the sides of the embankment particularly country side and (4) keeping ROW accessible, through existing or new roads. Strategically, the project will also take steps for temporary relocation of PAFs / PAPs during construction phase (temporary relocation refers to a situation where during working period, the encroachers / squatters will shift to other places and may come back to the site after the work is completed) instead of permanent relocation, where ever feasible, without compromising the overall objective of the project. In case of legal title holders having structure/s on their own land; the project will adopt multifold strategies such as avoiding demolition of concrete structures as it may act as a

flood protective cover, making required change in the design, taking alternative decision on flood wall and/or embankment strengthening measure etc.

Cut-Off Date: The cut-off date is considered as 10th of October 2018 as census was done before that date. Any PAF left out during the census would be given due opportunity to register the demand for compensation, to the RAP Implementing Authority, through a grievance redressal mechanism, and the cut-off date may suitably be extended for this specific cases / purpose.

Eligibility for Compensation: A person / household will be eligible for compensation / assistance in case of having structures of different nature which are to be affected due to project activities; community structures, temporary use of land for project purposes, affected trees and impact on crops due to project activities. As no land is proposed for acquisition, no compensation will be provided for land.

Compensation Entitlement: All the affected persons, including encroachers and squatters who have structures on the identified work zones, will be compensated under "GITANJALI" Housing Scheme of the State Government at the present rate of Rs. 1,20,000. All the affected families / persons will be entitled to compensation depending upon the nature of ownership rights on affected assets. Of the total compensation package of 1.2 lakh, 50.0 percent of the compensation will be paid before the demolition of the structure and remaining 50.0 percent after the demolition of the structure. However, compensation in full will be disbursed before the commencement of the work.

Compensation for Community Structures: The project will bear cost of shifting / relocation of different facilities along with repairing / new construction of community structures based on the degree of impact.

Right to Salvage Affected Materials: Even after payment of compensation for structures, the affected families would be allowed to take away the materials salvaged from their dismantled structures and no charges will be levied upon them for the same. A notice to this effect will be issued intimating that the PAFs / PAPs can take away the materials so salvaged within 15 days of their demolition; otherwise, the same will be disposed-off by the project authority without giving any further notice.

Institutional Arrangement and Implementation Structure: The Resettlement Action Plan (RAP) will be implemented by a joint team of project officials of the IWD and other Departments, and Block Administration, under the overall leadership of the District Magistrate of the concerned project district. Engagement of Self-Help Groups, Support Organization and NGOs will be permitted for effective implementation of the RAP, if felt necessary by the District Magistrate. Local Bodies (Panchayat) may also be involved in this process, to the extent required.

In order to make the land available for the execution of planned activities and to address the entitlement of the affected households, there will be a District Level Committee (DLC) at the project level in each project district, headed by the Collector and District Magistrate as chairperson. In the similar line, there will be a Block Level Committee (BLC) at each project blocks, headed by the BDO of the concerned block

Monitoring and Evaluation: There will be both internal and external monitoring mechanism for the effectiveness of the RAP implementation. The internal monitoring will be conducted by DPMU along with DLC from time to time to assess the progress in addressing the issues. The committee at the district level will review the progress from time to time and BDO will monitor the activities at the field level. The APD-DPMU will also conduct periodic monitoring along with Social Expert of the SPMU. This will be monitored during concurrent monitoring, mid-term assessment and end-line evaluation. The external M&E agency along with the PMC will also monitor the activities from time to time.

Grievance Redressal Mechanism: The project will have a robust grievance redressal mechanism in place, including web-based grievance recording and disposal system. The local Gram Panchayat and Community level organizations will serve as the first-tier mechanism to handle complaints and grievances. The local Sarpanch of the Gram panchayat will be the focal point for grievance redressal. Required support will be extended by the BDO and local SPMU / DPMU. In case, the grievance remains unresolved to the satisfaction of the aggrieved person, she/he may place his/her grievance to the state level grievance cell (Tier II) and if not settled amicably, she/he may approach the Judiciary system.

RAP Budget: The total budget of RAP implementation, estimated to be Rs. 3179.80 Lakh which comprises cost of direct purchase of land, compensation for the structures likely to be affected, cost of RAP implementation, restoration of common property resources etc.

Chapter 1: Introduction

1.1 **Project Background**

The Irrigation and Waterways Department (IWD) of Government of West Bengal is planning to implement "West Bengal Major Irrigation and Flood Management Project (WBMIFMP)". The project aims at modernization of irrigation system, with special emphasis on conjunctive use of ground and surface water in the Damodar Valley Project Command Area of the State. The project will be executed in the districts of Purba (East) & Paschim (West) Bardhhaman, Bankura, Hooghly and Howrah districts of the State. Prime objective of proposed project is to rejuvenate and rehabilitate existing irrigation network for sustainable development in DVC area and management of floods in Lower Damodar Sub-Basin in West Bengal. The project has the objective of (1) Augmenting water supply in the canal distribution network and improving irrigation management to ensure sustainable conjunctive use of water resources in the command area of Damodar Valley in the State of West Bengal, (2) Reducing impact of flood and drainage congestion in the Lower Damodar Sub-Basin by various structural measures.

1.2 Project Components

Component A: Irrigation Management

This component will improve the management of the DVC irrigation scheme. The component four subcomponents, i.e., (a) Establishment of MIS, (b) Improving the Quality of Service Delivery, (c) Introduction of Performance Management, and (d) Capacity Strengthening.

Sub-Component A1: Establishment of MIS and Performance Monitoring

The Project will establish a robust Management Information System (MIS) and a network/system for data capture, transmission and management. The design of the MIS will not only support the monitoring needs specific to this project, but also all the departmental (IWD) schemes and projects. The MIS will have the following modules.

- 1. Administrative Functions and Maintenance (Administration) modules, including procurement, design approvals, project management and physical progress, finance and expenditure benchmarking, and HR;
- 2. Irrigation Operations and Decision Support Systems (Operations), including a water balance module for conjunctive water availability; a disaster management module including irrigation infrastructure operational thresholds, flood warning and alerts; and an asset health and management module, including asset maintenance records, current status, date of next service. These modules will be tied together with a high-level dashboard for decision makers/water managers. The Project will pilot use of satellite services for irrigation scheduling;
- 3. Performance Monitoring and Irrigation Efficiency Evaluation (Performance), including service delivery performance module measured as a factor of quantity and timeliness of delivery with subsequent benchmarking at outlets, personnel performance, beneficiary registration and engagement, service delivery verification and citizen's feedback, grievance redressal, diagnostics tracking and high-level performance review dashboard.

Sub-Component A2: Improving Service Delivery

The Project will improve the quality of service delivery through (a) introduction of performance-based operation of irrigation canals at distributary canal and below, (b) support for individual irrigation service providers, and (c) introduction of accountability and transparency.

The Project will introduce performance-based irrigation operation through Private Irrigation Operators. The Operators will become responsible for operating distributary canals and below (10,000 hectares on average). They will sign a multi-year framework contract that lays down the broad principles, and annual water supply contracts that are based on the amount of water available in the upstream reservoirs in that particular year. The Operators will also sign a bulk water delivery contract with IWD, and separate output-based service delivery contracts for promoting micro-irrigation and market linkages. Operators will be paid on a per hectare basis by IWD.

The Project will also promote individual service providers to provide irrigation services to farmers and farmer groups. This could include mobile pump services, pump repair services, weather information services, and others. The project will support these service providers through capacity strengthening, assistance in the preparation of business plans and credit requests to banks, and support for the development of small-scale on-farm water storage. The Project will support rational asset management, including establishment of a geo-tagged asset database, budget planning, development of maintenance standards, and reporting on these. The Project will strengthen accountability and transparency and staff management

Sub-Component A3: Capacity Strengthening

The Project will strengthen capacity of IWD staff, operators, WUAs and farmers to improve the quality of service delivery. A capacity strengthening needs assessment will be conducted during the first year of the project, and will be updated annually, based on feedback from beneficiaries. IWD staff will be trained in effective contract design and contract management, negotiation and monitoring. The Project will transform the River Research Institute (RRI) into a center of excellence and will award M. Sc. and Ph. D degrees in River Engineering, and Hydrology and Hydro-informatics, Finance and Project management.

Component B: Modernization of Irrigation Infrastructure

This component looks at the modernization of irrigation infrastructure at main, distributary, minor and chak level. The component includes three sub-components, i.e., (a) Main and Distribution Canal Modernization, (b) Minor Canal and Chak Infrastructure Modernization, and (c) Groundwater Recharge.

Sub-Component B.1: Main and Distribution Canal Modernization

This sub-component will support in modernization and upgradation of RBMC and LBMC and the Distribution Canals by desiltation, slope stabilization and refurbishment as well as remodeling of regulating structures. There are 39 Distribution Canals in the command area, with an average service area of 10,000 hectares. The modernization will bring in stabilsation of flow, better flow control and the systematic maintenance of "full supply" water levels. In order to reduce the risk of bank erosion, selected sections of canals will be lined.

Sub-Component B.2: Minor Canal and Chak Infrastructure Modernization

There are 220 Minor and sub-Minor Canals in the project area, with an average command area of 2,000 ha. The project will upgrade these canals, rehabilitate the cross-regulators, modern closable and lockable outlet structures and selected lining. The project will install pressurized supply system. To that end, the minor canal will be converted into a reservoir, and solar panels and pump station will be installed on top of the canal to avoid resettlement, reduce evaporation and enhance the operational efficiency of the panels. Within the associated chaks, the Project will install sub-surface pressurized pipe systems that will deliver water to faucets on each plot. Farmers who so wish can connect these to a micro-irrigation system. Others who wish to practice flood irrigated crops can continue doing so.

The Project will promote adoption of micro irrigation technologies by farmers. This will be done through (a) awareness and capacity building, (b) support for the preparation of loan requests to bridge the time between purchase and receipt of the govt. subsidy, and cover the beneficiary's contribution. Where possible, group purchase will be encouraged to increase credit worthiness. The Project will sign contracts with the irrigation Operators and remunerate them on the basis of the number of loans signed between the bank and farmers for the purchase of micro irrigation.

Sub-Component B3: Aquifer Management

The Project will establish groundwater monitoring system that will be managed by the Water Resources Investigation and Development Department (WRIDD). The monitoring system would measure actual groundwater withdrawal. Through the MIS, the Project will collect baseline data on groundwater use, levels and quality. WRIDD will operate a service that will issue alerts when groundwater levels drop below 20 and 30 meters, and will disclose geo-tagged groundwater level information through a mobile phone app. The Project will also invest in the groundwater knowledge base by conducting a study into the groundwater situation in the project area. The study would aim to establish a more accurate water balance (including in particular sub-surface in and outflow), identify opportunities for groundwater recharge, and define levels for sustainable groundwater withdrawal.

Component C: Flood Management

This Component will invest in structural measures to reduce flooding in the project area. Overall, the objective is to provide protection of at least 1 in 25-year flood return period for the left side of the Amta Channel and to prevent annual recurrence floods to the extent possible in the right bank and also to manage Amta right bank overspills to pass to channels and areas where resultant damage can be minimized. If possible, the right bank area would be largely protected from substantive damage up to a 1 in 10-year event. The intervention will ensure that flood flow discharge is more evenly shared between the Mundeswari and Amta Channels. Increasing flood discharge capacity in Mundeswari requires de-siltation to restore/increase the low flow to moderate flood discharge capacity to reduce/limit peak discharge that will still be needed in the Amta for all flood events. The project will also install two inflatable rubber dams at key locations.

As flood in the lower Damodar cannot be fully avoided, the project will support flood management to moderate the frequency and extent of flooding. The project will improve the conveyance capacity of the Mundeshwari River, controlling and reducing discharge into the Amta Channel under high flow conditions, implementing small improvements and modifications to the Amta Channel left bank, and improving several sluice gates to facilitate more rapid evacuation of flood water.

Component D: Project Management

This component will strengthen IWD and the SPMU's capacity for project management, including monitoring and evaluation (M&E), procurement and financial management. The project will support in staffing the SPMU and allied district level project implementation structures. A Project Management Consultant (PMC) will be recruited to assist the SPMU in managing and coordinating project activities. A Construction Supervision Consultant (CSC) will be recruited to assist the SPMU in supervising construction works.

1.3 Implementing Agency

Irrigation & Waterways Department, Government of West Bengal is the nodal agency to implement West Bengal Major Irrigation and Flood Management Project (WBMIFMP). To manage and oversee implementation of the project, there will be a State Project Management Unit (SPMU) and two District Project Management Units (DPMUs). The SPMU is headed by a Project Director in the rank of Chief Engineer and the DPMUs are headed by Additional Project Directors in the rank of Superintending Engineers (Civil). In addition to the dedicated SPMU and 2 DPMUs, four Irrigation Divisions (i.e. Howrah Irrigation Division, Hooghly Irrigation Division, Bardhhaman Irrigation Division and Right Bank Irrigation Division) under the Irrigation & Waterways Directorate have been identified for implementing field works of the project exclusively, and these Divisions are designated as District Project Implementation Units (DPIUs). Apart from IWD, Department of Food Processing Industries and Horticulture, Agriculture Marketing Dept., Agriculture Dept. and Fisheries Department of Government of West Bengal will also be associated in the implementation of the project activities. There will be one Project Management Consultant (PMC) at SPMU level to assist SPMU in implementing entire project.

1.4 Need for Displacement / Relocation

All the project activities that require land, i.e., embankment strengthening, de-siltation and flood wall construction will be taken up in the existing structures and within the right-of-way / river bed. So, no additional private land is required for the project purpose and no land acquisition is proposed under the project. Further, the embankment / the right-of-way has been encroached upon in many places entailing impact to commercial and residential structures as well as small temples and other common facilities. Though, the project will not involve in any land acquisition, it will impact on encroachers and squatters.

None of the interventions under the WBMIFMP require additional land beyond the land already in possession of the government or create perpetual interference on land or other assets of private persons. As such, permanent acquisition of land in terms of provision of LARR Act, 2013 or direct purchase of land as per prevailing policy of the Government of West Bengal will not be required. Also, the project activities have been planned in such a manner so as to create the least obstruction / interference on the land and other assets of people as well as various utility structures, lying in the vicinity of working zone.

1.5 Project Cost

The project is to be co-financed by the World Bank and Asian Infrastructure Investment Bank (AIIB), jointly in equal proportion for USD 145 million each of the total loan amounting to USD 290 million (70% of the total estimated project cost of USD 413 million). Remaining 30% of the project cost, i.e. USD 123 million would be borne by the State Government.

1.6 Structure of the Report

Chapter 1: Project Introduction Chapter 2: Approach and Methodology Chapter 3: Socio-Economic Profile Chapter 4: Stakeholder Consultation and Analysis Chapter 5: Impact Assessment Chapter 6: Resettlement Chapter 7: Gender Action Plan Chapter 8: Institutional Arrangement & Implementation Structure Chapter 9: Monitoring and Evaluation Chapter 10: Grievance Redressal Mechanism Chapter 11: RAP Budget

Chapter 2: Approach and Methodology

2.1 Introduction

This section deals with the approach and methodology followed for the collection and analysis of data. The project followed both quantitative and qualitative approach for data collection. Social impact assessment and resettlement planning component has following elements:

2.2 The Approach

The preparation of RAP was driven by collection and analysis of different data, collected from primary and secondary sources. A participatory and consultative approach was followed throughout the process, involving both primary and secondary stakeholders at different stages. Attempt made to cover all the households that occupy different structures on either side of the working zone and on the ROW, covering five meters (as decided by Government) on both the sides of the embankment at working zones and entire area on ROW. As fresh land acquisition for the project activities is ruled out by the Govt., and project intends to confined its working zone within the currently available govt. land, the approach of the study was (1) to identify different structures that are available on both the sides of the embankment and on the ROW, within the stipulated working zones, which are likely to be affected, and (2) preparing a list of families / households / persons who owns such structures so that compensation can be paid as per the norm finalized by the govt. As, majority of the structures belongs to encroachers / squatters, temporary and / or permanent eviction is required from the identified work zones. So, the overall study approach was to identify such areas of eviction, existence of different structures, both community and individual ownership based, and person / families who own such structures. As Govt. of West Bengal has decided to cover all the affected families / households under GITANJALI scheme, taking residential / non-residential structures as the unit, the census survey approach was adopted accordingly. However, any change in specific project / activity location may require further assessment to identify persons to be affected in such changed locations.

2.3 Methodology

The study adopted an integrated approach of collecting required data / information which includes primary census survey of affected households, secondary source information collection, physical observation of the situation, stakeholder consultation, meetings in different identified project locations, discussions with key informants and conducting FGDs. Efforts were made to collect required information from the families through discussion on various aspects. Effort was made to involve all the potential affected households in the identified project location in the process of data collection so as to have a representative view of the household on the issues of displacement, compensation and rehabilitation. The methodologies selected for conducting the study were to satisfy the objective and scope of the study as mentioned in the TOR. The study followed an observational design entailing both qualitative and quantitative methods. The methodology covered (1) interview with the project affected families / persons, (2) focus groups discussion with the local community, (3) observation of the structures present, (4) discussion with local project authorities and other local institutions and (5) discussion with other key stakeholders.

2.4 Data Collection

The study had a systematic process for collecting information from affected households in different project locations. The strategic process of the study followed is as follows;

Table 1: Stages of Data Collection

Sl. No.	Stages of the Study	Details
1	Stage 1	Exploratory visit to the project locations and discussion with local people / community. Discussion with habitants living nearer to the project locations in country and river sides.
2	Stage II	Collection of available secondary information and its analysis to understand the socio-economic condition and related aspects
3	Phase III	Designing of tools, piloting of tools and its administration for primary data collection
4	Phase IV	Data Entry, its analysis and submission of report

T 11 0	D '	10	1 D (011
Table 2:	Primary	ana Secon	aary Data	Collection

SL. No.	Primary Data	Secondary Data			
1	Census Survey of affected households through	Information, maps etc. provided by the IWD			
	structured schedule	Department			
2	Site specific structures / infrastructure and	Relevant Acts and policy guidelines of Govt. of India			
	socio-cultural property survey using checklist,	and Govt. of West Bengal			
	observation and consultation with local people				
3	Focus Group Discussion	Other Study reports, including feasibility study report			
	-	of the project			
4	Discussion with the district and local level	Secondary literature, including district statistical hand			
	functionaries of the Department/s	book, economic survey report, census data of 2011,			
		agriculture statistics etc.			

2.5 Tools

Structured schedules and FGD checklist were used for conducting socio-economic and census surveys of the affected area. Study schedule was prepared to capture relevant socio-economic data of the affected persons / households. In addition to the structured schedule, separate FGD check list was also administered in different project locations, involving local people / community.

Apart from study schedules for capturing primary data, a checklist was also prepared to list and record secondary data. Secondary information about the socio-economic profile of the district and project area was collected from authentic sources and published government documents and maps. Primary data on different socio-economic aspects were collected from site surveys. The different types of primary and secondary data collected are listed in following table:

2.6 Definitions of Terms and Phrases

The following terms, words and phrases have been referred to and used in this RAP Report for better clarification of the reader. Though, some of the terms are indicated in the Act and Rules, for the purpose of relevance and importance the definition and connotation of all relevant words, terms and phrases are furnished below:

Affected Area: Means such area as identified as the working zone by IWD Department of Govt. of West Bengal. As no land acquisition is proposed, it is not notified by the Government of West Bengal.

Governments: Central Government means the Government of India and State Government means Govt. of West Bengal.

Cut-off Date: For the purpose of compensation for different assets / structures, cut-off date is the date, as decided by the Govt. of West Bengal, before or after the commencement of the RAP study.

District Collector: Means the officer appointed by the State Government as a Collector and District Magistrate of a District.

Project: In this document, project refers to West Bengal Major Irrigation and Flood Management Project (WBMIFM) which is proposed to be executed in five districts of West Bengal.

Encroacher: A person who has trespassed Government/ private/community Land, adjacent to his or her land or asset to which he/she is not entitled and who derives his/her livelihood and housing there from prior to the cutoff date.

Squatter: A squatter is a person who has settled on publicly owned land for housing or livelihood without permission or who has been occupying publicly owned building without authority prior to the cutoff date.

Other Category: Other category of persons / households in structural ownership category include those households who have structures on land in the identified stretch of working zone and their legality could not be confirmed due to non-availability of verifiable records in support of their claim. They are accordingly, placed under the same category of encroachers till further verification.

Landless/Agriculture Labour: A person who does not hold any agriculture land and has been deriving his main income by working on the lands of others as sub-tenant or as an agriculture labour prior to the cut-off date.

Tenants: Tenants are those persons having bona fide tenancy agreements, prior to the temporary use of the land for project purposes, with a property owner, with clear property titles, to occupy a structure or land for residence, business or other purposes.

Vulnerable Groups: Persons such as differently abled, widows, and women headed household, persons above sixty years of age, Scheduled Caste and Scheduled Tribes and other groups as may be specified by the State Government.

Women Headed Household: Means a family headed by a woman and does not have a male earning member or the Male member is not earning/ not capable of earning. This woman may be a widow, separated or deserted woman.

Project Affected Person: Person who is likely to be affected due to the project activities in respect of ownership of the structure thereon, trade and occupation.

Project Displaced Person: A displaced person is a person who is compelled to change his/her place of residence and/or work place or place of business, due to the project on permanent basis.

Projected Affected Family: Family includes a person, his or her spouse, minor children, minor brothers and minor sister's dependent on him. Provided that widows, divorcees and women deserted by families shall be considered separate families;

Land Owner: Land owner includes any person - whose name is recorded as the owner of the land or building or part thereof, in the records of the authority concerned; or any person who is granted forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 or under any other law for the time being in force; or who is entitled to be granted Patta rights on the land under any law of the State including assigned lands; or any person who has been declared as such by an order of the court or authority.

Marginal Farmers: Marginal farmer means a cultivator with an un-irrigated land holding up to one hectare or irrigated land holding up to one half hectare, or as may be defined by the concerned state government. Small Farmer: Small farmer means a cultivator with an un-irrigated land holding up to two hectares or irrigated land holding up to one hectare, but more than the holding of a marginal farmer, or as may be defined by the concerned state government.

2.7 Limitations of the Study

The study is having limitations with regard to collecting sensitive data / information from the household level. The limitations can be viewed in terms of reviewing land records of the families who claim to have land rights in certain project locations and total land holding of the family. As getting willingness of the identified affected family to show the land records was a constraint, the total area under the possession of the household count not be ascertained fully, apart from taking the view of the family. Secondly, collection of income level data remains always sensitive however, majority of the family members shared their current level of income from different sources. The area estimated to be affected due to project activities are based on its availability in the working zone and affected area is estimated based on the consultation with the IWD officials in the ground, concerned owner of the structure and based on the physical observation.

Chapter 3: Socio-Economic Profile

3.1 District Profile

3.1.1 Demographic Profile of the District

The population density among the project districts is highest at Howrah and lowest at Bankura. The sex ratio is highest at Hooghly district, which is marginally higher than the state value. Decadal growth rate in project district varies from 9.5% in Hooghly to maximum of 13.5% at Howrah.

Indicators	Bankura	Bardhhaman	Howrah	Hooghly
		(Purba &		
		Paschim)		
Population (No.)	7,14,599	77,17,563	48,50,029	55,19,145
Decadal growth rate (%)	12.65	11.9	13.5	9.5
Population Density	523	1099	3306	1753
Sex Ratio	957	932	939	961
Work Participation Rate (%)	40.77	37.7	37.5	39.0
Main Workers (%)	25.48	28.1	30.9	31.1
Literacy Rate (%)	70.26	76.2	80.0	81.8
Scheduled Caste (%)	32.65	27.41	14.82	24.35
Scheduled Tribe (%)	10.25	6.34	0.31	4.15
Urban Population (%)	8.33	39.89	63.4	38.6

Table 3: Demographic profile of whole project district

Note: This table represents total figure of project districts.

ST & SC Population: The SC population is predominant in all project district. Average SC population (31.2%) in project districts is marginally below state average (32.65%). Secondary study reveals that ST population is present in all project blocks. In Bankura district, ST concentration is lowest (1.64%) at Barjora block and highest (3.5%) at Sonamukhi block. In Paschim Bardhhaman ST concentration is highest (10.2%) at Kanksa and lowest (6.9%) at Faridpur Durgapur. In Purba Bardhhaman, ST concentration is more than 10% in 8 project blocks and less than 5% in 7 project blocks. ST concentration is highest at Memari – II (18.4%), followed by Kalna – II (17.28%), Memari – I (15.7%), Jamalpur (15.1%) and Ausgram - II (14.4%) in Purba Bardhhaman district. In Howrah district, ST population is lowest (0.04%) at Uluberia-II block, followed by Shyampur – II block (0.05%) and highest (1.03%) at Jagatballavpur block. In 4 blocks of Hooghly district, ST population concentration is more than 9% and remaining 11 blocks has less than 7% ST concentration.

Items	Bankura	Purba	Paschim	Howrah	Hooghly	Total (in 51
		Bardhhaman	Bardhha man			Blocks)
Household	151,989	806,809	42,590	372,070	706,281	2,079,739
Population	688,813	3,459,154	188,964	1,688,303	3,053,642	9,078,876
SC Population	291,761	1,161,884	70,652	376,505	929,574	2,830,376
ST Population	17,508	299,879	19,927	3,820	195,422	536,556
% of SC Population	42.4	33.6	37.4	22.3	30.4	31.2
% of ST Population	2.5	8.7	10.5	0.2	6.4	5.9

Table 4: Project district wise SC & ST population concentration

Note: This table represents only rural population of 51 project blocks (41- Irrigated and 10 - Flood affected) of these five districts

3.1.2 Literacy

According to the 2011 census, the average literacy rate (78.7) in project districts is much more than state (76.3%) as well as country (73%) average. Average urban literacy rate is above 80% in all the project districts and rural literacy rate is below 80 percent in all the project districts. Bankura has rural literacy rate (71%) below state as well as national average. There is a gap between male and female literacy, which is most pronounced in Bankura. Elsewhere the gender gap is less than the national average (16.2%).

District	Literacy Rate (%)	Ma	Male literacy rate			Female literacy rate			Gender gap in literacy		
		T (%)	R (%)	U (%)	T (%)	R (%)	U (%)	T (%)	R (%)	U (%)	
Bankura	71	80	79.1	90.1	60.1	58.3	78.5	20	20.8	11.6	
Bardhhaman (Purba	77.2	82.4	79.1	87.3	69.6	65.9	75.3	12.8	13.3	12	
& Paschim)											
Howrah	83.9	87	84.7	88.2	79.4	75	82	7.5	9.8	6.2	
Hooghly	82.6	87	84.8	90.5	76.4	72.1	83.1	10.7	12.7	7.4	
Project Average	78.7	84.1	81.9	89.0	71.4	67.8	79.7	12.8	14.2	9.3	

Table 5: Literacy Rate in Project District

Note: This table represents total figure of project districts (T: Total; R: Rural; U: Urban)

3.1.3 Economy of the District

Working Population: The male worker population in the project districts is around 51.0 percent and female worker population is around 49.0 percent. Male main worker and marginal worker population is higher than female worker population whereas female non-worker population is higher than male.

District		Male Popu	lation	Female Population				
	Main Worker	Marginal Worker	Non- Worker	Total	Main Worker	Marginal Worker	Non- Worker	Total
Bankura	24.2	6.6	20.5	51.2	5.2	6.3	37.3	48.8
Purba Bardhhaman	24.6	6.8	19.7	51.0	5.0	5.0	39.0	49.0
Paschim	19.7	10.3	21.7	51.6	3.6	7.2	37.5	48.4
Bardhhaman								
Howrah	25.1	6.0	20.1	51.2	3.2	3.3	42.2	48.8
Hooghly	25.8	6.0	19.0	50.8	4.5	4.4	40.3	49.2
Average (Project District)	23.8	7.1	20.2	51.2	4.3	5.3	39.3	48.8

Table 6: Worker and Non-Worker Population

Note: This table represents only rural population of 51 project blocks (41- Irrigated and 10 – Flood affected) of these five districts

Livelihood: The livelihood profile of the state varies widely across the districts. The proportion of cultivators is the largest in Bardhhaman (Purba & Paschim) and Bankura district, and the smallest in Howrah. In the latter district, there is a large percentage of household industrial workers. In Howrah, there are a large percentage of female household industrial workers followed by Bardhhaman and Hooghly district. Other workers have a large presence in Bardhhaman, Howrah and Hooghly.

District		Male W	orker (l	Both Mair	n and M	arginal) ('	% Distr	ibution)	
	Cultivator		Agricultural Labourer		Household Industrial Worker		Other (Worker)		Total
	% of	% of	% of	% of	% of	% of	% of	% of	% of
	State	District	State	District	State	District	State	District	State
Bankura	6.16	57.75	5.17	80.29	2.69	6.26	2.63	74.81	3.93
Bardhhaman (Purba & Paschim)	7.09	66.54	9.40	146.07	5.81	13.51	8.86	252.02	8.58
Howrah	1.58	14.84	2.15	33.47	17.85	41.49	7.82	222.58	5.61
Hooghly	5.32	49.95	5.58	86.73	5.98	13.89	7.26	206.74	6.41

 Table 7: Male Work Force (Main and Marginal)

Note: This table represents total figure of project districts.

Table 8: Female Work Force (Main and Marginal)

District		Femal	e Worker	(Both Ma	in and M	arginal) (% Distri	bution)		
	Cultivator		Agricultural Labourer		Household Industrial		Other (Worker)		Tota	al
					Woi	ker				
	% of	% of	% of	% of	% of	% of	% of	% of	% of V	Vest
	West	District	West	District	West	District	West	District	Beng	gal
	Bengal		Bengal		Bengal		Bengal		_	
Bankura	5.31	16.04	9.59	128.50	2.33	15.38	2.66	43.57	5.1	7
Bardhhaman (Purba &	& Paschim)	3.74	11.29	9.97	133.57	4.43	29.27	7.87	128.68	7.69
Howrah	Iowrah		4.61	0.77	10.35	7.32	48.39	5.76	94.23	4.00
Hooghly		3.27	9.87	6.12	82.02	3.35	22.14	6.19	101.15	5.46

Note: This table represents total figure of project districts.

Operational Holding: Land holding pattern reflects that all the project districts are having significant percentage of marginal and small farmers. In Bankura, 68.0 percent farmers are having less than 1.0 Ha. of land and percentage of holding to total holding is 36.0 percent. Of the total farmers, 21.0 percent are having 1.0 to 2.0 Ha. of land with 31.0 percent of the total land whereas only 11.0 percent farmers are in the holding category of greater than 2.0 Ha. of land with 33.0 percent of the total area of holding.

Table 9:	Project	district	wise	land	holding	status
----------	---------	----------	------	------	---------	--------

District	Item	Classification of Holding	<= 1 Ha	>1 to <= 2 Ha	>2 Ha	Total
Bankura	Holding	Nos.	278414	85292	44325	408031
	_	% to Total	68	21	11	100
	Area	Ha.	148494	125064	133850	407408
		% to Total	36	31	33	100
Bardhhaman	Holding	Nos.	325565	88410	38892	452867
		% to Total	72	20	8	100
	Area	Ha.	191610	149896	130612	472118
		% to Total	41	32	27	100
Howrah	Holding	Nos.	256387	22339	5369	284095
		% to Total	90.24	7.86	1.9	100
	Area	Ha.	81880	26669	13242	121791
		% to Total	67.23	21.9	10.87	100

District	Item	Classification of Holding	<= 1 Ha	>1 to <= 2 Ha	>2 Ha	Total
Hooghly	Holding	Nos.	293535	40363	8633	342531
		% to Total	86	12	3	100
	Area	Ha.	128989	61311	25855	216155
		% to Total	60	28	12	100
Tatal	Holding	Nez	1152001	226404	07210	1407574
Total	Holding	Nos.	1153901	236404	97219	1487524
		% to Total	77.57	15.89	6.54	100.00
	Area	Ha.	550973	362940	303559	1217472
		% to Total	45.26	29.81	24.93	100.00

Source: NABARD

Note: This table represents total figure of project districts.

In Bardhhaman, less than 1.0 Ha. of land holding is more prominent as 72.0 percent farmers are in this category with holding of 41.0 percent of the total land. About 20.0 percent farmers who have holding size of 1.0 to 2.0 Ha. having 32.0 percent of the total land and remaining 27.0 percent land belongs to 8.0 percent farmers who have average holding of more than 2.0 Ha. of land. Similar trend is observed in other two project districts, i.e., Howrah and Hooghly.

The study conducted adjacent to the project sites in project blocks reveals that the average land holding of farmers / families in the project areas (villages near the project sites in the project blocks) found to be 77 Katha or 1.28 acres (one acre is equal to 60 Katha). The average land holding in Paschim Bardhhaman is found to be highest with 162 Katha (2.7 acres) and lowest in Howrah (53.28 Katha) and Hooghly (61.47 Katha). In Bankura, the average land holding is 82.95 Katha and 98.81 Katha in Purba Bardhhaman.

Project District	Average la	nd Holding	Median Value of	Distribution of	
	In Katha	In Acre	Land Holding	Households (%)	
Bankura	82.945	1.38	70.00	9.6	
Purba Bardhhaman	98.809	1.65	70.00	30.1	
Hooghly	61.471	1.02	40.00	29.6	
Howrah	53.281	0.89	40.00	26.3	
Paschim	162.040	2.70	100.00	4.4	
Bardhhaman					
Total	77.008	1.28	50.00	100.0	

Table 10: Land Holding Pattern

Source: Field Study

The operational holding of the families is marginally higher than own legal holding because of share-in / leased-in land used for cultivation.

Table 11. O	perational Holdin	a Pattern among	Farmors in	Project Districts
<i>Table</i> 11. 0	реганопан понат	д ғанетп атопд	r armers in	FIOJECI DISITICIS

Project District	Average la	nd Holding	Median Value of	Distribution of	
	In Katha	In Acre	Land Holding	Households (%)	
Bankura	93.60	1.56	80.00	8.1	
Purba Bardhhaman	107.96	1.80	80.00	26.5	
Hooghly	48.98	0.82	30.00	33.0	
Howrah	61.21	1.02	50.00	28.1	
Paschim	195.70		110.00	4.3	
Bardhhaman		3.26			
Total	77.97	1.30	50.00	100.0	

Source: Field Study

3.1.4 Land Type and Land Use

Total geographical area of the project blocks is 10,55,866.3. The gross cropped area is 136.1 percent of total geographical area. The net sown area is 68.45 percent to total geographical area. Area sown more than once is 97.53 percent of the net sown area. Project district as well as block wise information on different land use pattern is tabulated below.

		Area under Agriculture (ha)									
District	Total Geographi	Gross cropped	Net sown	Area sown more than	Cropping Intensity	Area under	Area under	Area under other uses			
	cal Area	Area	Area	once	(%)	Forest	Wasteland				
Bankura	134090.3	140335	82580	57755	168	23079.7	4728.5	25251.4			
Purba Bardhhaman	480464	675377	356949	318428	193	11793	2853	108870			
Paschim Bardhhaman	56697	29596	24850	4746	119	10230	4490	17127			
Howrah	115593	138738	74180	54706	188	0	0	41413			
Hooghly	269022	453338	184134	269204	244	528	1133	0			

Table 12: Project district wise land use pattern

Source: District Irrigation Plan (DIP), 2016

The land utilisation pattern of the project districts reflects that 61.59 percent of the total geographical area is the net sown area in Bankura whereas 74.29 percent of district geographical area is the net sown area in Purba Bardhhaman, 43.83 percent in Paschim Bardhhaman which is lowest among all the project districts, 64.17 percent in Howrah and 68.45 percent in Hooghly. Among all the project districts, highest cropping intensity observed in Hooghly (244 percent) followed by Purba Bardhhaman with 193 percent. Lowest cropping intensity is in Paschim Bardhhaman among all the project districts with 119 percent.

As Land use refers to "man's activity and the various uses which are carried on land" and land cover refers to "natural vegetation, water bodies, rock/soil, artificial cover and others resulting due to land transformation". The study area (project sites and the buffer zone) is having different types of land uses. The Land use/Land cover map of the study area is prepared based on the satellite imagery. Area under agriculture / crop / plantation is highest in all the project sites (including buffer zone) followed by area under settlement. Sandy area is observed in Mundeswari river region. The satellite imagery map showing the present land use and land cover in the study area is presented in figure.

LU&LC Classification		Project Area (in Ha.)										
	Hurhura	Madaria Khal	Upper Rampur	Damodar	Mundeswari	41 Canals						
Agriculture/Crop/Plantation	7425.71	6580.97	11494.50	9758.21	13087.25	27544.09						
Built Up/Settlement	3147.13	2908.62	4171.88	3161.60	3029.70	11116.03						
Water Body	834.76	632.63	1338.63	666.63	793.74	2289.62						
Sandy Area	-	-	-	-	568.60	-						
Total	11407.60	10122.22	17005.01	13586.44	17479.29	40949.74						

 Table 13: Land Use (LU) and land Cover (LC) of Project Locations

3.1.5 Physiographic Condition of the Project Locations

The project area is flat and plain areas and topographically, it is a vast low lying plain. The area is devoid of hill locks and terrine is smooth. It is the alluvial plane area and known for agricultural activities.

Table 14: Physiographic Condition of Project Districts

Sl.	Project	Physiography
No.	Locations	
		 River bed of entire stretch proposed for de-siltation is almost 2-meter-high than Damodar (Amta) channel. Entire 20 km. stretch remain almost dry throughout the year except presence of water only in few pockets. Embankment on both side of river is in-continuous (due to incomplete activity under Lower Damodar Improvement Project). Both side of river is almost unapproachable due to non-presence of permanent embakment. Sand mining is very common practice in this stretch. Human settlement on immediate either side of river is very less. However moderately dense habitat observed at a distance of 1 km. Entire terrain is flat and plain. River bed and nearby settlement and agricultural land height is almost equal throughout the stretch proposed for de-siltation. Entire land is very much fertile. Potato is main cash crop in this area. Paddy cultivation during rainy season is very common practice in this flood prone area. No agricultural land found un-cultivated during our field visit in the month of September, 2018. Set back zone is almost 200- 300 meter (width) throughout the 20 km. stretch. Settlement on river side is relatively less on either side of river. Any kind of agriculture practice is not observed on set-back zone (mainly due to heavy deposition of fine sand). There exists no forest patch within work zone as well as 3 km. buffer zone. Biological diversity is relatively rich with compared to any other project area. Small and medium size tree is present on either side of the river. Occurrence of 2-3 breaching / year is very common in this area. Presence of wetland/ water body within 3 km buffer zone is relatively poor with respect to Damodar Right and Left embankment – mainly due to regular flood occurrence. Few pucca house observed in this stretch. Within village road infrastructure is mostly concrete and good enough to connect with nearby small towns.
		 Education infrastructure like- school, college library is relatively less than Damodar left and right embankment area. Presence of burning ghat, mandir, bedi, club house, shop, electric post, pump house and etc. on alongside of river is relatively less with compared to Damodar left and
		 right embankment side. 18. Few households practice fishing mainly on Damodar river- as Mundeswari remain dry throughout the year except rainy season. Fisherman practice fishing on Mundeswari river only during monsoon season. 19. Drinking water is mainly provided by means of hand pump. However, many of
		them are slightly saline affected mainly due to saline water ingression during flood.20. There exists no natural drain within 3 km radius on both side of Mundeswari. However, more than 50 nos. of canal crisscrossing in Hooghly district- which are mainly rainfed.
2	Damadar Left	1. Entire terrain is flat and plain.
1	Embankment	2. Entire land is very much fertile.

as 3 km. buffer zone. tree is present on either ork zone of flood wall settlement is observed at the linear stretch of ives less developed with sent within 3 km. radius ary school and primary radius. District hospital one. is less with compared to tretch. Presence of any iver throughout the year luting industry within 3 om 0.0 km chainage of
tree is present on either ork zone of flood wall settlement is observed at the linear stretch of ives less developed with sent within 3 km. radius ary school and primary radius. District hospital one. Is less with compared to tretch. Presence of any iver throughout the year luting industry within 3
ives less developed with sent within 3 km. radius ary school and primary radius. District hospital one. is less with compared to tretch. Presence of any iver throughout the year luting industry within 3
radius. District hospital one. Is less with compared to tretch. Presence of any iver throughout the year luting industry within 3
one. Is less with compared to tretch. Presence of any iver throughout the year luting industry within 3
is less with compared to tretch. Presence of any iver throughout the year luting industry within 3
iver throughout the year luting industry within 3
om 0.0 km chainage of
_
lectric post, pump house
).
lying with compared to
are not being cultivated
due to sand deposition –
as 3 km. buffer zone. bank. Very few numbers ank of embankment.
zone is very less- mainly se in nature) is observed od is already in place in
sent within 3 km. radius
ary school and primary radius. District hospital vay from Dihivursut bus
k zone.
Right embankment near
area. is relatively more than

SI.	Project	Physiography
No.	Locations	
		12. Ferry survive over river is observed at two location, i.e., Dihivursut and near to
		Muslim para.
		13. Bathing practice on river water is observed in this stretch.
		14. Socio-economic condition of near around villages are fairly good even though
		embankment breaching and flood occurrence is regular phenomenon. Many double stored / single stored pucca house observed in this stretch. However, human
		stored 7 single stored puece house observed in this stretch. However, human settlement is almost 0.5 km away from embankment site.
		15. Within village road infrastructure is good enough with compared to embankment
		road.
		16. Ring band is observed at this side almost all along the river.
		17. Human settlement areas are almost 3-4 feet above the level of agricultural land or berm land level.
		18. Any water scheme is not withdrawing water from this stretch. Presence of any
		manufacturing industry is void because of dryness of river throughout the year
		except rainy season. There exist no manufacturing or polluting industry within 3
		km buffer zone.
		19. Nearby small town located at Dihivurshut area- less than 1 km. away from Dihivursut ferry ghat (0.0 km. chainage of DR embankment).
		20. Presence of burning ghat, mandir, bedi, club house, shop, electric post, pump house
		and etc. within work zone is negligible with compared to left bank. Establishment
		within work zone.
		21. Fishing practice on river water on is relatively less with compared to left bank area.22. Drinking water is mainly provided by means of hand pump. However, many of
		them are slightly saline affected mainly due to saline water ingression during flood.
		23. Sand mining is not observed in this stretch.
		24. There exist many natural as well as man-made drain within buffer zone.
4	Hurhura Left	1. Proposed work zone falls in two blocks namely- Khanakul-II and Amta-II. It
	Embankment	intersects Palashpur, Hayatpur, Sibgeche and Salbaga.
		2. Entire terrain is flat and plain.
		 Agricultural land on country side is very much fertile. There exists no forest patch within work zone as well as 3 km. buffer zone.
		However, number of trees of different girth is present on either bank of
		embankment.
		5. Number of encroachers / squatters present within work zone of flood wall
		construction and embankment strengthening.
		6. Nearby small town Chapadanga is approx. 20 km away from this left embankment
		7. Presence of burning ghat, mandir, bedi, club house, shop, electric post, pump house and etc. within work zone as well as buffer zone.
		 8. Human settlement is observed at Mastafa-para on country side.
		 Many people practice fishing on canal water.
		10. Village roads are mostly kutcha or morum layered.
		11. Drinking water is mainly provided by means of hand pump.
5	Upper Rampur	1. Proposed work zone of Left embankment of Upper Rampur is situated over 3 blocks
		namely Udainarayanpur, Khanakul-I & II. It intersects almost 13 villages
		[Mastafapur, Balaichak, Chingra, Chabbish (24) pur, Ramsaran, Dhara simul, Kangrai, Bachagul Etargi, Goza, Bier pur, Horal and Pampur)
		Kangrai, Pacharul, Etarai, Goza, Piar pur, Horal and Rampur)2. Entire terrain is flat and plain.
		 Agricultural land on country side is very much fertile. Setback zone is almost nil
		throughout the canal stretch.
		4. There exists no forest patch within work zone as well as 3 km. buffer zone.
		However, number of small, medium and large trees is present on either side of the
		embankment.
		5. Number of encroachers / squatters present within work zone of flood wall
	1	construction and embankment strengthening.

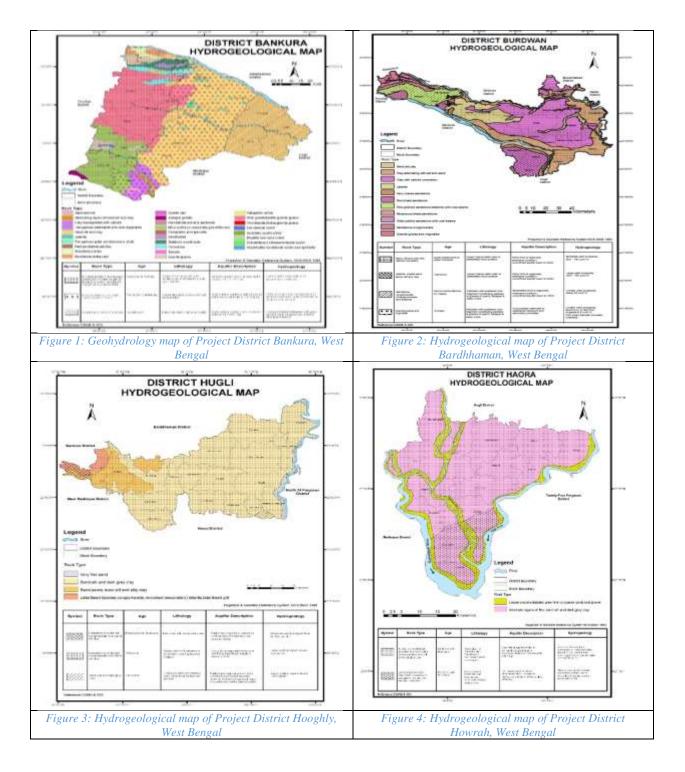
Sl.	Project	Physiography						
No.	Locations							
		6. Nearby small town Chapadanga is approx. 30 km away from the left embankment						
		7. Presence of burning ghat, mandir, bedi, club house, shop, electric post, pump house						
		and etc. within work zone as well as buffer zone;						
		8. Human settlement is observed at 24-pur Bazar area.						
		9. Bibhudhar Gramin Hospital is located almost 2.5 km away from Rampur canal.						
		10. Shemro Pvt. School is located almost 3 km. away from Rampur canal.						
		11. Jute is prime cash crop after potato. Through-out the canal Jute cultivation is a						
		common practice.						
		12. Entire embankment road is kutcha.						
		13. Village roads are mostly kutcha or morum layered.						
		14. Drinking water is mainly provided by means of hand pump.						

3.1.6 Hydro-Geology

The area is basically comprising of sand, silt and clay whereas some part is having laterite and sandstone. The hydrogeological maps of the project locations by block are present below. The project area is mainly covered by alluvial and deltaic of Sub-Recent and Recent time geographical area occupied by the unconsolidated sedimentary deposits of the Quaternary period.

Howrah and Hooghly districts of project area are a part of the Bengal basin located close to the main sea (Bay of Bengal). The area forms a part of the lower Gangetic delta plain underlain by Recent to Tertiary sediments. The top most sediment, belonging to recent alluvium consisting of clay, *kankar* and at some places, laterite gravel. Again clay, silt, sand and gravel constitute the major sub-surface geology of the area. In this region, alluvial sediments occur in rhythmic pattern represented by alternate layers of sand, silt and clay. Sand beds are grayish, micaceous, find to course grained, which is very important from the point of ground water storage. Fairly persistent clayey layers separate these sand beds generally. In deeper level (>290m) the unconsolidated sediments are generally argillaceous and do not hold much scope for ground water development. The lithology of the project districts and state as whole is given in below Table.

Sl. No.	Formation Type	Age Group	Lithology		
I	Semi Consolidated/ Unconsolidated Formations	Quaternary Upper Tertiary	Recent Alluvium, Clay, Silt, Sand, Gravel, Pebble, Calcareous Concretion etc Older Alluvium and Laterites, Silt, Sand, Ferruginous Concretions, Lithomargic Clay, Gravels, Pebbles, Cobbles etc.		
		Tertiary Mesozoic Upper Palaeozoic	Siltstone, Claystone, Grit, Sandstone, Shale, Conglomerate, Limestone, including intrusive		
2	Consolidated Formations, Sedimentaries Meta-	Mesozoic Palaeozoic Tertiary Pre- Cambrian	Basalt with inter-trapped clay Sandstone, Dolomite, Limestone		
	Sedimentaries Effusive Basal Crystalline	Pre-Cambrian Achaean	Slate, Quartzite, Phyllite, Schist, Gneiss, Marble Gneissic complex and associated intrusive (Post - Achaean)		



3.1.7 Soil Quality

Physio-graphically, the soil of the project area can be classified into several groups depending on their texture, structure, colour, porosity and nutrient content. Broadly, the soils of Rarh tract lying to the west of Bhagirathi-Hooghly are mostly lateritic or red soil. The soils along the eastern deltaic tract and along the western flood plain are younger alluvium. The water infiltrates quickly in this soil. Further south, soil is again classed as younger alluvium but grains are coarser than southern deltaic. The texture and structure of

the soil are two important factors controlling runoff infiltration ratio. It has been observed that in lateritic area, the hard crust does not allow easy infiltration and generate more runoff. In the Rarh uplands, the presence of a rock layer in the subsurface does not allow the infiltration of water into the deeper aquifer.

Effective soil depth governs root development and is a source of moisture and nutrient supply to the plants. The extent of depth classes which affect crop growth presents that the project district Bankura is having two depth classes of soil, i.e., shallow depth (25-50 cm.) and moderately shallow soil depth (50-75 cm). Bardhhaman district is having moderately shallow soil (50-75 cm.) in some parts of the district.

SI.	District	Major Soil	Area	Sl.	District	Major Soil Classes	Area
No.		Classes	(Ha.)	No.			(Ha.)
1	Bankura	Inceptisol	104114	3	Paschim	Sandy	3200
	Total	Alfisol	7750		Bardhha	Sandy Loam	25724
		Entisol	22224		man	Red &Lateritic	7410
2	Purba	Sandy	21537	4	Howrah	Recent alluvial plain	12659
	Bardhhama	Sandy Loam	147714			Coastal Plain	11392
	n	Clay, Clay loam	246286			Older alluvial plain	38387
		Red &Lateritic	14777	5	Hooghly	Recent Alluvial	77812
		Clay Loam	611			Older Alluvial	191210

 Table 15: Project district wise major soil class and area coverage

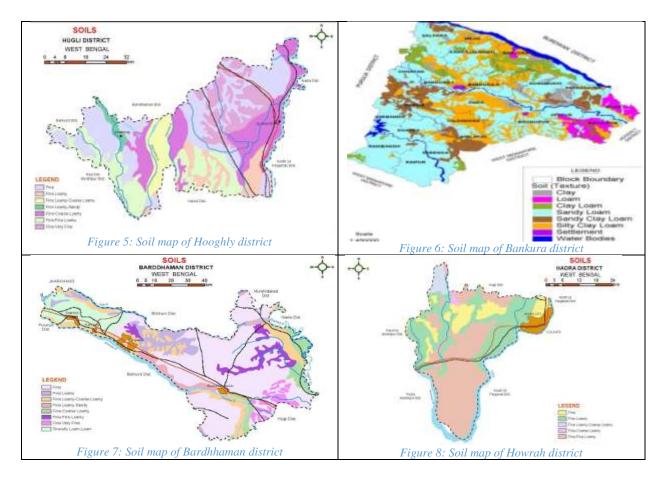
Note: This table represents 51 project blocks (41- Irrigated and 10 - Flood affected) of these five districts

Bankura District: Major soil types found in Bankura are (1) Loamy (307.6 thousand Ha.; 44.7 percent of the total geographical area), (2) Gravelly Clay Loamy (46.7 thousand Ha., 6.8 percent of the total geographical area), (3) Loamy Sandy (27.3 thousand Ha.; 4.0 percent of the total geographical area) and (4) Clayey Loamy (7.8 thousand Ha.; 1.1 percent of the total geographical area). Soil taxonomy of Bankura district reveals major soil classes are Inceptisol, followed by Alfisol and Entisol.

Bardhhaman District: Major soil types found in Bardhhaman are (1) Loamy (357.6 thousand Ha.; 51.2 percent of the total geographical area), (2) Gravelly Loamy (42.3 thousand Ha., 6.1 percent of the total geographical area), (3) Clayey (37.6 thousand Ha.; 5.4 percent of the total geographical area), (4) Clayey Loamy (28.2 thousand Ha.; 4.0 percent of the total geographical area) and (5) Loamy Sandy (4.7 thousand Ha.; 0.7 percent of the total geographical area). Soil types by purba and paschim Bardhhaman district is presented in the Table 15.

Howrah District: The district is having three major soil types, i.e., (1) Clayey (13.82 thousand Ha.; 16.0 percent of the total geographical area), (2) Clayey Loamy (42.35 thousand Ha.; 49.0 percent of the total geographical area) and (3) Loamy (30.25 thousand Ha.; 35.0 percent of the total geographical area).

Hooghly District: Three major soil types are found in the district, i.e., (1) Clayey (64.84 thousand Ha.; 29.0 percent of the total geographical area), (2) Clayey Loamy (80.50 thousand Ha.; 36.0 percent of the total geographical area) and (3) Loamy (76.26 thousand Ha.; 35.0 percent of the total geographical area).



The entisols is prevalent in the project area that sub-classified into younger alluvial, coastal alluvial and bhabar soils. The soils have been formed from the alluvium deposited by Ganga and its tributaries and sub tributaries – Damodar. These soils are greatly variable in their morphological, physical and chemical properties depending upon the geomorphic situations, moisture regime and degree of profile development. The soils are intensively cultivated for rice, wheat, potato and oilseed crops. Frequent inundation of low-lying areas results in stagnation of water for certain times of the year. Besides flood hazards also affect the normal dry land crop yields. The soils of this sub-region have high nutrient content and mineral resource with a high potential for a large variety of agricultural and horticultural crops.

3.1.8 Climatic Condition

Temperature: To study the meteorological parameters of the study area, available IMD data was used which are reflected in **Error! Reference source not found.** The project locations witness hot summer from March to June and the maximum temperature has been recorded as high as 41 $^{\circ}$ C in the month of April. July onwards the area experiences the monsoons. The project area gets rainfall from South Western monsoon. The usual rainfall occurs for a period of four months (June to September) during monsoon. Maximum rainy days during this four-month period are around 107 days in Hooghly district. The South-West monsoon lasts from mid-June to mid-September and the area receives more than 80% of the annual rainfall during the period. The normal annual rain fall in project area varies between 1422 mm to 1625 mm. Winters season extends between the months of October to February. These months experience a maximum temperature of 33 °C in October and minimum temperature of 12 °C in the month of December as well as January. During study period the predominant wind direction was Southerly.

Janu	ary	Febr	uary	Ma	rch	Ар	ril	M	ay	Ju	ne
Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
23	13	27	17	33	20	39	27	38	29	35	28
25	12	28	15	33	19	38	26	39	26	37	26
24	12	29	16	32	20	38	27	37	26	34	26
26	13	29	15	34	19	41	24	39	25	38	26
26	13	29	17	34	20	41	27	39	29	38	28
23	12	27	15	32	19	38	24	37	25	34	26
	Max 23 25 24 26 26	Max Min 23 13 25 12 24 12 26 13 26 13	Max Min Max 23 13 27 25 12 28 24 12 29 26 13 29 26 13 29	Max Min Max Min 23 13 27 17 25 12 28 15 24 12 29 16 26 13 29 15 26 13 29 17	Max Min Max Min Max 23 13 27 17 33 25 12 28 15 33 24 12 29 16 32 26 13 29 15 34 26 13 29 17 34	Max Min Max Min Max Min 23 13 27 17 33 20 25 12 28 15 33 19 24 12 29 16 32 20 26 13 29 15 34 19 26 13 29 17 34 20	Max Min Max Min Max Min Max 23 13 27 17 33 20 39 25 12 28 15 33 19 38 24 12 29 16 32 20 38 26 13 29 15 34 19 41 26 13 29 17 34 20 41	Max Min Max Min Max Min Max Min 23 13 27 17 33 20 39 27 25 12 28 15 33 19 38 26 24 12 29 16 32 20 38 27 26 13 29 15 34 19 41 24 26 13 29 17 34 20 41 27	Max Min Max Min Max Min Max Min Max 23 13 27 17 33 20 39 27 38 25 12 28 15 33 19 38 26 39 24 12 29 16 32 20 38 27 37 26 13 29 15 34 19 41 24 39 26 13 29 17 34 20 41 27 39	Max Min Max <td>Max Min Max Min Max</td>	Max Min Max

Table 16: Mean Maximum and Minimum Temperature in Project Area for 2014

Station Name	Ju	ıly	Aug	gust	Septe	mber	Octo	ober	Nove	mber	Dece	mber
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
Mogra	33	26	33	26	33	28	32	25	28	20	24	15
Bardhhaman	32	26	31	26	32	25	31	24				
Uluberia	34	26	33	25	34	27	33	26	30	20	26	13
Bankura	33	26	33	26	33	26	32	23	31	16	27	12
Max	34	26	33	26	34	28	33	26	31	20	27	15
Min	32	26	31	25	32	25	31	23	28	16	24	12

Source: Meteorological Department, Govt. of India

Rainfall: There are three rain gauge station namely Durgapur, Champadanga and Amta situated within entire project area. Month wise cumulative rainfall data as recorded in these three rain gauge stations during monsoon season are presented in the tables below by district. The normal annual rainfall in the project area varies from 1422 to 1625 mm. The season wise and annual rainfall in the project districts is presented in the table below.

Sl. No.	District	Normal Rainfall in mm						
		Monsoon	Non-monsoon	Total				
1	Bankura	1109	313	1422				
2	Bardhhaman	1140	356	1496				
3	Howrah	1208	417	1625				
4	Hooghly	1137	386	1523				
	Average	1148.5	368	1516.5				

Source: Ground Water Year Book of West Bengal & Andaman & Nicobar Islands (2014-15)

Damodar, Mundeswari and Amta channel are the main three rivers flowing in DVC command area. Many irrigation and drainage canal receive water mainly from these three rivers. There are total 14 rain gauge station installed by different agency on these three rivers. Out of total 8 rain gauge stations located over river Damodar 4 falls in Jharkhand district. Rainfall measurements of these rain gauge indicates substantial amount of rainfall receive by these three rivers system.

Sl. No.	River	District	Location of Rain Gauge Station	Туре	District wise Normal Annual Rainfall (mm)	Total Seasonal Rainfall (mm)
1	Damodar	Kodarma	Tilaiya	CWC	1116.20	1195.40
2		Bokaro	Tenughat	CWC	1247.50	1051.10
3		Dhanbad	Maithon	CWC	1355.20	1473.60
4		Dhanbad	Panchet	CWC		1423.80
5		Bardhhaman	Asansol	CWC	1315.20	1227.40
6		Bardhhaman	Durgapur	CWC		1257.92

Table 18: Total Seasonal Rainfall in different Rain-gauges during Monsoon, 2016

Sl. No.	River	District	Location of Rain Gauge	Туре	District wise Normal Annual	Total Seasonal Rainfall (mm)
1,00			Station		Rainfall (mm)	
7		Bardhhaman	Bardhhaman	ORG		1125.50
8		Bankura	Sonamukhi	ARG	1330.90	1128.95
9	Mundeswari	Bardhhaman	Seharabazar	ORG	1315.20	827.00
10		Bardhhaman	Raina	ORG		599.00
11	Amta Channel (Damodar)	Hooghly	Champadanga	ORG	1418.70	636.75
12		Hooghly	Singur	ORG	1600.00	979.75
13		Howrah	Amta	ORG		1273.00
14		Howrah	Domjur	ORG		1002.72
	Total (Damodar + Mundeswari + Amta)				1337.36	1085.85

Note: CWC: Central Water Commission, ORG: Optimal Rain Gauge, ARG: Automated Rain Gauge

Bankura: It is evident that during 2014 and 2015, quantum of rainfall was less in comparison to other three years, i.e., 1075.5 mm and 1127.2 mm. respectively. However, in 2013, the district received 60.21 percent of total annual precipitation during JJAS (June, July August and Sept.) which increased gradually till 2016 and marginally reduced during 2017 (82.46 percent during 2014, 84.0 percent during 2015, 86.41 percent during 2016 and 77.49 percent during 2017). So, monsoon months are gradually experiencing high rainfall and rainfall during post-monsoon months have decreased.

Table 19: Month wise rainfall from 2013-17 in Bankura

YEAR	J	AN	F	ЪB	N	1AR	A	APR	M	AY	J	UN	J	UL	A	UG	SI	EPT	0	СТ	N	IOV	Ι	DEC
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2013	0.9	-93	15.0	-17	22.9	4	72.6	100	342.4	412	369.7	72	289.8	-4	368.4	27	260.8	8	398.0	278	0.0	-100	0.0	-100
2014	0.8	-93	38.3	113	8.0	-64	3.3	-91	84.7	27	85.7	-60	313.7	3	323.4	11	164.1	-32	53.2	-49	0.0	-100	0.3	-97
2015	17.4	45	1.5	-91	7.1	-68	85.6	136	55.9	-16	152.2	-29	467.5	54	230.6	-21	96.5	-60	12.7	-88	0.0	-100	0.2	-98
2016	6.1	-49	10.2	-43	15.6	-29	0.8	-98	101.3	51	175.1	-19	264.8	-13	445.5	53	268.9	11	46.9	-55	0.7	-93	0.0	-100
2017	0.0	-100	0.0	-100	16.9	-23	27.9	-23	76.3	14	228.8	6	634.2	109	330.4	14	186.1	-23	249.1	137	25.3	159	5.2	-45

Source: Customized Rainfall Information System (CRIS), Hydromet Division, India; Meteorological Department, Ministry of Earth Sciences; http://hydro.imd.gov.in/hydrometweb/(S(vuluke45w5upcxmigpsnmt55)))/DistrictRaifall.aspx>

Bardhhaman: The district Bardhhaman also reflect more or less similar trend like that of Bankura. In 2013, the district received 61.71 percent of the total annual rainfall in the monsoon months (JJAS) and rest rainfalls were in the pre-monsoon and post-monsoon period. In the year 2014, 2015 and 2016, the district received maximum rainfall during monsoon (85.18 percent in 2014, 85.55 percent in 2015 and 84.10 percent in 2016) and rainfall in other months was relatively less. In 2017, the district received 69 percent of the total annual rainfall during monsoon of the total rainfall of 1668 mm.

Table 20: Month	wise rainfall from	2013-17 in Bardhhaman
-----------------	--------------------	-----------------------

YEAR	J	AN	F	ЪB	N	IAR	A	APR	Μ	AY	J	UN	J	UL	A	UG	SI	EPT	0	СТ	N	VOV	Ι	DEC
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2013	6.8	-36	17.5	-21	4.6	-77	41.5	10	175.1	122	210.2	6	145.5	-51	341.1	20	250.7	0	342.5	243	0.0	-100	0.0	-100
2014	1.1	-90	35.1	58	32.0	62	0.7	-98	74.6	-5	233.9	18	280.6	-5	256.5	-10	195.3	-22	23.9	-76	0.0	-100	0.7	-88
2015	8.5	-20	10.1	-54	29.4	48	76.3	102	64.2	-19	338.1	71	587.3	100	285.8	0	111.8	-55	34.1	-66	0.0	-100	0.9	-85
2016	13.5	26	29.3	32	15.0	-24	0.0	-100	120.0	52	182.5	-8	263.9	-10	463.5	62	274.5	9	44.3	-56	1.9	-84	0.0	-100
2017	1.2	-88	0.0	-100	32.6	65	28.3	-25	171.2	117	255.8	29	464.1	58	252.9	-11	178.2	-29	260.1	161	14.5	27	9.1	51

Source: Customized Rainfall Information System (CRIS), Hydromet Division, India Meteorological Department, Ministry of Earth Sciences<<u>http://hydro.imd.gov.in/hydrometweb/(S(vuluke45w5upcxmigpsnmt55))/DistrictRaifall.aspx</u>>

Hooghly: Between 2013 to 2017, the district received average annual rainfall of 1336.96 mm with variance in receipt of rainfall during pre-monsoon, monsoon and post monsoon. The rainfall received during monsoon was 67.30 percent of the total annual rainfall which increased during 2014-2017. In the year 2013, percentage of departure from actual rainfall during June was (-)8.0 which increased to (-)23.0 during 2017. Similarly, highest percentage of departure in the month of July was in the year 2015, i.e., 112 percent and

highest negative departure in 2015 in the same year (2015). In post-monsoon months, i.e., in November and December, percentage of departure was (-)100.0 percent during 2013 and 2014 and 188 percent during 2017.

Table 21: Monti	' wise	rainfall	from	2013-17	in Hooghly	
10010 21. 110111	<i>i</i> wise	runjun	jrom	2015-17	in 1100gniy	

YEAR	J	IAN	F	FEB	N	1AR	A	APR	M	[AY	J	UN	J	UL	A	UG	SI	EPT	0	СТ	N	IOV	D	EC
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2013	2.1	-82	8.9	-67	2.4	-91	56.5	12	93.7	-14	223.9	-8	221.4	-30	287.0	8	186.6	-23	282.8	177	0.0	-100	0.0	-100
2014	0.0	-100	44.0	65	19.5	-31	0.1	-99	78.6	-28	218.3	-10	239.9	-24	289.1	9	190.5	-22	34.4	-66	0.0	-100	0.0	-100
2015	9.1	-24	4.1	-85	16.0	-43	62.4	23	54.0	-50	299.5	23	671.6	112	188.0	-29	215.3	-11	27.2	-73	0.1	-99	1.8	-74
2016	1.3	-89	14.0	-47	20.3	-28	0.0	-100	85.3	-21	166.2	-32	253.0	-20	347.1	31	242.8	0	75.9	-26	12.7	-21	0.0	-100
2017	0.0	-100	0.0	-100	23.9	-15	11.8	-77	115.2	6	186.6	-23	434.6	37	227.0	-14	180.8	-26	212.4	108	25.2	58	19.9	188
Sourc	Source: Customized Rainfall Information System (CRIS), Hydromet Division, India Meteorological Department, Ministry of																							
Earth	Sci	ences	< <u>htt</u>	p://hy	dro.	imd.go	ov.ir	<i>Earth Sciences</i> <http: (s(vuluke45w5upcxmigpsnmt55))="" districtraifall.aspx="" hydro.imd.gov.in="" hydrometweb=""></http:>													>			

Howrah: The district received major part of its annual rainfall during monsoon months (JJAS), ranging between 72.10 percent during 2013 to 86.68 percent during 2015 and 74.83 percent during 2017. Trend of percent of departure from the actual rainfall is more or less same to other project districts. However, there is a negative departure in the month of June and September in all the five years whereas negative departure from actual rainfall observed in three years during July and August.

T 11 22	14 .1 .	· C 11	c .	2012 1	7 . 11 1
<i>Table 22:</i>	Month wise	rainfall	from .	2013-1	7 in Howrah

YEAR	J	AN	F	ΈB	N	1AR	Α	PR	Μ	AY	J	UN	J	UL	A	UG	SI	EPT	0	СТ	N	OV	D	EC
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2013	5.8	-52	9.6	-61	9.9	-69	40.2	-24	99.4	-21	228.1	-2	310.2	-10	550.0	67	249.1	-18	352.6	256	0.0	-100	0.0	-100
2014	0.1	-99	54.2	118	19.5	-39	0.0	-100	103.6	-18	161.8	-31	224.9	-34	362.6	10	280.4	-8	24.0	-76	0.0	-100	1.2	-88
2015	9.8	-20	4.2	-83	10.0	-69	101.1	92	68.3	-46	227.9	-2	854.4	149	180.8	-45	202.2	-34	25.7	-74	0.0	-100	6.0	-41
2016	0.4	-97	104.1	318	8.8	-73	0.0	-100	52.0	-59	119.0	-49	334.6	-3	309.5	-6	214.1	-30	74.4	-25	59.0	88	0.0	-100
2017	0.1	-99	0.0	-100	71.5	123	11.3	-79	65.4	-48	174.7	-25	629.6	83	281.8	-14	155.5	-49	223.1	125	32.3	3	14.0	38

Source: Customized Rainfall Information System (CRIS), Hydromet Division, India Meteorological Department, Ministry of Earth Sciences<<u>http://hydro.imd.gov.in/hydrometweb/(S(vuluke45w5upcxmigpsnmt55))/DistrictRaifall.aspx</u>>

(1) The District Rainfall in millimetres (R/F) Note:

(2) % Dep. are the Departures of rainfall from the long period averages of rainfall for the District.

(3) Blank Spaces show non-availability of Data

Relative Humidity: Normally, June to January months are humid and February to May are dry. The relative humidity (expressed in percentage) is maximum in the month of July, October and January. It touches 90% (in Bankura) in the month of October and lowest being 71 % (in Bankura & Bardhhaman) respectively in the month April and February. The maximum relative humidity ranges from 71 to 90% in morning hours and 50 to 65% in the evening hours. Relative humidity is given in below table

Station	January	February	March	April	May	June	July	August	September	October	November	December
Bankura	88	77	72	71	73	74	89	87	87	90	85	85
Bardhhaman	82	71	75	74	75	78	88	85	85	88	72	73
Kolkata (Adjacent to Howrah)	84	75	79	76	75	78	86	86	84	87	78	73
Krishnagar (Adjacent to Hooghly)	87	84	85	84	85	84	88	86	83	85	75	79

Table 23:Relative Humidity (in %) by station and month

Source: West Bengal State Marketing Board

Wind: The predominant wind direction in the DV command area is Southerly during both morning (22% of time), and evening hours (24% of time). The calm period prevails for 5.1% of time during morning hours and 61% of time in the evening hours. The mean wind speed ranges between 2.6 km/h and 9 km/h. Generally, April to June is windy as compared to other months. The region has clear visibility even more than 20 km for over 250 days in a year. The occurrence of thunders in the state area ranges between 18 and 58 days. The cyclonic storms over the Bay of Bengal particularly in the south and south western parts of the state cause widespread dark rain bearing clouds, which in turn lowers the temperature and cause high relative humidity and sultry weather conditions.

3.2 Socio-Economic Profile of the Affected Area

The proposed area of the project is located on both the sides of the embankments, i.e., country side and river side. The entire project area is basically rural in nature. The work zones in the project area is owned by the Govt. along with private ownerships in certain pockets in both the sides of the embankment within 5 meters work zones. In course of time encroachers and squatters started settling down there including people / families who were awarded legal rights over the land by the Government. The proposed project area is extended over 51 blocks in four districts covering a number of villages on both the sides of the embankment and canals. The habitation in these areas consists of multi-caste people such as Scheduled Caste (SC), Scheduled Tribes (ST), Other Backward Classes and population belonging to General category.

The households in the affected settlement areas are located in a compact manner in most of the locations and in a scattered manner in some points, mostly in Damodar right. The habitations near the project locations (country side of the embankment) have different facilities and services, such as schools, Anganwadi centres, cultural mandaps, temples etc. The settlements in the country side of the embankment also have small market places. In the identified working zones, most of them are squatters and they have adopted different occupations such as petty shops, trading, vending, fish business, wage labour, job holders etc. A significant percentage of them are economically poor and have been adopting different means of livelihood. Most of the households have access to Govt. schemes and programmes. With the initiative of the Govt. dirking water, electricity and other facilities have been provided to the habitations near the embankments / canals.

With regard to educational status of the families living, majority of the population are found to be literate and education level is high up to graduation and above. Higher level of education like Graduate, Post Graduate and technically qualified persons are very insignificant. Generally, they speak Bengali language and many of them understand and can speak Hindi.

3.3 Socio-Economic Condition of the Affected People

The objective of the present study is to assess the impact of proposed project on the people living on both the sides of the embankment (country side and river side) that are identified as the working zone for flood wall construction and strengthening of the embankments. A detailed survey has been done in order to collect necessary information for the preparation of RAP and for a better planning towards resettlement of the affected population.

As per detailed survey within the impact corridor, a total number of 2253 household will be affected due to the proposed project. The project site wise details are presented in the table below. It is evident from the table that major concentration of affected households is in Damodar Left.

3.3.1 Social Category of the Affected Households:

The SIA and RAP study reveals that the project sites are dominated with population of other categories (65.38 percent) followed by scheduled caste population (33.78 percent). Tribal population is marginal with 0.84 percent.

Project Sites	SC			ST		ther	Total		
	No. Percent		No.	Percent	No.	Percent	No.	Percent	
Damodar Left	417	34.43	18	1.49	776	64.08	1211	53.75	
Damodar Right	90	23.87	0	0.00	287	76.13	377	16.73	
Hurhura Left	193	51.19	0	0.00	184	48.81	377	16.73	
Upper Rampur Left	61	21.18	1	0.35	226	78.47	288	12.78	
Total	761	33.78	19	0.84	1473	65.38	2253	100.00	

Table 24: Social Categories of the Affected Households

3.3.2 Distribution of Head of the Household by Age Group:

Majority of the head of affected families in the project location belongs to 18 to 60 age group (77.9 percent) followed by 60+ age category (22.0). Percentage of head of the affected families in 60+ age group found to be highest in upper Rampur (27.1 percent) followed by Damodar right. However, a significant percentage of families are having aged persons of 60+ age group in project locations.

Project Locations		Distribution of Head of the Households by Age Group									
	>=6	& <18	>=18 & <60		>=60	Years	Total				
	No.	%	No.	%	No.	%	No.	%			
Damodar Left	0	0.0	976	80.6	235	19.4	1211	100.0			
Damodar Right	0	0.0	278	73.7	99	26.3	377	100.0			
Hurhura Left	0	0.0	293	77.7	84	22.3	377	100.0			
Upper Rampur	1	0.3	209	72.6	78	27.1	288	100.0			
Total	1	0.0	1756	77.9	496	22.0	2253	100.0			

 Table 25: Distribution of Head of the Households by Age Group

3.3.3 Women Headed Families

About 9.7 percent families are headed by women out of total 2253 affected families. In remaining cases, male is the head of the family. Of the total affected households in any project location, highest percentage of women headed households found in Damodar left (10.6 percent) followed by Hurhura left (10.3 percent) and Damodar right (9.8 percent).

Project Locations	Μ	ale	Fei	nale	Total		
	No. %		No.	%	No.	%	
Damodar Left	1083	89.4	128	10.6	1211	100.0	
Damodar Right	340	90.2	37	9.8	377	100.0	
Hurhura Left	338	89.7	39	10.3	377	100.0	
Upper Rampur	274	95.1	14	4.9	288	100.0	
Total	2035	90.3	218	9.7	2253	100.0	

Table 26: Distribution of Head of Household by Sex

3.3.4 Economic Condition

The economic condition of the families in terms of average annual income is collected from the surveyed households, taking all sources of income in to account. The households are grouped in to six categorized, i.e., (1) < 50,000, (2) >= 50,000 and less < 1,00,000, (3) >= 1,00,000 and < 2,00,000, (4) > 2,00,000 and < 3,00,000, (5) > 3,00,000 and < 4,00,000 and (6) >= 4,00,000/-.

Location	<50000		>=50000 &		>=100000		>=200000		>300000 &		>=400000		Total	
			<100000		& <200000		& <300000		<400000					
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	415	37.7	486	44.2	134	12.2	46	4.2	7	0.6	12	1.1	1100	100.0
Damodar Right	109	30.6	157	44.1	59	16.6	20	5.6	4	1.1	7	2.0	356	100.0
Hurhura Left	156	46.7	132	39.5	27	8.1	11	3.3	4	1.2	4	1.2	334	100.0
Upper Rampur Left	100	40.2	94	37.8	37	14.9	12	4.8	4	1.6	2	0.8	249	100.0
Total	780	38.3	869	42.6	257	12.6	89	4.4	19	0.9	25	1.2	2039	100.0

Table 27: Average	Income of the	Families in Differ	rent Project Locations
-------------------	---------------	--------------------	------------------------

Note: Income level data is available for 2039 households out of total 2253 total affected households.

Of the total households, 38.3 percent are below the average annual income of Rs.50,000/- whereas majority of 42.6 percent are in the average annual income category of Rs.50,000 to Rs.1,00,000/-. Percentage of households in the higher income group such as income level more than Rs.3,00,000 are less in comparison to lower income groups. Details are presented in the table.

	<50	000	>=50	000 &	>=100	0000 &	>=200	0000 &	>300	000 &	>=400000		Т	otal
			<10	0000	<20	0000		0000	<40	0000				
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
			-		-	Dan	10dar L	.eft						
SC	156	37.6	175	36.0	33	24.6	8	17.4	1	14.3	1	8.3	374	34.0
ST	8	1.9	3	0.6	3	2.2	0	0.0	0	0.0	0	0.0	14	1.3
OBC	27	6.5	41	8.4	15	11.2	4	8.7	0	0.0	0	0.0	87	7.9
General	224	54.0	267	54.9	83	61.9	34	73.9	6	85.7	11	91.7	625	56.8
Total	415	100.0	486	100.0	134	100.0	46	100.0	7	100.0	12	100.0	1100	100.0
						Dam	odar R	ight						
SC	34	31.2	40	25.5	12	20.3	1	5.0	0	0.0	0	0.0	87	24.4
OBC	7	6.4	10	6.4	6	10.2	2	10.0	0	0.0	0	0.0	25	7.0
General	68	62.4	107	68.2	41	69.5	17	85.0	4	100.0	7	100.0	244	68.5
Total	109	100.0	157	100.0	59	100.0	20	100.0	4	100.0	7	100.0	356	100.0
				-		Hur	hura L	,eft						
SC	99	63.5	64	48.5	4	14.8	3	27.3	2	50.0	1	25.0	173	51.8
OBC	4	2.6	8	6.1	2	7.4	0	0.0	0	0.0	0	0.0	14	4.2
General	53	34.0	60	45.5	21	77.8	8	72.7	2	50.0	3	75.0	147	44.0
Total	156	100.0	132	100.0	27	100.0	11	100.0	4	100.0	4	100.0	334	100.0
						Upper	Ramou	r Left						
SC	28	28.0	17	18.1	8	21.6	1	8.3	0	0.0	0	0.0	54	21.7
ST	0	0.0	1	1.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4
OBC	17	17.0	18	19.1	4	10.8	1	8.3	1	25.0	0	0.0	41	16.5
General	55	55.0	58	61.7	25	67.6	10	83.3	3	75.0	2	100.0	153	61.4
Total	100	100.0	94	100.0	37	100.0	12	100.0	4	100.0	2	100.0	249	100.0
							Total							
SC	317	40.6	296	34.1	57	22.2	13	14.6	3	15.8	2	8.0	688	33.7
ST	8	1.0	4	0.5	3	1.2	0	0.0	0	0.0	0	0.0	15	0.7
OBC	55	7.1	77	8.9	27	10.5	7	7.9	1	5.3	0	0.0	167	8.2
General	400	51.3	492	56.6	170	66.1	69	77.5	15	78.9	23	92.0	1169	57.3
Total	780	100.0	869	100.0	257	100.0	89	100.0	19	100.0	25	100.0	2039	100.0

Table 28: Average Income by Social Categories in Project Locations

Note: Income level data is available for 2039 households out of total 2253 total affected households.

Average annual income by social categories reveals that higher percentage of SC and general category people are in most of the income slabs due to their higher prevalence in the locality in comparison to ST households. Distribution of households by their social category in different income slabs are presented in the table.

3.3.5 Access to Entitlements

Consultation with persons / families revealed that they have access to different government entitlements based on their eligibility as per the schematic norms. Of the total 2255 persons / households having residential or non-residential structures, either in the country side or in the river side or on the ROW, 99.69 percent families have access to different schemes of the government (single or multiple schemes). Old Age Pension is availed by 0.13 percent families whereas Disability Pension under National Social Security Scheme is accessed by 0.09 percent families. Around 0.31 percent families have Widowhood Pension and 8.63 percent families have accessed IAY / PMAY. Highest percentage of families (89.68 percent) have accessibility to Public Distribution System (PDS). Remaining 1.16 percent have accessibility to different other schemes.

Table 29: Schematic Enrolment

SN	Entitlements / Schemes	No. of Households	Percentage
1	Old Age Pension	3	0.13
2	Widow Pension	7	0.31
3	Disability Pension	2	0.09
4	IAY/PMAY	194	8.63
5	PDS	2016	89.68
6	Other	26	1.16
	Total	2248	100.00

Of the total families who have accessed different schemes, 53.07 percent are in Damodar Left, 17.84 percent in Damodar Right, 16.41 percent in Hurhura left and 12.68 percent in upper Rampur left. Caste wise distribution of schematic accessibility reflects that of the total, 37.0 percent are from Scheduled Caste (SC) community, 1.0 percent from Scheduled Tribe (ST) community and 62.0 percent from other social groups.

Table 30: Schematic	Enrolment	by Social	Category in	Project Location	ns (in %)

Project Locations		Old Age	Widow	Disability	IAY/PMAY	PDS	Other
		Pension	Pension	Pension			
				(In Pe	rcentage)		
Damodar Left	SC	33	33	100	64	35	25
	ST	33	-	-	4	1	-
	Other	33	67	-	32	63	75
	Total	100.0	100.0	100.0	100.0	100.0	100.0
Damodar Right	SC	-	33	-	49	23	-
	ST	-	-	-	-	-	-
	Other	-	67	-	51	77	100
	Total	-	100.0	-	100.0	100.0	100.0
Hurhura Left	SC	-	-	100	77	52	67
	ST	-	-	-	-	-	-
	Others	-	100	-	23	48	33
	Total	-	100.0	100.0	100.0	100.0	100.0
Upper Rampur Left	SC	-	-	-	62	21	92
	ST	-	-	-	-	-	-
	Others	-	-	-	38	78	8
	Total	-	-	-	100.0	100.0	100.0
Total	SC	33	29	100	62	34	69
	ST	33	-	-	2	1	-
	Other	33	71	-	36	65	31
	Total	100.0	100.0	100.0	100.0	100.0	100.0

3.3.6 Structures in Project Locations

The project locations, as identified for intervention of different flood management activities, such as flood wall construction, embankment strengthening etc. are having a total of 2637 structures of different nature. There are households who have more than one type of structure, either on the river side or in the country side or in both the sides of the proposed location. Of the different type of structures, majority are the residential structures to the tune of 40.8 percent, followed by business shops (26.3 percent) and cattle sheds. (12.4 percent).

Project	Residential	House	Boundary	Toilets	Cattle	Business	She	Bedi	Other	Total
Locations		Cum	Wall		Shed	Shop	ds			
		Shop								
Damodar Left	34.9	3.5	2.0	6.6	13.5	31.1	6.0	0.4	2.0	100.0
Damodar Right	51.7	1.2	5.4	7.9	9.5	13.4	6.4	0.8	3.7	100.0
Hurhura Left	55.3	2.2	0.5	2.9	14.8	15.6	6.9	0.5	1.4	100.0
Upper Rampur	31.7	4.4	1.3	4.4	9.2	38.7	7.6	0.3	2.2	100.0
Total	40.8	3.0	2.3	6.0	12.4	26.3	6.4	0.5	2.3	100.0

Table 31: Distribution of Different Structures in the Project Area

Note: BEDI refers to cemented / non-cemented platforms used for individual / community purposes / socio-cultural use.

The project area is having a total of 1076 residential structures with highest concentration in Damodar left (46.0 percent) followed by Damodar right (23.2 percent) and Hurhura left (21.5 percent). Highest percentage of business shops are observed in Damodar left (63.7 percent) followed by upper Rampur (17.6 percent). House cum shop is observed highest in Damodar left (62.8 percent) and upper Rampur (17.9 percent). Distribution of other types of structures based on its prevalence in different project locations are presented in the table.

Project Location	Residential		House Cum Shop		Boundary Wall		Toilets		Cattle Shed	
	No.	%	No. %		No.	%	No.	%	No.	%
Damodar Left	495	46.0	49	62.8	29	47.5	94	59.5	191	58.2
Damodar Right	250	23.2	6	7.7	26	42.6	38	24.1	46	14.0
Hurhura Left	231	21.5	9	11.5	2	3.3	12	7.6	62	18.9
Upper Rampur	100	9.3	14	17.9	4	6.6	14	8.9	29	8.8
Total	1076	100.0	78	100.0	61	100.0	158	100.0	328	100.0

Table 32: Structures by Project Locations

Table 33: Structures by Project Locations

Project Location	Business Shop		Sheds		Bedi		Other		Total	
	No.	No. %		%	No.	%	No.	%	No.	%
Damodar Left	442	63.7	85	50.3	6	46.2	29	48.3	1420	53.8
Damodar Right	65	9.4	31	18.3	4	30.8	18	30.0	484	18.4
Hurhura Left	65	9.4	29	17.2	2	15.4	6	10.0	418	15.9
Upper Rampur	122	17.6	24	14.2	1	7.7	7	11.7	315	11.9
Total	694	100.0	169	100.0	13	100.0	60	100.0	2637	100.0

Note: 693 persons / households having 695 Business shops

3.3.6.1 Residential Structures

Number of Residential Structures:

The survey finds a total of 1076 residential structures in four project locations that are identified for the intervention. Of the total housing structures, 46.0 percent are in Damodar left embankment, 23.23 percent in Damodar right, 21.47 percent in Hurhura left and lowest of 9.29 percent in upper Rampur left embankment.

Project Location	River	Side	Coun	try Side	R)W	Т	otal
	No.	%	No.	%	No.	%	No.	%
Damodar Left	205	41.41	288	58.18	2	0.40	495	100.00
Damodar Right	115	46.00	135	54.00	0	0.00	250	100.00
Hurhura Left	80	34.63	150	64.94	1	0.43	231	100.00
Upper Rampur Left	31	31.00	69	69.00	0	0.00	100	100.00
Total	431	40.06	642	59.67	3	0.28	1076	100.00

Table 34: Residential Structures in Different Sides of Embankments

Of the total residential structures, 40.06 percent are in the river side and 59.67 percent are in the country side. Lowest number of residential structures (structure in part or in complete form) are observed on the ROW (0.28 percent). Among the river side residential structures, highest is in Damodar left (47.56 percent), followed by Damodar right (26.68 percent). In country side, highest number of residential structures are observed in Damodar left (44.86 percent), followed by Hurhura left (23.36 percent). Similar trend is observed in case of residential structures present on the ROW. Distribution of residential structures in different project locations are presented in the table.

Types of Residential Structures:

The residential structures found to be of different categories of which 34.20 percent are pucca houses, 40.33 percent are semi-pucca, 18.96 percent are kutcha houses and 5.67 percent are bamboo sheds. Other type of sheds having asbestos shed are very minimal and only 0.84 percent are found in project locations. Distribution of residential structures by its type and project locations are presented in the table.

Project Locations	Pucca	Semi- Pucca	Kutcha	Bamboo Shed	Metal / Concrete / Asbestos Shed	Total	Percentage
Damodar Left	101	230	137	22	5	495	46.0
Damodar Right	115	105	22	7	1	250	23.23
Hurhura Left	90	78	32	28	3	231	21.47
Upper Rampur	62	22	14	6	0	100	9.29
Total	368	434	204	61	9	1076	100.0
Percentage	34.20	40.33	18.96	5.67	0.84	100.00	

Table 35: Typology of Residential Structures

Table 36: Type of Residential Structures

Project Location		Pı	icca	Semi	-Pucca	Ku	itcha		Shed C				crete / pestos	Τι	otal
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Damodar Left	River	46	45.5	106	46.1	37	27.0	15	68.2	1	20.0	205	41.4		
	Country	55	54.5	123	53.5	99	72.3	7	31.8	4	80.0	288	58.2		
	ROW	-	-	1	0.4	1	0.7	-	-	-	-	2	0.4		
	Total	101	100.0	230	100.0	137	100.0	22	100.0	5	100.0	495	100.0		
Damodar Right	River	47	40.9	55	52.4	11	50.0	2	28.6	-	-	115	46.0		
	Country	68	59.1	50	47.6	11	50.0	5	71.4	1	100.0	135	54.0		
	Total	115	100.0	105	100.0	22	100.0	7	100.0	1	100.0	250	100.0		
Hurhura Left	River	27	30.0	30	38.5	11	34.4	10	35.7	2	66.7	80	34.6		
	Country	62	68.9	48	61.5	21	65.6	18	64.3	1	33.3	150	64.9		
	ROW	1	1.1	-	-	-	-	-	-	-	-	1	0.4		
	Total	90	100.0	78	100.0	32	100.0	28	100.0	3	100.0	231	100.0		

Upper Rampur	River	19	30.6	6	27.3	4	28.6	2	33.3	-	-	31	31.0
	Country	43	69.4	15	68.2	9	64.3	2	33.3	-	-	69	69.0
	Total	62	100.0	22	95.5	14	92.9	6	66.7	-	-	100	100.0
Total	River	139	37.8	197	45.4	63	30.9	29	47.5	3	33.3	431	40.1
	Country	228	62.0	236	54.4	140	68.6	32	52.5	6	66.7	642	59.7
	ROW	1	0.3	1	0.2	1	0.5	-	-	-	-	3	0.3
	Total	368	100.0	434	100.0	204	100.0	61	100.0	9	100.0	1076	100.0

Note: However, pucca house with concrete roof will not be disturbed to the extend possible. Final decision will taken during project implementation.

Area of the Structure:

The study attempted to assess the area of the residential structures that are present in different project locations by observation and consultation with the owner / possessor of the structure. The average area of the residential structures assessed to be 469.80 Sq. Ft. with the median value of 375.0. About 34.72 percent households with pucca houses having average structural area of 625.29 Sq. Ft., 40.68 percent are semi-pucca with structural area of 409.88 sq. ft., and 18.26 percent are kutcha houses of average sq. ft. of 365.59 sq. ft.

Residential House: Type of Structure (Area in Sq. Ft.)	Mean	Median	No. of Households	Percentage of Households
Pucca	625.29	540.00	367	34.72
Semi-Pucca	409.88	340.00	430	40.68
Kutcha	365.59	300.00	193	18.26
Bamboo Shed	273.97	224.50	58	5.49
Metal/Concrete/Asbestos Shed	488.78	450.00	9	0.85
Total	469.80	375.00	1057	100.00

Table 37: Average Area of the Structure

Years of Existence of Residential Structures:

The residential structures is normally having years of existence in the locality, ranging from a minimum of one year to more than 35 years with an average of around 22 years.

Encroacher, Squatter and Structural Ownership:

Based on the opinion of the persons / families residing in the residential structures, it is observed that majority of the residential structures are "differently owned¹" by the family residing in the structure (48.1 percent) followed by squatters (39.4 percent) and encroachers (12.6 percent). So, squatters and encroachers together comprise 52.0 percent of the total residential structures. Of the total encroachers, highest number are in Damodar left (42.86 percent) followed by Hurhura left (30.08 percent), Damodar right (21.05 percent) and lowest in upper Rampur left (6.02 percent). Same trend in observed in case of squatters where highest percentage of squatters are in Damodar left (90.87 percent) and lowest in upper Rampur left (1.92 percent). Households that opine of having "different ownership" of the structure found to be highest in Damodar right (40.55 percent) followed by Hurhura left (33.07 percent), upper Rampur (16.34 percent) and Damodar left (10.04 percent). Ownership details of distribution of structures by encroacher, squatter and "different ownership" is presented in the table.

¹ Different ownership / differently owned / other category refers to structures that are on land claimed to be owned but could not be verified / ascertained due to non-availability of records to verify such claims.

Project Area	Encre	roacher S		atter	Different Own	nership (Other)	Total	
	No.	%	No.	%	No.	%	No.	%
Damodar Left	57	11.7	378	77.8	51	10.5	486	100.0
Damodar Right	28	11.4	12	4.9	206	83.7	246	100.0
Hurhura Left	40	17.7	18	8.0	168	74.3	226	100.0
Upper Rampur	8	8.1	8	8.1	83	83.8	99	100.0
Total	133	12.6	416	39.4	508	48.1	1057	100.0

Table 38: Encroacher,	Squatter and	Ownership Status	of Residential Structures

Note: As per the assessment, 1057 households own 1076 residential structures, existing in different project locations. Different ownership also synonymously referred as "other" category in this report.

Embankment		Encro	acher	Squa	atter	Ot	her	To	tal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	19	33.3	157	41.5	27	52.9	203	41.8
	Country Side	38	66.7	220	58.2	24	47.1	282	58.0
	ROW	0	0.0	1	0.3	0	0.0	1	0.2
	Total	57	100.0	378	100.0	51	100.0	486	100.0
Damodar Right	River Side	18	64.3	3	25.0	90	43.7	111	45.1
	Country Side	10	35.7	9	75.0	116	56.3	135	54.9
	Total	28	100.0	12	100.0	206	100.0	246	100.0
Hurhura Left	River Side	7	17.5	11	61.1	60	35.7	78	34.5
	Country Side	32	80.0	7	38.9	108	64.3	147	65.0
	ROW	1	2.5	0	0.0	0	0.0	1	0.4
	Total	40	100.0	18	100.0	168	100.0	226	100.0
Upper Rampur	River Side	1	12.5	2	25.0	27	32.5	30	30.3
	Country Side	7	87.5	6	75.0	56	67.5	69	69.7
	Total	8	100.0	8	100.0	83	100.0	99	100.0
Total	River Side	45	33.8	173	41.6	204	40.2	422	39.9
	Country Side	87	65.4	242	58.2	304	59.8	633	59.9
	ROW	1	0.8	1	0.2	0	0.0	2	0.2
	Total	133	100.0	416	100.0	508	100.0	1057	100.0

3.3.6.2 Residential Cum Business Structure

Number of Residential Cum Business Structures:

The project locations are having a total of 78 structures that can be categorized as residential cum business structures. The term refers to the business structures which area also used for residential purposes. Of the total such structures, 62.8 percent are in Damodar left, 17.9 percent are in upper Rampur, 11.5 percent are in Hurhura left and 7.7 percent are in Damodar right. Of the total such structures, 73.1 percent are in river side and 26.9 are in country side of the project locations.

Project Loations		Number of	Structures
		No.	%
Damodar Left	River Side	40	81.6
	Country Side	9	18.4
	Total	49	100.0
Damodar Right	River Side	4	66.7
	Country Side	2	33.3
	Total	6	100.0
Hurhura Left	River Side	7	77.8
	Country Side	2	22.2

Table 40: Residential Cum Business Structures in Project Locations

Project Loations		Number of	Structures
		No.	%
	Total	9	100.0
Upper Rampur Left	River Side	6	42.9
	Country Side	8	57.1
	Total	14	100.0
Total	River Side	57	73.1
	Country Side	21	26.9
	Total	78	100.0

Type of Structure:

Among the residential cum business structures, 44.9 percent are pucca structures whereas 47.4 percent are semi-pucca structures. Percentage of kutcha, bamboo shed and other structures are relatively less in the project locations.

Table 41: Structure Types

Project Location	Pucca		Pucca Semi-Pucca		Kutcha		Bamboo Shed		Metal/Concrete/Asbestos Shed		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	17	34.7	27	55.1	3	6.1	1	2.0	1	2.0	49	100.0
Damodar Right	3	50.0	2	33.3		0.0	1	16.7		0.0	6	100.0
Hurhura Left	4	44.4	5	55.6		0.0		0.0		0.0	9	100.0
Upper Rampur	11	78.6	3	21.4		0.0		0.0		0.0	14	100.0
Total	35	44.9	37	47.4	3	3.8	2	2.6	1	1.3	78	100.0

Table 42: Structure Types by Project Locations

Location		Pu	icca	Semi	-Pucca	K	utcha		mboo hed	Con Ast	etal / crete / pestos hed	Т	otal
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	14	82.4	23	85.2	1	33.3	1	100.0	1	100.0	40	81.6
	Country Side	3	17.6	4	14.8	2	66.7	0	0.0	0	0.0	9	18.4
	Total	17	100.0	27	100.0	3	100.0	1	100.0	1	100.0	49	100.0
Damodar Right	River Side	3	100.0	1	50.0			0	0.0			4	66.7
-	Country Side	0	0.0	1	50.0			1	100.0			2	33.3
	Total	3	100.0	2	100.0			1	100.0			6	100.0
Hurhura Left	River Side	2	50.0	5	100.0							7	77.8
	Country Side	2	50.0	0	0.0							2	22.2
	Total	4	100.0	5	100.0							9	100.0
Upper Rampur	River Side	5	45.5	1	33.3							6	42.9
	Country Side	6	54.5	2	66.7							8	57.1
	Total	11	100.0	3	100.0							14	100.0
Total	River Side	24	68.6	30	81.1	1	33.3	1	50.0	1	100.0	57	73.1
	Country Side	11	31.4	7	18.9	2	66.7	1	50.0	0	0.0	21	26.9
	Total	35	100.0	37	100.0	3	100.0	2	100.0	1	100.0	78	100.0

Area of the Structure:

Average area of the residential cum business structures calculated to be 452.42 Sq. Ft. Of the total such structures, 44.87 percent pucca houses are having average of 565.94 Sq. Ft., 47.44 percent semi-pucca houses are having average area of 356.14 sq. mt. and kutcha houses (3.85 percent) are having average area of 189.33 sq. ft. The average area of the bamboo sheds is 290 sq. ft. whereas 1.28 percent asbestos sheds are having average area of more than 1000 sq. ft. Area of different category of structures is presented in the table.

Table 43: Average Area of the Structure

House cum Shop: Type of Structure	Mean	Median	No. of Households	Percentage
Pucca	565.94	500.00	35	44.87
Semi-Pucca	356.14	300.00	37	47.44
Kutcha	189.33	168.00	3	3.85
Bamboo Shed	290.00	290.00	2	2.56
Metal/Concrete/Asbestos Shed	1156.00	1156.00	1	1.28
Total	452.42	360.00	78	100.00

Encroacher, Squatter and Structural Ownership:

Of the total residential cum business structures, 19.2 percent are structures in the encroached area, 44.9 percent are of different squatters and 35.9 percent claim to be the other owner of the structure. Of the total encroacher and squatter having such structures, highest area in Damodar left. Details are presented in the table below.

Table 44: Encroachment, Squatting and Ownership

Project Locations	Encroacher		Squ	atter	Ot	her	Total		
	No.	%	No.	%	No.	%	No.	%	
Damodar Left	10	20.4	33	67.3	6	12.2	49	100.0	
Damodar Right		0.0		0.0	6	100.0	6	100.0	
Hurhura Left	2	22.2	1	11.1	6	66.7	9	100.0	
Upper Rampur Left	3	21.4	1	7.1	10	71.4	14	100.0	
Total	15	19.2	35	44.9	28	35.9	78	100.0	

Table 45: Ownership Category of Structures and Its Location

Embankment		Encro	oacher	Squ	atter	Ot	her	Τα	otal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	8	80.0	28	84.8	4	66.7	40	81.6
	Country Side	2	20.0	5	15.2	2	33.3	9	18.4
	Total	10	100.0	33	100.0	6	100.0	49	100.0
Damodar Right	River Side					4	66.7	4	66.7
	Country Side					2	33.3	2	33.3
	Total					6	100.0	6	100.0
Hurhura Left	River Side	1	50.0	1	100.0	5	83.3	7	77.8
	Country Side	1	50.0	0	0.0	1	16.7	2	22.2
	Total	2	100.0	1	100.0	6	100.0	9	100.0
Upper Rampur	River Side	2	66.7	0	0.0	4	40.0	6	42.9
	Country Side	1	33.3	1	100.0	6	60.0	8	57.1
	Total	3	100.0	1	100.0	10	100.0	14	100.0
Total	River Side	11	73.3	29	82.9	17	60.7	57	73.1
	Country Side	4	26.7	6	17.1	11	39.3	21	26.9
	Total	15	100.0	35	100.0	28	100.0	78	100.0

Embankment		Enci	oacher	Squ	atter	0	ther	To	otal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	Pucca		50.0	8	24.2	4	66.7	17	34.7
	Semi-Pucca	4	40.0	21	63.6	2	33.3	27	55.1
	Kutcha	0	0.0	3	9.1	0	0.0	3	6.1
	Bamboo Shed	0	0.0	1	3.0	0	0.0	1	2.0
	Metal/Concrete/Asbestos Shed	1	10.0	0	0.0	0	0.0	1	2.0
	Total	10	100.0	33	100.0	6	100.0	49	100.0
Damodar Right	Pucca					3	50.0	3	50.0
	Semi-Pucca					2	33.3	2	33.3
	Bamboo Shed					1	16.7	1	16.7
	Total					6	100.0	6	100.0
Hurhura Left	Pucca	1	50.0	0	0.0	3	50.0	4	44.4
	Semi-Pucca	1	50.0	1	100.0	3	50.0	5	55.6
	Total	2	100.0	1	100.0	6	100.0	9	100.0
Upper Rampur	Pucca	2	66.7	1	100.0	8	80.0	11	78.6
	Semi-Pucca	1	33.3	0	0.0	2	20.0	3	21.4
	Total	3	100.0	1	100.0	10	100.0	14	100.0
Total	Pucca	8	53.3	9	25.7	18	64.3	35	44.9
	Semi-Pucca	6	40.0	22	62.9	9	32.1	37	47.4
	Kutcha	0	0.0	3	8.6	0	0.0	3	3.8
	Bamboo Shed	0	0.0	1	2.9	1	3.6	2	2.6
	Metal/Concrete/Asbestos Shed	1	6.7	0	0.0	0	0.0	1	1.3
	Total	15	100.0	35	100.0	28	100.0	78	100.0

3.3.6.3 Boundary Wall

Number of Structures:

The identified work zones are having a number of boundary walls of different residential / non-residential structures, including facility centres. A total of 61 such boundaries are identified of which 47.5 percent are in Damodar left, 42.6 percent in Damodar right, 6.6 percent in upper Rampur and 3.3 percent in Hurhura left.

Types of Structures:

There are three different types of boundary structures, i.e., pucca structures (67.2 percent), semi-pucca structures (29.5 percent) and asbestos based shed types structures (3.3 percent). Of the boundary walls, 39.3 percent are in the river side and 60.7 percent are in the country side.

Project Location	Pu	cca	Semi	-Pucca		Concrete / os Shed]	Fotal
	No.	%	No.	%	No.	%	No.	%
Damodar Left	14	48.3	14	48.3	1	3.4	29	100.0
Damodar Right	21	80.8	4	15.4	1	3.8	26	100.0
Hurhura Left	2	100.0	-	-	-	-	2	100.0
Upper Rampur	4	100.0	-	-	-	-	4	100.0
Total	41	67.2	18	29.5	29.5 2 3.3		61	100.0

Table 47: Boundary Wall Categories

Embankment		Pu	icca	Semi	i-Pucca	Con	etal / crete / tos Shed	Т	otal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	7	50.0	5	35.7	0	0.0	12	41.4
	Country Side	7	50.0	9	64.3	1	100.0	17	58.6
	Total	14	100.0	14	100.0	1	100.0	29	100.0
Damodar Right	River Side	9	42.9	1	25.0	1	100.0	11	42.3
_	Country Side	12	57.1	3	75.0	0	0.0	15	57.7
	Total	21	100.0	4	100.0	1	100.0	26	100.0
Hurhura Left	Country Side	2	100					2	100
	Total	2	100					2	100
Upper Rampur	River Side	1	25.0					1	25.0
	Country Side	3	75.0					3	75.0
	Total	4	100.0					4	100.0
Total	River Side	17	41.5	6	33.3	1	50.0	24	39.3
	Country Side	24	58.5	12	66.7	1	50.0	37	60.7
	Total	41	100.0	18	100.0	2	100.0	61	100.0

Table 48: Structural Typology by Project Locations

Encroacher, Squatter and Structural Ownership:

About 9.8 percent boundary walls are in the encroached land and 31.1 percent are of squatters. Majority of the boundary walls (59.0 percent) are in lands of other categories. Distribution of boundary walls by encroacher, squatter and project location is presented in the tables below.

Table 49: Encroacher, Squatter and Ownership

Project Locations	Encro	oacher	Squ	atter		Other		Total
	No.	%	No.	%	No. %		No.	%
Damodar Left	4	13.8	17	58.6	8	27.6	29	100.0
Damodar Right	1	3.8	2	7.7	23	88.5	26	100.0
Hurhura Left	1	50.0		0.0	1	50.0	2	100.0
Upper Rampur		0.0		0.0	4	100.0	4	100.0
Total	6	9.8	19	31.1	36	59.0	61	100.0

Table 50: Ownership Status by Project Locations

Embankment		Encre	oacher	Squa	tter	Ot	her	То	otal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	1	25.0	11	64.7	0	0.0	12	41.4
	Country Side	3	75.0	6	35.3	8	100.0	17	58.6
	Total	4	100.0	17	100.0	8	100.0	29	100.0
Damodar Right	River Side	1	100.0	1	50.0	9	39.1	11	42.3
	Country Side	0	0.0	1	50.0	14	60.9	15	57.7
	Total	1	100.0	2	100.0	23	100.0	26	100.0
Hurhura Left	Country Side	1	100			1	100	2	100
	Total	1	100			1	100	2	100
Upper Rampur	River Side					1	25.0	1	25.0
	Country Side					3	75.0	3	75.0
	Total					4	100.0	4	100.0
Total	River Side	2	33.3	12	63.2	10	27.8	24	39.3
	Country Side	4	66.7	7	36.8	26	72.2	37	60.7
	Total	6	100.0	19	100.0	36	100.0	61	100.0

3.3.6.4 Toilets

Number of Structures:

There are 158 toilets identified in the proposed work zones of which 59.5 percent are in Damodar left, followed by 24.2 percent in Damodar right, 8.9 percent in upper Rampur and remaining 7.6 percent are in Hurhura left.

Types of Structures:

Majority of the toilets are either semi-pucca (81.5 percent) or pucca (15.9 percent) structures.

Table 51:	Structures	of Toilets
-----------	------------	------------

Project Location	Pucca		Semi	Semi-Pucca		Kutcha		1boo 1ed	Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	12	12.8	80	85.1	1	1.1	1	1.1	94	100.0
Damodar Right	3	7.9	35	92.1					38	100.0
Hurhura Left	4	33.3	8	66.7					12	100.0
Upper Rampur Left	6	42.9	6	42.9			2	14.3	14	100.0
Total	25	15.8	129	81.5	1	0.6	3	1.9	158	100.0

Table 52: Toilets by Project Locations

Project Area		Pu	сса	Semi	-Pucca	Kutcha		Bamboo Shed		T	otal
		No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	6	50.0	36	45.0	1	100.0	0	0.0	43	45.7
	Country Side	6	50.0	44	55.0	0	0.0	1	100.0	51	54.3
	Total	12	100.0	80	100.0	1	100.0	1	100.0	94	100.0
Damodar Right	River Side	1	33.3	10	28.6					11	28.9
	Country Side	2	66.7	25	71.4					27	71.1
	Total	3	100.0	35	100.0					38	100.0
Hurhura Left	River Side	4	100.0	4	57.1					8	72.7
	Country Side	0	0.0	3	42.9					3	27.3
	Total	4	100.0	7	100.0					11	100.0
Upper Rampur	River Side	2	33.3	5	83.3			1	50.0	8	57.1
	Country Side	4	66.7	1	16.7			1	50.0	6	42.9
	Total	6	100.0	6	100.0			2	100.0	14	100.0
Total	River Side	13	52.0	55	43.0	1	100.0	1	33.3	70	44.6
	Country Side	12	48.0	73	57.0	0	0.0	2	66.7	87	55.4
	Total	25	100.0	128	100.0	1	100.0	3	100.0	157	100.0

Encroacher, Squatter and Structural Ownership:

Of the total toilets, 3.8 percent are constructed in encroached area and 55.1 percent by the squatters. Remaining 41.1 percent are of other category oriented. Distribution of toilets by project locations are presented in the table.

Project Location	Encro	oacher	Squ	atter	(Other	Total		
	No. %		No.	%	No.	%	No.	%	
Damodar Left	4	4.3	82	87.2	8	8.5	94	100.0	
Damodar Right	2	5.3	1	2.6	35	92.1	38	100.0	
Hurhura Left					12	100.0	12	100.0	
Upper Rampur Left			4	28.6	10	71.4	14	100.0	
Total	6	3.8	87	55.1	65	41.1	158	100.0	

Table 53: Encroacher, Squatters and Ownership

Project Locations		Encro	acher	Squa	tter	Ot	her	Total	
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	4	100	35	43	4	50	43	46
	Country Side	0	0	47	57	4	50	51	54
	Total	4	100	82	100	8	100	94	100
Damodar Right	River Side	1	50	1	100	9	26	11	29
	Country Side	1	50	0	0	26	74	27	71
	Total	2	100	1	100	35	100	38	100
Hurhura Left	River Side					8	66.7	8	67
	Country Side					4	33.3	4	33
	Total					12	100	12	100
Upper Rampur Left	River Side			3	75	5	50	8	57
	Country Side			1	25	5	50	6	43
	Total			4	100	10	100	14	100
Total	River Side	5	83	39	45	26	41	70	45
	Country Side	1	17	48	55	38	59	87	55
	Total	6	100	87	100	64	100	158	100

Table 54: Encroacher / Squatter by Project Locations

3.3.6.5 Cattle Shed

Number of Structures:

There are 328 cattle sheds identified in the working zone of which 58.2 percent are in Damodar left, 18.9 percent in Hurhura left, 14.0 percent in Damodar right and remaining 8.8 percent are in upper Rampur.

Table 55: Cattle Shed in Project Locations

Project Locations	Puc	ca	Semi	Semi-Pucca		itcha	Bamboo Shed		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	9	4.7	90	47.1	59	30.9	33	17.3	191	100.0
Damodar Right	1	2.2	25	54.3	6	13.0	14	30.4	46	100.0
Hurhura Left	1	1.6	10	16.1	17	27.4	34	54.8	62	100.0
Upper Rampur Left	1	3.4	13	44.8	8	27.6	7	24.1	29	100.0
Total	12	3.7	138	42.1	90	27.4	88	26.8	328	100.0

Of the total cattle sheds, only 3.7 percent are pucca, 42.1 percent are semi-pucca, 27.4 percent are kutcha and remaining 26.8 percent are bamboo sheds. Around 36.9 percent cattle sheds are in river side and majority of 63.1 percent are in country side.

Locations		P	ucca	Semi	-Pucca	Kı	ıtcha		nboo hed	Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	5	55.6	22	24.4	11	18.6	15	45.5	53	27.7
	Country Side	4	44.4	68	75.6	48	81.4	18	54.5	138	72.3
	Total	9	100.0	90	100.0	59	100.0	33	100.0	191	100.0
Damodar Right	River Side	1	100.0	14	56.0	1	16.7	6	42.9	22	47.8
	Country Side	0	0.0	11	44.0	5	83.3	8	57.1	24	52.2
	Total	1	100.0	25	100.0	6	100.0	14	100.0	46	100.0
Hurhura Left	River Side	1	100.0	2	20.0	7	41.2	25	73.5	35	56.5

Table 56: Structural Prevalence by Project Location

Locations		Pucca		Semi-Pucca		Kutcha		Bamboo Shed		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
	Country Side	0	0.0	8	80.0	10	58.8	9	26.5	27	43.5
	Total	1	100.0	10	100.0	17	100.0	34	100.0	62	100.0
Upper Rampur	River Side	1	100.0	4	30.8	2	25.0	4	57.1	11	37.9
	Country Side	0	0.0	9	69.2	6	75.0	3	42.9	18	62.1
	Total	1	100.0	13	100.0	8	100.0	7	100.0	29	100.0
Total	River Side	8	8 66.7		30.4	21	23.3	50	56.8	121	36.9
	Country Side	4 33.3		96	69.6	69	76.7	38	43.2	207	63.1
	Total	12 100.0		138	100.0	90	100.0	88	100.0	328	100.0

Encroacher, Squatter and Structural Ownership:

The cattle sheds in 5.8 percent cases are in encroached land where as 60.1 percent are under squatters and remaining 34.1 percent are of other categories. Detail distribution of cattle sheds by project location are presented in the table.

Table 57: Structural Ownership

Project Locations	Encr	oacher	Squ	atter	0	ther	Total		
	No. %		No.	%	No.	%	No.	%	
Damodar Left	6	3.1	175	91.6	10	5.2	191	100.0	
Damodar Right	1	2.2	5	10.9	40	87.0	46	100.0	
Hurhura Left	8	12.9	15	24.2	39	62.9	62	100.0	
Upper Rampur Left	4	13.8	2	6.9	23	79.3	29	100.0	
Total	19	5.8	197	60.1	112	34.1	328	100.0	

Of the total cattle sheds in the encroached area, majority are in country side (63.2 percent). Similar trend is observed in case of squatters where 66.0 percent are in the country side. In case of cattle shed of other categories, 42.0 percent are in the river side and 58.0 percent are in the country side.

	_							_	
Table 58:	Location	of	Cattle	Shod	and	Natur	o of	Owna	rchin
<i>Tuble 50.</i>	Locuiton	UJ .	Cune	Sneu	unu	1 Mainie	s Oj	Owne	isnip

Locations		Encroa	acher	Squa	atter	Ot	her	To	tal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	3	50.0	49	28.0	1	10.0	53	27.7
	Country Side	3	50.0	126	72.0	9	90.0	138	72.3
	Total	6	100.0	175	100.0	10	100.0	191	100.0
Damodar Right	River Side	0	0.0	5	100.0	17	42.5	22	47.8
	Country Side	1	100.0	0	0.0	23	57.5	24	52.2
	Total	1	100.0	5	100.0	40	100.0	46	100.0
Hurhura Left	River Side	3	37.5	12	80.0	20	51.3	35	56.5
	Country Side	5	62.5	3	20.0	19	48.7	27	43.5
	Total	8	100.0	15	100.0	39	100.0	62	100.0
Upper Rampur	River Side	1	25.0	1	50.0	9	39.1	11	37.9
	Country Side	3	75.0	1	50.0	14	60.9	18	62.1
	Total	4	100.0	2	100.0	23	100.0	29	100.0
Total	River Side	7	36.8	67	34.0	47	42.0	121	36.9
	Country Side	12	63.2	130	66.0	65	58.0	207	63.1
	Total	19	100.0	197	100.0	112	100.0	328	100.0

3.3.6.6 Business Shop

Number of Structures:

The project area is having a total of 694 business shops of which 63.5 percent are in Damodar left, 17.6 percent in upper Rampur, 9.5 percent in Hurhura left and 9.4 percent are in Damodar right.

Types of Structures:

Of the total structures, highest of 53.6 percent are semi-pucca structures followed by 40.2 percent pucca, 3.3 percent bamboo and 2.2 percent are kutcha structures. Distribution of structures by its type in different project locations are presented in the table.

Project Locations	Pucca		Semi	Pucca	Kut	cha	Bam Sho		Met Conc Asbesto	rete /	Т	otal
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	128	29.0	291	66.0	11	2.5	7	1.6	4	0.9	441	100.0
Damodar Right	25	38.5	34	52.3	2	3.1	4	6.2		0.0	65	100.0
Hurhura Left	39	59.1	22	33.3		0.0	4	6.1	1	1.5	66	100.0
Upper Rampur	87	71.3	25	20.5	2	1.6	8	6.6		0.0	122	100.0
Total	279	279 40.2		53.6	15	2.2	23	3.3	5	0.7	694	100.0

Table 59: Type of Structures in Different Project Locations

Note: 693 persons / households having 694 business shops

Majority of the business shops are existing in the river side (68.7 percent) whereas remaining structures are in the country side of the identified working zones (31.3 percent).

Location		Puo	cca	Semi	-Pucca	Kı	ıtcha		mboo hed	Con Asl	etal / crete / bestos hed	Т	otal
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Damodar	River Side	89	69.5	224	77.0	6	54.5	5	71.4	4	100.0	328	74.4
Left	Country Side	39	30.5	67	23.0	5	45.5	2	28.6	0	0.0	113	25.6
	Total	128	100.0	291	100.0	11	100.0	7	100.0	4	100.0	441	100.0
Damodar	River Side	14	56.0	16	47.1	2	100.0	2	50.0			34	52.3
Right	Country Side	11	44.0	18	52.9	0	0.0	2	50.0			31	47.7
	Total	25	100.0	34	100.0	2	100.0	4	100.0			65	100.0
Hurhura	River Side	32	82.1	12	54.5			2	50.0	1	100.0	47	71.2
Left	Country Side	7	17.9	10	45.5			2	50.0		0.0	19	28.8
	Total	39	100.0	22	100.0			4	100.0	1	100.0	66	100.0
Upper	River Side	46	52.9	16	64.0	2	100.0	4	50.0			68	55.7
Rampur	Country Side	41	47.1	9	36.0	0	0.0	4	50.0			54	44.3
	Total	87	100.0	25	100.0	2	100.0	8	100.0			122	100.0
Total	River Side	181	64.9	268	72.0	10	66.7	13	56.5	5	100.0	477	68.7
	Country Side	98	35.1	104	28.0	5	33.3	10	43.5	0	0.0	217	31.3
	Total	279	100.0	372	100.0	15	100.0	23	100.0	5	100.0	694	100.0

 Table 60:Types of Structures in Different Sites of the Project Locations

Note: 693 persons / households having 694 business shops

Encroacher, Squatter and Structural Ownership:

Of the total 694 business shops, 11.4 percent are in encroached area constructed by encroachers, whereas highest of 55.5 percent are by the squatters and 33.0 percent are of other categories. Details are presented in the table.

Project Locations	Encroacher		Squ	atter	Ot	ther	Total		
	No. %		No.	%	No.	%	No.	%	
Damodar Left	34	7.7	360	81.6	47	10.7	441	100.0	
Damodar Right	7	10.8	12	18.5	46	70.8	65	100.0	
Hurhura Left	9	13.6	5	7.6	52	78.8	66	100.0	
Upper Rampur Left	29	23.8	8	6.6	85	69.7	122	100.0	
Total	79	11.4	385	55.5	229	33.0	694	100.0	

Table 61: Location and Ownership of Structures

Table 62: Business Shops in Project Locations

Locations		Encr	oacher	Squ	atter	0	ther	Т	otal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	24	70.6	262	72.8	42	89.4	328	74.4
	Country Side	10	29.4	98	27.2	5	10.6	113	25.6
	Total	34	100.0	360	100.0	47	100.0	441	100.0
Damodar Right	River Side	3	42.9	9	75.0	22	47.8	34	52.3
-	Country Side	4	57.1	3	25.0	24	52.2	31	47.7
	Total	7	100.0	12	100.0	46	100.0	65	100.0
Hurhura Left	River Side	4	44.4	4	80.0	39	75.0	47	71.2
	Country Side	5	55.6	1	20.0	13	25.0	19	28.8
	Total	9	100.0	5	100.0	52	100.0	66	100.0
Upper Rampur	River Side	3	10.3	4	50.0	61	71.8	68	55.7
	Country Side	26	89.7	4	50.0	24	28.2	54	44.3
	Total	29	100.0	8	100.0	85	100.0	122	100.0
Total	River Side	34	43.0	279	72.5	164	71.3	477	68.7
	Country Side	45	57.0	106	27.5	66	28.7	217	31.3
	Total	79	100.0	385	100.0	230	100.0	694	100.0

3.3.6.7 Sheds

Number and Type of Structures:

There are 169 sheds identified in project locations of which majority are in Damodar left (50.3 percent), followed by 18.3 percent in Damodar right, 17.2 percent in Hurhura left and remining 14.2 percent are in upper Rampur.

Project Locations	Pu	cca	Semi	Pucca	Kut	tcha	Bambo	oo Shed	Т	otal
	No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	2	2.4	25	29.4	11	12.9	47	55.3	85	100.0
Damodar Right	1	3.2	17	54.8	3	9.7	10	32.3	31	100.0
Hurhura Left			5	17.2	9	31.0	15	51.7	29	100.0
Upper Rampur	1	4.2	2	8.3			21	87.5	24	100.0
Total	4	2.4	49	29.0	23	13.6	93	55.0	169	100.0

Table 63: Number of Sheds in Project Locations

Of the total sheds, majority are bamboo sheds (55.7 percent) followed by semi-pucca structures (28.1 percent) and kutcha structures (13.8 percent). Pucca sheds are observed to be less, i.e. to the tune of 2.4 percent of total.

Location		Pu	icca	Semi	-Pucca	Ku	ıtcha		mboo hed	Т	otal
		No.	%	No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	2	100.0	11	44.0	1	9.1	26	55.3	40	47.1
	Country Side	0	0.0	14	56.0	10	90.9	20	42.6	44	51.8
	ROW	0	0.0	0	0.0	0	0.0	1	2.1	1	1.2
	Total	2	100.0	25	100.0	11	100.0	47	100.0	85	100.0
Damodar Right	River Side	1	100.0	6	35.3	2	66.7	7	70.0	16	51.6
-	Country Side	0	0.0	11	64.7	1	33.3	3	30.0	15	48.4
	Total	1	100.0	17	100.0	3	100.0	10	100.0	31	100.0
Hurhura Left	River Side			3	60.0	5	55.6	13	86.7	21	72.4
	Country Side			2	40.0	4	44.4	2	13.3	8	27.6
	Total			5	100.0	9	100.0	15	100.0	29	100.0
Upper Rampur	River Side							11	52.4	11	45.8
	Country Side	1		2	100.0			10	47.6	13	54.2
	Total	1		2	100.0			21	100.0	24	100.0
Total	River Side	3	75.0	20	40.8	8	34.8	57	61.3	88	52.1
	Country Side	1	25.0	29	59.2	15	65.2	35	37.6	80	47.3
	ROW	0	0.0	0	0.0	0	0.0	1	1.1	1	0.6
	Total	4	100.0	49	100.0	23	100.0	93	100.0	169	100.0

Table 64: Structure Types in Different Project Locations

Encroacher, Squatter and Structural Ownership:

Around 3.0 percent encroachers are having such structures whereas majority belongs to squatters (50.3 percent) and other categories (46.7 percent).

Table 65: Structural Ownership

Project Locations	Encroacher		Squatter		0	ther	Total		
	No.	%	No.	%	No.	%	No.	%	
Damodar Left	2	2.4	77	90.6	6	7.1	85	100.0	
Damodar Right			1	3.2	30	96.8	31	100.0	
Hurhura Left	3	10.3	4	13.8	22	75.9	29	100.0	
Upper Rampur Left			3	12.5	21	87.5	24	100.0	
Total	5	3.0	85	50.3	79	46.7	169	100.0	

Location		Encr	oacher	Squ	atter	Ot	her	To	otal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	2	100.0	33	42.9	5	83.3	40	47.1
	Country Side			43	55.8	1	16.7	44	51.8
	ROW			1	1.3			1	1.2
	Total	2	100.0	77	100.0	6	100.0	85	100.0
Damodar Right	River Side			1	100.0	15	50.0	16	51.6
-	Country Side					15	50.0	15	48.4
	Total			1	100.0	30	100.0	31	100.0
Hurhura Left	River Side	1	33.3	4	100.0	16	72.7	21	72.4
	Country Side	2	66.7			6	27.3	8	27.6
	Total	3	100.0	4	100.0	22	100.0	29	100.0
Upper Rampur	River Side			2	66.7	9	42.9	11	45.8
	Country Side			1	33.3	12	57.1	13	54.2
	Total			3	100.0	21	100.0	24	100.0
Total	River Side	3	60.0	40	47.1	45	57.0	88	52.1
	Country Side	2	40.0	44	51.8	34	43.0	80	47.3
	ROW	0	0.0	1	1.2	0	0.0	1	0.6
	Total	5	100.0	85	100.0	79	100.0	169	100.0

3.3.6.8 BEDIs

Number and Type of Structures:

There are 13 Bedis identified in project locations of which majority are in Damodar left (46.2 percent), followed by 30.8 percent in Damodar right, 15.4 percent in Hurhura left and remining 7.7 percent are in upper Rampur.

Project Locations	Pu	cca	Semi-	Pucca	Bambo	o Shed	Total		
	No.	%	No.	%	No.	%	No.	%	
Damodar Left	3	50.0	2	33.3	1	16.7	6	100.0	
Damodar Right	1	25.0	3	75.0			4	100.0	
Hurhura Left	1	50.0		0.0	1	50.0	2	100.0	
Upper Rampur	1	100.0		0.0			1	100.0	
Total	6	46.2	5	38.5	2	15.4	13	100.0	

Table 67: Number of Bedis in Project Locations

Of the total Bedis, majority are pucca (46.2 percent) and semi-pucca (38.5 percent) structures followed by bamboo sheds (15.4 percent). About 41.7 percent Bedis area in river side and 58.3 percent are in country sides.

Table 68: Bedis in Different Project Locations

Location		P	ucca	Semi	-Pucca	Bamb	oo Shed	Т	otal
		No.	%	No.	%	No.	%	No.	%
Damodar Left	River Side	1	50.0	1	50.0	0	0.0	2	40.0
	Country Side	2	50.0	1	50.0	1	100.0	4	60.0
	Total	3	100.0	2	100.0	1	100.0	6	100.0
Damodar Right	River Side	0	0.0	1	33.3			1	25.0
	Country Side	1	100.0	2	66.7			3	75.0
	Total	1	100.0	3	100.0			4	100.0
Hurhura Left	River Side	1	100			1	100	2	100
	Total	1	100			1	100	2	100
Upper Rampur	Country Side	1	100					1	100
	Total	1	100					1	100
Total	River Side	2	40.0	2	40.0	1	50.0	5	41.7
	Country Side	4	60.0	3	60.0	1	50.0	7	58.3
	Total	6	100.0	5	100.0	2	100.0	13	100.0

Encroacher, Squatter and Structural Ownership:

Around 46.2 percent squatters are having such structures whereas majority belongs to persons of other categories (53.8 percent).

Table	69:	Structural	Ownersh	hin
1 uoic	02.	Suman	Ownersi	up

Project Locations	Squ	atter	Ot	ther		Total
	No.	%	No.	%	No.	%
Damodar Left	6	100.0		0.0	6	100.0
Damodar Right			4	100.0	4	100.0
Hurhura Left			2	100.0	2	100.0
Upper Rampur Left			1	100.0	1	100.0
Total	6	46.2	7	53.8	13	100.0

Locations		Squa	atter	0	ther	Т	otal
		No.	%	No.	%	No.	%
Damodar Left	River Side	2	33.3			2	33.3
	Country Side	4	66.7			4	66.7
	Total	6	100.0			6	100.0
Damodar Right	River Side			1	25.0	1	25.0
-	Country Side			3	75.0	3	75.0
	Total			4	100.0	4	100.0
Hurhura Left	River Side			2	100	2	100
	Total			2	100	2	100
Upper Rampur	Country Side			1	100	1	100
	Total			1	100	1	100
Total	River Side	2	33.3	3	42.9	5	38.5
	Country Side	4	66.7	4	57.1	8	61.5
	Total	6	100.0	7	100.0	13	100.0

Table 70: Distribution of Structures by Project Locations

3.3.7 Structures with Amenities

The structures present on the project locations, including residential and non-residential households are having different basic amenities. About 78.74 percent having tube well / open well as drinking water source observed to be in Damodar left (54.74 percent), followed by Damodar right (17.36 percent) and Hurhura left (15.90 percent). Pipe water supply to the available structures are less to the tune of 6.79 percent of the total. The residences / business units also have toilet facility in 77.10 percent cases, of which 56.25 percent structures are in Damodar left, 18.60 percent in Damodar right and 13.01 percent are in Hurhura left. Highest of 85.26 percent structures in these project locations are having electricity connection and highest are in Damodar left (54.40 percent) followed by Damodar right (17.75 percent) and Hurhura left (15.72 percent). The structures in different project locations that are having such facilities are presented in the table.

Project Locations	Drinki	ng Water	Water Toilet Facility Electricity Connection		Electricity Connection		Pipe Water Supply	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Damodar Left	971	54.74	977	56.25	1045	54.40	81	52.94
Damodar Right	308	17.36	323	18.60	341	17.75	38	24.84
Hurhura Left	282	15.90	226	13.01	302	15.72	12	7.84
Upper Rampur Left	213	12.01	211	12.15	233	12.13	22	14.38
Total	1774	100.00	1737	100.00	1921	100.00	153	100.00
% of Total	78.74		77.10		85.26		6.79	

Table 71: Structures with Amenities

Chapter 4: Stakeholder Analysis and Consultation

Community consultation has been taken up as an integral part of environmental and social assessment process of the project. In this regard, Focus Group Discussion (FGD) and household level interactions were conducted to understand people's opinion on the project and to inform and educate stakeholders about the proposed project and its activities. It helped in identification of the problems associated with the project as well as the needs of the population likely to be impacted. This participatory process helped in reducing the public resistance to change and enabled the participation of the local people in this development process

4.1 **Objective of Public Consultation**

The public consultations and survey were organized during the ESIA study with the following objectives:

- 1. To identify the major environmental and social issues;
- 2. To promote public awareness and understanding about the project;
- 3. To support in preparing effective mitigation measures;
- 4. To identify potential areas of impact on the families and structures existing on the working zone; and
- 5. To assess the number of persons / households anticipated to be affected in the identified working zones;

4.2 Methodology

Consultation activities were carried out in different phases during the ESIA process. At the first stage, people residing nearer to the project locations (habitations near the project areas in project districts) were consulted on the anticipated socio-economic impacts due to the proposed project. The potential PAPs / PAFs were identified through socio-economic census in the identified work zones. Several meetings were organized with the local residents of the areas and FGDs were held to assess the environmental and social impacts in and around the project corridor. The identified Project Affected Persons (PAPs) / Project Affected Families were consulted to assess their loss of properly and structures. A structured scheduled was administered to capture the impact and opinion of people residing on the project corridor. In the local level meetings and FGDs, the participants were informed about the purpose and preliminary design of the project and feedbacks were received on their issues of concern. Consultations / FGDs were held in all the identified working zones covering proposed project districts.

4.3 Stakeholder Analysis

As a part of participatory process different stakeholders have been identified who could be involved in the process of identification of critical issues, identification of impacts, resettlement, project execution, monitoring and evaluation. The stakeholders have been categorized in to primary and secondary stakeholders. The project has a public purpose and therefore, needs multiple stakeholder involvement for its success. Moreover, the project requires minimal area on temporary basis for executing its works where encroachers and squatters have settled down long back. Therefore, their temporary / permanent relocation / displacement from public working sites are of paramount importance. This requires a participatory process from the beginning of project initiation. People in common have been considered as primary stakeholders and others include the service providers, authorities who are associated directly in the project etc. The details of the identified stakeholders are described below.

4.3.1 Primary Level Stakeholders

The primary stakeholders are (1) people who are anticipated to be affected directly due to the execution of the project, and (2) the concerned authorities

Directly Affected People:

- 1. People losing assets
- 2. People losing employment / current engagement / livelihoods
- 3. Community affected due to the loss of facilities and services, including religious structures, cultural properties, etc.

The people, expected to be displaced from the identified working zones in the project area, temporarily or on permanent basis, could be further specified, including their occupational involvement, such as;

- 1. Petty shop owners
- 2. Lease holders
- 3. Share croppers
- 4. Cultivators on encroached land
- 5. Vendors
- 6. Daily wage earners
- 7. Persons in different temporary and permanent service
- 8. Fishermen
- 9. SC Communities in different occupational engagements
- 10. ST communities in different occupational engagements
- 11. Women associated with different farm and non-farm activities
- 12. Unemployed youth

Indirectly affected people:

Certain people may be affected temporarily due to project activities, which covers (1) project side habilitations / villagers prone to air and noise pollution, accidents, communicable diseases, etc. and (2) settlements expected to lose access during construction activities for temporary period

The institutions / organizations who are the potential stakeholders, identified for the project are (1) local Gram Panchayats, (2) local CBOs / NGOs, (3) ground force of extension service providers of different Govt. departments such as agriculture, horticulture, animal husbandry, fishery etc.

The Concerned Authorities:

- 1. Irrigation and Waterways Department (IWD), Govt. of West Bengal
- 2. Forest Department;
- 3. Local Panchayat Samiti;
- 4. Revenue Department;
- 5. Electricity Department;
- 6. Department for Drinking Water Supply;
- 7. District Collector and Magistrate;
- 8. District Land and Land Settlement Officer
- 9. Block Land and Land Settlement Officer
- 10. Pollution Control Board authority

4.3.2 Secondary Stakeholders

The secondary stakeholders are mostly Govt. institutions who are expected to play a role in the project execution, such as;

- 1. IWD Department, Govt. of West Bengal
- 2. Central Water Commission
- 3. Panchayati Raj Department
- 4. Department of Forest
- 5. Dept. of Environment
- 6. Fisheries Department
- 7. Agriculture Department
- 8. Horticulture Department
- 9. Drinking Water and Sanitation
- 10. Electricity Department
- 11. State Pollution Control Board

4.4 **FGD and Census Survey**

Stakeholder consultation is an integral part of the environmental and social assessment which provides inputs for the preparation of Social and Environment Management Plan (ESMP). The overall objective of such consultations was to document the concerns of the stakeholders with specific reference to the project planned interventions. The consultation meetings were organized basically for two important purposes, i.e., (1) to share project objectives and proposed project interventions with the identified stakeholder groups and (2) to consult with the stakeholders and document their concern, with particular reference to social and environmental impacts of the proposed project interventions. During the field assessment, community consultations were taken up as an integral part of social and environmental assessment process of the project. Public participation has been viewed as a continuous two-way process, i.e., developing people's understanding on the project, activities and process of ESIA and capturing their opinion on expected environmental and social concerns / issues.

To understand the expected project benefits / risks and people's perception on the project, field visits were conducted to different places within the planned project jurisdiction. In the process of assessment, mapping of stakeholders was done in the visited areas to understand how the project is going to impact upon the stakeholders. The field visit and stakeholder consultations were conducted in five project districts, namely Bankura, Purba Bardhhaman (E), Paschim Bardhhaman (W), Hooghly and Howrah. The interaction with different stakeholders covered farmers of different social and economic categories, women group like SHG, fisherman, people / households expected to be affected due to the project, local service providers etc. in project districts to understand their concerns.

Project Area Coverage under Assessment

In the process, stakeholder consultations were carried out in all the five project districts, covering different stakeholders such as farmers of different holding category, local service providers, state and district level line departments and agencies, extension institutions (for example, ATMA and Krishi Vigyan Kendra) etc. The details of consultations held in the five districts are given in Table 72.

Consultation with Potential PAFs / PAPs:

The consultation meetings were conducted with the encroachers / squatters who have the establishment near the left embankment of Damodar, Mundeswari, Hurhura and Rampur Khal and right embankment of Damodar. Discussion was primarily on project planned improvement and strengthening measures and its anticipated impact on their livelihood, accessibility to utilities and services. District level workshop/s were conducted in each project district during finalization of project activities. Environmental and social concerns of each project activities were thoroughly discussed to find out suitable project alternatives. Generic environmental and social concerns of each alternatives were disseminated among all stakeholders to bring out baseline environmental and social concerns.

Focus Group Discussion

A number of Focused Group Discussions (FGD) were conducted with the villagers residing adjacent to the aforementioned embankment and in different project locations in the DVC command area to understand their opinion on the project dimensions. Opinion of SHG / FPO local CBOs were also noted during FGD. Discussions were conducted at different points of time during the assessment phase. The discussions were primarily related to the project and its activities, people's current livelihood engagement and expected environmental and social implications of the project. Project activity wise generic environmental and social issues were discussed with different people / groups and location as well as activity specific environmental concern were captured. However, people/ community were much more interested about project activities without enough environmental and social concern. The details of community consultations/ FGD held in the five districts are given in the below table.

District	Date	Place	No. of Participant	Name of Participant
Bankura	20 th March, 2018	Vill Kendra Bedia, G.P Kharari, Bargora	7	 Mrs. Riju Datt, 2. Thulikala Dutta, Mrs. Mita Roy, 4. Mrs. Susma Roy, Prodeep Roy, 6. Sanjib Dutta, Rathin Rakshit
	21st March, 2018	Vill Patrasayer, GP Patrasayer, Block- Patrasayer	8	Female: 1. Simanti Murmu, Male: 1. Sk. Imam, 2. Siraj Mallik, 3. Ajizul Mallik, 4. Sushanta Murmu, 5. Akbar Midda, 6. Sk Hafijul, 7. Nur Alam Midda
	21st March, 2018	Vill. – Baganpara, GP Patrasayer, Block- Patrasayer	7	 Mrs. Sukhir Hansda, 2. Mrs. Sakuntala Murmu, 3. Mrs. Putul Baski, 4. Mrs. Keya Hembrom 5. Mrs. Krishna Murmu, Mongal Baske, 7. Kanchan Hansda,
Purba Bardhhaman	11 th March, 2018	Vill Bizara, GP Amodpur, Block- Memari-I	6	 Mrs. Bhabna Sadhukha, 2. Mrs. Fatema Bibi, 3. Nilanjan Rudra, 4. Mafik Mahammad, Seikh Ysuf, 6. Seikh Ansar Ali
	11 th March, 2018	Vill Shajpur, GP Shamsundar, Block- Raina-1	7	 Mrs. Chandana pandit, 2. Mrs. Suchitra Dutta, 3. Samar Dutta, 4. Dilip Mandal, 5. Sunil Mallick, 6. Madhu Sudan Bag, 7. Chanchala Majumdar
	22nd March, 2018	Vill Tilkoria, GP Jarugrame, Block- Jamalpur	9	 Atanu Mandal, 2. Somnath Ghosh, Raghupati Ghosh, Chinmay Ghosh, 5. Tanmay Ghosh, 6. Mahadeb Bhumik, Debashis mondal, 8. Kuntal Ghosh, Bimalendu Dey
	22nd March, 2018	Vill Kaligram, GP Belkash, Block- Bardhhaman- 1	11	 Tina Ghosh, 2. Buddhadev Gorai, Joydev Gorai, Saif Ahammed Mirza, Sahalom Mirza, 6. Sk Robiul Alam, Samir Pandit, 8. Jaydeb Ghorui, Naba Ghoroi, 10. Sanat Majhi, Jagai Loher

Table 72: FGD with stakeholder community

District	Date	Place	No. of Participant	Name of Participant			
Paschim	21st	Vill Malandighi,	7	Female: 1. Mrs. Ila Mukherjee			
Bardhhaman	March,	GP Malandighi,		Male: 1. Tapan Kesh, 2. Avijit Garai,			
	2018	Block- Kanksa		3. Mr. Prahlad Chandra,			
				4. Mr. Parimal Kumbhakar,			
				5. Monasa Ruidas, 7. Uday Badyakar			
	21st	Vill Kuldiha,	6	1. Mrs. Sabita Mallik, 2. Mrs. Chandana			
	March,	GP Molandighi,		ruydas, 3. Sannasi Hazra, 4. Ajit Hazra			
	2018	Block- Kanksa		5. Bhujanga Roy, 6. Nitai Mondal			
Hooghly	13th	Vill Nandanpur,	10	Female: 1. Tukun Kar			
	March,	GP Jagatpur,		1. Sasanka Shekhar Dolui,			
	2018	Block- Khanakul- II		2. Prasanta Majhi, 3. Sishir Dolui,			
				4. Bhaskar Dolui,			
				5. Rabibdranath Mandal,			
				6. Ashok Bera, 7. Bibhutibhusan Kar,			
				8. Ashok Kumar Samanta,			
				9. Utpal Bera			
	13th	Vill Fatepur, GP	7	1. Shyam Sundar Mandal,			
	March,	Chilidangi, Block-	,	2. Sushanta Sasmal,			
	2018	Pursura		3. Ganesh Chandra Dhank,			
	2010	i uisuia		4. Mrinmoy Bera, 5. Gopinath Ghosh,			
				6. Subhendu Adhikary,			
	13 th	Datanan Kathan	6	7. Raghudeb Mondal			
	-	Ratanpur, Kather	0	1. Mrs. Sita Soren, 2. Mrs. Kabita Soren,			
	March,	Pool, Singur II,		3. Mrs. Tusumani Saran, 4. Bappa Hembram,			
	2018	Singur II	0	5. Bapi Dule, 6. Srikanta Kisku			
	14th	Vill Ratanpur, GP	8	2. Mamoni Soren, 2. Mrs. Sita Soren			
	March,	Singur-II, Block-		1. Ganesh Nayek,			
	2018	Singur		2. Sandip Jana, 3. Kartik Nayek,			
				4. Ashok Rui Dash, 5. Susanta Manna,			
			_	6. Mr. Srikanta Kisku,			
	10 th May,	Vill Kashipur,	5	1. Kripa Sindhu Ghosh, 2. Madan Mohan			
	2018	Samaspur II, Dhania		dey,			
		Khali		3. Narayan Santra, 4. Lakshan Santra,			
				5. Nishapati Ghosh			
	14 th May,	Vill Kulgachia,	6	1. Mita Jana, 2. Bharat Maity, 3. Satya			
	2018	Ghospur, Khanakul I		Pramanik, 4. Sankar Pramanik, 5. Asit Jana,			
				6. Rabindra Duari			
	14 th May,	Vill Kulat,	6	1. Padmalochon Sasmal, 2. Sital Roy,			
	2018	Ghospur, Khanakul I		3. Debendo Dayari, 4. Narayan Manna,			
				5. Ganteswar Parui, 6. Subrata Manna			
Howrah	11th	Vill Sarpai, GP	9	1. Kanika Dalui, 2. Mamuni Dalui,			
	March,	Banichak, Block-		3. Dipa Paramanik, 4. Dipali Dalui,			
	2018	Amta-I		5. Aruti Dalui, 6. Animesh Roy,			
				7. Raj Kumar Patra, 8. Tapan Dalui,			
				9. Raghunath Dalui			
	11th	Vill Kankari, GP	7	1. Sujala Koley, 2. Gita Santra,			
	March,	Pancharul, Block-		3. Mohali Baruai, 4. Sanat kabati,			
	2018	Udayanarayanpur		5. Nakul hazra, 6. Kirtik Khanran,			
				7. Modhon Karti			
	12th	Vill Rajapur, GP	7	1. Sampa Mondal, 2. Pramila Patra,			
	March,	Bonibon, Block-	,	3. Aparana Mandal, 4. Ranjan Ghorui,			
	2018	Uluberia-II		5. Alaka Mondal, 6. Dipika mondal,			
	2010			7. Gora chand Gohri			

District	Date	Place	No. of	Name of Participant
			Participant	
	17 th	Baidyanathpur, BB	7	1. Kajal Khanar, 2. Promila Pattna,
	March,	Pur, Bagnan-II		3. Kaplana Dhak, 4. Susanta Jashu,
	2018	-		5. Abhijit Garami, 6. Surajit Maji,
				7. Atanu Mondal
	8 th	Dihivursut, Bus	7	1. Prasanta Kara, 2. Adhir Samai,
	September,	Stand, Block-		3. Mohananda Dhok, 4. Ranjit Samanta,
	2018	Udayanarayanpur		5. Raju Adhikari, 6. Pradip Roy,
				7. Radha Dhok
	8 th	Dihivursut, Bus	5	1. Biswanath Kara, 2. Dilip Bhakta,
	September,	Stand, Block-		3. Ratikanta Maiti,
	2018	Udayanarayanpur		4. Subhas Maiti,
				5. Gunadhar Kara

4.5 **Consultation Meeting with Govt. Departments**

A range of consultation meetings were organized with local officials of different departments to understand their views on different aspects of the project. Stake-holders departments who have specific interest / stake in proposed project from environmental and social dimensions are listed below.

- 1. Department of Agriculture
- 2. Dept. of Agri-marketing
- 3. Dept. of Fisheries
- 4. Water Resources Investigation & Development Department
- 5. Department of Horticulture and Food Processing
- 6. Department of Irrigation
- 7. West Bengal Pollution Control Board
- 8. State Water Investigation Directorate
- 9. West Bengal Biodiversity Board
- 10. Department of Forest
- 11. Institute of Environmental Studies & Wetland Management (IESWM)
- 12. West Bengal State Electricity Distribution Corporation Limited (WBSEDCL)
- 13. West Bengal State Watershed Development Agency
- 14. University of Calcutta

4.6 Stakeholder's Concerns / Opinion

The ESMP addresses all such issues that are identified to have potential for adverse impact. The plan takes care of encroachment and land alienation issues building upon avoidance principles. Involvement of small and marginal holders is ensured through inclusion and equity norms in different project activities. Further, women participation and their safety and security are addressed in the camp (labour camp) establishment and management plan. Pollution and environment related issues are taken care in the ESMP under environment management plan.

Local communities are much more concerned about project activities and infrastructure facilities to be provided under this project. Communities focus were mainly concentrated on encroachment related issues, land acquisition, loss of agricultural land and agricultural land pollution due to staking of construction material on agricultural land. Majority of local peoples are expecting improvement of road infrastructure and construction of bridge along with flood management and irrigation modernization. Very negligible percentage of people are concern about environmental pollution during project implementation. All concerned govt. departments were very much active in their respective domain in terms of environmental pollution prevention and mitigation aspects. Stakeholder wise environmental and social issues and are tabulated below.

SN	Project Phases	Social
1	Pre- Implementation	 No land shall be acquired under the project; Enough compensation shall be provided for any kind of relocation or loss of assets; Spreading of water borne diseases after flood is commonly observed which need to be
		addressed;
2	Implementation	 No activity shall be carried out during monsoon season and night time; Canal embankment where encroachment has occurred, shall be avoided from rehabilitation work;
		 Contractor shall engage woman workers from nearby community; Contractor shall provide equal wage for women workers and shall not force them to
		work during night time;
		 Separate toilet block shall specifically be provided for women workers; Small temple located on embankment shall not be disturbed at any circumstances;
		 Sman temple located on embankment sman hot be disturbed at any encumstances, Non-availability of sufficient agricultural value chain actors for different crop may not support xcrop diversification. So, a suitable mechanism should be developed for agribusiness promotion (Agriculture).
3	Post-	1. Proper water delivery schedule and mechanism shall be developed and maintained to
	Implementation	equally distribute water among tail as well as head users;Spreading of water borne diseases after flood is commonly observed which need to be addressed appropriately;
		3. Loss of standing crop in Bankura district by periodic attack by the wild elephants for which farmers needs to be compensated;
		4. Modernisation of irrigation infrastructure will ultimately lead to more agriculture coverage which could trigger excess use of pesticide and fertilizer. Practice of vermi-compost may be introduced;
		5. Less or almost non-availability of irrigation water during Rabi & Boro season in current scenario which need to be focused upon;
		6. Emphasis should be given for agribusiness promotion

4.7 Issues addressed in RAP / ESMP

The ESMP addresses all such issues that are identified to have potential for adverse impact. The plan takes care of encroachment and land alienation issues building upon avoidance principles. Involvement of small and marginal holders is ensured through inclusion and equity norms in different project activities. Further, women participation and their safety and security are addressed in the camp (labour camp) establishment and management plan. Pollution and environment related issues are taken care in the ESMP under environment management plan. Further, to mitigate the adverse impact of the use of pesticides, project may support in promoting IPM with focus on adoption of other means of treatment when crop loss is above economic threshold level.

Social / Agricultural				
Issues	Addressed in RAP / ESMP			
No private land shall be acquired	Project is not intended to acquire any private land. However,			
	RAP is proposed for encroachment related issues, limiting to 5			
	m. on both sides of the embankment.			
Enough compensation shall be provided for any	The package to be provided is elaborated in detail in RAP			
kind of relocation or loss of assets	which will be as per the State Govt. norms.			

Table 74: Issues Addressed in ESMP

Soc	Social / Agricultural				
Issues	Addressed in RAP / ESMP				
Spreading of water borne diseases after flood is	As project will reduce occurrence of flood, so also related				
commonly observed which need to be addressed	diseases will be reduced.				
appropriately					
	Periodic health check-up camps to be organized for workers				
	staying in labour camps.				
No activity shall be carried out during monsoon	ESMP suggests specific activities which will not be taken up				
season and night time	during night and monsoon period.				
Contractor shall employ local labour during	Contractor will be appropriately oriented to engage local labour				
construction and operation	force in the work to the possible extent based on the required				
	skill base. It will be a part of the contractor's obligation.				
Canal embankment where encroachment has	Avoidance as one of the principles and in cases, where it is				
occurred, shall be avoided from rehabilitation	highly necessary for the project and cannot be avoided, RAP				
work	will be followed.				
Contractor shall engage woman workers from	Inclusion principles are made a part of the ESMP				
nearby Adivasi community					
Contractor shall provide equal wage for women	Equal wage for equal work will be followed and included in				
workers and shall not force them to work during	the plan.				
night time					
Separate toilet block shall specifically be	Included in ESMP as a part of labour camp management plan.				
provided for women workers					
Small temple located on embankment shall not be	No such cultural properties envisaged to get affected by the				
disturbed at any circumstances	project.				
Local farmers organisation / Gram Panchayat	For water management, local farmers organisation will play a				
involvement	role along with GP.				
Drip/ sprinkler irrigation may be introduced for	Under irrigation efficiency and productivity improvement,				
horticulture with 50-70% subsidy	micro irrigation promotion is made a part of the ESMP.				
Excess use of pesticide and fertilizer. Practice of	Crop diversification will reduce use of fertilizer / pesticides.				
vermi-compost may be introduced	However, ESMP suggests adoption of IPM to minimize				
	pesticide related impact.				
Less or almost non-availability of irrigation water	Improvement in irrigation structure and system along with				
during Rabi & Boro season in current scenario	promotion of conjunctive water use will improve water				
which need to be focused upon	availability.				
Emphasis should be given for agribusiness	Agribusiness promotion is one of the interventions of the				
promotion	project.				

4.8 Information Disclosure

The draft ESMP will be disclosed for public knowledge through the website of the IWD and the World Bank. The Executive Summary of the ESIP will also be disclosed in both Bengali and English languages in the web. Following information shall be displayed / disclosed / disseminated, wherever applicable.

- i. Project specific information need to be made available at each project site (hard / soft / display);
- ii. Project information brochures shall be made available at all the construction sites as well as the office of SPMU / DPMU / DPIU and the office of Engineer in charge.
- Reports and publications, as deemed fit, shall be expressly prepared for public dissemination e.g., English versions of the ESIA, EMP and RAP and Executive Summary of ESIA, EMP and RAP in local language.
- iv. Wherever civil work will be carried out a board will be put up for public information which will disclose all desired information to the public, as a part of pro-active and Suo-motto disclosure, transparency and accountability.
- v. All information will be translated into local language and will be disclosed to the public through the Panchayat, District Magistrate's office, concerned project offices, websites of IWD.

Chapter 5: Impact Assessment

The project will have positive impact on socio-economic condition of the people in the command after its completion along with environmental benefits. But from implementation view point, the project will have impact on encroachers / squatters and the structures that are already constructed or under construction. The project would have some impact, mainly of temporary nature, on certain categories of people, mostly encroachers and squatters, and also on some utility structure and community assets due to construction activities. These need to be mitigated before the commencement of project implementation, as mandated in the operational policy of the World Bank. The potential impacts of the project in this aspect are discussed below.

5.1 **Positive Impacts**

The project will have significant positive impact on the people and environment, after its completion. The overall project benefits will be in the following aspects, taking the project design and approach in to account.

- 1. Minimization of occurrence of flood and loss of life and livelihood on people;
- 2. Improved ecosystem services;
- 3. Improved irrigation coverage supporting agriculture and allied activities;
- 4. Reducing cost of production with the improved organic farming system;
- 5. Making irrigation available to agriculture fields through pressurized irrigation system;
- 6. Additional creation of employment in agriculture and allied sectors;
- 7. Minimizing water foot print and reducing gap ayacut;
- 8. Enhanced scope for fishery and strengthening related livelihood of fishers;
- 9. Enhancement in farm income of the farmers through crop diversification and HYV seed promotion;
- 10. Improvement in capacity of FPOs and their business linkage with different markets; etc.

5.2 Adverse Impact

The assessed adverse social impacts are temporary in nature and will persist during the execution phase of the project. Anticipated adverse impacts are;

- 1. Loss of private land and structures
- 2. Temporary loss of livelihood during construction / work phase;
- 3. Temporary / permanent relocation from the public sites that are under work zones;
- 4. Impact on different categories of structures / utilities / services / cultural properties; etc.

5.3 The Project Component / Activities that give rise to Displacement

The project Component C which is basically designed for flood management through embankment strengthening and flood wall construction will give rise resettlement / relocation. Though, project will not require any additional land, the eviction from the public / Govt. land, i.e., eviction of encroachers / squatters is necessary so that the worksite remain available for construction activities. Secondly, eviction of encroachers / squatters is also required from safety and security point of view which could arise during the construction works.

5.4 The Zone of Impact of Such Component or Activities

The zone of impact of such activities will be limited to the area proposed for embankment strengthening and flood wall construction in two project districts, i.e., Hooghly and Howrah.

5.5 Impact on Land / Structures / Households

There are various structures on and near to the embankment. These structures may be affected due to construction work by the project. The structures, anticipated to be affected can be generally categorized in to three types, i.e., (1) residential structures (category 1), (2) commercial structures including residential-cum commercial (category 2) and (3) government and community structures / facilities, which includes tube well, well, pump house, electric pole etc. (category 3). All these structures are expected to be affected fully or partially and temporary or permanent relocation is required for these structures. Some part of the existing embankment is on private land that has not been transferred to IWD. As part of the project, such land parcels will be either voluntary donated to the project or will be directly purchased.

5.5.1 Affected Households and Displacement

Based on the assessment conducted in the finalized project locations, the project is likely to affect 1876 families / households. The degree of impact will be different for different category of structures and families possessing such structures. All the affected families do not have residential structures in the identified working zones. On the other hand, few families also have more than one type of structure (residential, house cum shop, business shops etc.), which are temporary or permanent in nature.

Type of Structure		Construction Type of Structures								
	Pucca	Semi-Pucca	Kutcha	Bamboo	Asbestos	Total				
Residential		430	193	58	9	690				
House Cum Shop		37	3	2	1	43				
Boundary Wall	41	18			2	61				
Toilets	25	129	1	3		158				
Cattle Shed	12	138	90	88		328				
Business Shop		372	15	2	3	414				
Sheds	4	49	23	93		169				
BEDI	6	5	2			13				
Total	88	1178	327	246	15	1876				

 Table 75: No. of Households and Structures expected to be affected

There are 1876 structures existing in the project locations and all these structures belong to 1736 households. In the residential structures, majority are semi-pucca (62.32 percent) and kutcha structures (27.97.0 percent). Similar distribution is observed in case of residential house cum shop where majority are semi-pucca (86.05 percent) and kutcha (6.98 percent) structures. In case of business shops also, 89.86 percent are semi-pucca and 3.62 percent are kutchha structures. Prevalence of other types of structures are less. Pucca structure with concrete roof from Residential hose, house cum shop and business shop category will not be affected to the possible extent (refer section 5.9 for detail).

5.5.2 Project Affected Population

The project is likely to affect 5529 persons in 1736 households, i.e., average of 3.18 persons per affected family. About 57.03 percent of the likely to be affected persons are male and remaining 42.97 percent are female. Age group wise distribution of affected population reflects that of the total male, 72.09 percent male are in the age group of 18-60 years, followed by 13.54 percent in 60+ age group and 11.22 percent are in 6-18 years age group. In case of female, highest percentage of are in 18-60 years age group (71.75

percent) followed by 14.85 percent in 6-18 years age group and 8.79 percent in 60+ age group. Distribution of Households by Age and Sex is presented in the table.

Age Group		Male		Female	Total		
	No	Percent (%)	No	No Percent (%)		Percent (%)	
< 6 Years	99	47.60	109	52.40	208	100.00	
>=6 & <18 Years	354	50.07	353	49.93	707	100.00	
>=18 & <60 Years	2273	57.14	1705	42.86	3978	100.00	
>= 60 Years	427	67.14	209	32.86	636	100.00	
Total	3153	57.03	2376	42.97	5529	100.00	

Table 76: Project Affected Persons by Age and Sex

5.5.3 Structural Ownership

Structural ownership refers to ownership of the structures by encroachers, squatters and other persons. In case of residential structures, encroacher and squatter percentage of STs is comparatively less than other social groups and scheduled caste families. In case of residential cum shops, major encroachers and squatters belong to other social groups and scheduled caste, including structures on own land. The pattern remains more or less uniform across different other structures that are identified during the study. Details are presented in the table.

Table 77: Structura	l Ownership b	y Social Categories
10000 / // 0000000	e o miter bittip o	J bootar caregories

Structure	S	SC	ST		Other		Total	
	No	%	No	%	No	%	No	%
Residential								
Encroachers	32	53.33	1	1.67	27	45	60	100.00
Squatters	226	61.58	15	4.09	126	34.33	367	100.00
Own	136	51.71	0	0	127	48.29	263	100.00
Total	394	57.10	16	2.32	280	40.58	690	100.00
Residential cum Shop								
Encroachers	2	28.57	0	0	5	71.43	7	100.00
Squatters	8	30.77	0	0	18	69.23	26	100.00
Own	2	20.00	0	0	8	80.00	10	100.00
Total	12	27.91	0	0	31	72.09	43	100.00
BoundaryWall								
Encroachers	1	16.67	0	0	5	83.33	6	100.00
Squatters	5	26.32	0	0	14	73.68	19	100.00
Own	4	11.11	0	0	32	88.89	36	100.00
Total	10	16.39	0	0	51	83.61	61	100.00
Toilet								
Encroachers	1	16.67	0	0	5	83.33	6	100.00
Squatters	34	39.08	1	1.15	52	59.77	87	100.00
Own	20	30.77	0	0	45	69.23	65	100.00
Total	55	34.81	1	0.63	102	64.56	158	100.00
Cattle Shed								
Encroachers	6	31.58	0	0	13	68.42	19	100.00
Squatters	68	34.52	6	3.05	123	62.44	197	100.00
Own	40	35.71	0	0	72	64.29	112	100.00
Total	114	34.76	6	1.83	208	63.41	328	100.00

Structure		SC		ST		Other		Total	
	No	%	No	%	No	%	No	%	
Business Shop									
Encroachers	3	15.79	0	0	16	84.21	19	100.00	
Squatters	91	32.50	2	0.71	187	66.79	280	100.00	
Own	12	10.43	1	0.87	102	88.70	115	100.00	
Total	106	25.60	3	0.72	305	73.67	414	100.00	
Shed									
Encroachers	2	40.00	0	0	3	60.00	5	100.00	
Squatters	34	40.00	1	1.18	50	58.82	85	100.00	
Own	32	40.51	0	0	47	59.49	79	100.00	
Total	68	40.24	1	0.59	100	59.17	169	100.00	
Bedi									
Squatters	1	16.67	0	0	5	83.33	6	100.00	
own	1	14.29	0	0	6	85.71	7	100.00	
Total	2	15.38	0	0	11	84.62	13	100.00	

Number of households having such structures are hereby categorized in to encroacher, squatter and others as per the opinion of the families on structures and its legality. Encroachers and squatters together comprise 61.88 percent in residential structures, 76.74 percent in residential cum business units (house cum shop), 40.98 percent in case of having boundary walls, 58.86 percent in having toilets, 65.85 percent in having cattle sheds and 72.22 percent in terms of having business units / shops, 53.2 percent having sheds and 46.15 percent having Bedi.

Type of Structure	No. of HH	Holding Categories of Structures				
		Encroachers	Squatters	Other	Total	
Residential	690	60	367	263	690	
Residential cum Shop	43	7	26	10	43	
Boundary Wall	61	6	19	36	61	
Toilet	158	6	87	65	158	
Cattle Shed	328	19	197	112	328	
Business Shop	414	19	280	115	414	
Shed	169	5	85	79	169	
Bedi	13		6	7	13	
Total	1876	122	1067	687	1876	

Table 78: Distribution of Households by Ownership Categories

Note: Other categories refer to households whose status could not be ascertained due to non-availability of verifiable documents based on their claim.

5.6 Distribution of Structures by Social Groups

Residential Structures: With less concentration of ST population, only 2.3 percent of the existing residential structures belong to scheduled tribes. Highest percentage of residential structures belong to scheduled caste (57.1 percent) followed by other categories (40.6 percent).

House Cum Shop: Tribal households do not have any residential cum business establishment (house cum shop). Highest percentage of such structures belong to families of other social categories (72.1 percent) followed by scheduled caste (27.9 percent).

Boundary Wall: Majority of the boundary wall belongs to families of other social category (83.6 percent) followed by scheduled caste (16.4 percent). Boundary walls belonging to ST families could not be observed in the studied locations.

Toilet: Around 64.6 percent toilets belong to families of other social categories and 34.8 percent to scheduled caste and only 0.6 percent belongs to tribal families.

Cattle Sheds: Ownership pattern of cattle sheds remain more or less same to that of earlier structures. The families of other social categories having highest ownership (63.4 percent) followed by scheduled caste families (34.8 percent) and tribal families (1.8 percent).

Structures		SC	S	ST		Other		Total	
	No.	%	No.	%	No.	%	No.	%	
Residential									
Semi-Pucca	224	52.1	9	2.1	197	45.8	430	100.0	
Kutcha	122	63.2	6	3.1	65	33.7	193	100.0	
Bamboo Shed	45	77.6	1	1.7	12	20.7	58	100.0	
Asbestos Shed	3	33.3	0	0.0	6	66.7	9	100.0	
Total	394	57.1	16	2.3	280	40.6	690	100.0	
House Cum Shop									
Semi-Pucca	10	27.0	0	0.0	27	73.0	37	100.0	
Kutcha	2	66.7	0	0.0	1	33.3	3	100.0	
Bamboo Shed	0	0.0	0	0.0	2	100.0	2	100.0	
Asbestos Shed	0	0.0	0	0.0	1	100.0	1	100.0	
Total	12	27.9	0	0.0	31	72.1	43	100.0	
Boundary Wall									
Pucca	8	19.5	0	0.0	33	80.5	41	100.0	
Semi-Pucca	0	5.6	0	0.0	17	94.4	18	100.0	
Asbestos Shed	1	50.0	0	0.0	17	50.0	2	100.0	
Total	10	<u> </u>	0	0.0	51	83.6	61	100.0	
	10	1001	Ů				01	20000	
Toilet									
Pucca	10	40.0	0	0.0	15	60.0	25	100.0	
Semi-Pucca	44	34.1	1	0.8	84	65.1	129	100.0	
Kutcha	0	0.0	0	0.0	1	100.0	1	100.0	
Bamboo Shed	1	33.3	0	0.0	2	66.7	3	100.0	
Total	55	34.8	1	0.6	102	64.6	158	100.0	
Cattle Sheds									
Pucca	2	16.7	0	0.0	10	83.3	12	100.0	
Semi-Pucca	37	26.8	4	2.9	97	70.3	138	100.0	
Kutcha	26	28.9	0	0.0	64	71.1	90	100.0	
Bamboo Shed	49	55.7	2	2.3	37	42.0	88	100.0	
Total	114	34.8	6	1.8	208	63.4	328	100.0	
Business Shop									
Semi-Pucca	93	25.0	3	0.8	276	74.2	372	100.0	
Kutcha	3	20.0	0	0.0	12	80.0	15	100.0	
Bamboo Shed	10	43.5	0	0.0	12	56.5	23	100.0	
Asbestos Shed	0	0.0	0	0.0	4	100.0	4	100.0	
Total	106	25.6	3	0.0	305	73.7	414	100.0	
1.0141	100	20.0		0.7	505	13.1	717	100.0	
Sheds									
Pucca	0	0.0	0	0.0	4	100.0	4	100.0	

Table 79: Structural Typology by Social Groups

Structures	SC		S	ST		Other		Total	
	No.	%	No.	%	No.	%	No.	%	
Semi-Pucca	18	36.7	0	0.0	31	63.3	49	100.0	
Kutcha	10	43.5	1	4.3	12	52.2	23	100.0	
Bamboo Shed	40	43.0	0	0.0	53	57.0	93	100.0	
Total	68	40.2	1	0.6	100	59.2	169	100.0	
Bedi									
Pucca	1	16.7	0	0.0	5	83.3	6	100.0	
Semi-Pucca	0	0.0	0	0.0	5	100.0	5	100.0	
Kutcha/Bamboo Shed	1	50.0	0	0.0	1	50.0	2	100.0	
Total	2	15.4	0	0.0	11	84.6	13	100.0	
Others Structure									
Encroachers	2	33.33			4	66.67	6	100.00	
Squatters	9	39.13			14	60.87	23	100.00	
Own	9	28.13			23	71.88	32	100.00	
Total	20	32.79			41	67.21	61	100.00	

Business Shop: Of the total business units / shops that are observed, 73.7 percent belong to other classes and 25.6 percent to scheduled caste families. Ownership of business shops by tribal families is limited to 0.7 percent of the total such identified units.

Sheds: Different other types of sheds are observed in the studied locations, of which 59.2 percent belong to other social categories and 40.2 percent to scheduled caste families. Tribal families having such shed/s is minimal.

Bedi: Of the total bedis identified in the project locations, tribal families do not have this structure whereas majority of bedis belong to other social categories (84.6 percent) and scheduled caste families (15.4 percent).

Structures	S	С	ST		Other		Total	
	No.	%	No.	%	No.	%	No.	%
Residential								
<500 Sq. Ft.	289	57.46	14	2.78	200	39.76	503	100.00
>=500 Sq. Ft.	105	56.15	2	1.07	80	42.78	187	100.00
Total	394	57.10	16	2.32	280	40.58	690	100.00
Residential Cum Shop								
<500 Sq. Ft.	10	33.33	0	0	20	66.67	30	100.00
>=500 Sq. Ft.	2	15.38	0	0	11	84.62	13	100.00
Total	12	27.91	0	0	31	72.09	43	100.00
Toilet								
<35 Sq. Ft.	43	39.81	1	0.93	64	59.26	108	100.00
>=35 Sq. Ft.	12	24.00	0	0.00	38	76.00	50	100.00
Total	55	34.81	1	0.63	102	64.56	158	100.00
Cattle Shed								
<200 Sq. Ft.	69	35.38	5	2.56	121	62.05	195	100.00
>=200 Sq. Ft.	45	33.83	1	0.75	87	65.41	133	100.00
Total	114	34.76	6	1.83	208	63.41	328	100.00

Table 80: Average Area of the Structures by Social Groups

Structures	S	С	ST		Other		Total	
	No.	%	No.	%	No.	%	No.	%
Business Shop								
<275 Sq. Ft.	77	25.25	1	0.33	227	74.43	305	100.00
>=275 Sq. Ft.	29	26.61	2	1.83	78	71.56	109	100.00
Total	106	25.60	3	0.72	305	73.67	414	100.00
Sheds								
<150 Sq. Ft	43	44.33	0	0.00	54	55.67	97	100.00
>=150 Sq. Ft.	25	34.72	1	1.39	46	63.89	72	100.00
Total	68	40.24	1	0.59	100	59.17	169	100.00
Bedi								
<150 Sq. Ft.	1	20.00	0	0.00	4	80.00	5	100.00
>=150 Sq. Ft.	1	12.50	0	0.00	7	87.50	8	100.00
Total	2	15.38	0	0.00	11	84.62	13	100.00

5.6.1 Structure in Private Land

Total 263 nos. residential house, 10 nos. house cum shop, 36 nos. boundary wall, 65 nos. toilet, 112 nos. cattle shed, 115 nos. business shop, 79 nos. shed and 7 nos. bedi are located on private land may partially be affected during project implementation. Total 200106.8 sq. ft. (459.38 satak²) area of these 687 nos. structure located on private land may be impacted. Structural category wise ownership and area of private land expected to be affected is given in Annexure- 1.

Type of	pe of Damodar Left		Damodar Right		Hurhur	Hurhura Left		Upper Rampur		Total	
Structure											
	No. of Structure	Area in Sq. Ft.									
Residential House	23	11070	110	50294	102	44498	28	10232	263	116094	
House cum Shop	2	1300	3	1195	3	472	2	936	10	3903	
Boundary Wall	8	1074	23	2408	1	900	4	188	36	4570	
Toilet	8	308	35	1636	12	701	10	699	65	3344	
Cattle Shed	10	2180	40	10201	39	7093	23	8349	112	27823	
Business Shop	39	8323.75	29	9394	20	5239	27	5830	115	28786.7 5	
Shed	6	758	30	6874	22	4458	21	2283	79	14373	
Bedi			4	688	2	300	1	225	7	1213	
Total	96	25013.7	274	82690	201	63661	116	28742	687	200106.8	

Table 81: Details of private structure in private land expected to be affected

5.7 Impact on Common Property Resources / Facilities / Utilities

The embankment / ROW / identified area for construction / stabilization work, including areas that are required to facilitate construction and strengthening work are having different common property resources

² 1 satak = 435.6 sq. ft.

and utilities such as electric pole / light post, platforms for religious rituals (pandals / BEDI), pump house, transformer, drinking water sources (tube well) etc. These structures may be impacted upon during the construction activities.

SL. No.	Community Utilities / Facilities (Repair/Relocation)	Unit	No.
1	School	No.	1
2	Anganwadi Centre	No.	1
3	Club	No.	19
4	Office of Political Parties	No.	4
5	Temple	No.	31
6	Bedi	No.	46
7	Burning Ghat	No.	3
8	Bus Stop	No.	4
9	Bridge	No.	6
10	Transformer	No.	9
11	Tube well	No.	12
12	Electric Pole/EP	No.	396
13	Light Post	No.	1
14	RLI (Pump house)	No.	9
15	Pond	No.	38
	Total	No.	580

Table 82: Anticipated Impact on Common	n Utilities / Facilities
--	--------------------------

5.8 Loss of Income and Livelihood

The project will have minimal impact on the income and livelihood of people. The loss of income and livelihood will occur to the persons who have their commercial establishments / shops on or near to the embankment (work sites only) and the owners of the land whose land may have to be occupied on temporary basis, not exceeding three years from the date of such need-based occupation.

Nature of impact and categories of impact and likely affected persons / groups / organizations eligible for rehabilitation / compensation as per World Bank's norms are reflected in the table below.

Sl. No.	Nature of impact and affected structures	Broad categories of affected persons / groups / organizations	Remarks
1.	Temporary / permanent impact on small shops, hutments, semi-permanent dwelling units, located in government land with the Right of Way (RoW), generally considered in between countryside toe to riverside toe of embankments, river / canal bank.	Squatters / encroachers with- out valid legal rights.	RAP will be implemented before the commencement of the work (actual field execution).
2.	Temporary impact on agricultural land during construction period, located on countryside or riverside slope of embankments or river beds, due to use of such lands either for temporary storage of materials, or as a part of temporary haul roads.	Legal title holders, family with traditional land right, patta-holders, leaseholders and share croppers.	RAP to be implemented before the start of work/s at identified site/s.
3.	Permanent impact on service (utility) and community structures, requiring shifting, such as electrical posts, water supply lines, small pump houses, drainage structures,	ConcernedServiceProviders, StateGovernmentDepartment / StateOwned orPrivateCompanies,	RAP to be implemented with the support of different service providing government entities,

Sl. No.	Nature of impact and affected structures	Broad categories of affected persons / groups / organizations	Remarks					
	drinking water sources (tube wells or wells), Anganwadi Centres etc.	Panchayats, responsible for maintenance of the assets.	including IWD, before the commencement of works.					
4.	Temporary impact on private properties or community properties such as places of worships, Mandaps, Cremation Ground etc. during construction period, due to movement of machinery, transport of materials etc. However, permanent shifting or relocation would not be required.	C	RAP to be implemented.					

5.9 The Alternatives Considered to Avoid or Minimize Resettlement

The project is not causing any displacement due to acquisition of land that are permanent in nature. There are encroachers and squatters who will be temporarily / permanently relocated or their economic activities will be affected during the construction period. To avoid resettlement of encroachers / squatters, technical steps have been taken by the project in terms of (1) identification of areas for construction works that have no or minimum impact on habitation / settlements, (2) preparing structural designing that are conducive, (3) minimizing area coverage on both the sides of the embankment particularly country side and (4) keeping ROW accessible, through existing or new roads. Strategically, the project will also take steps for temporary relocation of PAFs / PAPs during construction phase (temporary relocation refers to a situation where during working period, the encroachers / squatters will shift to other places and may come back to the site after the work is completed) instead of permanent relocation, where ever feasible, without compromising the overall objective of the project.

- 1. Avoid demolition of any double story building with equal to or more than 10-inch-thick wall (without plaster) located on country side. Country side strengthening work will not be done in this section. However, flood wall may be provided on river side in such cases as an alternative. Else, any intervention will not be made in this section, as foundation of such double story structure will act as strengthening mechanism similar to flood wall.
- 2. Single story building with concrete roof and equal to or more than 10-inch-thick wall (without plaster) located on country side will also be avoided.
- 3. In case, there are more numbers of settlers, irrespective of holding categories, and structural density is high in country side within the identified work zone; flood wall/ sheet pile will be provided on river side in-lieu of country side embankment strengthening work.
- 4. Similarly, if such situation exists in the river side (for flood wall/ sheet pile); country side embankment strengthening work will be adopted in-lieu of river side flood wall/ sheet piling.
- 5. In case, if such situation persists in any stretch of working zone on both the sides of the embankment; possibility will be explored to construct flood wall / sheet piling with required design change / alternative to minimize effect on the structures.
- 6. In cases, where it is anticipated that flood wall and/or embankment strengthening may give rise to social issues, any intervention will not be made in that section.

Chapter 6: Resettlement

6.1 **Objective of The Resettlement Action Plan (RAP)**

This RAP is project specific resettlement action plan and has been guided by World Bank's Operational Policy (OP/BP) 4.12 on Involuntary Resettlement. The RAP is based on the findings during field assessment, socio-economic surveys and consultations with various persons in the project area. The primary objective of the RAP is to identify impacts and to plan measures to mitigate various losses that are expected due to the project. The specific objectives of the RAP are as follows.

- 1. To spell out arrangements for PAP identification, consultation, grievance redress, payment of compensation and R&R benefits, and monitoring and evaluation
- 2. To outline the eligibility and entitlements for the affected persons for payment of compensation and assistance for establishing the livelihoods
- 3. To Develop communication mechanism to establish harmonious relationship between the project and Project Affected Persons (PAPs)
- 4. To ensure adequate mechanism for budget allocation for implementation of RAP
- 5. To spell out the institutional mechanism including implementation schedule, monitoring and evaluation of the RAP.

6.2 Act / Policy / Scheme Applicable for RAP

6.2.1 GO for Direct Purchase of Land

Government of West Bengal has issued a memorandum vide Gazette Notification, dated March 1, 2016 to ensure the optimal utilization of public funds and early implementation of projects where direct land purchase from land owners may become necessary. The act shall apply, when the Government acquires land for its own use, hold and control, including for Public Sector Undertakings and for public purpose;

The Memorandum of Government of West Bengal for direct purchase of land will be applicable to the WBMIFMP as the project involve purchase of parcel of private land on which existing embankment is situated. However, any additional land beyond existing embankment location will not be required for this project purpose. The project will be executed within the river bed and existing embankment ROW that belongs to Government.

In addition to this, the Government of West Bengal has decided to compensate the encroachers and squatters for their temporary loss of livelihood due to project activities and impact on residential structures. The financial provisions of GITANJALI scheme of the Government of West Bengal will be adopted and accordingly eviction will be done from the embankment during implementation stage. It is also provisioned that for temporary purposes, farmers land may require to be utilized. In such cases, the concerned farmer / land holder / lease holder / registered share cropper will be compensated for crop loss along with provision of rendering rental value of the land.

6.2.2 GITANJALI Scheme

The scheme is being implemented by the Department of Housing of Government of West Bengal. As per the scheme guidelines, the houses would be constructed by beneficiaries themselves and no contracting

agency will be engaged for the purpose. The revised guidelines came into effect from 01/04/2014. As per the revised guidelines, the scheme serves the purpose of three categories of beneficiaries, i.e., (a) Poor People in Rural and Urban areas, (b) Poor People in Erosion/Flood/Other calamity affected/Disaster prone areas, and (c) Poor People affected by Government Projects (As part of rehabilitation measures). The scheme follows the income-based criteria, i.e., the people having family income of Rs 6,000/- per month or less whereas people in the BPL list gets priority. The scheme is applicable to all over the state of West Bengal including Rural and Urban areas.

Provision of Land: The scheme is being implemented in rural areas on the land of the beneficiary. As per the guidelines, required land is to be provided by the beneficiary of his / her own land / patta land and must be free from all encumbrances. In case of urban areas where land of beneficiaries is not available, the Group Housing may be built on the land supplied by District Administration, Municipality or any Development Authority. The dwelling unit is in IAY (currently PMAY-G) pattern. It is mandated that district authority will provide a low-cost toilet in every case.

Cost of the Dwelling Units: The cost of dwelling unit is in line with the PMAY-G scheme, i.e., Rs.1.20 lakhs per unit of housing.

Implementation Modalities: The scheme is being implemented by Housing Department through District Magistrate of the concerned District. He will nominate one of the Additional District Magistrate of the District to look after daily activities of the scheme on his behalf. District Planning Officer of the District acts as the Nodal Officer of the scheme.

6.2.3 World Bank Policy on Involuntary Resettlement (OP 4.12)

The overall objectives of the Bank's policy on involuntary resettlement are;

- 1. Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs;
- 2. 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;
- 3. 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 covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) 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 affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

The operational policy defines displaced persons by classifying them in to three categories, i.e., (a) those who have formal legal rights to land (including recognized customary and traditional rights), (b) those who do not have formal legal rights to land at the time the census begins but have a claim to such land or assets-provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan, and (c) those who have no recognizable legal right or claim to the land they are occupying. The persons covered under category (a) and (b) are provided compensation for the land they lose, and other assistance. Whereas, persons covered under category (c) are provided

resettlement assistance in lieu of compensation for the land they occupy, and other assistance, as necessary, if they occupy the project area prior to a cut-off date. The policy stipulates that persons who encroach on the area after the cut-off date are not entitled to compensation or any other form of resettlement assistance. Persons included in category (c) are provided compensation for loss of assets other than land.

6.3 Cut-Off Date

As the project will not acquire additional land, notification in this regard is not required. For non-titleholders (encroachers and squatters) the date of project census survey for each sub-project that involve clearing the encroachments / squatting will be the cut-off date. Encroachments/squatting after the cut-off date will not be entertained and will not be eligible for any assistance under the project. The cut-off date is considered as 10th of October 2018 as census was done before that date. Any PAF left out during the census would be given due opportunity to register the demand for compensation, to the RAP Implementing Authority, through a grievance redressal mechanism, and the cut-off date may suitably be extended for this specific cases / purpose.

6.4 Need for Land and Resettlement

All the project activities that require land, i.e., embankment strengthening, desilting and flood wall construction will be taken up in the existing structures and within the right-of-way / river bed. So, no additional private land is required for the project purpose and no land acquisition is proposed under the project. Further, the embankment / the right-of-way has been encroached upon in many places entailing impact to commercial and residential structures as well as small temples and other common facilities. Though, the project will not involve in any land acquisition, it will impact on encroachers and squatters.

None of the interventions under the WBMIFMP require additional land beyond the land already under the possession of the government or land already having embankments or create perpetual interference on land or other assets of private persons. As such, permanent acquisition of land in terms of provision of LARR Act, 2013 or direct purchase of land as per prevailing policy of the Government of West Bengal will not be required. Also, the project activities have been planned in such a manner so as to create the least obstruction / interference on the land and other assets of people as well as various utility structures, lying in the vicinity of working zone.

6.5 Eligibility

A person / household will be eligible for compensation / assistance (not for land as no land is proposed for acquisition) in the following cases;

- 1. Persons / households having their business or residential establishments before the cut-off date, i.e., 10th of October 2018 will be eligible for compensation for the structures to be affected and will be treated as Project Affected Family / Project Affected Person.
- 2. Non-titleholder PAPs will not be eligible for compensation of land occupied by them, however, they will receive compensation for the investment made by them on the land such as replacement value of structures and other assets as per Gitanjali scheme. Therefore, they will be eligible for compensation for non-land assets.
- 3. Families of other categories have to establish their entitlement in shape of acceptable documents for the verification of authorities. In case of establishment of their rights and entitlement, such households will be paid compensation for the structure, irrespective of its type. In case of establishment of a title holder of his/her rights, land ownership right will rest with the concerned

person and will not change or transfer to any other entity due to project activity. As detailed out earlier, project will not acquire additional land or forcefully evict such persons from their land.

- 4. In case, a PAF could not be enumerated during the census because of non-availability during census or any other reasons, but they have reliable evidence to prove his/her presence before the cut-off date, shall be included in the list of PAPs after proper verification by the project authority.
- 5. In case of Community structures / utilities / facilities that are in the public places and required to be demolished or relocated due to construction activities, compensation will be paid at the market price to the appropriate authority (Gram Panchayat, concerned department management committee etc.) or to be reconstructed / restored in current location or suitable place, to be identified by the local GP / concerned committee / Concerned Govt. Department.
- 6. Temporary use of land of title holders may be required for project activities. In such cases, compensation to the title holder/s will be paid as mentioned in the entitlement matrix.

6.6 **Principles of Resettlement Action Plan**

The project will adopt following resettlement principles based on the State Government Act/Scheme and the World Bank policy.

- 1. Screening of the sub-projects in identified project locations will be done to identify involuntary resettlement requirements, its impacts and risks. The scope of resettlement planning will be determined through a census and socio-economic survey of affected persons, including a gender analysis, specifically related to resettlement impacts and risks. Required measures will be taken to avoid and minimize involuntary resettlement impacts;
- 2. Where involuntary relocation, temporary or permanent in nature, is unavoidable; project will take measures to improve, or at least restore, the livelihoods of all such persons / families through compensation at fixed replacement cost for assets that are to be impacted due to the project activities;
- 3. The project will ensure that affected persons / families without titles to land or any recognizable legal rights to land are eligible for compensation for loss of non-land assets at fixed replacement value;
- 4. Improving the standards of living of the affected poor and other vulnerable groups, including women, to national minimum standards or standard before the project, whichever is higher, by continuing their current accessibility to different entitlements / schematic enrolments;
- 5. The project will carry out meaningful consultations with the identified project affected persons and inform all identified PAFs / PAPs of their entitlements. Attention to the needs of vulnerable groups, especially those below who are economically poor, the landless, the elderly, women and children, and indigenous peoples, and those without legal title to land, and ensure their participation in consultations.
- 6. Disclosing the RAP in local language and documentation of the consultation process;
- 7. Paying a minimum of 50.0 percent compensation to the eligible persons / families before physical or economic displacement and before commencement of civil works. Remaining amount of

compensation will be paid after vacating the land and possession taken by the department for the work purpose;

- 8. Establishing a grievance redressal mechanism to receive and facilitate resolution of the concerns of affected / displaced persons / aggrieved persons;
- 9. Conducting monitoring and assessing resettlement outcomes, their impacts on the standard of living of affected persons, and whether the objectives of the resettlement plan have been achieved by considering the baseline conditions and the results of resettlement monitoring.

6.7 Temporary Occupation of Land

Though, the project is not intended to acquire any land for the project activities on permanent basis, in certain cases, temporary occupation of land for project purposes will be required for staking of desilted materials, placing of machinery or establishment of work camps. As availability of fallow land / unutilised land / waste land is minimal is nature and may not serve the purpose of the project requirements, project may use private land, on temporary occupation basis.

- 1. In case of requirement of land for temporary staking of desilted materials, construction equipment, placing of machinery etc., the project may take / occupy / use available land, waste or arable land, on temporary basis, not exceeding three years from the commencement of such occupation in specific project locations.
- 2. The extent of requirement of such lands either for temporary storage of construction or other materials or for use in haul road / ramps, to access the main road from river / channel / canal bed to the road on top of embankment / bank, will be determined by the working agencies, after issue of Award of Contract (AoC) and such requirement of lands will be intimated to the project officials of the IWD, by these agencies.
- 3. Crop compensation as per scale and standard to be decided by the District Magistrate in consultation with Agriculture / Horticulture Departments will be paid by the working agencies to the affected persons for the period for which the land would be used for temporary storage of materials or haul roads together with deemed rental charges for the said period. In case land cannot be restored after the completion of project activities to its previous condition, additional compensation at prescribed rate of 25% of the original compensation would be payable.
- 4. The District administration, headed by the Collector and District Magistrate, shall thereupon give notice in writing to the owner (ROR holder) of the identified land, based on the earlier discussion with the concerned person. The project will pay compensation to the concerned person, either in a gross sum of money or by monthly or other periodical payments, as per the written agreement of both the parties. For arable land, compensation will be provided for the crops for the period of occupancy. Such rate of compensation is to be decided by the Collector and District Magistrate in consultation with line departments of government. For non-arable land, compensation can be paid on a rental basis, as decided by the Collector and District Magistrate.
- 5. In case of disagreement on compensation amount, the matter will be referred to the Project Director of the WBMIFMP, IWD for final decision.
- 6. On payment of such compensation or on execution of the agreement by both the parties, the land can be taken under possession and use or permit the use thereof in accordance with the agreement.

7. On the expiration of the term, compensation will be paid to the land holder for the damage, if any, done to the land and for the restoration of land. If the land needs development and restoration to its original position after its use for the project purpose, additional compensation will be paid to the ROR holder. For the restoration of land to its previous condition, additional compensation at prescribed rate of 25% of the original compensation would be payable.

6.8 Use of Irrigated Multi-Cropped Land

To safeguard the food production and food security, the project will not use irrigated multi-cropped land for staking of construction materials, desilted materials, placing machinery and related construction equipment and establishing work / labour camps. Such land may be used subject to the condition that no alternative option is available in the locality and only in exceptional circumstances. In such cases, willingness of the land owner / ROR holder would be essential. Based on the willingness of the concerned entitle holder, compensation will be paid for the period land is planned to be used for project purposes as per the entitlement matrix.

6.9 Entitlement Matrix

As discussed earlier, there would be no fresh acquisition or direct purchase of land under the proposed project. All encroachers and squatters having shops, hutments, semi-permanent dwelling units within the RoW will be compensated under "GITANJALI" Housing Scheme of the State Government, where the present rate is Rs. 1,20,000 which is equal to the financial provision made under Pradhan Mantri Awas Yojana, Gramin (PMAY, G). In terms of Memorandum No.382-HI/HG/P/1B-5/2013 dated 29th May 2014, category of beneficiaries under "GITANJALI" Scheme also include Poor People affected by Government Projects (as part of rehabilitation measures). However, the scheme would require minor improvisation to expedite the resettlement process, which has been detailed in the Entitlement Matrix.

In accordance with the principles of this resettlement policy framework, all affected families / persons will be entitled to compensation depending upon the nature of ownership rights on affected assets. The affected persons, individual or community, will be entitled to the following types of compensation / assistance under the project:

- 1. Compensation for the loss of crops / trees at their replacement cost;
- 2. Compensation for loss of private land based on order of Government of West Bengal;
- 3. Compensation for structures (residential / commercial) and other immovable assets at their replacement cost as per the GITANJALI scheme of the Govt. of West Bengal;
- 4. Rebuilding and / or restoration of community resources / facilities, in case these structures are affected due to execution of works;
- 5. Compensatory afforestation for the trees that are uprooted / cut due to project activities

An Entitlement Matrix has been prepared, that summarizes the types of losses and the corresponding nature and scope of entitlements which is following the provision of Gitanjali Scheme of Govt. of West Bengal and World Bank OP. If the GoWB adopts any higher provisions for compensation and assistances then such higher provisions will apply. The entitlement matrix presents the entitlements corresponding to the project affected families which comprises encroachers and squatters (Non-title holders).

6.9.1 Compensation for Community Structures

The Embankment/s and its nearby area which is proposed for stabilization and flood wall construction is having a number of community structures and service structures such as electric / light pole, cremation ground, pump house, sluice gate, temple, platforms for religious rituals etc. These structures may be

affected due to the construction work and hence project will have provision of compensation where ever such structures are to be demolished or to be affected partially and relocated to other place.

- 1. For structures like electric / light pole, pump house etc., project will bear all the cost of shifting these facility points to other suitable location in consultation with concerned Govt. Department. The project is having the plan to repair / replace the defunct sluice gates to minimize the water loss and improve irrigation efficiency.
- 2. Some of the cultural properties and community facilities like temple, cremation grounds etc. will not require demolition / shifting. The project will take all possible measures to ensure that such cultural resources are not affected due to construction works. However, in exigencies when it is not avoidable, in-spite of all measures, compensation for the structures like temples, Mandaps and similar other structures, will be paid by the project to the local GP or to the management committee of the structure, as per the suitability and based on the consultations, if such structures will be affected. The market value of the asset will be assessed following the provisions of the PWD prescribed price or as per the norm of the Govt. of West Bengal.
- 3. Structures like drinking water source (tube well / well), toilets, Anganwadi centers etc. will be established in other suitable location after due discussion with the local GP, if such structures are to be demolished fully or affected partially.

6.9.2 Compensation for Private Land and Structures

Since, the project working locations are defined and limited to the specific areas, impacts are limited in nature in significant number of structures and a significant number of structures are temporary in nature which can be relocated easily, relocation would not require much time and the provision of 'GITANJALI' scheme would be adopted for building a new unit as well as to arrange for subsistence during the construction period, and also for managing the cost involved in demolition / shifting. Accordingly, no other allowance on these accounts are proposed to be paid. It needs to be stated here that so long as there is no acquisition of land in the project area, the encroachers and squatters are not strictly qualified under the definition of "affected family" as defined in LARR Act, 2013 and accordingly, all the provisions of the rehabilitation packages stated in the Act may not be mandatorily applicable in case of WBMIFMP. In case any private land is impacted, it will be directly purchased as per the prevailing GO of government of West Bengal. Option of voluntary donation (Refer annexure- 2 for format of voluntary land donation) will also be offered to the land owner.

6.9.3 *Compensation for Trees*

As the tress are not under the private possession in the demarcated areas and in case of non-title holders, compensation for the trees will not be paid. However, clearance from the forest department would be required and compensatory afforestation / plantation will be done by the project. Trees standing on the land owned by the government will be disposed-off through open auction by the concerned Revenue Department / Forest Department.

6.9.4 Right to Salvage Affected Materials

Even after payment of compensation for structures, the PAFs / PAPs would be allowed to take away the materials salvaged from their dismantled houses and shops and no charges will be levied upon them for the same. A notice to this effect will be issued intimating that the PAFs / PAPs can take away the materials so salvaged within 15 days of their demolition; otherwise, the same will be disposed-off by the project authority without giving any further notice.

6.9.5 Compensation Disbursement

All the compensation related to property / infrastructure should be made transparent for which a suitable mechanism will be worked out in consultation with the District Magistrate and local BDO and preferably all the payments should be made through bank transfer or account payee cheque or through bank drafts. Of the total compensation package of 1.2 lakh, 50.0 percent of the compensation will be paid before the demolition of the structure and remaining 50.0 percent after the demolition of the structure. However, compensation in full will be disbursed before the commencement of the work.

6.9.6 Temporary Relocation

Temporary relocation refers to relocation to another site by the encroacher / squatter for a specific period of time, especially during the construction period. Temporary relocation does not require any demolition of structures (permanent / semi-permanent) but the space would be vacated for a specific period of time. In certain cases, small shops can be shifted to other places as protective measure and the encroacher / squatter can operate the shop from temporarily relocated place. In case of temporary relocation of families residing near the embankment / public sites identified for construction / rehabilitation, the project will adopt multiple strategies for the families to be relocated. Temporary relocation would also permit temporary vacating or even dismantling of shops and other structures.

Table 83: Entitlement Matrix

Sl. No.	Type of loss	Application	Definition of Entitled Persons / Families	Description of Entitlement to the Project Affected Families (PAF)	Implementing Authority & Period	Remarks includes suggestions on improvisations
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Loss of private land	Small stretch of land for embankment	Titleholder	In case land owner is willing to donate, voluntary land donation (refer Annexure-2 on voluntary land donation) process will be followed. In case land owner is willing to sell, such land parcels will be directly purchased as per state government's GO.	District Magistrates, using the District level Project Officials of the IWD and other Departments, and also the Block Administration.	
2	Loss of residential or business structure.	Small temporary hutments, movable / immovable shops for residential and/or commercial purpose, built on government land.	Squatters / encroachers occupying government land without valid legal rights, till prescribed cut-off date	Compensation as per "GITANJALI" Housing Scheme of Govt. of West Bengal to each PAF, irrespective of the size of the residential / commercial structures, on submission of written undertaking towards demolition of structure and vacation of land, on receipt of the grant.	District Magistrates, using the District level Project Officials of the IWD and other Departments, and also the Block Administration. RAP to be implemented before the inception of the works.	Transferring the fund to the beneficiary's account by the District Magistrate in two instalments, i.e. 50% on receipt of undertaking from the beneficiary, and balance 50% after demolition of the structure and vacation of worksite/s. Funds will be transferred by the IWD, directly to the District Magistrates to expedite the process.
3	Loss of crop during project activity, due to temporary storage of materials or using the land as a part of haul road, but never	Agriculture land or vacant land near countryside or riverside slope of embankments or river banks.	Legal title holder, family with traditional land right, patta holders, leaseholders, share croppers.	Compensation for standing crops including prospective crops, for the duration and crop season of occupation of such lands, and compensation for timber value of the trees, at market rate to be determined by the District Magistrate in consultation with and as per recommendation of	RAP to be implemented by the working agencies before starting field activities.	The land has to be restored to previous or better condition, failing which, 25% of the total compensation amount as fixed initially, would have to be provided, subject to verification and certification of

Sl. No.	Type of loss	Application	Definition of Entitled Persons / Families	Description of Entitlement to the Project Affected Families (PAF)	Implementing Authority & Period	Remarks includes suggestions on improvisations
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	permanent loss of land.			Agriculture / Horticulture / Forest Department, as the case might be, plus deemed rent of land as may be fixed by the District Land & Land Reforms Wing;		Experts on change of characteristics of land.
				In case of lease holder and registered share croppers, the original owner of land not get any compensation;		
				In case of unregistered share croppers, the compensation package will be restricted to 75% value of the total compensation package in (a) above, while the original land owner will get the balance 25%.		
4	Common Property Resources	Service and community structures requiring shifting, such as electric / light posts / pumphouses / outlet structures / drinking water sources (tube- wells or wells), Anganwadi Centers.	Concerned service provider (State Govt. Dept. or Panchayats / State owned / Private Companies, responsible for maintenance of the assets.	Compensation as per vetted estimates to be submitted by the service providers, in case of Government Departments, or as per agreed rate for different type of structures to be determined by the District Magistrate in all other cases, to be disbursed as prescribed modalities.	RAP to be implemented by district level project officials of the IWD in association with the Block Administration set up, before commencement of field works;	_
					Partly by working contractors during execution period, as per provision of the Contract and also guidance / advice of	

Sl. No.	Type of loss	Application	Definition of Entitled Persons / Families	Description of Entitlement to the Project Affected Families (PAF)	Implementing Authority & Period	Remarks includes suggestions on improvisations
(1)	(2)	(3)	(4)	(5)	(6)	(7)
					the Project Officials of the IWD.	
5	Temporary impact due to some or other project activities, during construction period.	Private properties, community properties.	Legal title holder, family with traditional land right, ROR (<i>patta</i>) holders, leaseholders or concerned service provider or community preserving the assets.	The project shall either bear the cost of any damage / other impact on structures or lands or other movable and immovable assets, due to movement of machinery, transport of materials, etc. or due to any other activities during construction or establishment of construction plant, as per mutual agreement between the impacted entity and the agency, or at such rates as may be decided by the Project Implementing Authority or the District Magistrate, as the case might be, or make good such demands at his own cost, up to the full satisfaction of the owner of the asset.	RAP to be implemented by the working agencies, as per provision of the Contract and also guidance / advice of the Project Officials of the IWD.	-

Chapter 7: Gender Action Plan

Mainstreaming gender equity and empowerment is already a focus area in the project. In the sub projects, activities related to livelihood restoration will address women's needs. A Gender Development Framework is being designed under the project as part of ESMF which will help analyze gender issues during the preparation stage of sub project and design interventions. At the sub project level, gender analysis will be part of the social assessment and the analysis will be based on findings from gender specific queries during primary data collection process and available secondary data. The quantitative and qualitative analysis will bring out sex disaggregated data and issues related to gender disparity, needs, constraints, and priorities; as well as understanding whether there is a potential for gender based inequitable risks, benefits and opportunities. Based on the analysis, the specific interventions will be designed and if required gender action plan will be prepared. The overall monitoring framework of the project will include sex disaggregated indicator and gender relevant indicator.

The participation of beneficiaries and focus on poverty reduction are two other key determinants of the effectiveness and sustainability of any project. Any project must address the constraints on women's participation in project design, construction, and monitoring and evaluation (M & E). The project must also focus on the linkage between gender and poverty, by identifying, for example, households headed by females and those households' special needs. An adaptive, learning, and process-oriented approach works better than a blue print approach; continuous dialogue between the SPPD and the beneficiaries / PAPs is therefore important. Project beneficiaries are likely to have a stronger sense of ownership when the project gives them enough time, design flexibility, and authority to take corrective action. In this way, they find it easier to incorporate their earlier learning and negotiate with project staff and service providers. Therefore, a mechanism must be built into the project to allow such two-way interactions between the beneficiaries and the service providers.

Three major tools are used to identify and deal with gender issues in the project cycle: gender analysis, project design, and policy dialogue.

Gender analysis was carried out as part of social assessment at the screening stage itself. The issues identified were further probed during social impact assessment.

The project designs has been made gender responsive based on the gender analysis. Women members will be consulted during implementation on regular basis to take their feedback on gender issues and its implementation process.

Consultations were organised with different stakeholders to understand the gender issues and possible measures that can help women in ensuring their participation in the overall process. The consultations helped to identify certain key issues pertaining to women and their involvement in agricultural activities. It is observed that while participation of women in different development activities have been poor in general, their association in agricultural decision making remains marginal. Though, their contribution is significant in different stages of farm activities, still their contribution has been ignored to a great extent. In the labour front, the wage rate paid to the women workers are comparatively less than their male counterpart. Though Government has been taking required measures for giving land rights to women in shape of registering land jointly with the male counterpart, still in most of the earlier record of rights, male in most cases are title holder. This creates an imbalance as far as land holding is concerned. Access to market by women is also

limited due to factors like social stigma, low quantum of sellable produce, distance of the market place from the village etc. However, in primary level value addition (drying, cleaning, grading and sorting), their involvement is quite significant at domestic front.

7.1 Gender Issues

Gender issues that have significance for the Project are;

- Low land holding and hence low production and insecure livelihood
- Women earn less wage for the same duration of work, especially in informal / private sector;
- Occupational health issues due to prolonged duration of engagement during farm activities;
- Drudgery of women in agricultural activities due to less usable agricultural equipment;
- Limited access to extension services and institutional facilities;
- Few women holding of agricultural productive resources such as land, animals, and machinery.
- Negligible or no role of women in farm related decision-making process;
- Women perform all un-mechanized agricultural tasks / multiple tasks, which add more burden to them;
- Active participation in community institutions is limited to a few women and large section either do not participate or remain passive;
- Access to formal financial credit institution for agricultural activities is limited for women headed farming households and hence investment in agriculture;
- Poor Capital Investment capacity for agricultural and allied activities

7.2 Gender Action Plan

Based on the issues identified during SIA, A Gender Action Plan (GAP) has been developed in consultation with the community for the project implementation phase, to address the gender issues identified in the ESIA. The GAP includes gender disaggregated data and issues (across all social groups) related to gender disparities, needs, constraints, priorities, risks, benefits and opportunities. This action plan must be fully understood and owned by the community and executing agency. The key components of this plan are outlined below

Equal Opportunities: A key gender gap in the agriculture sector is the absence of women in irrigation management. Given the importance of women in the agriculture sector, particularly in their role in climate change mitigation measure, this project will involve women as equal stakeholders. Currently, number of women engineers in IWD is less than 2%. Project will hire women engineers during the course of the project to increase the percentage of women engineers in IWD to 10%. Gender analysis during ESIA reflects gender disparity in work participation rate amongst men and women. The project activities will generate employment opportunities for the local population. Project will ensure that at least 20% of the total labor force is women during construction stage. This will be monitored during the project implementation period. In addition, project will track women's feedback through grievance redress mechanism (GRM). The project will carry out gender nuanced messaging for social marketing targeting at women and facilitating women's participation. Additionally, for long term employment gain, self-help groups (SHGs) will be formed among the affected households.

Women labour force: Opportunities for equal access to project benefits, including employment opportunities, for men and women will be created during project implementation and construction stage. Suitable work conditions for women's participation which includes, gender-equal wage rates, safety & security issues, child care facilities, health and sanitary requirements and separate toilets for women will be provided. Strict adherence to child labour norms shall to be followed. Some of the provisions particularly during the construction phase are listed below

Temporary Housing: Families of labourers /workers shall be provided suitable accommodation during the construction work at the labour camp site with strict compliance to availability of water and sanitation facilities.

Health Centre: Health problems of the workers should be taken care of by providing basic health-care' facilities through health centre temporarily set up for the construction camp. The health centre will have at least a visiting doctor, nurses, general duty staff, free medicines and minimum medical facilities to tackle first-aid requirements, and linkage with nearest hospitals for referring patients for treatment of critical cases. The health centre shall have MCW (Mother and Child Welfare) units for specifically addressing mothers and children in the camp. Apart from this, the health centre will provide regular vaccinations maternal and child health.

Day Crèche Facilities: Crèche facilities will be provided with at least one trained ICDS (Integrated Child Development Scheme) worker and 'a helper to look after the children.

Proper Scheduling of Construction Works: Owing to the demand for fast construction work it is expected that a 24 hours- long work schedule would be in operation. Women will be exempted from night shifts as far as possible. A strong vigilance mechanism will be created to check against exploitation of women and children in the camps.

Education Facilities: Linkages with the education department will be established to ensure that the children of these workers are provided appropriate levels of schooling and education. Strategies to mitigate any adverse social impact on women will be developed based on a detailed gender analysis of men and women in the area in consultation with the community and focused group discussions with women.

Awareness campaigns: In addition, specific interventions like awareness campaigns and skill development training's will be systematically carried out for improved social and economic outcomes for women in the project area. Up-gradation of skills through capacity building interventions will be carried out based on a need assessment study. Adequate funds for capacity building need to be earmarked for addressing the gender-related issues identified.

Dovetailing of Government Schemes: There are several existing National and State level programmes for improved education& health outcomes, livelihood enhancement and women's social & economic empowerment, like 'Beti Bachao Beti Pardhao Abhiyan', 'Aajivikas', 'PMKVY' and MGNREGA. Institutional mechanisms for convergence and effective implementation of these programmes will be developed. Interventions like awareness generation programmes and campaigns with the support of civil society organization will be carried out highlighting gender disparities and discrimination. In addition, existing women's collective, service providers and women panchayat leaders (local elected representatives) will also be mobilized for facilitating these interventions.

Gender sensitization training's will also be carried out for staff of implementing agencies to ensure gender constraints and priorities are taken into account at every stage.

West Bengal has a history of strong women's collectives that have mobilized against issues like alcoholism, violence against women, and discriminatory social practices at the community and State level. A large number of Self Help Groups (SHGs) exist focusing on savings & credit and alternate means of livelihood and economic empowerment of women. These groups have also been instrumental is strengthening women's voice and participation in social, political and development interventions at the community level. Women's collectives are an effective mechanism for reducing gender inequalities at the household and

community level. Reviving and strengthening these women's collectives in the project area will be an integral part of the gender action plan.

Gender Based Violence: NFHS-4 data shows that in West Bengal (WB), 33% of women have experienced physical or sexual violence. Although domestic violence was neither observed nor reported during the village consultations, the high percentage of domestic violence in WB is a cause for great concern and needs to be addressed during project implementation. The project will address the issue around workplace harassment by implementing the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 in IWD. During project implementation gender sanitization training's will be carried out for staff of implementing agencies to ensure gender constraints and priorities are taken into account at every stage. The GRM to be established under the project will ensure that incidents of GBV are recorded and appropriate actions are taken.

7.3 Monitoring of gender actions

The overall monitoring framework of the project includes gender sensitive and gender disaggregated indicators. Issues of division of labour, access to resources and decision-making power will be further assessed for gender differential impact on men and women of different social groups. Gender-specific restraints in access to information will to be identified. There shall be continuous follow-up and monitoring of gender related targets. Gender specific monitoring indicators have been included in the section on Monitoring and evaluation.

Chapter 8: Institutional Arrangement and Implementation Structure

8.1 Introduction

Detailed discussion has already been made on the socio-economic profile of the area, the affected families and also the impacts along with perceptions and attitude of the people towards the proposed WBMIFM Project. This chapter outlines the institutional and implementation structure for the project as per consultations with the IWD Department of Government of West Bengal.

8.2 Institutions for Policy, Planning, Implementation, Monitoring and Evaluation

The project being bi-lateral in nature, involves IWD Department of Government of West Bengal and the World Bank along with the association of Government of India in terms of providing legal sanction and clearance. The institutions which are very much related to policy, planning, implementation, monitoring and evaluation are mentioned below.

Policy Level Institutions: There are different policy level institutions who may be associated in different stages of the project, such as;

- 1. Ministry of Water Resources, Govt. of India;
- 2. Central Water Commission, Govt. of India
- 3. Central / State Ground Water Board
- 4. Ministry of Forest and Environment, Government of India;
- 5. Dept. of Forest, Govt. of West Bengal;
- 6. IWD Department, Govt. of West Bengal
- 7. SPMU and Office of the Chief Engineer, IWD Department, Govt. of West Bengal
- 8. Water Supply and Sanitation Department, Govt. of West Bengal;
- 9. Tribal Development Department, Govt. of West Bengal;
- 10. Panchayat and Rural Development Department, Govt. of West Bengal;
- 11. State / Central Pollution Control Board;
- 12. Housing Department, Govt. of West Bengal;
- 13. Labour Department, Govt. of West Bengal;
- 14. Forest Department, Govt. of West Bengal;
- 15. Environment Department, Govt. of West Bengal
- 16. Office of the Dam Safety, Government of West Bengal;
- 17. Damodar Valley Corporation;

Planning Level Intuitions: The planning level institutions are;

- 1. IWD Department, Govt. of West Bengal;
- 2. Office of the Chief Engineer, IWD Department, Govt. of West Bengal;
- 3. Collector and District Magistrate of project districts;
- 4. Agriculture Department, Govt. of West Bengal;
- 5. Agri-Marketing Department, Govt. of West Bengal;
- 6. Fisheries Department, Govt. of West Bengal;
- 7. Power and non-Conventional Energy Department, Govt. of West Bengal;

- 8. State Ground Water Board;
- 9. River Research Institute, Govt. of West Bengal;
- 10. Damodar Valley Corporation;

Implementation level Institutions: The institutions that will be associated in the implementation of the project activities are;

- 1. Office of the Superintending Engineer / Executive Engineer, Project Districts
- 2. Agriculture Department, Govt. of West Bengal;
- 3. Agri-Marketing Department, Govt. of West Bengal;
- 4. Fisheries Department, Govt. of West Bengal;
- 5. Food Processing, Industries and Horticulture Dept., Govt. of West Bengal;
- 6. Panchayat and Rural Development Department, Govt. of West Bengal;
- 7. Land & Land Reforms & Refugee Relief and Rehabilitation Department, Govt. of West Bengal;

Monitoring and Evaluation Intuitions: The institutions that will be associated in monitoring and evaluation of the project are;

- 1. IWD Department, Govt. of West Bengal (association of PMC);
- 2. The World Bank;
- 3. Office of the Superintendent / Executive Engineer, project districts (DPMUs / DPIUs);
- 4. Agriculture Department, Govt. of West Bengal;
- 5. Agri-Marketing Department, Govt. of West Bengal;
- 6. Food Processing, Industries and Horticulture Dept., Govt. of West Bengal;
- 7. Fisheries Department, Govt. of West Bengal;
- 8. Forest Department, Govt. of West Bengal;
- 9. State Pollution Control Board.

8.3 **RAP Implementation Organization**

The Resettlement Action Plan (RAP) will be implemented by a joint team of project officials of the IWD and other Departments, and Block Administration, under the overall leadership of the District Magistrate of the concerned project district (s). Engagement of Self-Help Groups, Support Organization and NGOs will be permitted for effective implementation of the RAP, if felt necessary by the District Magistrate. Local Bodies (Panchayat) may also be involved in this process, to the extent required.

8.3.1 Formation of District Level Committee

In order to make the public land in the identified work sites free from encroachers and squatters and to address their entitlement as a PAF / PAP, there will be a committee at the project level in each project district where such eviction is required. The District Level Committee (DLC) would be headed by the Collector and District Magistrate as chairperson with APD, DPMU as the convener of the committee. The committee will comprise of other members, i.e., DL&LRO of the district, SDL&LROs, concerned DPD of the DPIUs, assistant PDs under the DPD, concerned BDOs and person/s nominated by the Collector and DM. The committees will have following role and responsibilities.

Role and Function of DLC

- 1. Review and verification of list of encroachers and squatters by project site;
- 2. Discussing with the encroachers / squatters from time to time and facilitate clearance of the site;
- 3. Taking final decision on awards to be paid for temporary and permanent relocation;
- 4. Reviewing the progress in eviction status in the project sites;

- 5. Redressal of grievances, if any;
- 6. Other related matters as find necessary by the committee

8.3.2 Formation of Block Level Committee

There will also be a Block Level Committees (BLC), at each project block level (blocks where land clearance and eviction is required for project activities), headed by the BDO of the concerned block and will comprise concerned BL&LROs and Assistant PDs to monitor and supervise the process at the field level. The BDO may nominate other representatives from local NGOs / civil society organizations to be the member of the committee. The committees will have following role and responsibilities.

Role and Function of BLC

- 1. Prepare list of affected persons by project location;
- 2. Physical verification of the identified claimant and sites;
- 3. Taking measurement of the area / habitation / shop, if so required;
- 4. Discussion with the claimant before awarding the compensation;
- 5. Finding alternative of eviction / displacement;
- 6. Examining possibilities of temporary relocation / shifting;
- 7. Preparing chart for awarding compensation;
- 8. Discussing with the DLC and finalizing the compensation;
- 9. Disbursement of awards, as per the finalized package;
- 10. Monitoring and supervision of the process.

8.3.3 Association of BDO for Land Clearance and Eviction

The overall responsibility of making work site area free from encroachments / unauthorized use, will rest upon the BDO based on the land related inputs (records on land ownership etc.) from BL&LRO of the respective project blocks. The Government of West Bengal will issue an Order (GO) in this regard, mentioning the responsibility of the BDO to ensure clearance of the work site areas from encroachment / other unauthorized use. Once the identified area is made free from encroachers / squatters, with award of compensation where ever applicable, the land will be handed over to IWD to start construction work.

Officers	Roles and Powers							
Project Director,	• Overall in charge of operation for land clearance and disbursement of							
WBMIFMP, IWD, Govt.	resettlement awards							
of West Bengal	 Reporting to World Bank on progress and submission of half yearly progress report 							
	 According financial approval for all payments pertaining to R&R assistance 							
	 Obtaining necessary budgetary allocation from GoWB; 							
	 Recommend / Approval for placing of funds with Collector and DM compensation disbursement; 							
	 Decision on the report of the Collector & DM of claims for inclusion as PAF / PAP 							
	 Approve payment to NGO / external monitoring agency (if engaged) 							
District Collector and	 Chairperson of the DLC; 							
Magistrate	 Approve the entitlement holders list in consultation with the DLC and pass for payment; 							
	 Addition / deletion of entitlement holder as per the review and suggestions; 							
	 Overall Guidance and Oversee the land eviction and compensation payment; 							
	 District level grievance redressal 							

8.3.4 Role and Responsibilities

Officers	Roles and Powers
District Land and Land	 Review and update land records in case of necessity;
Reform Officer	• Support to DLC / BLC / BDO in providing land records and verification of
(DL&LRO)	ownership.
Additional Project Director (APD-DPMU)	 Coordinate with Collector and District Magistrate, DLC, BDO and BLC from time to time and on regular basis to ensure that land is cleared from unauthorized use / encroachments etc.; Extend all supports that are required to Collector and DM / BDO / DLC / BLC
	in terms of identification of sites, area to be required for clearance, site specific maps etc.;
	 Monitoring the progress of land clearance and assistance disbursement; Monitoring the project of Directory WID/UE/MD, WID, Control (Work) Provided to the first of the second secon
	 Monthly reporting to Project Director, WBMIFMP, IWD, Govt. of West Bengal; Approximate the Callector form time to time on the processor.
Dia da Davida nue ent	 Appraise to the Collector from time to time on the progress; Competent authority for clearing encroachment / squatting and awarding.
Block Development Officer (BDO)	compensations;
	 Approve valuation of structure as per State Rule;
	 Hear objections, determine compensation amount in agreement with the cost norms and finalize assistance package, refer disagreement on compensation to DLC and APD-DPMU for decision;
	 Pronounce award of compensation as per Gitanjali Scheme;
	 Co-ordinate the implementation of resettlement (temporary / permanent) activities in consultation with DPMU, forest, agricultural department and horticulture department;
	 Preparation of Individual Entitlement Plan for implementing RAP and its due approval from DLC;
	 Certify work of NGO (if engagement) for payment (payment by IWD);
	 Hold fortnightly meetings on RAP implementation and report to the DLC and APD-DPMU on monthly basis;
	 Participate in community level meetings to facilitate resettlement activities; Having financial power for disbursement of compensation as entrusted by the Collector and District Magistrate / DLC.
Block Land and Land	 Review and update land records in case of necessity;
Reform Officer (BL&LRO)	 Support to BDO in providing land records and verification of ownership.

8.3.5 *Competent Authorities*

Disbursement of compensation awards and implementation of RAP will require approvals and clearance at various stages. The following officers will act as competent authorities for key activities.

Approvals Required	Competent Authority
Resettlement Action Plan with Budget Details	PD-WBMIFMP, IWD, Govt. of West Bengal
Approval of entitlement holders for compensation	Collector & District Magistrate
Finalization of list of entitlement holders for compensation	District Level Committee (DLC)
Approval for Awards / Disbursement of Compensations	Collector & District Magistrate
Changes in Policy Provisions and Entitlements	State Level Technical Steering Committee,
	WBMIFMP
Approval for inclusion of left out persons / households	District Level Committee (DLC)
Disbursement of Compensation	BDO
Approval for shifting and relocation of community assets	BDO
Resolution of disputes (at State level)	Grievance Redressal Committee (GRC)

 Table 84: Competent Authorities for Approvals

8.4 Implementation Schedule for RAP

Table 85: Implementation Schedule for RAP

SN	Activities	Responsibility	Support Agency									Mo	nths								
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Α	Preparation of RAP																				
A.1	Preparation of RAP	ESIA Agency	IWD Dept.																		
A.2	Review & Validation of RAP	SPMU / DPMU	IWD Dept.																		
В	RAP Approval & Disclosure																				
B.1	Approval of RAP by IWD & Sending to World Bank	SPMU	IWD Dept.																		
B.2	Disclosure on website of IWD and Bank's Portal	SPMU / WB	IWD Dept.		-																
С	Training and Capacity Building																				
C.1	Training Scheduling	SPMU	IWD Dept.																ļ'	L	
	Organising Training	SPMU	IWD Dept.																<u> </u>	┝──	
C.3	Refresher Training	SPMU	IWD Dept.																<u> </u>	┝──	
																				└──	\vdash
	Institutional Arrangement																			└──	
D.1	Formation of District Level Committee	Collector & DM	IWD Dept.																<u> </u>	└──	
	Formation of Block Level Committee	BDO	IWD Dept.																<u> </u>	└──	
	Constitution of GRC	SPMU	IWD Dept.																<u> </u>	└──	
D.4	Orientation of GRC Members	SPMU	IWD Dept.																<u> </u> '	┝──	
Г	Plan and Disbursement																		'	┝───	<u> </u>
	Site Specific Assessment and Structural Re-Assessment	BDO / BLC	DLC																'	┝───	
	Consultation with the Local Community / People	BDO / BLC	DLC					-											<u> </u>	┝───	
	Area Photography / PAP Photography	BDO / BLC	DLC																'	├───	
	Collection of Bank Details of PAPs / PAFs	BDO / BLC	DLC																'	├───	
	Finalising List of Entitlement Holders	BDO / BLC	DLC																<u>├</u> ──'	<u> </u>	+
	Meeting of the BLC and DLC	BDO / BLC BDO / BLC	DPMU/DPIU																<u>├</u> ──'	<u> </u>	+
	Approval of Entitlement Holders	Collector & DM	IWD Dept.																<u>├</u> ──'	<u> </u>	+
	First Instalment Disbursement to Holders	BDO / BLC	DLC/DPMU																'		
	Land Eviction and taking Possession of Public Land	BDO / BLC	DLC/DPMU																<u>├</u> ──	<u> </u>	+
	Releasing Second Instalment to Title Holder	BDO / BLC	DLC/DPMU																		-
	Shifting of the Facilities to Identified Locations	Line Dept.	DPMU/DPIU																	<u> </u>	
	Structural Rehabilitation and Restoration Measures	Line Dept.	DPMU/DPIU																	<u> </u>	
		F																			
F	Monitoring / Supervision																				
	List of Entitle Holders																				
F.2	Disbursement of the Compensation	BDO	DLC/DPMU																		
	Possession of Working Sites	BDO	Collector & DM					1												[1
	Shifting of Facilities / Services	DPMU / DPIU	SPMU/IWD					1												[1
	Restoration of Community Facility (affected Structures)	DPMU / DPIU	SPMU/IWD																	1	
	Annual Review	PMC (SPMU)	SPMU/IWD																	1	
F.7	Half Yearly Review	PMC (SPMU)	SPMU/IWD																		
																				1	
G	Reporting																				
G.1	Monthly Progress Report	DPIU/DPMU	SPMU/IWD																		

SN Activities Responsibility Support A			Months																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
G.2 Quarterly Progress Report	DPIU/DPMU	SPMU/IWD																	1	
G.3 Half Yearly Assessment Report	SPMU/IWD	World Bank																		
G.4 Annual Report	SPMU/IWD	World Bank																		
Note:																				
A. 1 Refers to Month 1																				
B. Site Specific Deviations may occur due to unforeseen exogenous factors																				

C. Site Specific Assessment and Compensation Distribution in a Phased Manner

Chapter 9: Monitoring and Evaluation

9.1 Introduction

To monitor the effectiveness of the RAP implementation, there will be both internal and external monitoring mechanism. The internal monitoring will be conducted by DPMU along with DLC members from time to time to assess the progress in addressing the issues. The committee at the district level, headed by the Collector and District Magistrate will review the progress from time to time and BDO will monitor the activities at the field level. The APD-DPMU will also conduct periodic monitoring to ascertain that progress is as per the plan and framed benefits are accessed by the affected families in the prescribed manner. The Social Expert at the SPMU level will also monitor the relocation, clearance of site and delivery of the awards. The project will have following monitoring and evaluation system.

9.2 Concurrent Monitoring

Along with internal monitoring mechanism, there will be concurrent monitoring by a third party monitoring and evaluation (M&E) agency along with the Project Management Consultant (PMC), to be engaged by the project. The agency will depute person/s who have experience in land taking, R&R and community development to monitor the activities. The PMC will assess the progress in distribution of compensation and R&R assistance, relocation aspects, livelihood impact on affected people etc. from time to time. Based on the assessment and field findings, PMC will submit quarterly report to PD-WBMIFMP. Key indicators to be monitored during concurrent monitoring are;

- 1. Progress in verification of encroachers / squatters in sub-project locations;
- 2. Progress in verification of titleholders;
- 3. Number of private land owners who donated land for the project;
- 4. Number of private land owner who agreed to sell land to the project
- 5. No. of consultations took place in each such locations / sites with PAFs / PAPs;
- 6. No. of meeting conducted at the committee level to finalise the list of encroachers / squatters and awards by category of encroacher / squatter;
- 7. No. of PAFs / PAPs provided with compensation and assistance;
- 8. No. of encroachers / squatters cleared the ground for implementation of project works.

9.3 Mid and End Term Impact Evaluation

The M&E Agency will conduct mid-term evaluation (mid of the project period after 2 years of execution) of the planned activities under RAP and assess the overall output and outcome of the measures taken under the project to ensure effective implementation of RAP. The M&E agency will submit a mid-term evaluation report to the SPMU based on the quantitative and qualitative survey of sample affected households. At the end of the project, M&E will conduct impact evaluation of the implementation of RAP and its different dimensions. The key outcome and impact indicators to be looked in to during mid-term review and impact evaluation area;

- 1. Households reported restoration / improvement in their livelihood;
- 2. Household reported effective utilization of compensation for managing the impact;
- 3. Total area cleared and made available for construction work on timely basis;
- 4. Persons / families timely availed compensation benefits;
- 5. Effectiveness of grievance redressal mechanism in dealing with grievances;

9.4 Monitoring and Evaluation Frame

Components	Key Indicators	M&E Re	esponsibility
		Primary	Secondary
Community	1. No. of locations where consultation meetings	DPMU	SPMU (IWD)
Consultations	organized		
	2. Project sites covered under community consultations		
	3. Key responses of the local community		
Finalization of Entitle	1. No. of persons / households finalized as per location	DPMU	SPMU (IWD)
Holders / Structures to	specific survey;		
be Affected	2. Approved list of persons / households to be		
	compensated for structures;		
	3. No. of times BLC and DLC meetings organized and		
	issues discussed and resolved		
Compensation	1. No. of persons / families received compensation	DPMU	SPMU (IWD)
Provisions	2. No. of persons / families yet to receive compensation		
	3. No. of installments released $(1^{st} \text{ and } 2^{nd})$		
Displacement /	1. Total area cleared from encroacher / squatters	BDO/BLC	DLC/DPMU
Eviction	2. Total persons / families displaced / evicted		
	3. Persons / families resettled elsewhere		
Relocation of	1. No. and type of community utilities / facilities	DPMU	SPMU (IWD)
Community Utilities /	affected		
Facilities / Structures	2. No. and type of such utilities / facilities restored		
Grievance Redressal	1. No. and type of grievances registered	DPMU	GRC
	2. No. of grievances addressed and its timeliness		
	3. No. of grievances pending for redressal		

Note: The table highlights the M&E Responsibility which is different from execution responsibility. Association of Collector and other district and block level institutions are primarily for the execution of the RAP which will be monitored by the DPMU and SPMU from time to time.

9.5 Institutional Strengthening and Monitoring Support

During implementation of RAP, different steps to be taken up are as below

- 1. Conducting project location specific meetings to aware about project benefits, to address related issues, to appraise the compensation benefits and to motivate the persons / families for quick shifting so that works can be commenced;
- 2. Monitoring transparency and fairness in disbursement of permissible compensation package to the rightful displaced / relocated families;
- 3. Accessing the site-specific land use pattern, available public amenities / infrastructural facilities etc. and measures for its restoration in consultation with the local GP / people / concerned Dept.;
- 4. Accessing and adopting best alternatives which have no or less impact on people and need of relocation;
- 5. Establishing proper coordination among different departments and RAP implementation committee and institutions associated in RAP implementation;
- 6. Review and follow-up evacuation and relocation as well as construction activities for quick and timely completion of the project works;

84 Resettlement Action Plan WBMIFMP

7. Taking up appropriate institutional strengthening measure for RAP implementation, monitoring & required other supports. If so required, the IWD will assess the requirement of human resources and will take appropriate measures to ensure that RAP is implemented as per the plan.

Chapter 10: Grievance Redressal Mechanism

The Grievance Redressal Mechanism of the project will address all the grievance related to clearance of the land, eviction of encroachers and squatters and payment of awards. As per the grievance redressal mechanism, local GP will be the basic grievance redressal unit and SPMU-IWD will be the apex unit at the project level. In case of RAP related issues, Collector and District Magistrate and concerned BDO will act as the part of the grievance redressal system at the district and block level. Peron/s not satisfied with the addressed grievance, may also approach the court of law.

Web based grievance mechanism³: In case of grievances received through toll free number or web-based system, a person will be made in-charge of screening and resolution of the same/communicating with the concerned divisions for resolution of the same. The person in-charge based on nature of complaint, will forward the same to the concerned official. A receipt or a unique number will be generated for all such complaints. The complainant will follow up based on that unique number. All calls and messages will be responded within two weeks. If response is not received within 15 days, the complaint will be escalated to project head.

Tier I: Under this project, the local Gram Panchayat and Community level organizations will serve as the first-tier mechanism to handle complaints and grievances. The local Sarpanch of the Gram panchayat will be the focal point who will receive, address, and keep record of the complaints and feedbacks. The grievance focal point will first review the grievances submitted. If grievances or disputes cannot be solved at the GP level within 30 days of the submission of the grievances, the issue will be brought to DPMU level for mediation. DPMU is expected to inform aggrieved persons or parties to disputes of the resolution in 30 days.

Tier II: If the aggrieved person is not satisfied with the verdict of site level grievance cell, he or she can escalate the grievance to state level grievance cell. The tier II cell will be under the Chairmanship of Secretary, Department of Water Resources. The other members will include Chief Engineer; Project Director and Environmental and Social Officer of the Project. The second level of grievance cell will provide its view within 30 days of receiving the grievance.

Tier III: The aggrieved person if not satisfied with the verdict given by State level grievance cell, will have the right to approach the Judiciary. Project will help the aggrieved person in all respect if person wants to approach the judiciary.

SN	Grievance Redressal Measures	Duration (D)	Action Authority
Α	Web Based Grievance Redressal		
A.1	Receipt of grievance (Recording as per Code)	D1	Designated Person, SPMU
A.2	Scrutiny of grievance for action in terms of available	D1+3	Designated Person, SPMU
	Law/Act		
A.3	Forwarding the grievance to appropriate section for action	D1+4	Designated Person, SPMU
A.4	Examination of grievance by the section	D1+7	Designated Person, SPMU

Table 87: Grievance Redressal

³ IWD website will include a link where affected person(s) can register their complaints online. A telephone number will also be on the website of IWD and the project sites, so that the general public can register their complaint with the SPMU office.

SN	Grievance Redressal Measures	Duration (D)	Action Authority
A.5	Discussion with DPIU / DPMU / Contractor on grievance	D1+9	Designated Person, SPMU
A.6	Verification of authenticity of complaint by site visits and	D1+14	Designated Person, SPMU
	discussion with the person concerned.		
A.7	Address the grievance with an intimation to the compliant	D1+15	Designated Person, SPMU
В	General Grievance Redressal Route		
B.1	Receipt of grievance (GP Level)	D1	Sarpanch, GP Level
B.2	Discussion of the Sarpanch with the complaint	D1+2	Sarpanch, GP Level
B.3	Submission of grievance to Contractor for solution	D1+3	Contractor
B.4	Contractor resolves the issue if within its reach	D1+5	Contractor
B.5	Contractor forward the grievance to DPIU for Examination	D1+6	In-Charge, DPIU
B.6	DPIU examines the issue as per the applicable Law / Act	D1+9	In-Charge, DPIU
B.7	Verification of authenticity of complaint by site visits and	D1+12	In-Charge, DPIU
	discussion with the person concerned.		
B.8	Address the grievance with an intimation to the compliant	D1+14	In-Charge, DPIU
B.9	DPIU Forward the grievance to DPMU if out of reach	D1+15	APD-DPMU
B.10	DPMU examines the issue as per the applicable Law / Act	D1+18	APD-DPMU
B.11	Verification of authenticity of complaint by site visits and	D1+22	APD-DPMU
	discussion with the person concerned.		
B.12	Address the grievance with an intimation to the compliant	D1+23	APD-DPMU
B.13	DPMU Forward the grievance to SPMU if out of reach	D1+24	PD-SPMU
B.14	SPMU examines the issue as per the applicable Law / Act	D1+27	PD-SPMU
B.15	Verification of authenticity of complaint by site visits and	D1+34	PD-SPMU
	discussion with the person concerned.		
B.2	Address the grievance with an intimation to the compliant	D1+35	PD-SPMU

Chapter 11: RAP Budget

B.13

B.14

B.15

Light Post

Pond

RLI (Pump house)

Total (A+B+C+D)

The RAP budget consists of cost of compensation for the structures likely to be affected, cost of RAP implementation, restoration of common property resources etc.

Unit Cost

1,20,000.00

1,20,000.00

1,20,000.00

1,20,000.00

1,20,000.00

1,20,000.00

1,20,000.00

1,20,000.00

1,50,000.00

3,00,000.00

3,00,000.00

1,50,000.00

1,50,000.00

1,50,000.00

5,00,000.00

1,50,000.00

50,000.00

10,000.00

10,000.00

25,000.00

75,000.00

1

9

38

75,000.00 3,00,000.00

12,000.00

90,000.00

Total Cost

8,28,00,000.00

4,13,44,200.00

51,60,000.00

73,20,000.00

18,96,000.00

3,93,60,000.00

4,96,80,000.00

2,02,80,000.00

15,60,000.00

73,20,000.00 25,67,20,200.00

> 1,50,000.00 75,000.00

57,00,000.00

12,00,000.00

93,00,000.00

69,00,000.00

4,50,000.00

6,00,000.00

4,50,000.00

18,00,000.00

39,60,000.00

10,000.00

2,25,000.00

28,50,000.00

3,66,70,000.00

31,79,80,200.00

30,00,000.00

SN	Budget Heads	Unit	Qt.
A	Compensation for land and Private Structures		
A.1	Residential Structures	No.	690
A.2	Cost towards purchase of private land (687 nos.	Satak	459.38
	structure located over 459.38 Satak land) *		
A.3	Residential Cum Business Structures	No.	43
A.4	Boundary Wall of Existing Structures	No.	61
A.5	Toilets (Unit cost as per Govt. Norm)	No.	158
A.6	Cattle sheds	No.	328
A.7	Shops / Business Units	No.	414
A.8	Sheds	No.	169
A.9	Private Bedi	No.	13
A.10	Other Structures	No.	61
	Sub-Total		
B	Community Utilities / Facilities (Repair/Relocat	tion)	
B.1	School	No.	1
B.2	Anganwadi	No.	1
B.3	Club	No.	19
B.4	Office of Political Parties	No.	4
B.5	Temple	No.	31
B.6	Bedi	No.	46
B.7	Burning Ghat	No.	3
B.8	Bus Stop	No.	4
B.9	Bridge	No.	6
B.10	Transformer	No.	9
B.11	Tube well	No.	12
B.12	Electric Pole/EP	No.	396

Sub-Total Sub-Total (A+B) C. C. C. C. C. C. C.

	Sub-Total (A+B)				29,33,90,200.00
С	Monitoring and Evaluation				
C.1	Concurrent Monitoring	No.	10	6,00,000.00	60,00,000.00
C.2	Mid-Term Review	No.	1	32,00,000.00	32,00,000.00
C.3	End-Line Assessment	No.	1	45,00,000.00	45,00,000.00
C.4	Documentation / Publication / IEC materials etc.	Copies	10,000	15.00	1,50,000.00
C.5	DLC and BLC Quarterly Review of RAP	No.	270	6,000.00	16,20,000.00
C.6	Consultation Visits	No.	72	25,000.00	18,00,000.00
C.7	Quarterly Review Meetings (DPMU & IWD Level)	No.	32	35,000.00	11,20,000.00
C.8	Contingencies & Allied Expenses	Project Dist.	2	13,00,000.00	26,00,000.00
	Sub-Total				2,09,90,000.00
	Sub-Total (A+B+C)				31,43,80,200.00
D	Administrative and Allied Expenses	Project Dist.	2	18,00,000.00	36,00,000.00

No.

No.

No.

* Note: Unit cost for affected land will be as per decision of District Level Committee (DLC)

Annexure- 1: List of structure located on private land expected to be affected

	List of H	Residential]	House located on j				
	Emban kment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
	H.L	Hooghly	Khanakul	Palmhpai	Mostafapur	Ajit Ku Parel	900
	H.L	Hooghly	Khanakul	Palmhpai	Mostafapur	Rampada Bouri	200
	H.L	Hooghly	Khanakul	Palmhpai	Mostafapur	Aslapada Bouri	200
	H.L	Hooghly	Khanakul-2	Palaspai	Mostafapur	Tapankar Das	1200
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Madan Dalui	300
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Ratan Chandra Santra	450
7	H.L	Hooghly	Sanhet	Plashpai	Mostafapur	Basan Shanki	300
8	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Susanta Bhukta	150
9	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Ajay Malik	300
10	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Uttam Bouri	300
11	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Subhas Bouri	360
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Ananda Bouri	210
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Gour Porel	600
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Bikash Porel	360
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Prakesh Ch Porel	640
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Kalipada Bouri	600
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Ajay Diger	252
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Sanjay Diger	240
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Ajit Manna	700
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Biswanath Mondal	160
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Baghyadhas Dalui	150
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Kishari Dalui	150
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Subodh Maity	600
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Ashim Maity	550
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Netai Maity	550
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Asit Maity	460
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Nemai Santra	520
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Surjadev Bhukta	180
	H.L	Hooghly	Khanakal-2	Palaspai	mostafapur	Nilima Mauty	260
	H.L	Hooghly	Khanakal-2	Palaspai	mostafapur	Minati Mauty	600
	H.L	Hooghly	Khanakal-2	Palaspai	mostafapur	Shyamlpala Bouri	600
	H.L	Hooghly	Khanakul-2	Palaspal-1	Mostafapur	Chaina poral	600
	H.L	Hooghly	Khanakul-2	Palaspal-1	Mostafapur	Rabin Paramanik	300
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Sanjay Santra	180
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Kritik Malick	600
	H.L	Hooghly	Khanakul-2	Plashpai-1	Plashpai	Rabin Dalui	450
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Anil Douli	425
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Bhadhor Bera	800
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Sital Hazari	528
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Biswanath Malik	750
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Herlal Sanki	400
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	kancan Maity	160
	п.L H.L	Hooghly	Khanakul-2			kartik Bag	
		<u> </u>		Plashpai-1	Mostafapur Mostafapur	U	70
44	H.L H.L	Hooghly Hooghly	Khanakul-2 Khanakul-2	Plashpai-1 Plashpai-1	Mostafapur Mostafapur	Bappa Bag Sitaram Bag	280 180

Table 89: List of Residential House located on private land

	List of I	Residential H	louse located on priv	vate land			
SI.		District	Block	GP	Village	Head of House	Area (in
No.	kment						Sq. Ft.)
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Abhiram Bag	80
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Kanan Ghouri	184
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Provash Douli	150
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Gurupada Malick	500
	H.L	Hooghly	Khanakul-2	Palashpai	Mostafapur	Bijala Bag	400
	H.L	Hooghly	Khanakul-2	Palashpai	Mostafapur	sadhana bauri	400
	H.L	Hooghly	Khanakul-2	Palashpai	Mostafapur	Dilip Bouri	625
	H.L	Hooghly	Khanakul-2	Chingra	Chingra	Late Baneswar Dauli	700
	U.R.L	Hooghly	Khanakul	Arunda	24.pur	paban Bera	180
	H.L	Hooghly	Khanakul-2	Chingra	Chingra	Kartick Dolui	300
	H.L	Hooghly	Khanakul-2	Chingra	Chingra	Maghnath Dalei	375
	H.L	Hooghly	Khanakul-2	Palashpai-2	Mostafapur	Kasinath Dalei	600
58	U.R.L	Hooghly	Khanakul-1	Arunda	24.pur	Madhan Pradhan	720
	U.R.L	Hooghly	Khanakul-2	Arunda	24.pur	Sandha Chander	300
60	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Anil Sarder	480
61	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Alamohan Sardar	1500
62	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Gaganath Dalei	200
63	U.R.L	Hooghly	Khanakul-2	Palaspai -1	Mostafapur	Kisar Paramanaik	120
64	U.R.L	Hooghly	Khanakul-2	Palaspai -1	Mostafapur	Karto Paramanaik	300
65	H.L	Hooghly	Rajhati	Palaspai	Mostafapur	Nehul Dalai	100
66	U.R.L	Hooghly	Khanakul-2	Arunda	24.pur	Dinesh Chandra Bara	640
67	H.L	Hooghly	Khanakul-2	Palaspai	Mostafapur	laxmi Pramanik	195
	H.L	Hooghly	Khanakul-2	Palaspai	Mostafapur	Kalipada Pramanaik	234
	H.L	Hooghly	Khanakul-2	Palaspai	Mostafapur	Raghunath Pramanaik	336
70	H.L	Hooghly	Khanakul-2	Palaspai	Mostafapur	Gobordhon Pramanaik	255
71	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Kasinath Roy	500
	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Palash Pandit	500
	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Subhas Sardar	550
	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Asta Hazra	408
	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Manik Hazra	108
	U.R.L	Hooghly	Khanakul-1	Arunda	24.pur	Jaladhor Bag	156
	U.R.L	Hooghly	Khanakul-I	Arunda	Dharasimal	Laxminarayan Koley	484
	U.R.L	Howrah	Udayanarayanpur	Panchural	Panchural	Sibnath Ghoru	150
	H.L	Hooghly	Khanakul-2	Plashpai	Plashpai	Gopal Das	770
	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Kalipada Das	418
	H.L	Hooghly	Khanakul-2	Palaspai	Plashpai	Ashok Das	875
	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Sambhu Das	500
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Modon Dolui	432
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Chaparani Dolui	440
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Bholanath Dalui	1000
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Laba Kumar Dolui	700
	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Lavmi Das	400
	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Chanubala Mondal	360
	H.L	Howrah	Joypur	Gb chetan	Solbega	Sohadev Dalui	160
	п.L H.L						600
		Howrah	Joypur	Gb chetan	Kulier	Laxman Kaji Bispath Bior	
	H.L	Howrah	Joypur	Gb chetan	Kulier	Bisnath Bior	500
	H.L	Howrah	Joypur	Gb chetan	Kulier	Dulal Bair	595
93	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Laxmi Dolui	180

	List of H	Residential H	ouse located on priv	ate land			
SI.	Emban		Block	GP	Village	Head of House	Area (in
No.	kment				-		Sq. Ft.)
94	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Dipunath Dolui	180
95	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Sarat Dolui	180
96	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Maitanjay Dolui	180
97	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Chattananjan Dolui	150
98	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Santi Mondal	300
99	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Raghunath Dalui	180
100	H.L	Howrah	Khanakul-2	Plashpai-1	Plashpai	Narayan Ch. Shee	150
101	H.L	Hooghly	Khanakul-2	Plashpai-1	Plashpai	Santi Bera	780
102	H.L	Hooghly	Khanakul-2	Plashpai-1	Plashpai	Late Monmatha Mondal	375
103	H.L	Hooghly	Khanakul-2	Plashpai-1	Plashpai	Kinkori Shanti	450
104	H.L	Hooghly	Khanakul-2	Plashpai-1	Plashpai	Tinkori Das	300
105	H.L	Hooghly	Khanakul-2	Plashpai-1	Plashpai	Gangasam Das	108
	H.L	Hooghly	Khanakul-2	Plashpai-1	Plashpai	Biswanath Mondal	240
	H.L	Hooghly	Khanakul-2	Plashpai-1	Plashpai	Kasinath Mondal	300
	H.L	Hooghly	Rajhati	Plashpai	Plashpai	Panchkari Shee	1100
	H.L	Hooghly	Saret	Plashpai	Plashpai	Ranjit Majhi	3600
	H.L	Howrah	Howrah	Ghrabaria	Solbega	Asalota Dalai	256
	H.L	Howrah	Howrah	Ghrabaria	Solbega	Raghunath Mondal	80
112		Howrah	Howrah	Ghrabaria	Solbega	Jiban Mondal	384
	H.L	Howrah	Howrah	Ghrabaria	Solbega	Nirapada Barik	1024
	H.L	Howrah	Howrah	Ghrabaria	Solbega	Madhab Mondal	352
	D.L	Howrah	Amta-1	Roshpur	Santash Nagar	Gopal Hazra	255
	D.L	Howrah	Amta	Balichak	Bajepratap	Mahadeb Pal	200
	D.L	Howrah	Amta	Sirajbati	Santash Nagar	Swapan Diyasi	300
	D.L	Howrah	Amta-1	Sirajbati	Santash Nagar	Biswajit Shaw	750
	D.L	Howrah	Amta-1	Roshpur	Roshpur	Sandip Bag	98
	H.L	Howrah	Joypur	Ghoraberia	Sholebaga	Uttam Das	400
	H.L	Howrah	Joypur	Ghoraberia	Sholebaga	Goze Sing	360
	H.L	Howrah	Joypur	Ghoraberia	Sholebaga	Akasay Hazra	400
	H.L	Hooghly	Khanakul	Plashpai	Plashpai	Bhagirath Das	180
		Hooghly	Khanakul-2	Plashpai-1	Plashpai	Astapada Shee	360
		Howrah	Un-pur	Pancharul	Pancharul	Gopal Das	150
		Howrah	Un-pur	Pancharul	Pancharul	Robin Das	240
		Hooghly	Khanakul	Arunda	Bandaipur	Rathaballav Adak	240 96
	U.R.L	Hooghly	Khanakul	Arunda	Bondaipur	Gopinath Adak	540
	U.R.L	Hooghly	Khanakul	Arunda	Bondaipur	Sungala Barik	80
	U.R.L	Hooghly	Khanakul-1	Arunda	Bondaipur	Sibaram Adak	320
	U.R.L	Hooghly	Khanakul-1	Arunda Danahamul	Bondaipur	Ratna Adak	600
	U.R.L	Howrah	Udaynarayanpu	Pancharul Danaharul	Ramsaranchalk	Uttam Adhakary	224
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Pancharul	Sundar Mallick	216
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Pancharul	Lalu Mondal	80
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Pancharul	Dhiren Bangal	390
	D.R	Howrah	Udayanarayanpur	Singhti	Shibantpur	Rabin Das	598
	D.R	Hooghly	Udayanarayanpur	Singhti sbpur	Shibantpur	Mohan Das	200
	D.R	Howrah	Udayanarayanpur	Singhti	Akna-2	Macheram Samanto	375
	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurant	Sunil Dhara	180
	D.R	Howrah	Udayanarayanpur	Munsuko	Joynagar	Nobokumar Khanrar	480
	D.R	Howrah	Udayanarayanpur	Munsuko	Joynagar	Judeste Das	144
142	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurant	Swpon Malick	500

			House located on priv	vate land			
SI. No.	Emban kment	District	Block	GP	Village	Head of House	Area (in
	D.R	Howrah	Udavananavannya	Vanunat	Lovino con	Raghunath Malik	Sq. Ft.)
145	D.K	HOWFall	Udayanarayanpur	Kanupat Mansuka	Joynagar	Ragnunath Mank	180
144	D.R	Howrah	Udayanarayanpur	Kanupat	Joynagar	Madan Khansa	108
144	D.K	почтан	Odayanarayanpur	Mansuka	Joynagai	Iviauan Khansa	100
145	D.R	Howrah	Udayanarayanpur	Kanupat	Joynagar	Sasti Malik	180
145	D.K	110 w1 a11	Ouayanarayanpur	Mansuka	JOynagai	Sasu Mairk	100
1/16	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurant	Sitala Malik	150
	D.R	Howrah	Udayanarayanpur	Kanupat	Joynagar	Ashima Santsa	150
17/	D.K	110 w1 all	Oddyanarayanpur	Mansuka	Joynagai	r tsiinna Santsa	150
148	D.R	Howrah	Udayanarayanpur	Singhti,Sibpur	Sribanipur	Sambunath Panga	600
	D.R	Howrah	Udayanarayanpur	Singhti,Sibpur	Chalk Dhakurani	Madhai Dhara	300
	D.R	Howrah	Udayanarayanpur	Kanupat	jaynagar	Bishanath Khanar	840
150	D.K	110 w1 all	Oddyanarayanpur	Mansuka	Jaynagai	Dishanati Khanar	040
151	D.R	Howrah	Udayanarayanpur	Kanupat	jaynagar	Mohanlal Sarma	180
101	Dire	110 111	o au y una ru y un p ur	Mansuka	Jujingui	Nionaniai Surma	100
152	D.R	Howrah	Udayanarayanpur	Kanupat	jaynagar	Sujay Malick	450
			• • • • • • • • • • • • • • • • • • •	Mansuka	J	~	
153	D.R	Howrah	Udayanarayanpur	Kanupat	jaynagar	Samar Malick	152
			5 5 1	Mansuka	55 8		
154	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Tokapur	Moidul Ali	600
	D.R	Howrah	Udayanarayanpur	Singti	Chakthakurant	Asis Hazra	150
	D.R	Howrah	Udayanarayanpur	Singti	Chakthakurant	Shyamapada Hazra	300
	D.R	Howrah	Udayanarayanpur	Singti	Chakthakurant	Anup Hazra	1500
	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Uttam Malick	770
	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Paresh Saha	600
	D.R	Howrah	Udayanarayanpur			Sujit Sana	210
	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Monjuri Sasmal	156
162	D.R	Howrah	Udaynarayanpur	Konpat Monuska	Monska	Alpana Pachan	600
163	D.R	Howrah	Udaynarayanpur	Konpat Monuska	Monska	Susanta Polley	512
164	D.L	Howrah	Amta-1	Srirajbale	Mandariya	Sankarprasad Das	750
	D.L D.L	Howrah	Amta-1	Srirajbale	Mandariya	Asto Saha	300
	D.L D.L	Howrah	Amta-1	Srirajbale	Mandariya	Sanjay Kalay	360
	D.L D.L	Howrah	U.N.Pur	Kanupat	Munsukha	Jagodis Bera	600
				Munsuka		-	
168	D.L	Howrah	U.N.Pur	Kanupat Munsuka	Munsukha	Malati Rara	216
169	D.L	Howrah	U.N.Pur	Kurchishibi Pur	Jaynagar	Ajoy Polley	875
170	D.L	Howrah	U.N.Pur	Kunupat Munsuka	Jangalpara	Gouta Manna	300
171	D.L	Howrah	U.N.Pur	Kunupat Munsuka	Jangalpara	Uttam Manna	450
172	D.L	Howrah	U.N.Pur	BhabaniPur	Kumanchak	Urmila Maity	1625
	D.L	Howrah	U.N.Pur	Kanupat	Mansukah	Samat Hait	525
0				Munsuka			
174	D.L	Howrah	U.N.Pur	KunchishibiP	Jangalpara	Rabin Maji	240
175	D.L	Howrah	U.N.Pur	KunchishibiP	Jangalpara	Haradhon Adhakari	396
115	<i>u</i> . <i>u</i>	10 10 101	0.11.1 01	ur	e angaipara		570

	List of F	Residential]	House located on priv	vate land			
	Emban kment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
	D.R	Howrah	U.N.Pur	Sanatala	Kumarchalk	Prokash Maity	168
177	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Jangalpara		300
178	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Munsuka	Rabindranath Panja	180
179	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Munsuka	<u> </u>	1200
180	D.R	Howrah	U.N.Pur	Sanatala	Kansona		625
	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Madan Pranamik	100
182	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Dilip Pakhira	192
183	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Shankari Pramanik	256
184	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Panchanan Goswami	300
185	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Jaydulo Manna	256
186	D.R	Howrah	U.N.Pur	Munsuka	Dalapati Chalk	Ajit Manna	256
187	D.R	Howrah	U.N.Pur	Munsuka	Jaynagar	Bablu Polley	100
188	D.R	Howrah	U.N.Pur	Munsuka	Jaynagar	Paban Polley	320
189	D.R	Howrah	U.N.Pur	Munsuka	Jaynagar	Rupkumar Polley	192
190	D.R	Howrah	U.N.Pur	Sonatala	Ponthigahori	Sukumar Mondol	1024
	D.R	Howrah	U.N.Pur	Sonatala	Kansona	Badal Ghosh	960
192	D.R	Howrah	U.N.Pur	Sonatala	Kansona	Aruti Dalui	450
	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Chand Ku Polley	180
194	D.R	Howrah	U.N.Pur	Kurchi	Jangalpara	samir Das	120
195	D.R	Howrah	U.N.Pur	Kurchi	Jangalpara	Tapan Adhakari	96
196	D.R	Howrah	U.N.Pur	Kurchi	Jangalpara	Anup Sasmal	450
197	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Monsuka		875
198	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Kruchi	Goutam Mondal	650
199	D.R	Howrah	Udayanarayanpur	Kurchishibpur		Bimal Guchiat	280
200	D.R	Howrah	Udayanarayanpur	Kurchishibpur		Swapan Porel	300
201	D.R	Howrah	Udayanarayanpur	Kurchishibpur		Kajal Porel	770
202	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Tokapur	S.K Mannan Ali	800
	D.R	Howrah	Udayanarayanpur	Kurchishibpur		Radhanatha Bag	600
204	D.R	Howrah	Udayanarayanpur	Kurchishibpur		Tapan Maity	192
205		Howrah	Udayanarayanpur	Kurchishibpur		Chandan Guchait	435
206		Howrah	Udayanarayanpur	Kurchishibpur		Sambhunath Porel	600
	D.R	Howrah	Udayanarayanpur	Kurchishibpur		Laxmirani Chatarjee	375
	D.R	Howrah	Udayanarayanpur	Kurchishibpur		Gunadhar Guchiat	500
209		Howrah	Udayanarayanpur	Kurchishibpur		Nemai Guchiat	450
210		Howrah	Udayanarayanpur	Kurchishibpur		S.K Salim Hossion	225
211		Howrah	U.N.Pur	KunchishibiP ur	Tokapata	SK Nafurul Islam	450
212	D.R	Howrah	U.N.Pur	KunchishibiP ur	Tokapata	SK Sahajaham Ali	345
213	D.R	Howrah	U.N.Pur	KunchishibiP ur	Tokapur		240
214	D.R	Howrah	U.N.Pur	KunchishibiP ur	Tokapur		360

	List of F	Residential l	House located on priv	vate land			
	Emban kment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
215	D.R	Howrah	U.N.Pur	KunchishibiP ur	Guchailpur		168
216	D.R	Howrah	U.N.Pur	KunchishibiP ur	Kurehibinodini	Robin Guchhait	400
217	D.R	Howrah	U.N.Pur	KunchishibiP ur	Kurehibinodini	Shambhunath Guchhait	360
218	D.R	Howrah	U.N.Pur	KunchishibiP ur	Kirchi	Solinath Bag	360
219	D.R	Howrah	U.N.Pur	KunchishibiP ur	Kirchi	Biswanath Mondal	850
220	D.R	Howrah	U.N.Pur	KunchishibiP ur	Horihozpur	Sourav Sanmal	750
221	D.R	Howrah	U.N.Pur	KunchishibiP ur	Horihozpur	Sourav Sanmal	442
222	D.R	Howrah	U.N.Pur	KunchishibiP ur	Hadol	Bablu Bera	432
223	D.R	Howrah	U.N.Pur	KunchishibiP ur	Hadol	Santanu Bera	450
224	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Harihaye	Jaladhar Porel	320
225	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Hodhal	Saita Bera	192
226	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Tokapur	Sk. Ashadul	100
227		Howrah	U.N.Pur	Kurchi Sibpur		Goutam Ghochayat	120
228		Howrah	U.N.Pur	Kurchi Sibpur		Kasinath Porel	200
229		Howrah	U.N.Pur	Kurchi Sibpur		Uttam Ghochayat	200
230		Howrah	U.N.Pur			Khokhan Ghochayat	140
231		Howrah	U.N.Pur	Kurchi Sibpur	Hariharapur	Suumar Sasmal	48
232		Howrah	U.N.Pur	Kurchi	Kurchi	Ratan Parel	96
233		Howrah	U.N.Pur	Kurchi	Kurchi	Dulal Guchite	900
234		Howrah	U.N.Pur	Kurchi	Kurchi	SK Islam Ali	800
235		Howrah	U.N.Pur	Kurchi	Kurchi	Bablu Ghochayat	400
236		Howrah	U.N.Pur	Monsuka	Joynagar	Monotosh Jana	500
237		Howrah	U.N.Pur	Monsuka	Joynagar	Nabakumar mondal	875
238	D.R	Howrah	U.N.Pur	Singhti	Chakthikuroni	Sukumar malik	360
239	D.R	Howrah	U.N.Pur	Singhti	thakrani chak	Sukumar bag	720
240	D.R	Howrah	U.N.Pur	Singhti	Chakthikuroni chak	Sajita bag	360
241	D.R	Howrah	U.N.Pur	Singhti	Akana	Sailair Chaklabarty	600
242	D.R	Howrah	U.N.Pur	Singhti	Akana	rajani Samanta	120
243	D.R	Howrah	U.N.Pur	Singhti	Akana	Rohini samanta	150
244	D.R	Howrah	U.N.Pur	Singhti	Akana	Sailain Samanta	135
245	D.R	Howrah	U.N.Pur	Singhti	Akana	prasanta chakrabarty	450
246	D.R	Howrah	Udayanarayanpur	Singhti	Akana	Madan Dhara	300
247		Howrah	Udayanarayanpur	Singhti	Akana	Tapan Dhara	3600
248		Howrah	Udayanarayanpur	Singhti	Akana	Asit Chakraborty	384
249		Howrah	Udayanarayanpur	Singhti	Chakthakurani	Kumar Malik	900
250		Howrah	Udayanarayanpur	Singhti	Chakthakurani	Babla Malick	224
251		Howrah	Udayanarayanpur	Singhti	Chakthakurani	Tapas Malick	450
252		Howrah	Udayanarayanpur	Singhti	Chakthakurani	Samra Malick	400
253		Howrah	Udayanarayanpur	Kanupat	Jaynagar	Sandha Bag	2400
				Mansuka			

	List of F	Residential H	ouse located on priv	ate land			
Sl.	Emban	District	Block	GP	Village	Head of House	Area (in
No.	kment						Sq. Ft.)
254	D.R	Howrah	Udayanarayanpur	Kanupat	Jaynagar	Chanda Makhal	256
				Mansuka			
255	D.R	Howrah	Udayanarayanpur	R.D.A	Ghala	Joydev Karmkar	1250
256	D.R	Howrah	Udayanarayanpur	R.D.A	Hariharpur-2	Nabokumar Samanto	375
257	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Sanatan Malick	420
258	D.L	Howrah	Amta-1	Rashpur	Someswar	Sukumar Thanj	750
259	D.L	Howrah	Amta-1	Rashpur	Someswar	Chattaranjan Das	300
260	D.L	Howrah	Amta-1	Rashpur	Someswar	Aparna Thanj	400
261	D.L	Howrah	Amta-1	Rashpur	Someswar	Gurupad Thanj	900
262	D.L	Howrah	Amta-1	Rashpur	Chatta Kalikata	Poresh Sadhukhan	300
263	D.L	Howrah	Amta-1	Rashpur	Chatta Kalikata	Jhampi Samanta	180
	Total						116094

* Note: D.L= Damodar Left, D.R= Damodar Right, H.L= Hurhura Left, U.R.L= Upper Rampur Left

Table 90: List of House cum shop located on private land

	List of House	cum shop lo	ocated on private land				
Sl.	Embankment	District	Block	GP	Village	Head of House	Area (in
No.							Sq. Ft.)
1	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	kartik Bag	100
2	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Dudkumar Douli	132
3	U.R.L	Hooghly	Khanakul-1	Arunda	24.pur	Babat Chondar	336
4	U.R.L	Hooghly	Khanakul-2	Chingra	Bali Chak	Chattaranjan Majhi	600
5	H.L	Hooghly	Khanakul-2	Chingra	Bali Chak	Baman Parel	240
6	D.R	Howrah	U.N.Pur	Munsuka	Jaynagar	Bablu Polley	320
7	D.L	Howrah	Amta-1	Sirajbati	Amta	Dulal Dhara	800
8	D.R	Howrah	U.N.Pur	KunchishibiPur	Tokapata	SK Sahajaham Ali	375
9	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Tokapur	Saira Bebi	500
10	D.L	Howrah	Amta-1	Rashpur	Someswar	Ashim Sadhukhan	500
	Total						3903

* Note: D.L= Damodar Left, D.R= Damodar Right, H.L= Hurhura Left, U.R.L= Upper Rampur Left

	List of Bou	indary Wa	l located on private	land			
SI. No.	Embank ment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
1	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Biswonath Bera	900
2	D.L	Howrah	Amta-1	Sirajbati	Santash Nagar	Bhim Ch. Dayashi	200
3	U.R.L	Howrah	UN Pur	Pancharul	Ramsaranchar	Krishnapada Mondal	32
4	U.R.L	Howrah	Udaynarayanpu	Pancharul	Ramsaranchalk	Uttam Adhakary	60
5	U.R.L	Howrah	Udaynarayanpu	Pancharul	Ramsaranchalk	Gobindo Mondal	56
6	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Ghordaeatari	Srimant Ghouri	40
7	D.R	Howrah	Udayanarayanpur	Singhti,Sibpur	Akna	Swpan Samanta	900
8	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	jaynagar	Bishanath Khanar	30
9	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	jaynagar	Tarapada kolay	45

Table 91: List of Boundary Wall located on private land

	List of Bo	undary Wa					
	Embank ment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
	D.R	Howrah	Udayanarayanpur	Singti	Chakthakurant	Adhir Hazra	30
	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Sujit Sana	600
	D.L	Howrah	U.N.Pur	Kanupat Munsuka	Jangalpara	Srikanta Pathak	25
13	D.L	Howrah	U.N.Pur	GhariabaniPur	Pathima Pur	Ashok Mundal	25
14	D.L	Howrah	U.N.Pur	Kanupat Munsuka	Jaynagar	Basudev Polley	450
15	D.L	Howrah	U.N.Pur	Kunupat Munsuka	Jangalpara	Uttam Manna	52
16	D.L	Howrah	U.N.Pur	GhariabaniPur	Kansona	Alok Ghosh	30
17	D.L	Howrah	U.N.Pur	Kurchishibi Pur	Jangalpara	JitendraProsad Gupta	270
18	D.L	Howrah	U.N.Pur	BhabaniPur	Kumanchak	Manik Dalui	22
19	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Jangalpara,Mun	suka	120
20	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Munsuka		25
21	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Munsuka		20
22	D.R	Howrah	U.N.Pur	Sanatala	Kansona		30
23	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Munsuka		65
24	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Dilip Manna	50
25	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Manju Hazra	160
26	D.R	Howrah	U.N.Pur	Munsuka	Dalapati Chalk	Ajit Manna	22
27	D.R	Howrah	U.N.Pur	Gar- Bhabanipur	Kumarchalk	Mohan Maitei	15
28	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Monsuka		20
29	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Monsuka		100
30	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Tokapur	S.K Sala Uddin	5
	D.R	Howrah	U.N.Pur	KunchishibiPur		Shibsankar Sasmal	16
32	D.R	Howrah	U.N.Pur	KunchishibiPur		Paresh Bag	20
	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Hodhal	Debnath Dolui	50
	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Tokapur	Sujahan Bebi	30
	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Hariharapur	Meg Lal Sasmal	40
	D.R	Howrah	U.N.Pur	Singhti	Akana	Sailair Chaklabarty	15
	Total						4570

* Note: D.L= Damodar Left, D.R= Damodar Right, H.L= Hurhura Left, U.R.L= Upper Rampur Left

	List of To	ilet located	on private land				
Sl. No.	Embank ment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
1	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Herlal Sanki	35
2	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Sibu Ghouri	16
3	U.R.L	Howrah	U.n.pur	Panchural G.p		Ashim Mandal	60
4	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Gudav Dalei	40
5	U.R.L	Hooghly	Khanakul-2	Palaspai -1	Mostafapur	Sondha Paramanaik	25

Table 92: List of Toilet located on private land

		ilet located	on private land				
SI. No.	Embank ment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
6	U.R.L	Hooghly	Khanakul-2	Arunda	24.pur	Dinesh Chandra Bara	480
7	H.L	Hooghly	Khanakul-2	Palaspai	Plashpai	Kalpana Bakshi	100
	H.L	Hooghly	Khanakul-2	Palaspai	Plashpai	Ashok Das	20
	H.L	Howrah	Khanakul-2	Palaspai-1	Plashpai	Nirmal Shree	96
	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Laxmi Das	20
	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Kasinath Mondal	20
	H.L	Howrah	Joypur	Gb chetan	Kulier	Bisnath Bior	40
	H.L	Hooghly	Saret	Plashpai	Plashpai	Jahar Mallick	9
	H.L	Hooghly	Saret	Plashpai	Plashpai	Manjuri Das	9
	H.L	Hooghly	Khanakul	Plashpai	Plashpai	Bhagirath Das	96
	H.L	Hooghly	Khanakul	Plashpai	Plashpai	Sukanta Malik	240
	U.R.L	Howrah	Un-pur	Pancharul	Pancharul	Nemai Bangal	20
	U.R.L	Howrah	Un-pur	Pancharul	Khardirditra	Banchghor Ghorui	20
	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Rajkumar Maity	9
	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Basu Malick	9
	U.R.L	Howrah	Udaynarayanpu	Pancharul	Ramsaranchalk	Bharati Mondal	20
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Pancharul	Soumitra Bag	16
	D.R	Howrah	Udayanarayanpur	Munsuko	Joynagar	Bakash Parel	20
	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Tokapur	Sk Jakir Ali	20
	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Tokapur	Akbar Mallick	9
	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Monjuri Sasmal	60
	D.L	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Bablu Sasmal	35
	D.L	Howrah	Amta-1	Amta Sinajbati	Amta	Subanks Chattagee	40
	D.R	Howrah	Udaynarayanpur	Konpat Monuska	Monska	Sada Polley	9
30	D.L	Howrah	U.N.Pur	Srirajbale	Munsukha	Metuanjay Manna	20
	D.L D.L	Howrah	U.N.Pur	Munsukha	Munsukha	Tinkari Samanta	32
	D.L D.L	Howrah	U.N.Pur	BhabaniPur	Kumanchak	Manik Dalui	120
	D.L D.L	Howrah	U.N.Pur	KunchishibiPur		Haradhon Adhakari	120
	D.R	Howrah	U.N.Pur	Kanupat-	Jaynagar	Sikanta Polley	20
35	D.R	Howrah	U.N.Pur	Munsuka Kanupat-	Jaynagar	Arup Polley	32
26	D D	TT 1	UND	Munsuka	x 1	A 1 1 A 11 1 ·	50
	D.R	Howrah	U.N.Pur	Kurchi	Jangalpara	Ashok Adhakari	50
	D.R	Howrah	U.N.Pur	Kurchi	Jangalpara	Gunodhar Pradhan	42
	D.R	Howrah	U.N.Pur	Sinati	Shibanipur	Kalibala Das	50
	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Joynagar	Dibakar Chari	20
	D.R	Howrah	U.N.Pur	Sinati	Shibanipur	Tapan Malick	30
41	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Monsuka		32
42	D.L	Howrah	Udayanarayanpur	Kanupat Mansuka	Munusuka	Bhojahari Panda	25
43	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Kruchi	Swapan Porel	45
	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Kruchi	Sambhunath Porel	20
	D.R	Howrah	U.N.Pur	KunchishibiPur		Arun Mondal	80
	D.R	Howrah	U.N.Pur	KunchishibiPur			48
	D.R	Howrah	U.N.Pur	KunchishibiPur		SK Nousad Ali	42
	D.R	Howrah	U.N.Pur	KunchishibiPur		SK Roricl Ali	48
	D.R	Howrah	U.N.Pur	KunchishibiPur		Akshay Maity	48

	List of To	ilet located (on private land				
SI. No.	Embank ment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
-	D.R	Howrah	U.N.Pur	KunchishibiPur	Ghola	Sanjay Bhandani	100
51	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Harihaye	Jaladhar Porel	54
52	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Hodhal	Mohan Bera	200
53	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Tokapur	Sujahan Bebi	25
54	D.R	Howrah	U.N.Pur	Kurchi	Tokapur	Sk Rahamat Ali	20
55	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Kurchi	Goutam Ghochayat	25
56	D.R	Howrah	U.N.Pur	Kurchi	Kurchi	Ratan Parel	30
57	D.R	Howrah	U.N.Pur	Kurchi	Kurchi	SK Islam Ali	75
58	D.R	Howrah	U.N.Pur	Kurchi	Kurchi	Dhananjay Mondal	150
59	D.R	Howrah	U.N.Pur	Kurchi	Kurchi	Bablu Ghochayat	20
60	D.R	Howrah	U.N.Pur	Singhti	Chakthikuroni chak	Sajita bag	32
61	D.R	Howrah	U.N.Pur	Singhti	Akana	Becharam chakraborty	32
62	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Sanatan Malick	48
63	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Harandranath Samanto	60
64	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Joydev Sasmal	40
65	D.L	Howrah	Amta-1	Rashpur	Chatta Kalikata	Sailen Nebu	20
	Total						3344

* Note: D.L= Damodar Left, D.R= Damodar Right, H.L= Hurhura Left, U.R.L= Upper Rampur Left

Table 93: List of Cattle shed located on private land

	List of Catt	tle shed loc	ated on private la	nd			
SI.	Embankm	District	Block	GP	Village	Head of House	Area (in
No.	ent						Sq. Ft.)
1	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Sital Dalui	180
2	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Kashinath Bhukta	180
3	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Samar Bhukta	300
4	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Bholanath Dalui	300
5	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Ajit Mondal	192
6	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Basudeb Mondal	256
7	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Gobinda Mondal	160
8	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Arati Mondal	160
9	H.L	Hooghly	Khanakul-2	Palaspai	Mostafapur	Shiburam Dalui	360
10	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Bansihari Sanki	250
11	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Banshi Sanki	300
12	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Nilaratan Bera	120
13	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Modon Bag	63
14	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Kalipada Bag	56
15	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Samar Bag	210
16	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Sukdeb Douli	132
17	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Kajal Douli	50
18	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Mina Pramanik	48
19	H.L	Hooghly	Khanakul-2	Chingra	Chingra	Joydeb Santra	120
20	U.R.L	Hooghly	Khanakul-1	Arunda	24.pur	Madhan Pradhan	450
21	U.R.L	Hooghly	Khanakul-1	Arunda	24.pur	Mahanando Chere	150
22	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Gudav Dalei	500

			ated on private lan	<u>id</u>			
SI.	Embankm	District	Block	GP	Village	Head of House	Area (in
	ent						Sq. Ft.)
		Hooghly	Khanakul-2	Palaspai	Mostafapur	Sibanath Pramanaik	160
	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Kasinath Roy	270
25	H.L	Hooghly	Khanakul-2	Palaspai	Mostafapur	Satyajit Dolui	135
26	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Ratan Roy	96
27	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Subhas Sardar	135
28	U.R.L	Howrah	Udayanarayanpur	Panchural	Panchural	Sanat Karar	15
29	U.R.L	Howrah	Udayanarayanpur	Panchural	Khandipalli	Nabakumar Ghouri	225
30	U.R.L	Howrah	Udayanarayanpur	Panchural	kharodaitasai	Laksamania Ghouri	150
31	U.R.L	Howrah	Udayanarayanpur	Panchural	kharodaitasai	Kanai Ghouri	140
32	U.R.L	Howrah	Khanakul-2	Chingra	Bali Chak	Haripada Raul	780
33	H.L	Hooghly	Khanakul-2	Palaspai-2	Plashpai	Srikanta Mallick	180
34	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Sonatan Mondal	220
35	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Bharat Mondal	180
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Swapan Dolui	240
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Kartick Dolui	260
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Ajit Bag	225
	H.L	Howrah	Joypur	Gb chetan	Solbega	Bonomali Diger	300
	H.L	Howrah	Joypur	Gb chetan	Solbega	Nobo Kumar Diger	240
	H.L	Howrah	Joypur	Gb chetan	Solbega	Aloka Diger	240
	H.L	Howrah	Joypur	Ghrabaria	Solbega	Rothi Dalui	150
	H.L	Howrah	Joypur	Chitnan	Solbega	Bhojahobi Mondal	180
	H.L	Hooghly	Saret	Plashpai-1	Plashpai	Ratikanta Mallick	120
	H.L	Howrah	Howrah	Ghrabaria	Solbega	Mahananda Mondal	120
	H.L	Howrah	Joypur	Ghoraberia	Kulia	Kanshinath Mondal	100
	H.L	Howrah	Joypur	Ghoraberia	Kulia	Susanta Mondal	120
	H.L	Howrah	Joypur	Ghoraberia	Sholebaga	Goze Sing	120
	H.L	Hooghly	Khanakul	Plashpai	Plashpai	Abhiram Mallick	130
	H.L	Hooghly	Khanakul	Plashpai	Plashpai	Sukumar Mallick	216
	U.R.L	Howrah	UN Pur	Pancharul	Kangrai	Arun Khara	480
		Howrah	UN Pur	Pancharul	Kangrai	Malote Kharna	480
		Hooghly	Khanakul	Arunda	Ŭ	Rathaballav Adak	480
		6,0		Pancharul	Bandaipur		
		Hooghly	Un-pur		Pancharul	Sishu Bangal	500
	U.R.L	Hooghly	Khanakul-1	Arunda	Bondaipur	Sibaram Adak	900
		Hooghly	Khanakul-1	Pancharul	Bondaipur	Mohan Ray	960
		Hooghly	Howrah	Pancharul	Bondaipur	Golak Bihari Bangal	160
	U.R.L	Hooghly	Khanakul-1	Arunda	Bondaipur	Bikas Ray	500
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Kangaribadh	Biswonath Khanar	480
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Pancharul	Balai Ghouri	195
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Ghordaeatari	Uttam Ghouri	216
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Ramsaranchalk	Harkrishna Maity	117
	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurant	Sunil Dhara	96
	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurant	Rajkumar Hazara	225
	D.R	Howrah	Udayanarayanpur	Munsuko	Joynagar	Chaina Malick	130
66	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Joynagar	Sukumar Chasi	140
67	D.R	Howrah	Udayanarayanpur	Singhti,Sibpur	Agna	Amar Samanta	200
	D.R	Howrah	Udayanarayanpur	Singhti,Sibpur	Chalk	Siba sankar	360
					Dhakurani	Chakraborty	
69	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	jaynagar	Siba chandra Panja	162
70	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Uttam Malick	180

	List of Catt	tle shed lo	cated on private lan	nd			
Sl. No.	Embankm ent	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
	D.L	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Bablu Sasmal	110
72	D.L	Howrah	U.N.Pur	Kanupat Munsuka	Jaynagar	Basudev Polley	150
73	D.L	Howrah	U.N.Pur	Kurchishibi Pur	Jaynagar	Ajoy Polley	300
74	D.L	Howrah	U.N.Pur	Kunupat Munsuka	Jangalpara	Uttam Manna	360
75	D.L	Howrah	U.N.Pur	Kurchishibi Pur	Jangalpara	JitendraProsad Gupta	60
	D.L	Howrah	U.N.Pur	KunchishibiPur	Jangalpara	Susanta Manna	120
77	D.L	Howrah	U.N.Pur	KunchishibiPur	Jangalpara	Rabin Maji	450
78	D.R	Howrah	U.N.Pur	KunchishibiPur	Jangalpara	Swapna Adhakary	150
79	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Sikanta Polley	400
80	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Jangalpara		180
	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Jangalpara		225
	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Munsuka		225
	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Munsuka	Rabindranath Panja	80
84	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Munsuka		100
85	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Gopal Manna	160
86	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Pobir Polley	168
87	D.R	Howrah	U.N.Pur	Kurchi	Jangalpara	Anup Sasmal	720
88	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Kurchi	Jayanta Kumar	264
89	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Joynagar	Dibakar Chari	50
90	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Joynagar	Astam Samanta	396
91	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Monsuka	Bhagirah Roy	300
92	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Kruchi	Goutam Mondal	440
93	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Kruchi	Bimal Guchiat	500
94	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Tokapur	S.K Ibharim	240
95	D.R	Howrah	Udayanarayanpur	R.D	Ghola	Tapas Maity	300
96	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariharpur	Alpana Sasmal	800
97	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Kruchi	Gautam Sankhil	150
98	D.R	Howrah	U.N.Pur	KunchishibiPur	Hadol	Bablu Bera	144
99	D.R	Howrah	U.N.Pur	KunchishibiPur	Hadol	Ramananda Agambagirh	80
	D.R	Howrah	U.N.Pur	KunchishibiPur	Tokapur	SK Nousad Ali	180
	D.R	Howrah	U.N.Pur	KunchishibiPur	Hadol	Gopal Bera	180
	D.R	Howrah	U.N.Pur	KunchishibiPur	Ghola	Sanjay Bhandani	200
103	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Harihaye	Jaladhar Porel	40
	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Hodhal	Rabiram Mitey	150
	D.R D.R	Howrah Howrah	U.N.Pur	Kurchi Sibpur	Hodhal	Sujit Bera	96
			U.N.Pur	Kurchi Sibpur	Tokapur Kurahi	Sk. Ashadul	680
	D.R	Howrah	U.N.Pur	Kurchi	Kurchi	Dulal Guchite	220
	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Jayadev Maity	750
	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Sanatan Malick	140
	D.L D.L	Hooghly Hooghly	Udayanarayanpur Tarakeswar	kashebachk Chapadanga	kashebchak Binnogram	Nimai Patra	360 180

	List of Cat	tle shed loc	ated on private lan				
SI.	Embankm	District	Block	GP	Village	Head of House	Area (in
No.	ent						Sq. Ft.)
112	D.L	Hooghly	Tarakeswar	Talpur	Naskarpur	Bablu Santra	90
	Total						27823

* Note: D.L= Damodar Left, D.R= Damodar Right, H.L= Hurhura Left, U.R.L= Upper Rampur Left

	List of Busi	ness Shop I	located on private la	nd			
SI. No.	Embankm ent	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
1	H.L	Hooghly	Khanakul-2	Palaspai	Mostafapur	Swapan Jana	100
2	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Susanta Dalui	150
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Kasinath Dalai	432
	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Sukuman Ganguly	400
	H.L	Hooghly	Khanakul-2	Palaspai-2	Palaspai	Sukumar Mama	120
	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Prasanta Ghanti	110
7	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Samar Maity	416
	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Manoj Kumar Denu	64
9	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Mongal Santra	110
10	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Kamal Pattra	144
11	U.R.L	Hooghly	Khanakul	Chingra	Bali Chak	palas Patra	156
12	H.L	Hooghly	Khanakul-2	Arunda	24.pur	Aasta Mondal	480
13	U.R.L	Hooghly	Khanakul-2	Chingra	Bali Chak	Laxman Mondal	300
14	D.L	Hooghly	Khanakul-2	Chingra	Bali Chak	Netai Majhi	56
	U.R.L	Howrah	Udayanarayanpur	Panchural	Panchural	Astopada Karar	150
16	U.R.L	Hooghly	Khanakul-2	Chingra	Bali Chak	Nemai Das	150
	U.R.L	Hooghly	Khanakul-2	Chingra	Bali Chak	Shymal Khamusi	1800
	U.R.L	Hooghly	Khanakul-2	Chingra	Malancha	Pancha Khamusi	300
19	U.R.L	Hooghly	Khanakul-2	Chingra	Malancha	Prasad Maity	180
20	U.R.L	Hooghly	Khanakul-2	Chingra	Malancha	Alok Manna	80
21	H.L	Hooghly	Khanakul-2	Palaspai	Plashpai-1	Goutam Sarkar	345
22	H.L	Hooghly	Khanakul-2	Palaspai	Plashpai	Alock Mallick	980
23	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Gonesh Patra	168
24	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Sukumar Pal	100
25	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Sukanto Sharkhel	150
26	H.L	Hooghly	Khanakul-2	Palaspai-1	Plashpai	Bikash Sasmal	150
	H.L	Hooghly	Rajhati	Plashpai	Plashpai	Nirmal Samanta	100
	D.L	Howrah	Udayanarayanpur	Khila	Paliyana	Gourmohan Paramanik	220.5
29	H.L	Hooghly	Khanakul	Plashpai	Plashpai	Shuam Mondal	360
30	H.L	Hooghly	Khanakul	Plashpai	Plashpai	Madan Mondal	360
31	U.R.L	Hooghly	Khanakul-1	Arunda	Bandaipur	Sanjay Bangal	300
	U.R.L	Hooghly	Khanakul	Arunda	24 pur	Putul Pradhan	240
	U.R.L	Hooghly	Khanakul	Arunda	24 pur	Montu Porel	135
	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Asit Das	36
	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Bikas Pradhan	160
	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Bimal Maity	100
	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Biswanath Koley	160

Table 94: List of Business Shop located on private land

			located on private la	nd			
	Embankm ent	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
38	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Late Dhananjay Manna	48
39	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Hara Adhikari	140
40	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Volanath Koley	30
41	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Saswata Adhikari	160
42	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Subrata Adhikari	36
43	U.R.L	Hooghly	Khankul	Chingra	Balaichak	Anil see	120
44	U.R.L	Hooghly	Khanakul-1	Chingra	Balaichak	Narayan See	264
45	U.R.L	Hooghly	Khanakul-1	Chingra	Balaichak	Shyam Bhowmick	80
46	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Tapan Dalui	120
47	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Swapan Dalui	160
48	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Monaranjan Kheto	200
49	U.R.L	Hooghly	Khanakul-1	Arunda	24 pur	Gour Guchhait	225
50	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurant	Laxmi Malick	360
51	D.R	Howrah	Udayanarayanpur	Singhti	Shibantpur	Ranajit Kheto	90
52	D.R	Howrah	Udayanarayanpur	Singhti	Shibantpur	Rabin Das	144
	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurant	Rina Dhara	225
	D.R	Howrah	Udayanarayanpur	Sinati	Chakthakurant		120
55	D.R	Howrah	Udayanarayanpur	R.D	Ghola	Mastafa Ali Mallick	500
56	D.R	Howrah	Udayanarayanpur	R.D	Ghola	Rabindranath Mondal	700
57	D.R	Howrah	Udayanarayanpur	RD	Ghola	Astam Chakarborty	96
	D.R	Howrah	Amta-1	Sirajpati	Mandariya	Kajal Meyur	36
	D.L	Howrah	U.N.Pur	Munsukha	Munsukha	Arjun Samanto	308
	D.L	Howrah	U.N.Pur	Kanupat Munsuka	Jangapara	Sawjib Maji	225
61	D.L	Howrah	U.N.Pur	Kanupat Munsuka	Jangalpara	Gonesh Rana	96
62	D.L	Howrah	U.N.Pur	BhabaniPur	Kansona	Kajal Dalui	100
63	D.L	Howrah	U.N.Pur	BhabaniPur	Kumanchak	Urmila Maity	120
64	D.L	Howrah	U.N.Pur	KunchishibiPur	Jangalpara	Ranjan Bera	300
65	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Munsuka	Sankar Panja	300
66	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Gunodhar Kannar	224
67	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Ramen Cheri	1000
68	D.R	Howrah	U.N.Pur	Sinati	Shibanipur	Kalibala Das	240
	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Nabarayanchak		1200
70	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Monsuka	Jahar Polley	264
71	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Dalapatichak	l	154
72	D.L	Howrah	Amta-1	Amta	Niandana	Rabim Sing	500
	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Monsuka	Dipankar Roy	150
74	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Nabarayanchak	Supravat Roy	36
75	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Kruchi	Asit Kumar	360

	List of Busi	ness Shop l	located on private la	nd			
SI.	Embankm	District	Block	GP	Village	Head of House	Area (in
No.	ent				_		Sq. Ft.)
76	D.R	Howrah	U.N.Pur	KunchishibiPur	Hadol	Bablu Bera	225
77	D.R	Howrah	U.N.Pur	R.D.A	Ghaba	Gorachand Koley	35
78	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Hariharapur	Suumar Sasmal	750
79	D.R	Howrah	U.N.Pur	Kurchi	Tokapur	Sarat Ali	600
80	D.L	Howrah	Amta-1	Balichak	Bajepratap	ratan dhamali	400
81	D.L	Howrah	Amta-1	Balichak	Bajepratap	Prasanta chongder	304
82	D.L	Howrah	Amta-1	Balichak G.P	Bajepratap	Nandita kanrar	24
83	D.L	Howrah	U.N.Pur	Monsuka	Joynagar	sankar Chaart	160
84	D.R	Howrah	Udayanarayanpur	Singhti	Akana	Asit Chakraborty	160
85	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurani	Dharmendra Malick	200
86	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Jaynagar	Suman Das	80
87	D.L	Howrah	Amta-1	Balichak	Bajepratap	Provakar Chongder	112
	D.L	Howrah	Amta-1	Balichak	Bajepratap	Tarun Koley	126
	D.L	Howrah	Amta-1	Balichak	Bajepratap	Binay Jasu	48
	D.L	Howrah	Amta-1	Balichak	Bhojan	Tanay Dey	330
	D.R	Howrah	Udayanarayanpur	Kurche	Ghola	Dhonobundha Maity	315
92	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Joydev Sasmal	750
	D.R	Howrah	Udayanarayanpur	Kurche	Kurche	Mangal Mandal	80
	D.L	Howrah	Amta-1	Rashpur	Someswar	Patas Majhi	96
	D.L	Howrah	Amta-1	Rashpur	Someswar	Bapi Koky	96
	D.L	Howrah	Amta-1	Rashpur	Someswar	Hasu Koky	375
	D.L	Howrah	Amta-1	Rashpur	Someswar	Biplab Majhi	225
	D.L	Howrah	Amta-1	Rashpur	Someswar	Rahul Majhi	150
	D.L	Howrah	Amta-1	Rashpur	Someswar	Lalu Majhi	180
100	D.L	Howrah	Amta-1	Rashpur	Someswar	Gautam Majhi	180
101	D.L	Howrah	Amta-1	Rashpur	Someswar	Probhat Chakraboty	300
102	D.L	Howrah	Amta-1	Rashpur	Someswar	· · · · · · · · · · · · · · · · · · ·	180
103	D.L	Howrah	Amta-1	Rashpur	Someswar	Dap Patha	84
104	D.L	Howrah	Amta-1	Rashpur	Someswar	Sukanta Day	144
105	D.L	Howrah	Amta-1	Rashpur	Someswar	Asto Palley	96
106	D.L	Howrah	Amta-1	Rashpur	Someswar	Bubai Kabey	96
107	D.L	Howrah	Amta-1	Rashpur	Someswar	Smitikara Das	180
108	D.L	Howrah	Amta-1	Rashpur	Someswar	Ajay Manna	375
109	D.L	Howrah	Amta-1	Rashpur	Someswar	Jagajit Dey	72.25
	D.L	Howrah	Amta-1	Rashpur	Someswar	Prosanjit Kokey	750
	D.L	Howrah	Amta-1	Rashpur	Someswar	Bikash Dey	225
	D.L	Howrah	Amta-1	Rashpur	Someswar	Asit Hazra	120
	D.L	Howrah	Amta-1	Sinajbati	Santoshnagar		100
	D.L	Hooghly	Jangipara	Rashidpur	Singhti	Dipali Das	750
	D.L	Hooghly	Udayanarayanpur	Keshabchak	Kulateghari	Susanta Samanta	120
	Total				···		

* Note: D.L= Damodar Left, D.R= Damodar Right, H.L= Hurhura Left, U.R.L= Upper Rampur Left

	List of She	ed located on	private land				
SI.	Embank	District	Block	GP	Village	Head of House	Area (in
No.	ment				-		Sq. Ft.)
1	H.L	Hooghly	Khanakul-2	Palaspai-1	Mostafapur	Ganesh Dalui	625
2	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Nirai Porel	200
3	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Ajit Dalai	160
4	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Chitaranjan Dalai	160
5	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Dilip Das	676
6	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Sukumar Bag	72
7	H.L	Hooghly	Khanakul-2	Palaspal-1	Mostafapur	Sudhir Harara	30
8	H.L	Hooghly	Khanakul-2	Palaspal-1	Mostafapur	Kasinath Dalui	140
9	H.L	Hooghly	Khanakul-2	Palaspal-1	Mostafapur	Biswonath Dauli	160
10	H.L	Hooghly	Khanakul-2	Palaspal-1	Mostafapur	Konok Dalui	36
11	H.L	Hooghly	Khanakul-2	Palaspal-1	Mostafapur	Rabin Paramanik	120
12	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Banshi Sanki	165
13	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Krishnapada Bag	50
14	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	porash Bag	96
15	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Ghuram Bag	40
16	H.L	Hooghly	Khanakul-2	Plashpai-1	Mostafapur	Dudkumar Douli	405
17	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Naru Gopal Santra	180
	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Sankar Hazara	40
		Hooghly	Khanakul-2	Chingra	Chingra	Gaganath Dalei	100
	U.R.L	Hooghly	Khanakul-2	Palaspai -1	Mostafapur	Susanta Dalei	120
21	U.R.L	Hooghly	Khanakul-2	Palaspai -1	Mostafapur	Karto Paramanaik	49
	U.R.L	Hooghly	Khanakul-2	Palaspai -1	Mostafapur	Sondha Paramanaik	36
	H.L	Hooghly	Rajhati	Palaspai	Mostafapur	Prasanta Dalai	25
	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Ratan Roy	120
	U.R.L	Hooghly	Khanakul-2	Chingra	Chingra	Subhas Sardar	91
	H.L	Hooghly	Khanakul-2	Palaspai	Plashpai	Kalpana Bakshi	500
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Bholanath Dalui	120
	H.L	Howrah	Amta-2	Ghrabaria	Solbega	Laba Kumar Dolui	78
	H.L	Howrah	Khanakul-2	Palaspai-1	Plashpai	Nirmal Shree	240
	H.L	Hooghly	Khanakul	Plashpai	Plashpai	Bibhuti Mallik	360
31	U.R.L	Howrah	UN Pur	Pancharul	Ramsaranchar	Raju Mandal	30
	U.R.L	Hooghly	Khanakul-1	Arunda	Bandaipur	Jumuna Sahow	150
	U.R.L	Hooghly	Khanakul	Arunda	24 pur	Asit Maity	80
	U.R.L	Hooghly	Khanakul	Arunda	24 pur	Sankar Maity	729
	U.R.L	Hooghly	Un-pur	Pancharul	Khardaetarai	Biswonath Ghouri	48
	U.R.L	Hooghly	Khankul	Chingra	Balaichak	Anil see	84
	U.R.L	Howrah	Udaynarayanpu	Pancharul	Ramsaranchalk	Pradhanath Mondal	42
	U.R.L	Howrah	Udaynarayanpu	Pancharul	Ramsaranchalk		90
	U.R.L	Howrah	Udaynarayanpu	Pancharul	Ramsaranchalk		36
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Pancharul	Robin Porel	72
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Pancharul	Lalu Mondal	63
	U.R.L	Hooghly	Udaynarayanpu	Pancharul	Ramsaranchalk		60
	D.R	Howrah	Udayanarayanpur	Singhti,Sibpur	Agna	Binay Das	120
	D.R D.R	Howrah	Udayanarayanpur	Kanupat	jaynagar	Sujay Malick	90
	DIK	liowian	Gayanarayanpul	Mansuka	Jaynagai	Sujay Maller	90
45	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Uttam Malick	200
	D.R D.R	Howrah	Udayanarayanpur	Kurchishibpur	Hariarpur	Chand Charn Sana	250
	D.R D.R	Howrah	Udaynarayanpur	Konpat	Monska	Dinabandhu Karati	900
+/	D.K	inowian	Guaynarayanpul	Monuska	IVIOIISKA		900

Table 95: List of Shed located on private land

	List of Sh	ed located o	n private land				
SI. No.	Embank ment	District	Block	GP	Village	Head of House	Area (in Sq. Ft.)
	D.L	Howrah	U.N.Pur	Munsukha	Munsukha	Tinkari Samanta	100
49	D.L	Howrah	U.N.Pur	Munsukha	Munsukha	Sunil Maitai	32
	D.L	Howrah	U.N.Pur	Kanupat	Munsukha	Prasad Panja	120
				Munsuka		-	
51	D.L	Howrah	U.N.Pur	Kanupat Munsuka	Munsukha	Malati Rara	256
52	D.L	Howrah	U.N.Pur	KunchishibiPur	Jangalpara	Prasanta Adhikasa	50
53	D.L	Howrah	U.N.Pur	KunchishibiPur	Jangalpara	Haradhon Adhakari	200
54	D.R	Howrah	U.N.Pur	KunchishibiPur	Jangalpara	Swapna Adhakary	81
55	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Jangalpara	Bikash Pradhan	135
56	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Swapna Chongdar	50
57	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Jangalpara		360
58	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Jangalpara, Mur	isuka	9
59	D.R	Howrah	U.N.Pur	Karchi-Sibpur	Munsuka		225
	D.R	Howrah	U.N.Pur	Kurchi shibpur	Jangalpara	Madan Pranamik	150
61	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Chand Ku Polley	150
62	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Anando Polley	150
63	D.R	Howrah	U.N.Pur	Kurchi	Jangalpara	Gunodhar Pradhan	156
64	D.R	Howrah	Udayanarayanpur	Kanupat Mansuka	Monsuka	Tarun Chari	90
65	D.R	Howrah	Udayanarayanpur	Kurchishibpur	Tokapur	S.K Sala Uddin	880
66	D.R	Howrah	U.N.Pur	KunchishibiPur	Hadol	Robin Bera	360
67	D.R	Howrah	U.N.Pur	KunchishibiPur	Ghola	Kamal Koley	120
68	D.R	Howrah	U.N.Pur	RD	Ghola	Bakiswar Koley	432
69	D.R	Howrah	U.N.Pur	KunchishibiPur	Hadol	Santanu Bera	35
70	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Hodhal	Saita Bera	150
71	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Kurchi	Ashok Mondal	150
72	D.R	Howrah	U.N.Pur	Kurchi Sibpur	Hariharapur	Dinanath Sasmal	216
	D.R	Howrah	U.N.Pur	Singhti	Chakthikuroni	Sukumar malik	100
74	D.R	Howrah	U.N.Pur	Singhti	Akana	Sailair Chaklabarty	360
75	U.R.L	Hooghly	Khanakul-2	Chingra	24.pur	Kripanath Pollya	63
76	D.R	Howrah	Udayanarayanpur	Kurche	Ghola	Jagabandhu Meyty	405
	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Naresh Sana	150
	D.R	Howrah	Udayanarayanpur	Kurche	Hariharpur-2	Joydev Sasmal	300
	D.R	Howrah	Udayanarayanpur	Kurche	Kurche	Ganesh Mondal	100
	Total						14373

* Note: D.L= Damodar Left, D.R= Damodar Right, H.L= Hurhura Left, U.R.L= Upper Rampur Left

	List of Bedi	located on p	rivate land				
SI.	Embankm	District	Block	GP	Village	Head of House	Area (in
No.	ent						Sq. Ft.)
1	H.L	Hooghly	Khanakul-2	Plashpai	Mostafapur	Tapas Santra	150
2	H.L	Hooghly	Khanakul-2	Chingra	Bali Chak	Ranjit Monna	150
3	U.R.L	Hooghly	Khanakul-2	Arunda	24.pur	Srikanta Dalai	225

 Table 96: List of Bedi located on private land

	List of Bedi	located on pr	ivate land				
Sl.	Embankm	District	Block	GP	Village	Head of House	Area (in
No.	ent						Sq. Ft.)
4	D.R	Howrah	U.N.Pur	Sonatala (Bhabanipur)	Kansona	Peluram Ghosh	540
5	D.R	Howrah	U.N.Pur	Kanupat- Munsuka	Jaynagar	Chand Ku Polley	72
6	D.R	Howrah	U.N.Pur	Kurchi	Jangalpara	Gunodhar Pradhan	56
7	D.R	Howrah	Udayanarayanpur	Singhti	Chakthakurani	Swapan Das	20
	Total						1213

* Note: D.L= Damodar Left, D.R= Damodar Right, H.L= Hurhura Left, U.R.L= Upper Rampur Left

Annexure- 2: Format for Voluntary Land Donation

Voluntary Donation of Land

On a Rs. 10/- Stamp Paper

1.	This deed of voluntary donation is made and executed on day of						
Age							
	herein after called the "Title holder / Encroacher" on one						
par	. This expression shall mean and include his legal representatives, successors - in-interest, heirs,						
assi	gnees, nominees etc.						

AND

2. Whereas, the details of the Location of the, land are given below:

Location Details					
Village					
Gram Panchayat					
Block					
District					
Title Holder/ Encroacher Details					
Name of Title Holder/Encroacher					
Father/ Husband's Name of Title					
Holder/Encroacher					
Status:	Title Holder/ Encroacher				
Age (Year and Months):					
Occupation:					
Residence:					
Gender:	Male/ Female				
Schedule –Land Details/Structure					
Land in Question					
Area (in Satak)					
Location					
North Boundary					
East Boundary					
West Boundary					
South Boundary					

Note: Detailed Map to the scale is appended.

1. Where as the Title Holder is presently using/ holds the transferable right of the above mentioned piece of land in the village mentioned above. Whereas the Encroacher does not hold any transferable

rights of the above mentioned piece of land in the village mentioned above but has been a long standing encroacher, dependent on its usufruct hereditarily.

- 2. Whereas the Title Holder/Encroacher testifies that the land is free of encumbrances and not subject to other claims/ claimants.
- 3. Whereas the Title Holder/Encroacher hereby voluntarily surrenders the land/structure without any type of pressure, influence or coercion what so ever directly or indirectly and hereby surrender all his/her subsisting rights in the said land with free will and intention.
- 4. Whereas the Recipient shall construct flood wall/ sheet pile and/ or strengthen embankment under the project titled "West Bengal Major Irrigation and Flood Management Project (WBMIFMP)" and take all possible precautions to avoid damage to adjacent land/structure/other assets.
- 5. Whereas both the parties agree that flood wall/ sheet pile and/ or embankment so constructed/strengthen shall be for the public purpose.
- 6. Whereas the provisions of this agreement will come into force from the date of signing of this agreement.

Signature of Title Holder/ Encroacher			Signature of BDO					
Name of Title Holder/ Encroacher			Name of BDO					
Date				Date				
Identified by								
1. Name:			Signatu	re:				
2. Name:	5		Signatu	re:				
Witnesses								
Gram Panchayat Pradhan/ ULB Chairperson Name			Signature of Gram Panchayat Pradhan/ ULB Chairperson					
Name of District Magistrate				Signature of District Magistrate				
Name of DPMU Represe	entative	Designation of I		PMU	Signature of DPMU			