



# PROGRESS OF PACKAGE-1

Preparation of Development Plan for Fourteen Upazilas (Package-01)

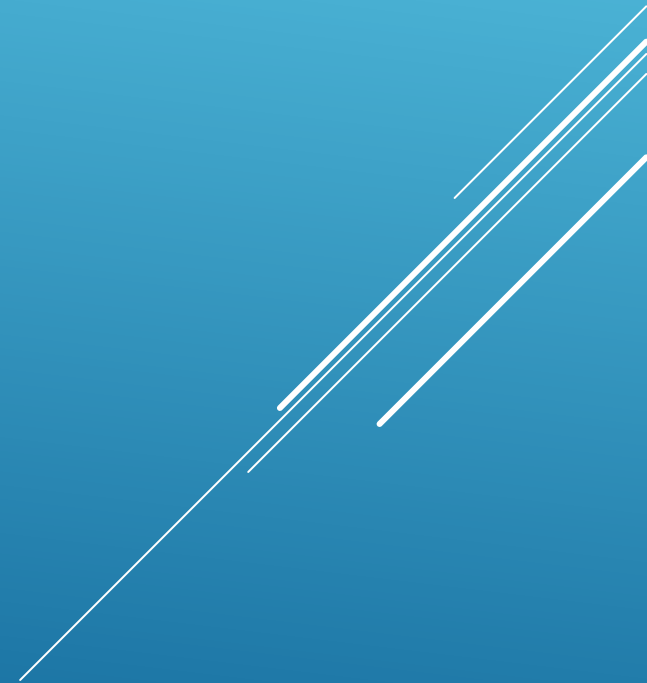
(Dohar Upazila, Nawabganj Upazila, Dhaka and Shibchar Upazila,  
Madaripur)

Presented By

Dr. Akhter Husain Chaudhury, Team Leader

Name of the Project	Preparation of Development Plan for Fourteen Upazilas (Package-01)
Implementing Agency	Urban Development Directorate (UDD)
Financial Assistance	Government of Bangladesh (GoB)
Duration of Project	June, 2013 to July, 2017 (Granted)
Main goal of the Project	Preparation of Five-tier Development Plan namely: Sub-regional Plan, Structure Plan, Urban Area Plan, Rural Area Plan and Action Area Plan
Consultancy Firm	Desh Upodesh Ltd. In Association with AIBL & TechSuS

THE PROJECT INITIATED  
June 2015



PROJECT AREA		
Nawabganj Upazila, Dhaka District	Urban Area (sqkm)	1.76
	Rural Area (sqkm)	243.04
Dohar Upazila, Dhaka District	Urban Area (sqkm)	20.31
	Rural Area (sqkm)	141.18
Shibchar Upazila, Madaripur District	Urban Area (sqkm)	8.75
	Rural Area (sqkm)	313.13
Total Project Area 728 Sq km		



# SUMMARY OF ACTIVITIES PERFORMED

Task	Date of Performance	Activity Performed	Remark
	INCEPTION PHASE		
1. Mobilization and Reconnaissance Survey	9June-12 June 2015	<ul style="list-style-type: none"> <li>Collection of Relevant documents</li> <li>Collection of Mauza maps</li> <li>Setting up of Site Project Office</li> <li>Initial Joint Consultation meeting with Upazila admin, Public Representatives and Cross section of People</li> </ul>	
2. Publication of Project Leaflet	August 2015	Introducing the Project- objectives, Types of plans , the process of planning.	
3. Second Round of Public Consultation Meetings	August-November 2015	No. of Uthan Boithak- (4+5+3) 12 No. of Tea Stall Meeting-(4+5+4) 13 No. of FGD- (7+6+5) 18	
4. Mobilization	June –July 2015	Mobilization of Consultants and Logistics	

# SUMMARY OF ACTIVITIES PERFORMED

Task	Date of Performance	Activity Performed	Remark
	SURVEY PHASE		
1. Conducting of PRA	December 2015- February 2016	<ul style="list-style-type: none"> <li>• Conducted Social Mapping</li> <li>• Identified Problems and Potential using Venn Diagram</li> <li>• Prioritized Execution of Identified Projects using ToP Chart Method</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shibchar :19 Union Parishads and 9 Poura Wards</li> <li>▪ Nawabganj : 14 Union Parishads</li> <li>▪ Dohar : 8 Union Parishad, 9 Poura Wards</li> <li>▪ Av. No. of Participants- 24-30</li> <li>▪ Participants : Cross section of People</li> </ul>
2. Field Survey and Data Collection	July 2016- December 2016	<ol style="list-style-type: none"> <li>1. Upazila Level Socio-economic Sample Survey</li> <li>2. Geological Survey</li> <li>3. Traffic and Transportation Survey</li> <li>4. Hydrology Survey (On going)</li> </ol>	<p><b>1. Socio-economic survey:</b>  Nawabganj: 1010 households  Dohar: 1086 households  Shibchar: 1100 households</p> <p><b>2. Transportation Survey:</b>  Nawabganj: 476  Dohar: 519  Shibchar: 919</p> <p><b>3. Details of Geology and Hydrology discussed later</b></p>
3. Study		<ol style="list-style-type: none"> <li>1. Formal and Informal Economic Activity Study</li> <li>2. Agriculture Sector Assessment Report</li> </ol>	<p><b>1. Agricultural Survey:</b>  Nawabganj : 349  Dohar: 258  Shibchar: 450</p>

# SUMMARY OF ACTIVITIES PERFORMED

Task	Date of Performance	Activity Performed	Remark
	SURVEY PHASE		
4. Establishment of BM Pillar	Nawabganj -Jan 2016 Dohar- June 2016 Shibchar- Sept.2016	1. Construction and setting up of BM Pillars with data inscription	1. Shibchar- 18 2. Nawabganj- 16 3. Dohar- 14
5. Mauza Map Digitization and Processing	July – October 2016	1. Digitization of maps 2. Edge matching 3. Georeferencing	Collection of Mauza Sheets 1. Shibchar- 194 2. Nawabganj- 238 3. Dohar- 114
6. Satellite Image Procurement and Processing	December 2016	<ul style="list-style-type: none"> <li>Procured 3D Satellite Imagery</li> <li>Collected GCPs and done rectification</li> <li>Extracted data for field verification and mapping of features</li> </ul>	
7. Physical Feature Survey	January, 2017	1. Physical Feature Survey, 2. Land use survey 3. Vulnerability assessment	1. Shibchar- 321.88 sq km 2. Nawabganj- 244.8 sq.km 3. Dohar- 161.49 sq. km



# CONDUCTING MOBILIZATION AND RECONNAISSANCE SURVEY



Consultation Meeting with Paurashava Engineer



Consultation Meeting with Upazila Vice Chairman, Assistant Commissioner (Land) and other Officials



Consultation Meeting with Local People



Unplanned Transport Arrangement



Transport Gathering in Unplanned Manner

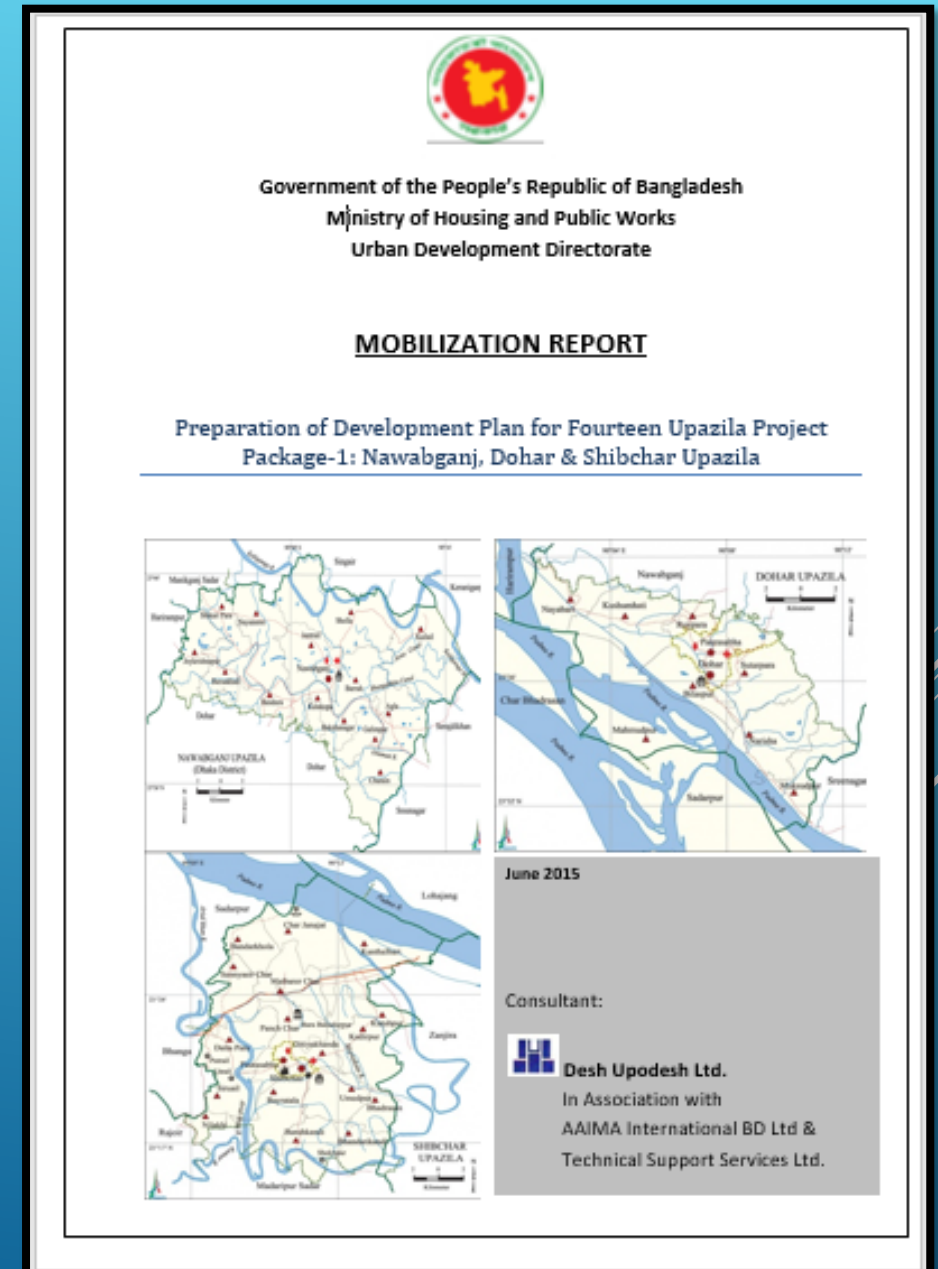


At Upazila Health Complex



# SUBMISSION OF MOBILIZATION REPORT (JUNE, 2015)

- ▶ Objectives
- ▶ Scope
- ▶ Project Area Profile
  - ▶ Brief Description, Location, Geography
  - ▶ History, Culture, Archaeological sites
  - ▶ Local Economy & Stakeholders
  - ▶ Hydrology, Geology, Geophysical Profile, Biodiversity, Agriculture
  - ▶ Administrative and Cadastral Boundaries, Local Authorities
  - ▶ Demographic and Social Composition



# FOCUS GROUP DISCUSSION AND TEA STALL MEETINGS

Nawabganj	<b>No. of FGD</b>	6
	Date	19/10/2015 to 21/10/2015
	No. of Participants	10 to 25 persons
Dohar	<b>No. of FGD</b>	5
	Date	01/11/2015 to 02/11/2015
	No. of Participants	9 to 18 persons
Shibchar	<b>No. of FGD</b>	7
	Date	11/08/2015 to 13/08/2015
	No. of Participants	12 to 24 persons
Nawabganj	<b>No. of Tea Stall Meetings</b>	5
	Date	19/10/2015 to 20/10/2015
	No. of Participants	17 to 21 persons
Dohar	<b>No. of Tea Stall Meetings</b>	4
	Date	11.10.2015
	No. of Participants	15 to 31 persons
Shibchar	<b>No. of Tea Stall Meetings</b>	4
	Date	12/08/2015 to 13/08/2015
	No. of Participants	24 to 44 persons

# FOCUS GROUP DISCUSSION AND TEA STALL MEETINGS

Nawabganj	<b>No. of Courtyard</b>	5
	<b>Date</b>	20/10/2015 to 21/10/2015
	<b>No. of Participants</b>	18 to 41 persons
Dohar	<b>No. of Courtyard</b>	3
	<b>Date</b>	01/11/2015 to 02/11/2015
	<b>No. of Participants</b>	17 to 31 persons
Shibchar	<b>No. of Courtyard</b>	4
	<b>Date</b>	12/08/2015 to 13/08/2015
	<b>No. of Participants</b>	24 to 44 persons



Tea Stall Meetings



# SUBMISSION OF INCEPTION REPORT (AUGUST, 2015)

- ▶ Project Area Profile
- ▶ Review of Relevant Documents
  - ▶ Sixth Five Year Plan
  - ▶ PRSP
  - ▶ MDG etc.
- ▶ Approach and Methodology
- ▶ Major Studies on Different Issues-  
Transport, Hydrology, Geology etc.
- ▶ Work Program & Manning Schedule
- ▶ Progress of Work





# ESTABLISHMENT OF BM PILLAR

## NUMBER OF BM PILLARS

Nawabganj  
16

Dohar  
14

Shibchar  
18





# SOCIO-ECONOMIC SURVEY

- Sample households of Socio-economic Survey in **Nawabganj** Upazila
  - No. of Sample Households in **Township** areas **68**
  - No. of Sample Households in **Unions** **942**
- Sample households of Socio-economic Survey in **Dohar** Upazila
  - No. of Sample Households in **Wards** **176**
  - No. of Sample Households in **Unions** **910**
- Sample households of Socio-economic Survey in **Shibchar** Upazila
  - No. of Sample Households in **Wards** **97**
  - No. of Sample Households in **Unions** **1003**
- Within the stipulated period of time (November to December, 2015), the field survey work was completed
- During field survey work period, the Consultants visited the field to monitor field survey work and to ensure sample checking of the filled-in Questionnaire.

# SOCIO-ECONOMIC SURVEY

- Study on recreational open spaces
- Study on Health Facilities



## GCP SURVEY

Upazila	Number	Date
Nawabganj	16	19/12/2015 to 05/01/2016
Dohar	14	15/12/2015
Shibchar	18	05-09-16

# Traffic and Transportation Survey (Nawabganj)

Types of Survey	Sample Size/Locations	Name of the Spot
Traffic Volume Count	Intersection: 4 nodes (nine links at nodes) and one road	Tikorpur Nawabganj Proper Natun Bandura Sholla Bazar
	Road Segment: 4 roads	Notun Bandura Bazar Sholla Bazar Tikorpur Bazar Upazila Mor
O-D Survey	200 Samples at four nodes	Kolakopa Baghmara Bazar Komarganj Hat Bandura
Bus Passenger Survey	40 samples at two locations	Nawabganj Bus Stand Bandura Bus Stand
Pedestrian Survey	40 samples at two locations	Bandura Bazar Baghmara Bazar
Regional Transportation System	200 samples at 4 locations	Kolakopa Baghmara Bazar Komarganj Hat Hasnabad (Holy Cross School)

# Traffic and Transportation Survey (Dohar)

Types of Survey	Sample Size/Locations	Name of the Spot
Traffic Volume Count	Intersection Survey: 4 nodes (13 links at nodes) and one road	Kartikpur bazar Lotakhula Poshcim char Thanar mor
	Road Segments Survey: 4 Roads	Fire service office Muksudpur Palamganj bazar Srinagar road (Fultola)
O-D Survey	200 Samples at four nodes	Meghula Satvita Moinot Ghat College Road Mor
Bus Passenger Survey	40 samples at two locations	Moinot Ghat Thanar Mor
Pedestrian Survey	40 samples at two locations	Joypara Thanar Mor
Regional Transportation System	239 samples at 4 locations	College Road Mor Moinot Ghat Meghula Bazar Satvitar Hat



# Traffic and Transportation Survey (Shibchar)

Types of Survey	Sample Size/Locations	Name of the Spot
Traffic Volume Count	Intersection Survey: 4 nodes (14 links at nodes) and one road	Shadhinota Chatter Pancchar bazar Chander char bazar Munshi Kadirpur bazar
	Road Segments Survey: 4 Roads	Baily bridge road (Shibchar-Kathalbaria) Saheber hat (Shibchar-Madaripur) Shadhinota Chatter (Towards Paurashava; Shibchar-Pancchar) Dattapara Toll Plaza (Vanga-Kawrakandi)
O-D Survey	200 Samples at four nodes	Pancchar Bazar Shakpur Hat (Bash kandi Union) Chander Char Bazar Borhanganj College Mor
Bus Passenger Survey	40 samples at two locations	Pancchar Bazar Jailkhanar Mor
Pedestrian Survey	40 samples at two locations	Ekattor Road Shibchar Bus/Tempo Stand
Regional Transportation System	4 locations	Pancchar Bazar Shakpur Hat (Bash kandi Union) Chander Char Bazar Borhanganj College Mor



# Traffic and Transportation Survey





# Geological Survey

Nawabganj	Borehole	21
	PS Logging	3
	MASW	5
Dohar	Borehole	12
	PS Logging	3
	MASW	5
Shibchar	Borehole	24
	PS Logging	3
	MASW	5



# Geological Survey



Downhole Seismic Test data logger



Wooden Plank as the Vibration Source



Geophone Lowering In the Borehole



Data Acquisition Unit




Direction of Excitations



Geophone Installation into the Borehole

# Geological Survey

- Geological and Geomorphologic Survey and Map Preparation
  - Regional Morphotectonic and Neo-tectonic Survey and Mapping
  - Subsurface lithological 3D model Preparation
  - Engineering Geological Mapping
  - Peak Ground Acceleration Map
  - Liquefaction and Ground Failure Map
  - Earthquake Intensity Map
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# Formal-Informal Economy

- **Formal Sector**

- Ten hats-bazar have been studied
- Twenty Bank-Insurance (10 Bank and 10 Insurance Companies)
- Ten NGO's and Ten CBO's
- Ten Industries

- **Informal Sector**

- Sample surveys were conducted-
  - ✓ Household level and
  - ✓ Business unit level in trading centers with two separate sets of questionnaires.
- The household surveys were designed to collect information on
  - ✓ Employees
  - ✓ Type and nature of employment
  - ✓ Income level etc.
- Business unit level survey was conducted to collect information on
  - ✓ Investment
  - ✓ Production
  - ✓ Products for local consumption and
  - ✓ Export
- **10 Traders/Sellers were interviewed also**



# Formal-Informal Economy



Formal Economic Survey



# Formal-Informal Economy



Informal Economic Survey

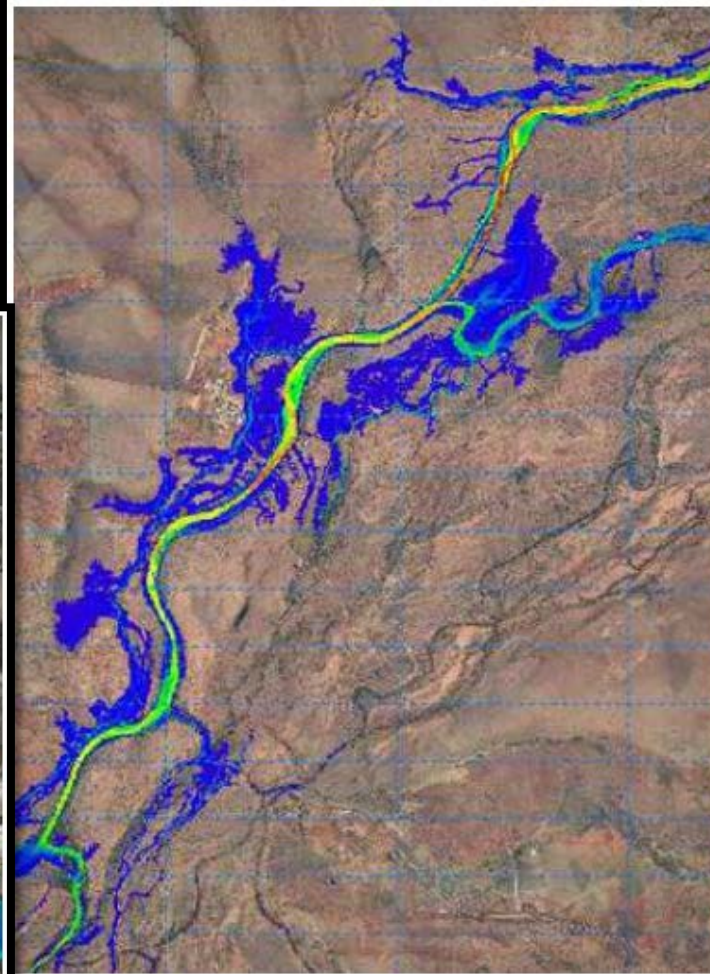


# Hydrological Study

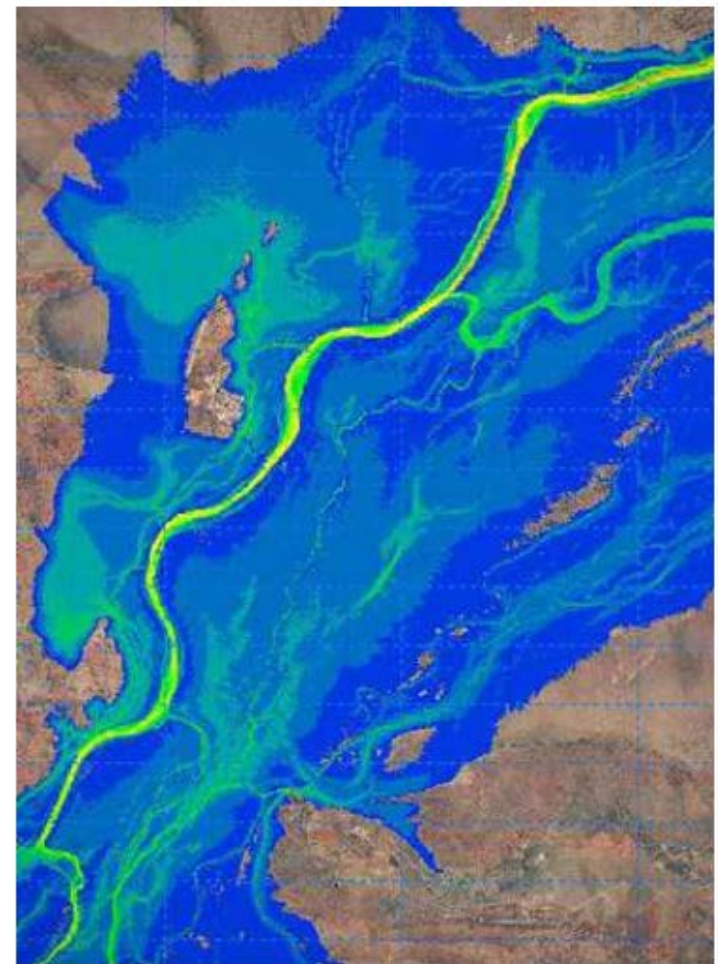
Upazila	No. of X sections
Nawabganj	17
Dohar	11
Shibchar	9



An integrated 1D-2D flood model showing flood conditions in a city area using HEC-RAS



An integrated 1D-2D flood model on a flood plain showing flood conditions at different water level and flow time using Mike Flood (DHI)





# Agricultural Study

- Nawabganj (349 samples)
- Dohar (258 samples)
- Shibchar (450 samples)



Discussion Meeting with Field Officials of DAE Shibchar

# Consultation with Stakeholders based PRA

## ➤ Nawabganj

- PRA in **Nawabganj Upazila** was held in 14 Unions between January 13 and January 26, 2016.

## ➤ Dohar

- PRA in **Dohar Upazila** was held in 8 Unions and in 8 Paurashava wards (excluding Ward No. 08) between 27 January to 5 February, 2016.
- PRA in Paurashava wards were held, from 22 February to 28 February, 2016

## ➤ Shibchar

- PRA in **Shibchar Upazila** was held in 19 Unions and 9 Paurashava wards.
- Union PRAs were held between 17 December, 2015 and 28 December, 2015.
- PRAs of wards were held between 20 May, 2016 and 24 May, 2016.

- **Total 58 PRAs were held in three upazilas.**



# Consultation with Stakeholders based PRA





# Consultation with Stakeholders based PRA



# Consultation with Stakeholders based PRA

## ➤ Nawabganj

- No. of PRA in Unions 14
- No. of Participants 431

## ➤ Dohar

- No. of PRA in Unions 8
- No. of Participants 259
- No. of PRA in Wards 8
- No. of Participants 223

## ➤ Shibchar


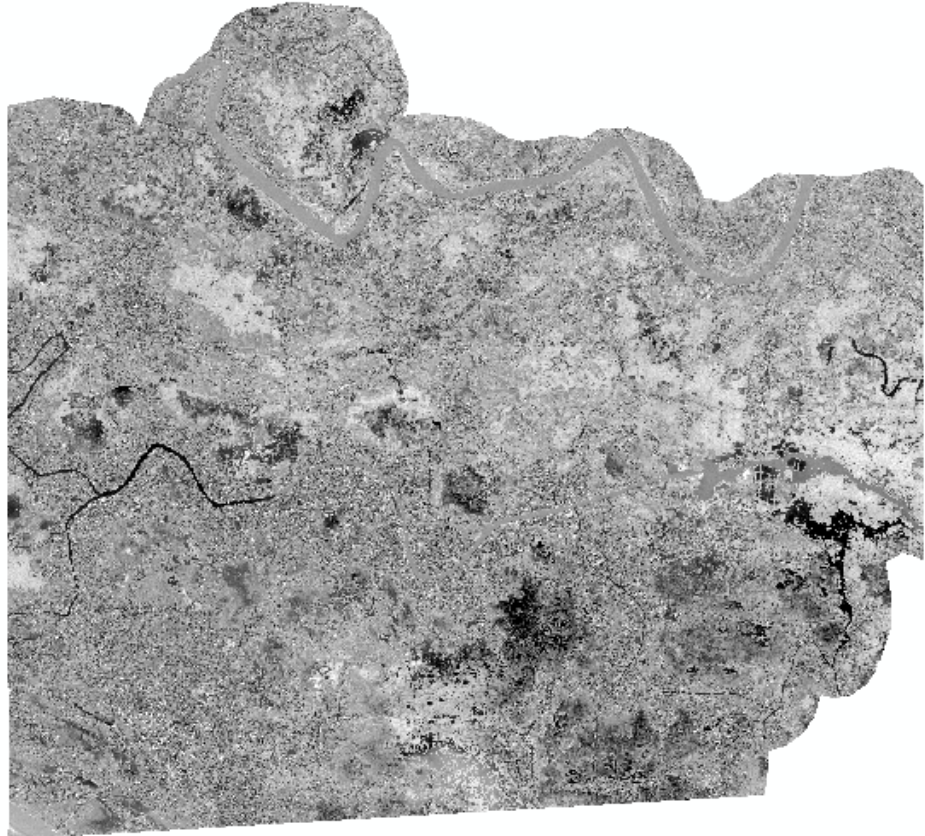
- No. of PRA in Unions 19
- No. of Participants 702
- No. of PRA in Wards 9
- No. of Participants 292



# Report Submission Progress in Summary

- Final Socioeconomic Survey Report(3 Submitted)
  - Final PRA Survey Report (3 Submitted)
  - Final Formal-Informal Economic Survey Report (3 Submitted)
  - Final Transportation Survey Report (3 Submitted)
  - Final Agricultural Survey Report (3 Submitted)
  - Final Geological Survey Report (3 Submitted)
  - Draft Hydrology Survey Report (1 Submitted)
  - Draft Physical Features Survey Report (On going)
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# Satellite Images

Multispectral	Panchromatic
2.0m, 4 Bands	0.5m
	

# Satellite Images

## ➤ Importance

- Stereo Image with 4 bands.
- More band, more understandable feature variation (Water, Road, Agriculture etc.)
- Gross DEM Generation
- Contour Generation
- Features Extraction
- Far much better features
- Penshape image with better resolution

## ➤ Coverage

- Together Nawabganj and Dohar about 407 sq. km.
- Shibchar about 323 sq. km.

# Collection of Information from Fields

Data	Attributes
Road/Embankment	ID, Name, Type (Pucca/katcha/HBB/Semi-Pucca), Width (m), Shoulder (m), Owner
Structures	ID, Type (Pucca/Semi-Pucca/Katcha), Storied, Structure use, Structure name, Owner name, Owner Cell no., Construction Year, Holding No; Mouza Name/Road Name, Locality, Vulnerability Assessment
Agriculture/Vegetation	ID, Type of Land (Paddy/Vegetables/Fruits/Others), Cropping Pattern (Single Crop/Double Crop/Triple Crops/Fallow Land/Others), Remarks
Water Body	ID, Type of Water Body (River/khal/Beel/Baor/Marshland/Pond/Gheer), Owner (Individual/Public/Other), Width (m), Depth (m), Remarks
Utilities	ID, Type (Electric Pole, Telephone Pole, Mobile Tower, Deep Tube-will, Overhead Tank, Others), Ownership, remarks
Playground/Eid-gah/ Graveyard/Garden/Park	ID, Ownership (Individual/Public/Other), Present use, Remarks

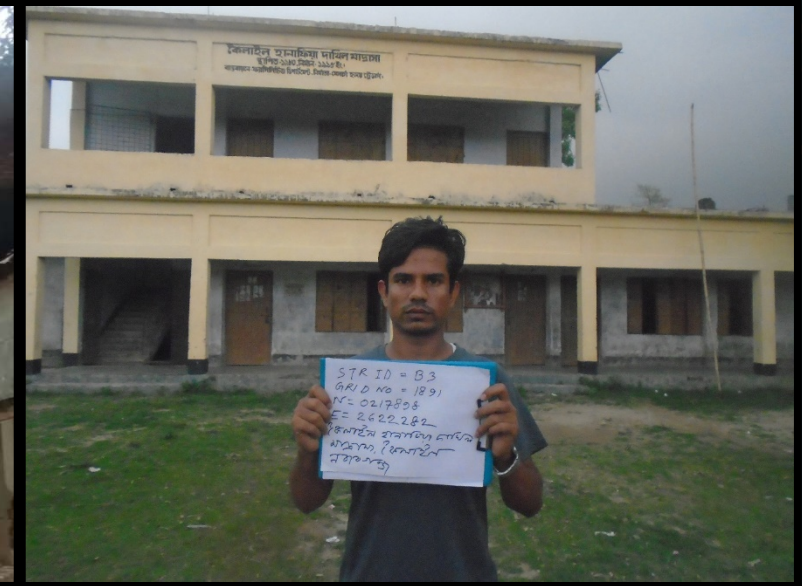


# Conducting Physical Features Survey





# Vulnerability Assessment





# Field Checking & Supervision





# Meeting With UNO, AC Land and Handover: Inception & Mobilization Report





# Digitization




# Digitization

Upazila Name	Total Number of Grid	Transferred in GIS format
Nawabganj	3014	3014
Dohar	1547	1200
Shibchar	3932	Yet to be done

## DEM (Digital Elevation Model) of Nawabganj


Standard Deviation	6.75
Maximum RL	32.89
Minimum RL	-12.83
Average RL	5.88

# Physical Feature Survey Related

- ▶ Topographic Survey and Mapping
  - ▶ Physical Feature Survey and Mapping
  - ▶ Land Use Survey and Mapping
  - ▶ Physical Feature and Land Use Survey Field Verification and Updating
  - ▶ Preparation of GIS map layout and printing of Physical Feature, Land Use and Topographic Survey Maps
  - ▶ Land use Map considering all hazards
  - ▶ Vulnerability Assessment
  - ▶ Risk Assessment
  - ▶ Agriculture Land Demarcation Study
  - ▶ Archeological Study
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# Photogrammetric

- ▶ DEM Preparation: 2 upazila complete, Shibchar on process
  - ▶ Digitization: 2 upazila complete, Shibchar on process
  - ▶ Map preparation: Nawabganj complete, Dohar on the process, Shibchar will start after completing digitization
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## **Proposed TMC date (As on client's permission):**

Date of first TMC: 24.05.17

Date of second TMC: 01.06.17

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THE END

