Overall view of LGED Activities

Presented By -

Md. Jasim Uddin

Superintending Engineer

(Planning & Research)

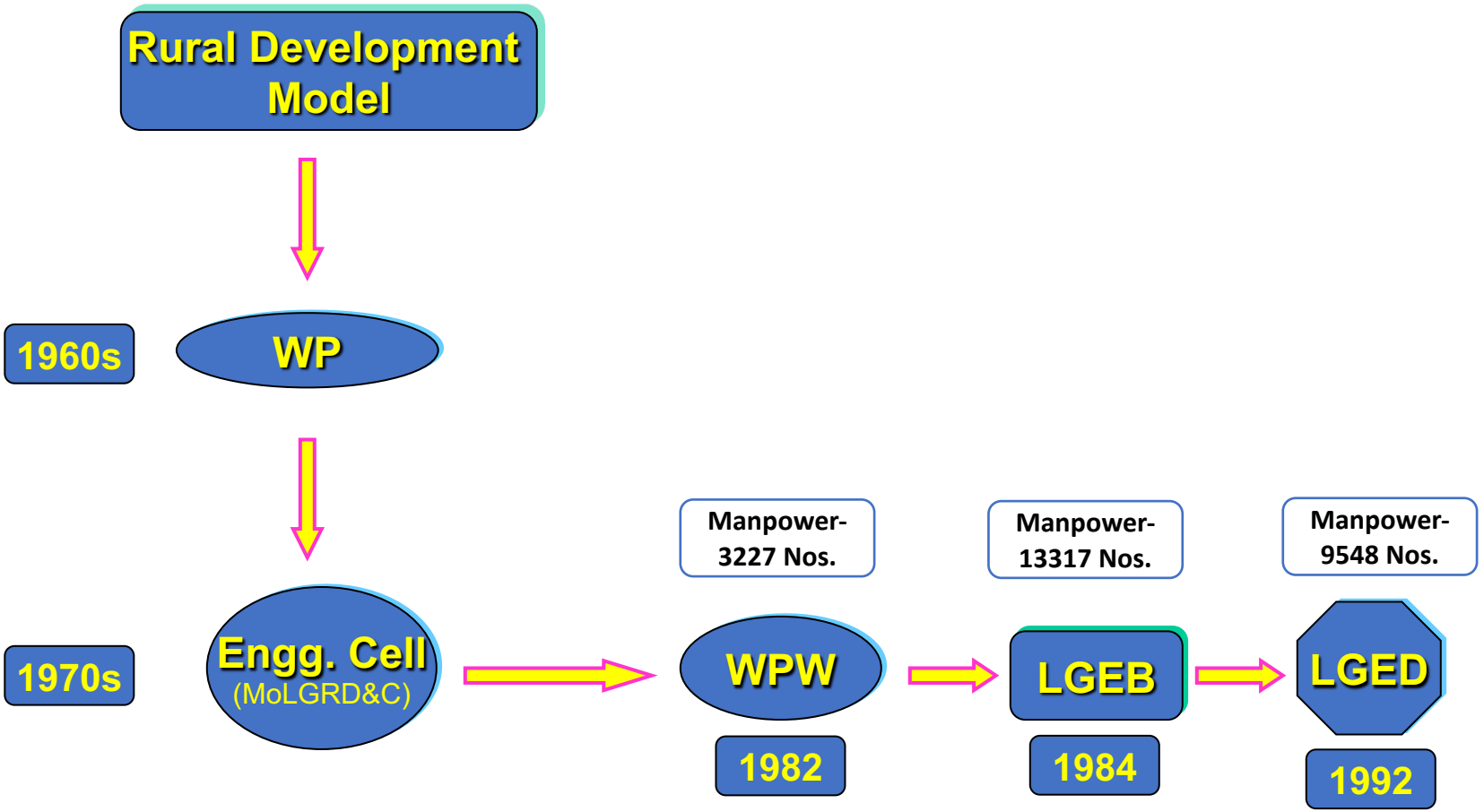


Presentation Sequence

- General introduction to LGED
- Major Activities
- Activities related to climate change Adaptation & Resilience Improvement
- Development outlay (Development & Maintenance)
- Future Plan/Road Map to 2041

General introduction to LGED

LGED's Transformation & Evolution



**WP = Works Program*
**WPW = Works Program Wing*
**LGEB = Local Government Engineering Bureau*
**LGED = Local Government Engineering Department*
**MoLGRD&C = Ministry of Local Government Rural Development & Cooperatives*

Total manpower	
At present	13394 Nos.

Mission & Vision

Mission

Development and management of local infrastructure for increasing farm/non-farm production, generating employment, improving socio-economic condition, promoting local governance, reducing poverty and acting as agent of change at the local level.

Vision

- LGED as a state-of-the-art government engineering agency will contribute to the execution of the following interrelated and complementary activities:

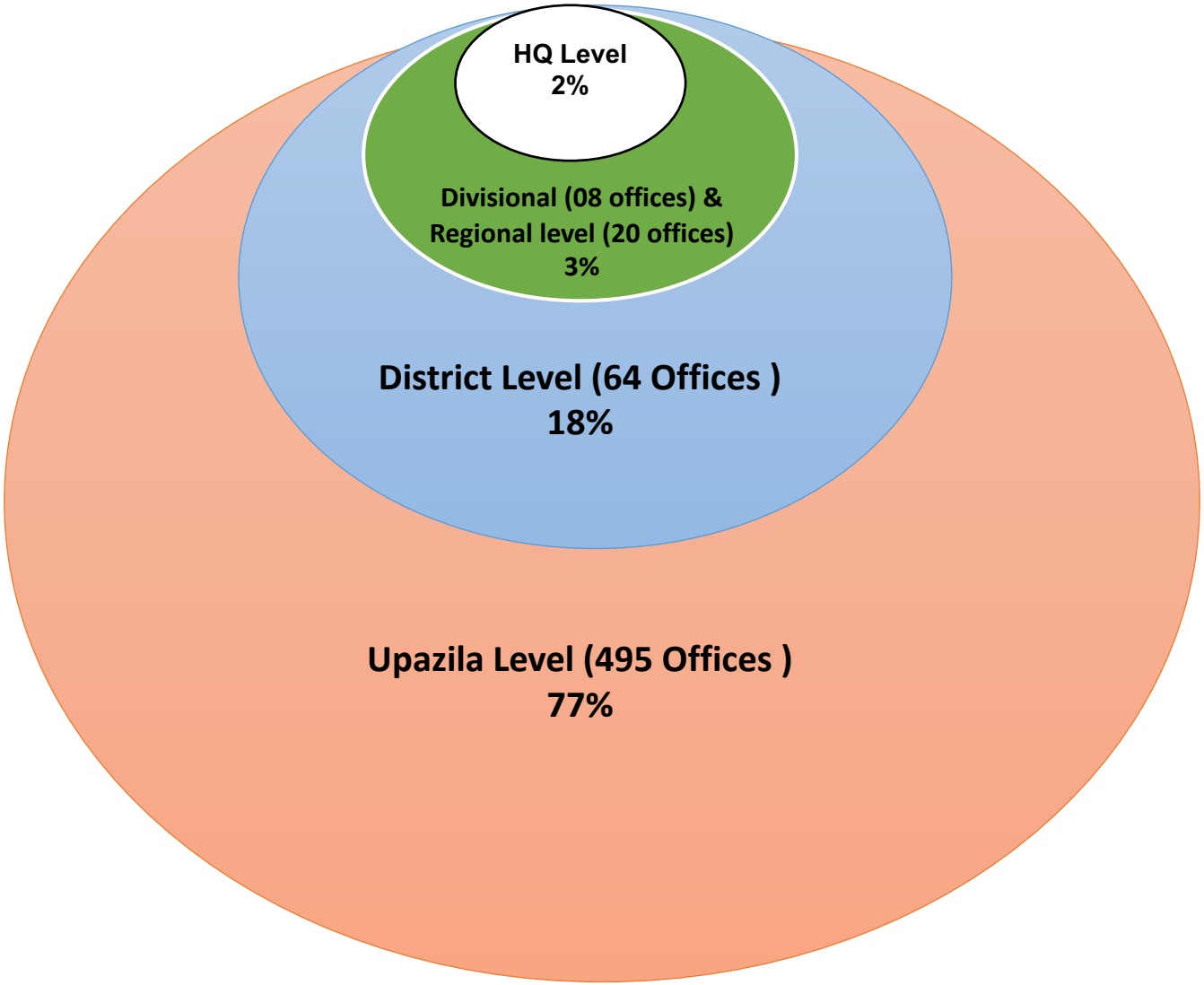
- Overall management and maintenance at all level of development including transportation, market and small-scale water resources infrastructures with the participation of beneficiaries, stakeholders with proper emphasis on environmental and social safeguard issues; and

- Provide institutional and technical assistance to strengthen local government bodies and extend co-operation to local stakeholders and communities.

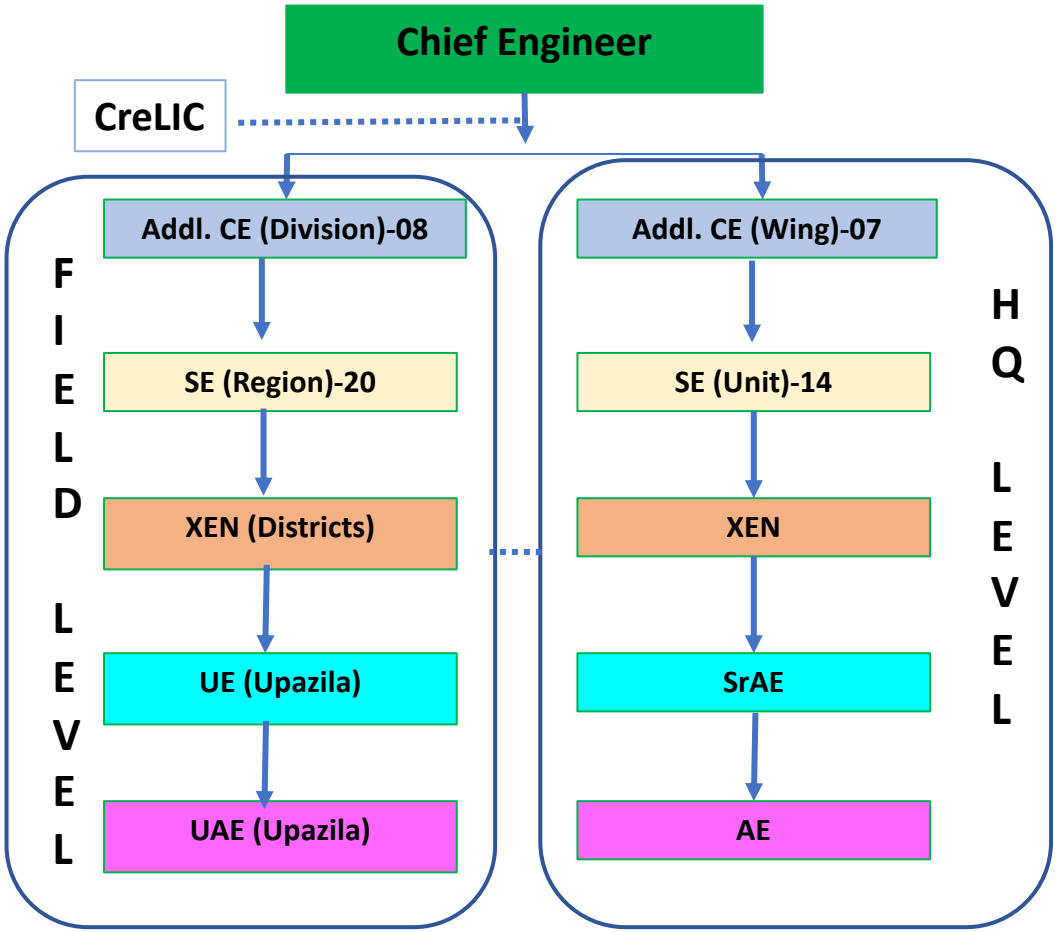
Functions of LGED



Manpower


HQ Level
2%
Divisional (08 offices) &
Regional level (20 offices)
3%
District Level (64 Offices)
18%
Upazila Level (495 Offices)
77%

Organizational Structure



- Additional Chief Engineer- 15 nos.
- Superintending Engineer (SE)- 34 nos.
- Executive Engineer (XEN)- 174 nos.
- Upazila Engineer(UE)/Sr. Assistant EngineerAE(SrAE)- 573 nos.
- Assistant Engineer (AE)- 720 nos.
- Other- 11877 nos.

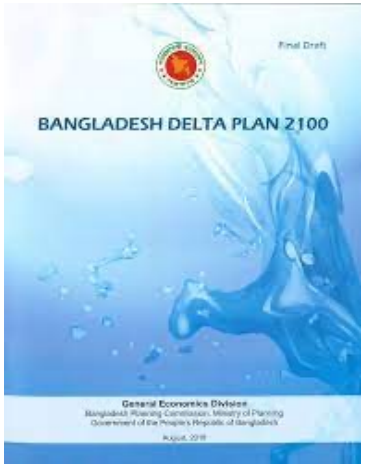
**CreLIC = Climate Resilient Local Infrastructure Center*

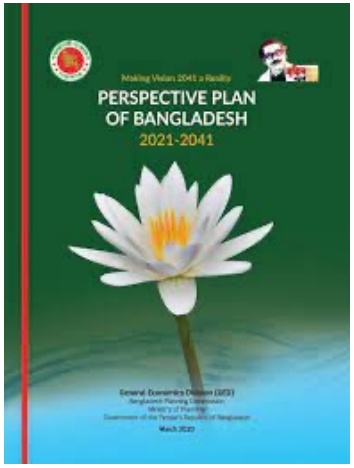
Functional Units (at HQ level)

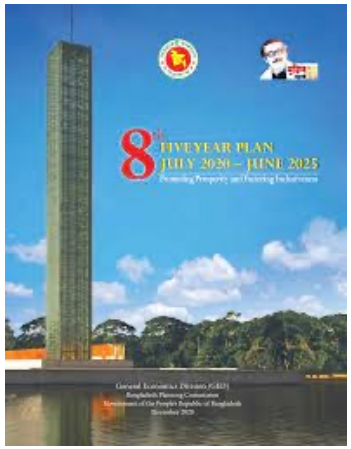
- Administration
- Planning
- Design
- Project Monitoring & Evaluation (PME)
- Urban
- ICT
- Procurement
- ICT
- Quality Control
- Training
- Road Maintenance & Road Safety
- IWRM

Guiding Documents, Plans & Policies

National Poilicy Documents	International Policy Documents
▪ 8th Five Year Plan (2021-2025)	• Sustainable Development Goals
▪ Perspective Plan (2021-2041)	• Paris Agreement
▪ Bangladesh Delta Plan 2100	• Sendai Framework
▪ National Adaptation Plan	• IPCC (AR5 & AR6)
▪ National Plan for Disaster Management (2021-2025)	

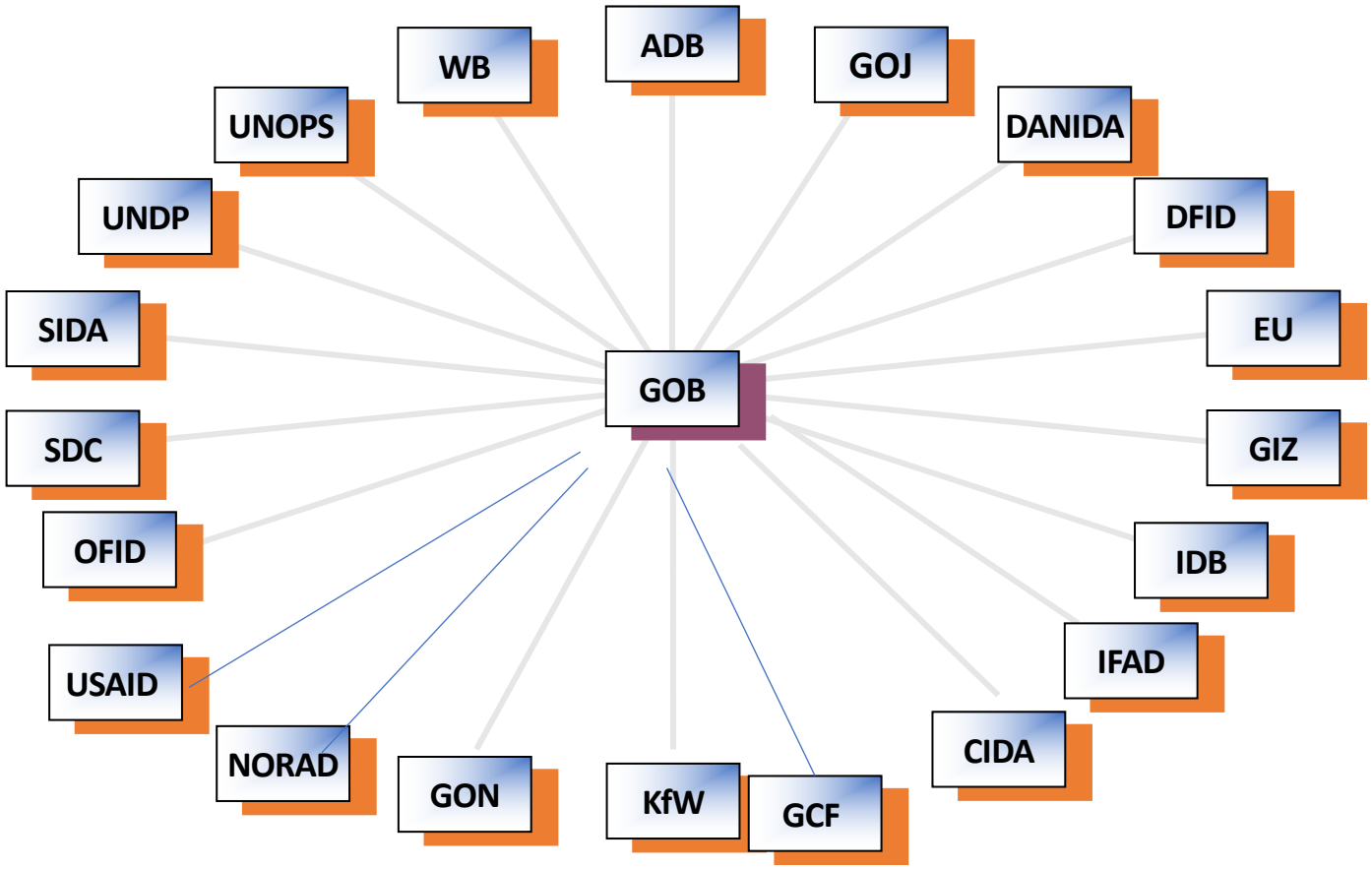








Collaboration with Development Partners



Major Activities

LGED Activities

Rural Sector:

- Rural roads & bridge/culverts
- Growth centers, rural markets
- Upazila & Union Parishad complex
- Multipurpose Cyclone shelter
- Ghat/Landing station
- Maintenance of rural road infrastructure

Urban:

- Urban road & drainage
- Bus/Truck terminal, Municipal markets
- Green space, Park
- Governance improvement & Capacity building
- Providing technical support to LGIs
- Solid Waste Management

Small scale water resources:

- Water control infrastructure
- Irrigation canal
- Rubber dam
- Water conservation
- Ponds/canals re-excavation
- WMCA management



**WMCA = Water Management Cooperative Association*

**LGI = Local Government Institutions*

Rural Sector

Rural Road Status

Road Type	Total Length (km)	Paved (km)	Earthen (Km)	% paved
Upazila Road	36712	34130	2581	92.96%
Union Road	41879	32862	9017	78.46%
Village Road	294162	89355	204806	30.37%
Total	372753	156347	216404	41.94%

(July 2023)

Rural Road Improvement



Submergible Road

Upazila Road in Savar, Dhaka



Rural Road Improvement





Rural Road Maintenance



Before Maintenance



After Maintenance

Bridge/Culverts in Rural Roads

Road Type	Total Gap (m)	Constructed bridge/culvert (m)	Existing Gap (m)	Percentage
Upazila Road	493671	424279	58702	85394%
Union Road	416366	321824	83256	77.29%
Village Road	1017717	589071	421122	57.88%
Total	1927754	1335174	563080	69.26%

Large Bridge in Rural Roads



Sheikh Hasina Teesta Bridge in Lalmonirhat district

950m long Sheikh Hasina Dharala Bridge in Lalmonirhat district



Large Bridge in Rural Roads



771m long Sheikh Hasina Teetas Bridge in B-baria district

Upazila Complex construction/extension

Total Upazila- 495 nos

Newly constructed/Extended- 400 nos



Extended Upazila Complex at Sreepur, Gazipur

Union Parishad Complex Construction

Total Union Parishad- 4571

3487 nos constructed



Ashulia Union Parishad Complex, Savar

Growth center/Rural Hat construction

Growth center/Rural Hat Developed

4924 nos



Gourishankar Hat, Raujan

Cyclone shelter Construction

Constructed Cyclone Shelter- 1915 nos



Cyclone Shelter in Barishal district

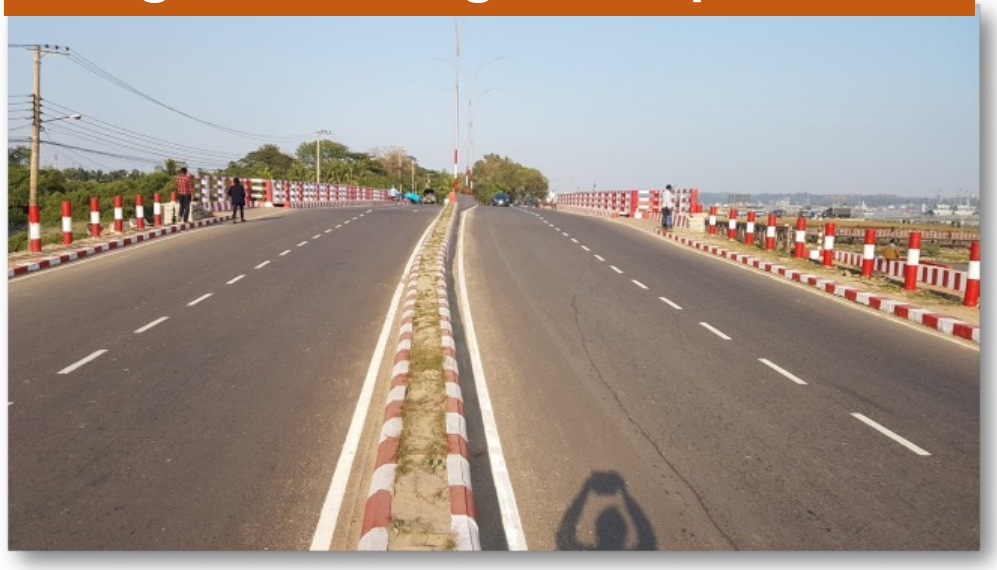
Urban Sector

Urban Roads & Bridges



Urban road at Saidpur Municipality

Bridge at Chattogram Airport Road



Urban Roads & Footpath





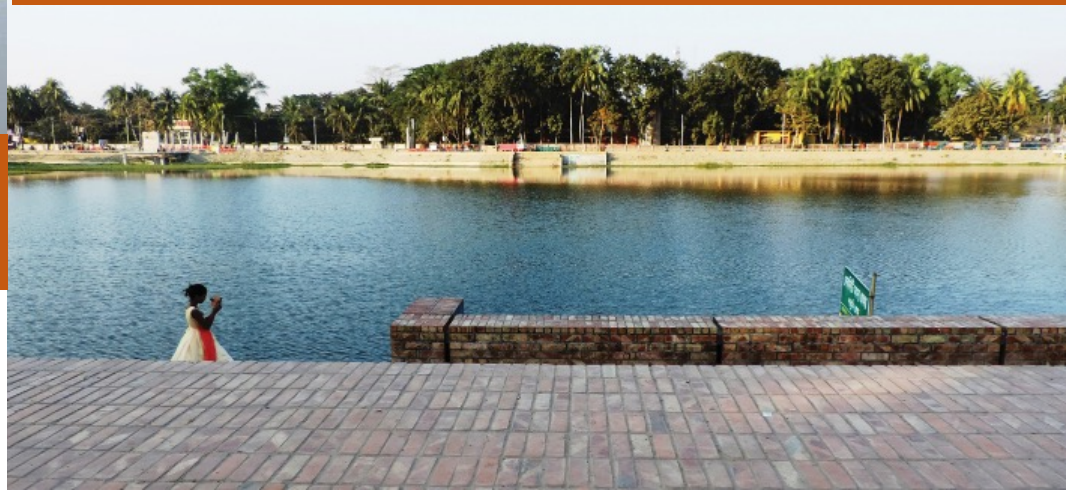
Road & Footpath in Jashore district

Park/Green Space development



Park adjacent to narshunda River, Kishoreganj

Shakuni Lake, Madaripur



Childrens Park





Tungipara Sheikh Russel Childrens Park

Urban infrastructure in Dhaka City





Urban infrastructure in Dhaka City



Khilgaon Flyover

Mogbazar-Mouchak flyover





Saidabad loop of Khilgaon flyover

Cleaners Colony in Dhaka South City Corporation





Small Scale Water Resources Sector













Small Scale Water Resources

Small Scale Water Resources development

775549 Ha

WMCA : 1126 nos



Small Scale Water Resources





Small Scale Water Resources





Small Scale Water Resources





Activities related to climate change Adaptation & Resilience Improvement

Climate Change Adaptation



Road embankment Protection



Bridge approach improvement, Providing adequate vertical clearance

Climate Change Adaptation



Heightening of Embankment

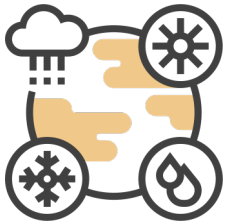


Khal re-excavation for flood water drainage

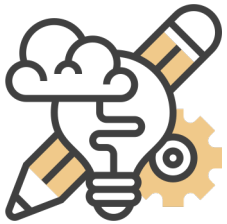
Establishment of CReLIC



Knowledge Management



Guidelines, Standards and Procedures



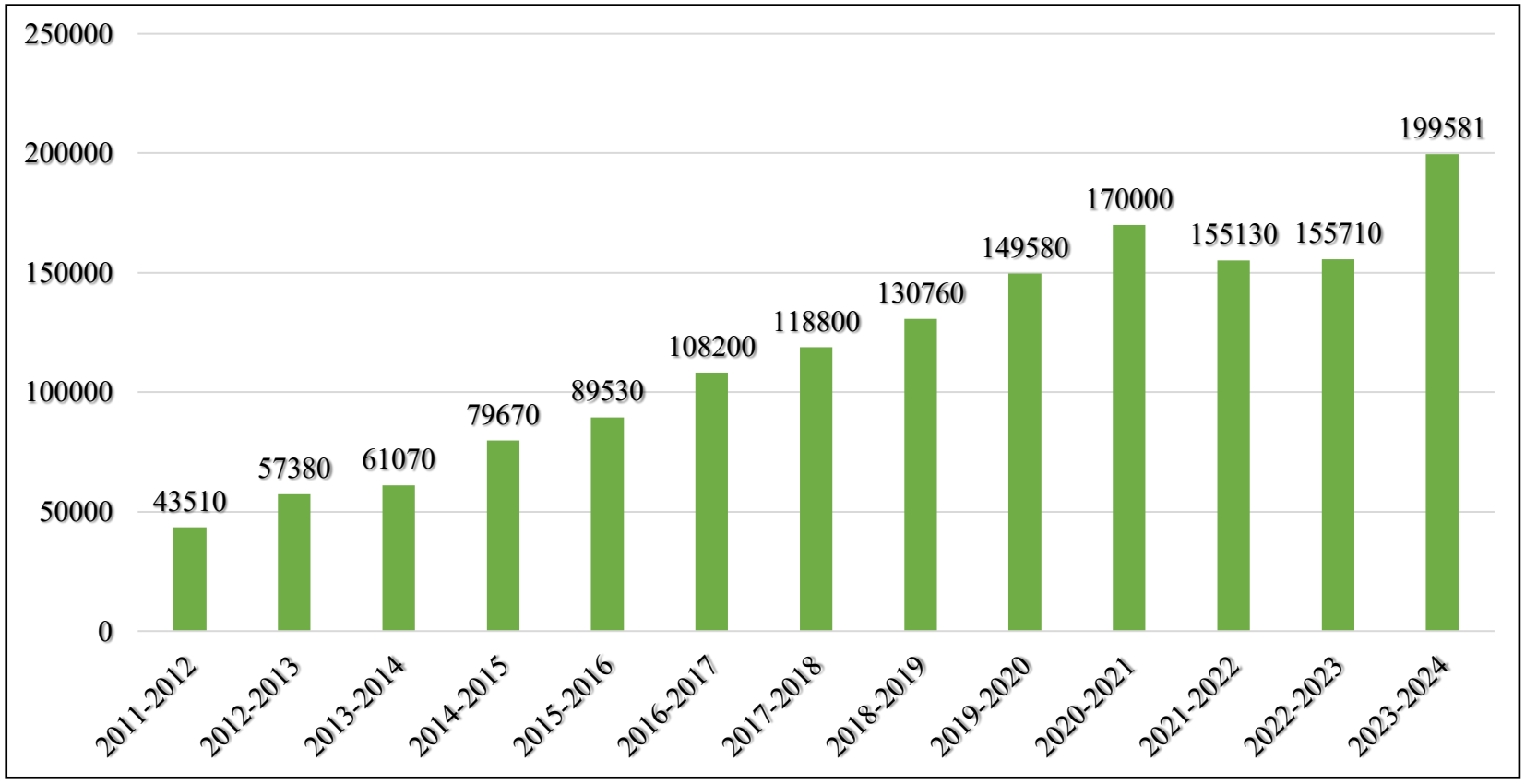
Communications, Consultation and Training



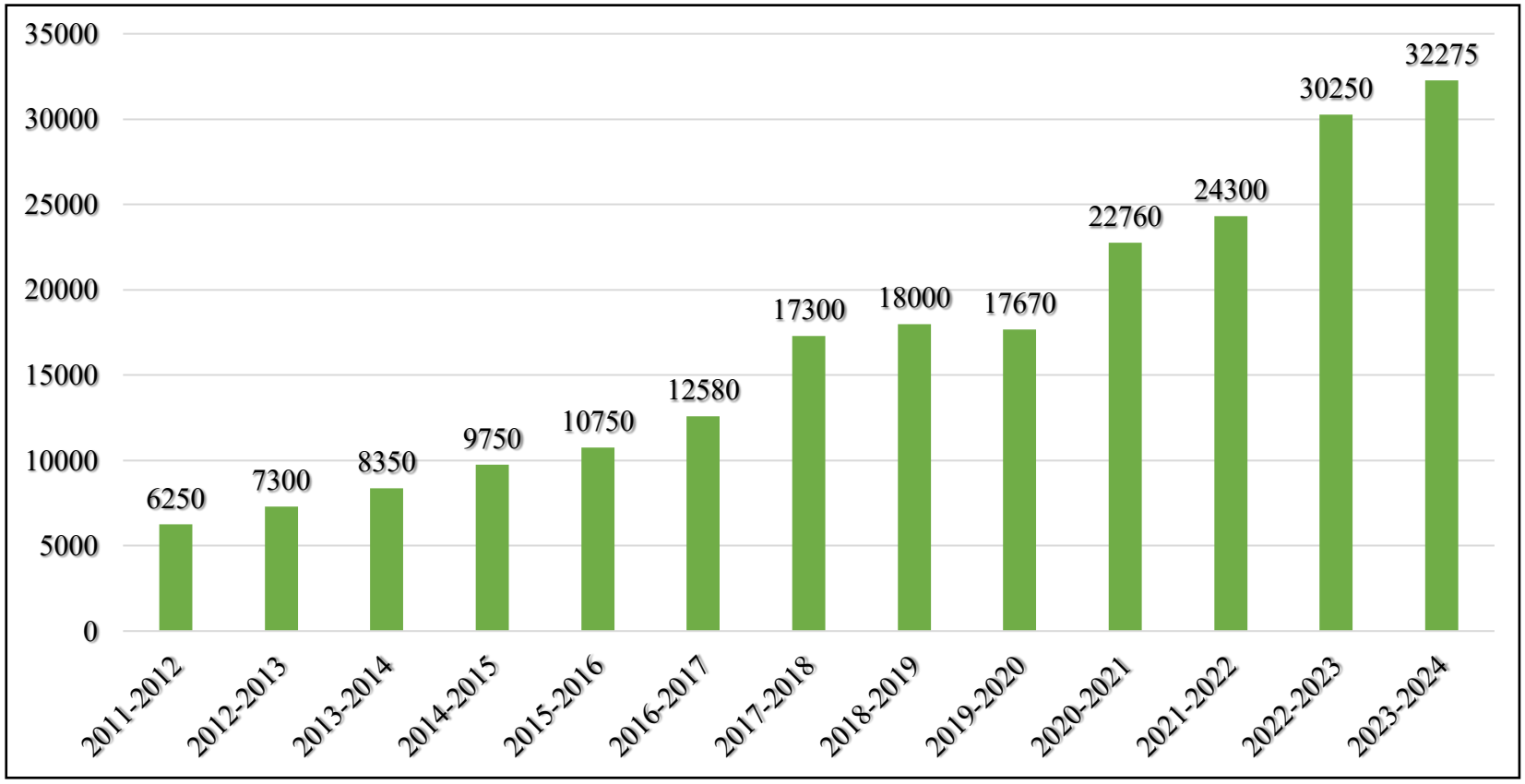
Development of permanent Institutional Structure

Development Outlay (Development & Maintenance)

Annual Development Budget Allocation to LGED (in Million BDT)



Annual Revenue Budget Allocation to LGED for Road Maintenance (in Million BDT)



Future Plan

Road Map to 2041: LGED's Vision

PRINCIPLES



Key Priorities for LGED's Long Term Vision

✓ Strengthening Rural Road Transportation Network

- **Widening and Strengthening of** existing Upazila and Union Roads considering the recently approved climate resilient rural road design and road safety;
- **Development of rural transport** considering planned national economic growth;
- **Integration of rural roads** with **National Highways and important corridor;**
- **Multimodal Transport** facilities;
- **Establishing special transport network** with the special areas, facilities, tourism etc.

Key Priorities for LGED's Long Term Vision

✓ Improvement of Rural Market

- **Development of multistoried markets** in the growth center and important rural markets;

✓ Development of Climate Resilient Infrastructures

- **Construction** of adequate numbers of **multipurpose cyclone shelters** and **flood shelters**.

✓ Small Scale Water Resources Development

- **Implementation** of small scale water resources projects to support **agricultural production, irrigation, capacity development, food production** etc.

Key Priorities for LGED's Long Term Vision

✓ Sustainable Development of Urban Areas

- **Sustainable urban development** including road network, solid waste management, urban drainage system, rural-urban linkage, urban markets etc.;
- **SMART** Cities development

✓ Human Resources Development

- **Capacity Building** of LGED's human resources, contractors and labors to adopt modern construction technologies (Drone Survey, use of modern equipment in construction and maintenance work, innovative technologies to build longer span bridges, etc.)

Key Priorities for LGED's Long Term Vision

✓ Asset Management

- **To manage assets** to sustainably deliver appropriate level of services to the community;
- **To meet the expectations and needs** of the present and future generations;

✓ Research & Development

- Adaptation of **4IR Technology** in LGED
- Use of **alternate/Environment friendly** construction materials



ICT Activities of LGED



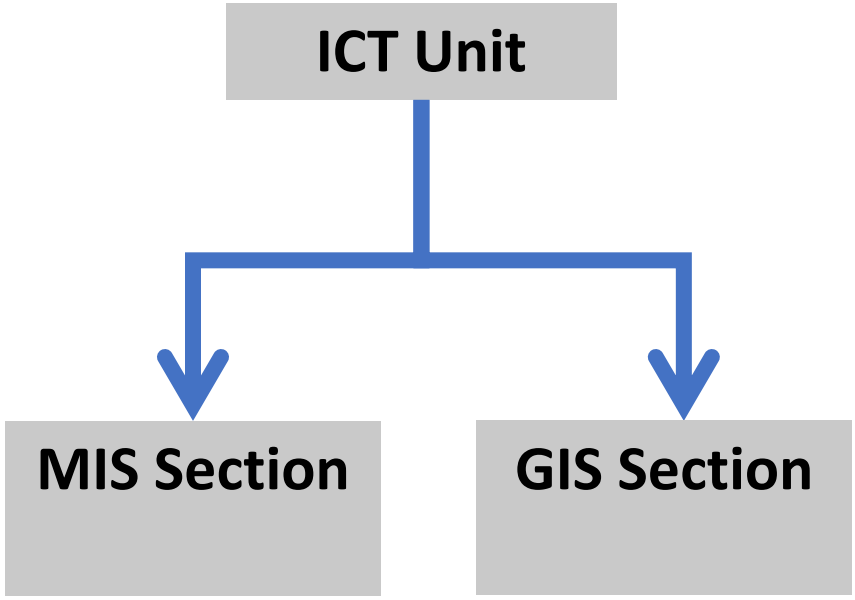


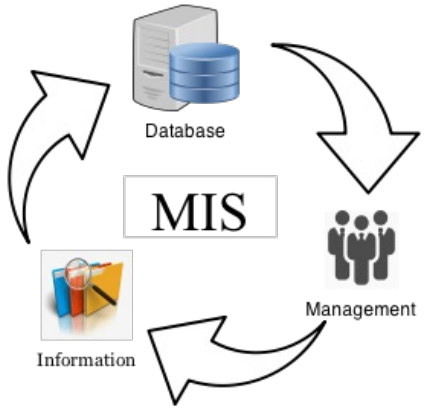


Role of ICT in LGED

- Facilitate Planning and Decision Making
- Facilitate Monitoring of Fieldworks
- Facilitate communication

ICT Structure in LGED

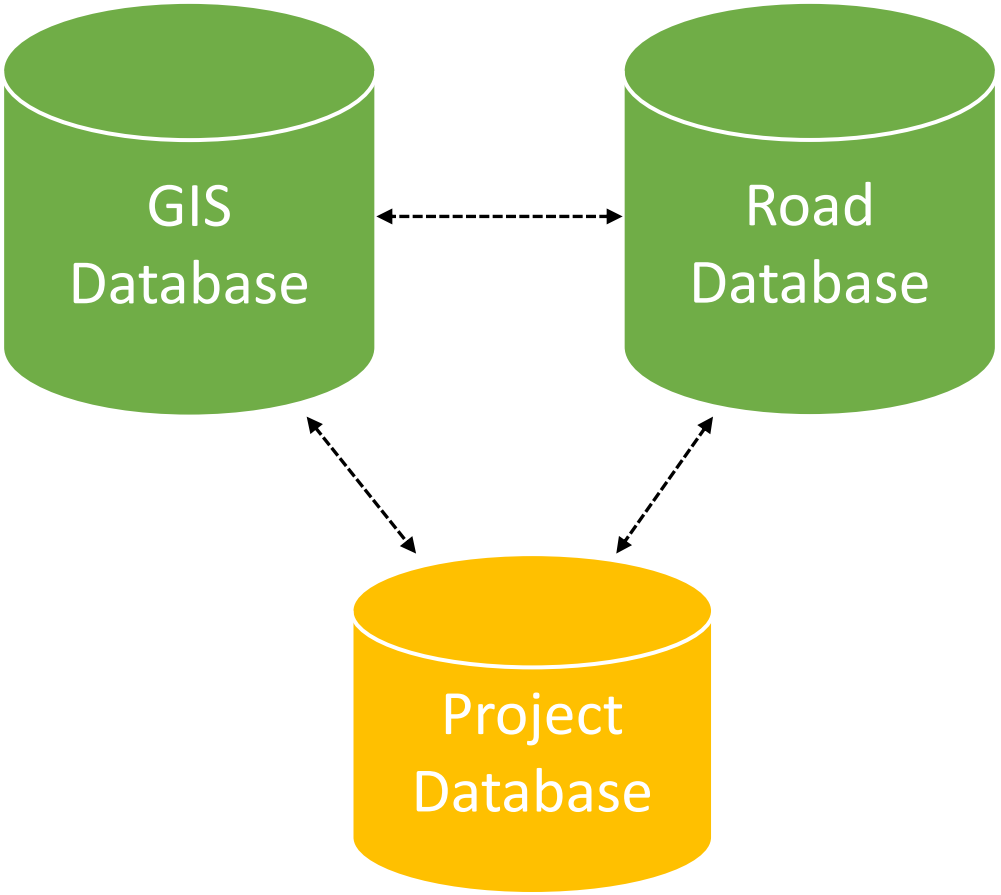








LGED Core Database



Timeline: Geo-spatial Database of LGED



1992 — GIS Section established

1994 — Thana Base Map developed by UNDP and ILO

1997 — Georeferencing and digitization

1999 — GPS survey for Roads



2005 — Field verification of survey data

2008 — Upazila-level digital map

2010 — Update digital map

2011 — Hon'ble Prime Minister inaugurated the digital map website



2015 — Integrate population census data from BBS and update administrative boundary

2016 — Update LGED road database, Road Segmentation, RSDMS

2018 — GIS portal initiated with digital map

2021 — GRIS app Dev.

2022 — Road data updated using RSDMS, River data updated from satellite image

Regular Activities of GIS Section

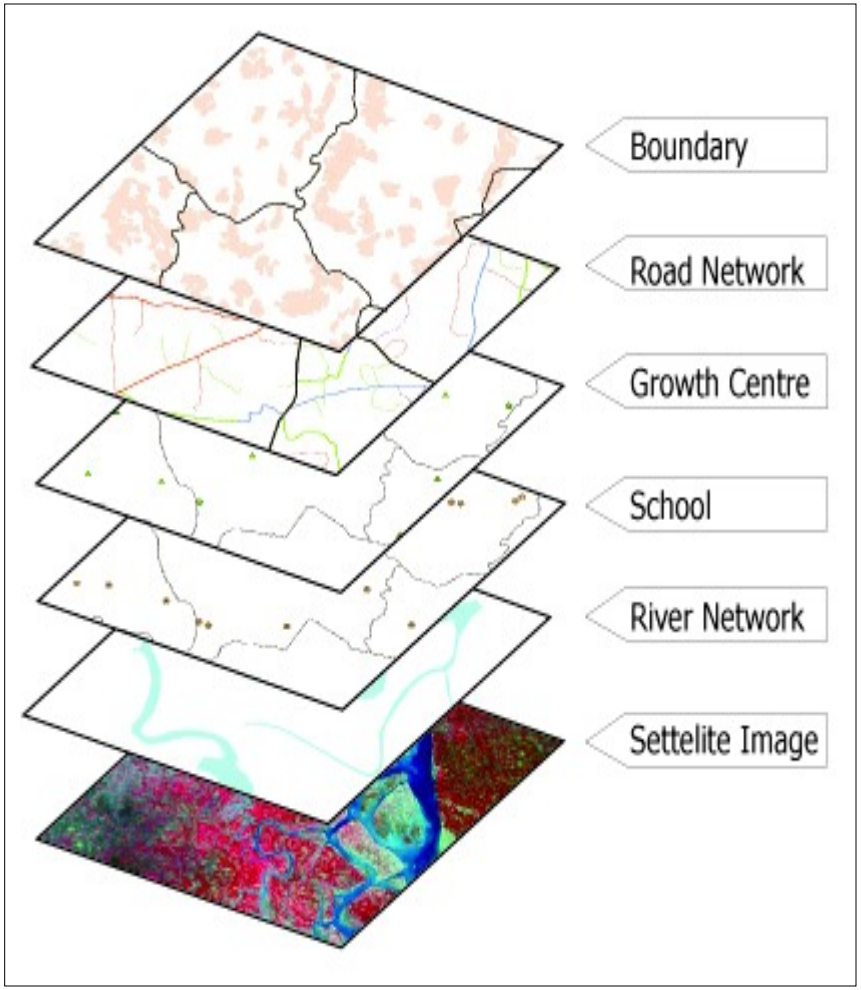
- Updating of **Geospatial database**
- Updating of **Upazila/District Map**
- Preparation of **analytical map as planning tool**
- Preparation of **School Map**
- **Customized map** of different project/organization
- **Collaboration work** with various organization
- Update and Operate **GIS Portal**



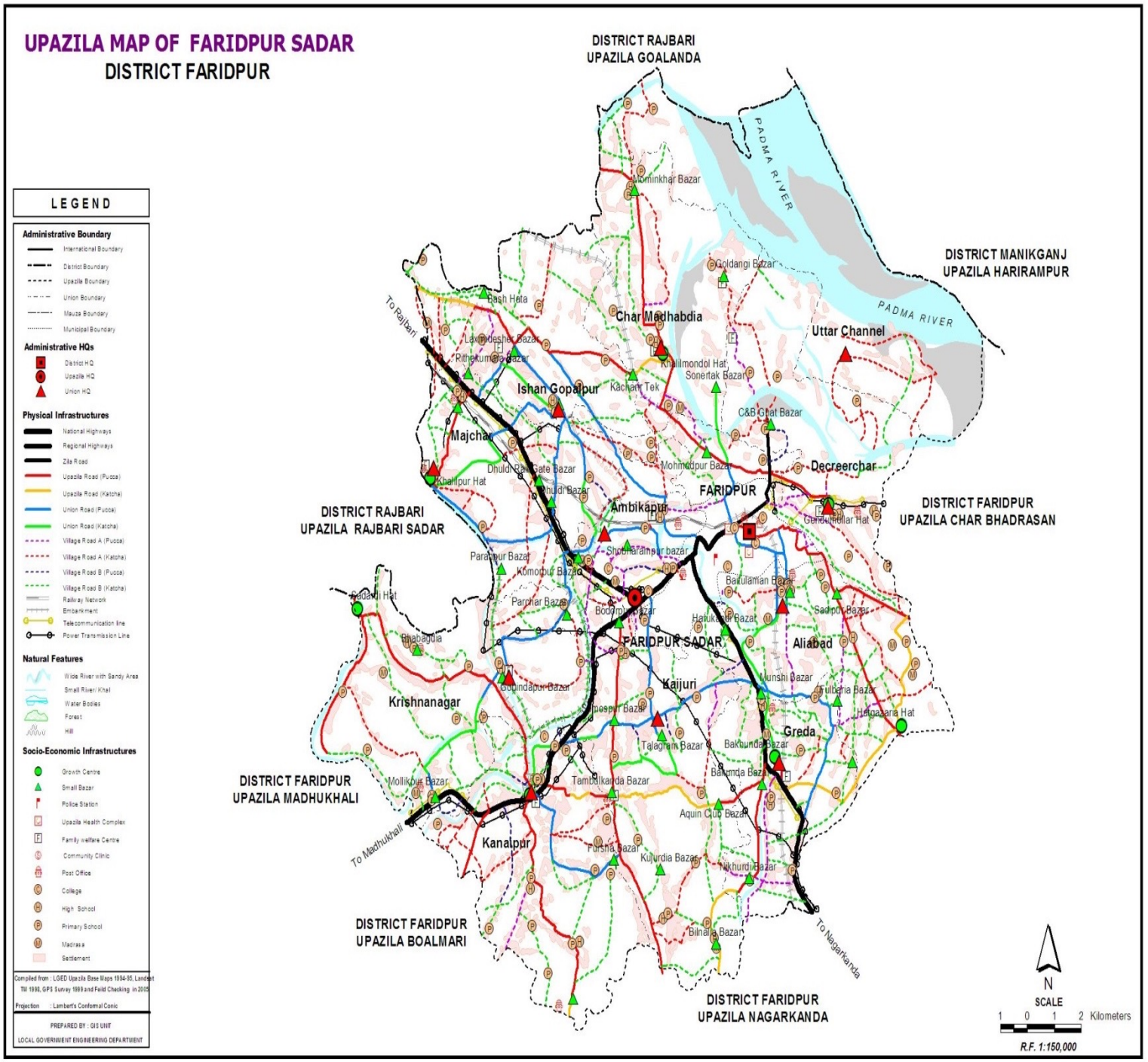


GIS Data Layers

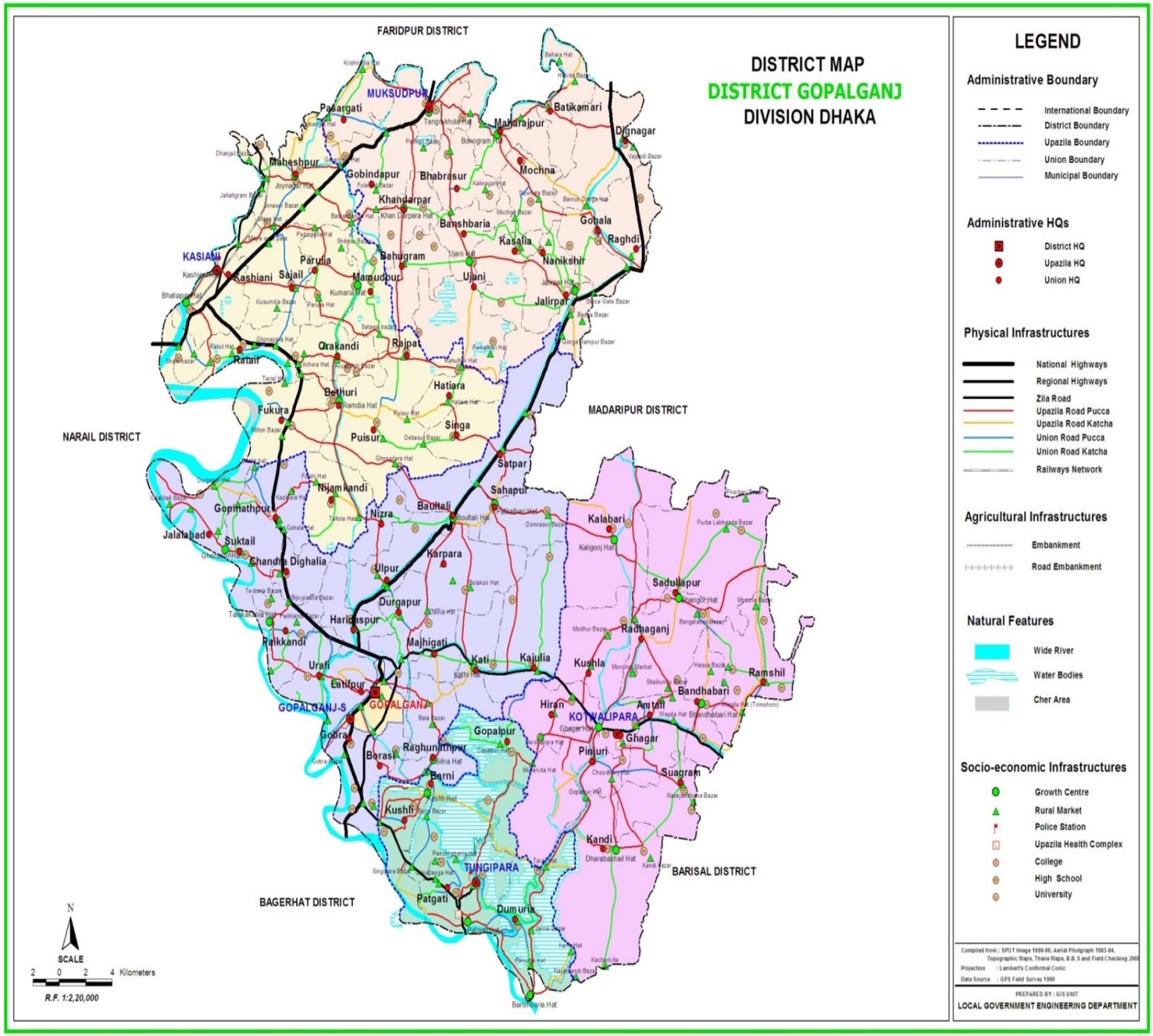
LGED has developed 19 geo-spatial data layers of different thematic features in all Upazilas of the country.



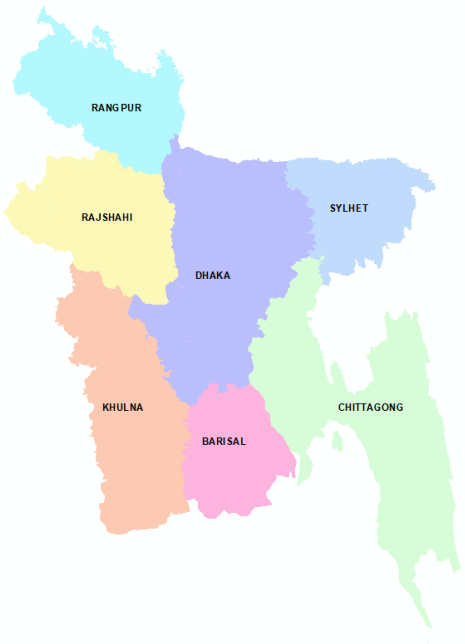
Upazila Map


UPAZILA MAP OF FARIDPUR SADAR
DISTRICT FARIDPUR
DISTRICT RAJBARI
UPAZILA GOALANDA
DISTRICT MANIKGANJ
UPAZILA HARIRAMPUR
DISTRICT RAJBARI
UPAZILA RAJBARI SADAR
DISTRICT FARIDPUR
UPAZILA CHAR BHADRASAN
DISTRICT FARIDPUR
UPAZILA MADHUKHALI
DISTRICT FARIDPUR
UPAZILA BOALMARI
DISTRICT FARIDPUR
UPAZILA NAGARKANDA
PADMA RIVER
PADMA RIVER
FARIDPUR
FARIDPUR SADAR
Char Madhabdia
Uttar Channel
Ishan Gopalpur
Majchar
Ambikapur
Decreerchar
Aliabad
Kajiuri
Greda
Krishnanagar
Kanalpur
To Rajbari
To Madhukhali
To Nagarkanda
LEGEND
Administrative Boundary
Administrative HQs
Physical Infrastructures
Natural Features
Socio-Economic Infrastructures
PREPARED BY : GIS UNIT
LOCAL GOVERNMENT ENGINEERING DEPARTMENT
N
SCALE
1 0 1 2 Kilometers
R.F. 1:150,000

District Map



Update Administrative Boundary
Bangladesh

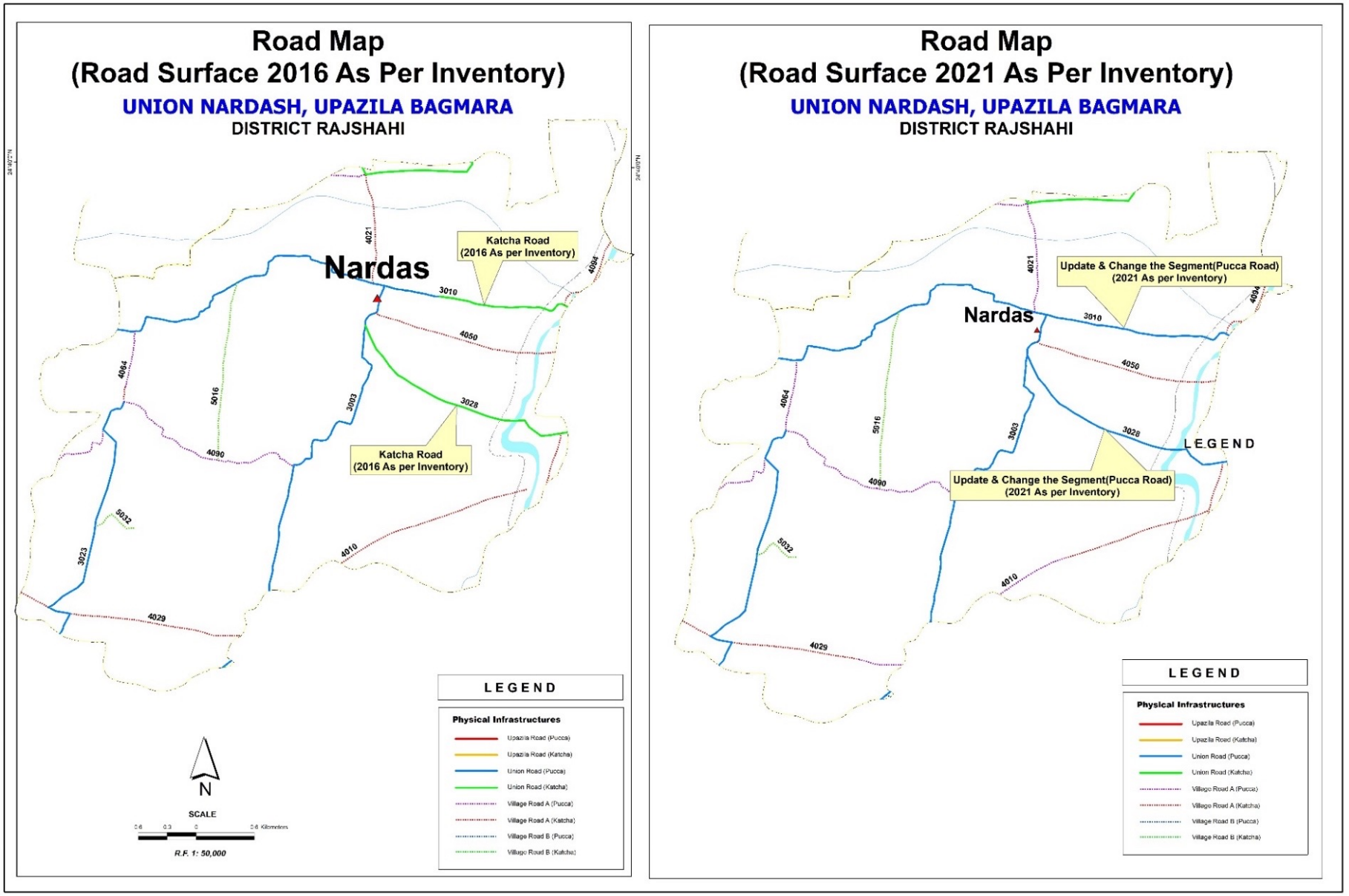


Yr. 2000 : No. of Division 7
Yr. 2000 : No. of Upazila 480

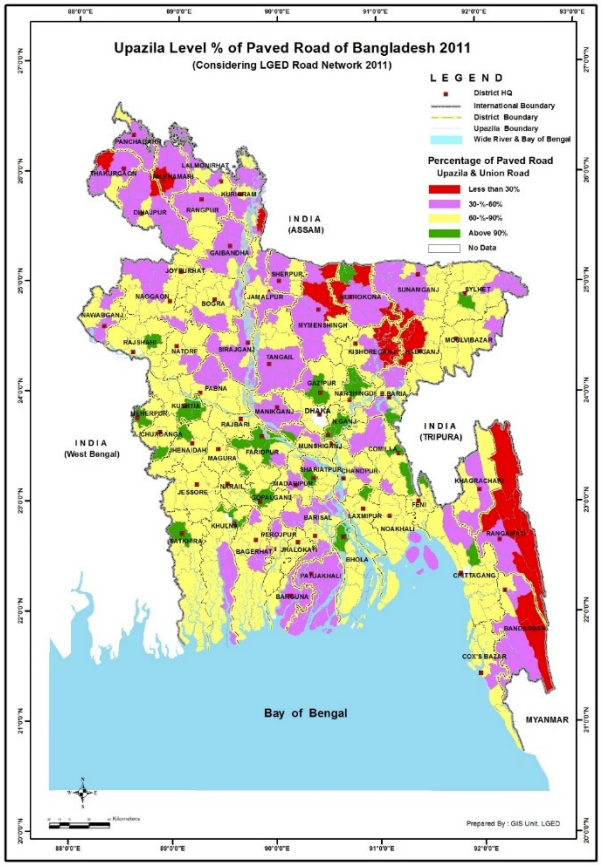


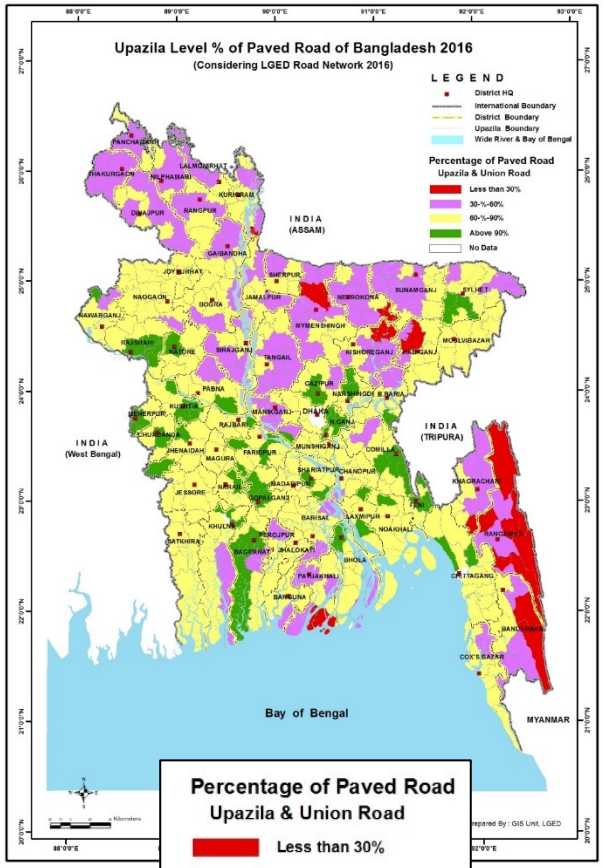
Yr. 2022 : No. of Division 8
Yr. 2022 : No. of Upazila 495

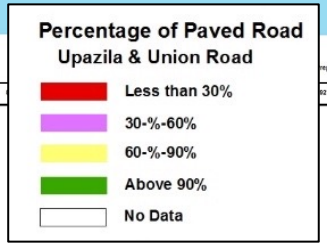
Comparisons of Road Network (2016 & 2021)

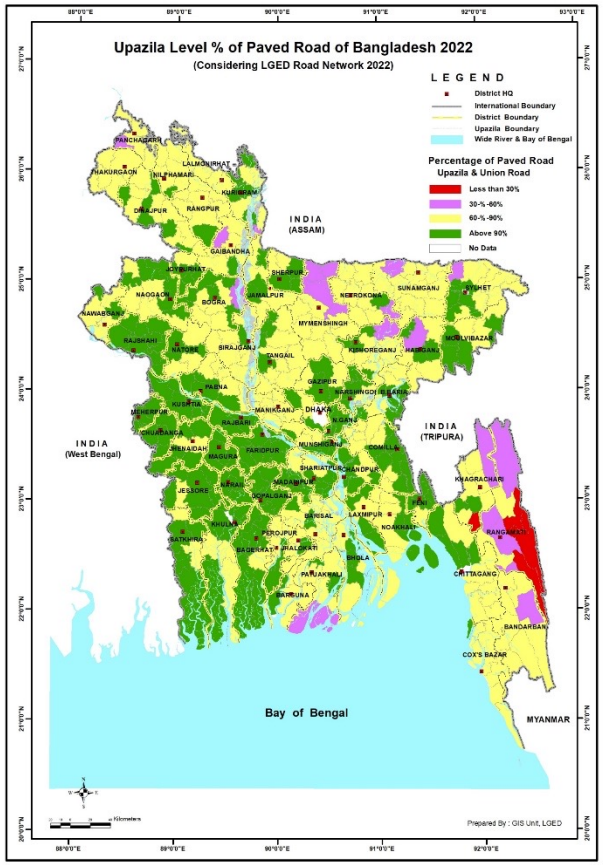


Proportion of Paved Road

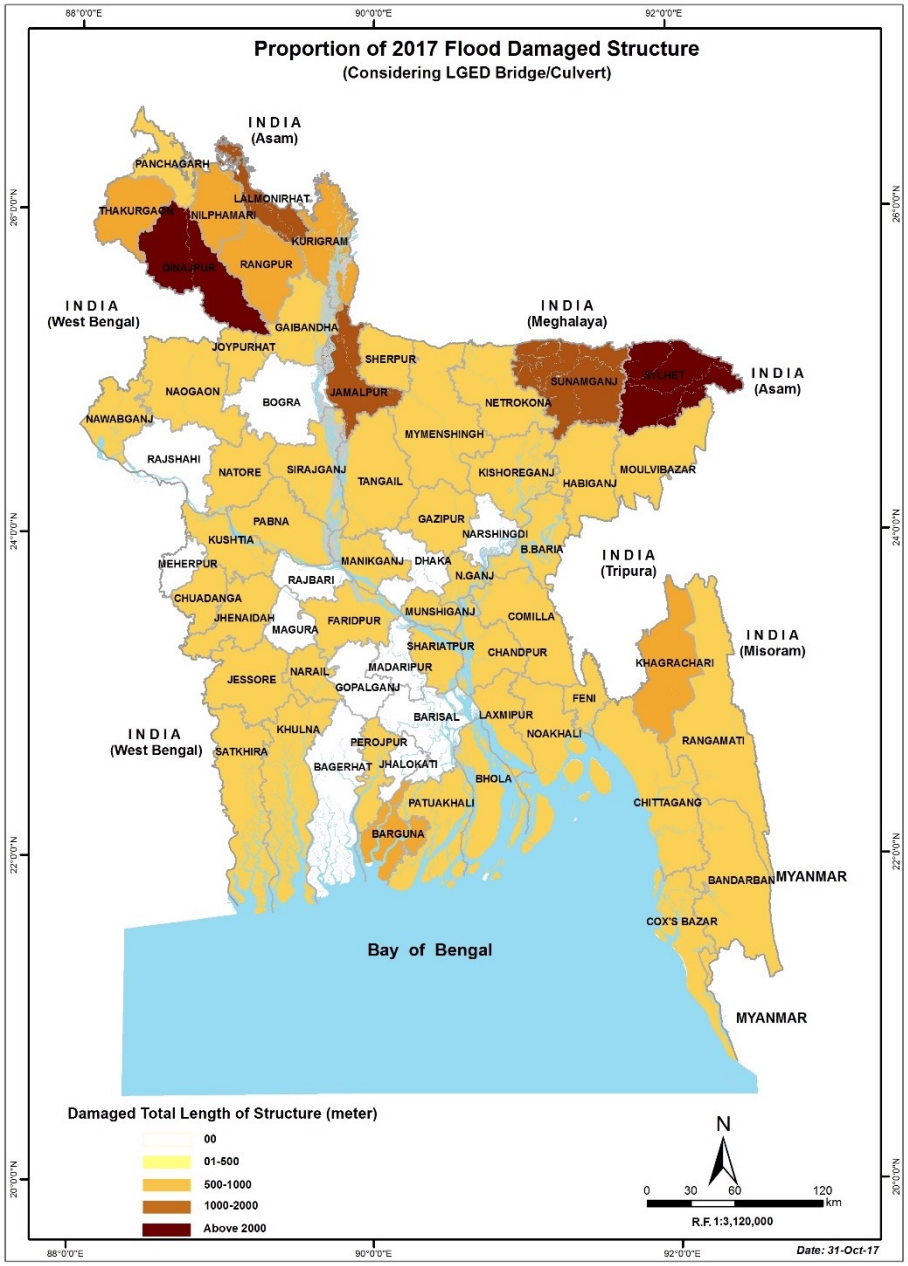


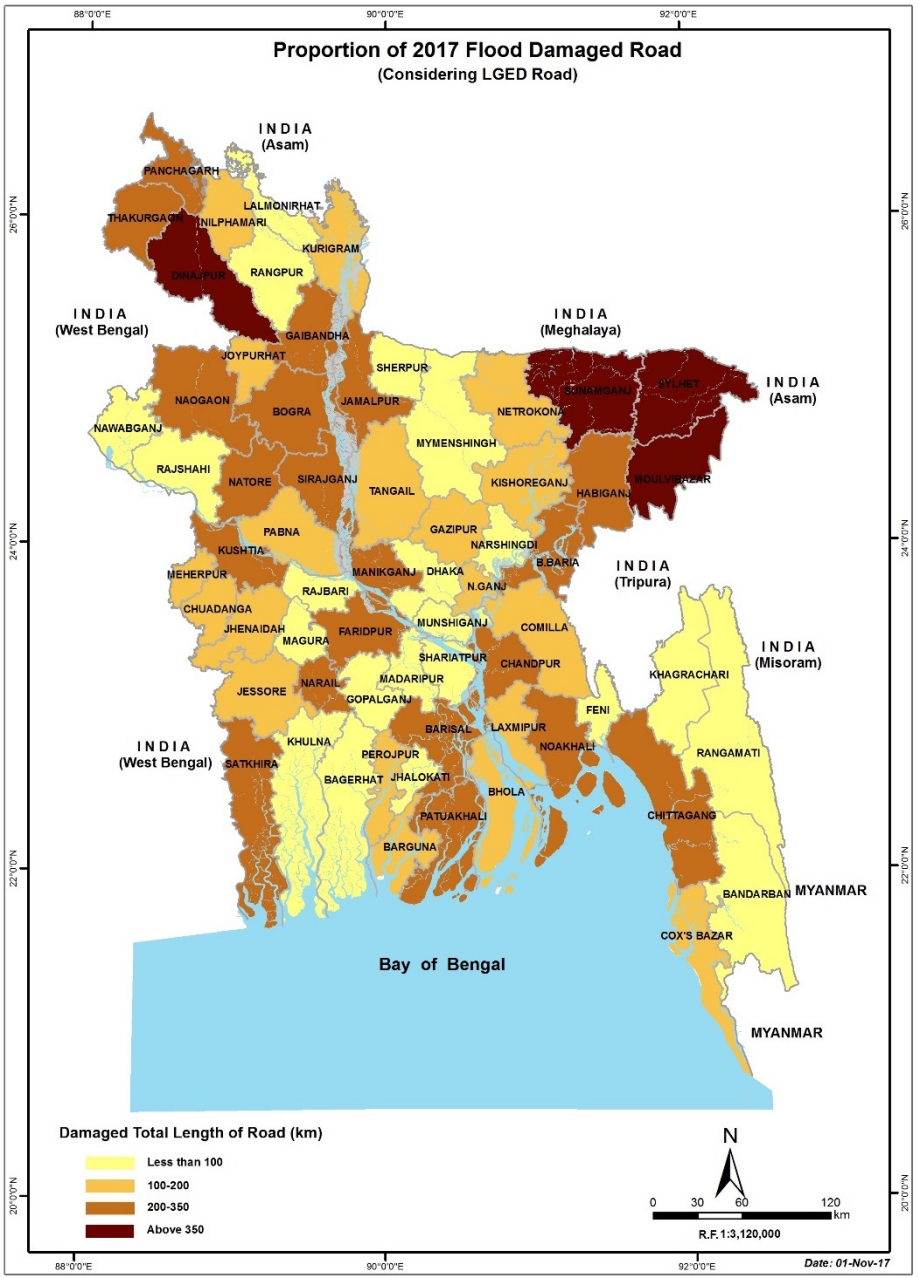




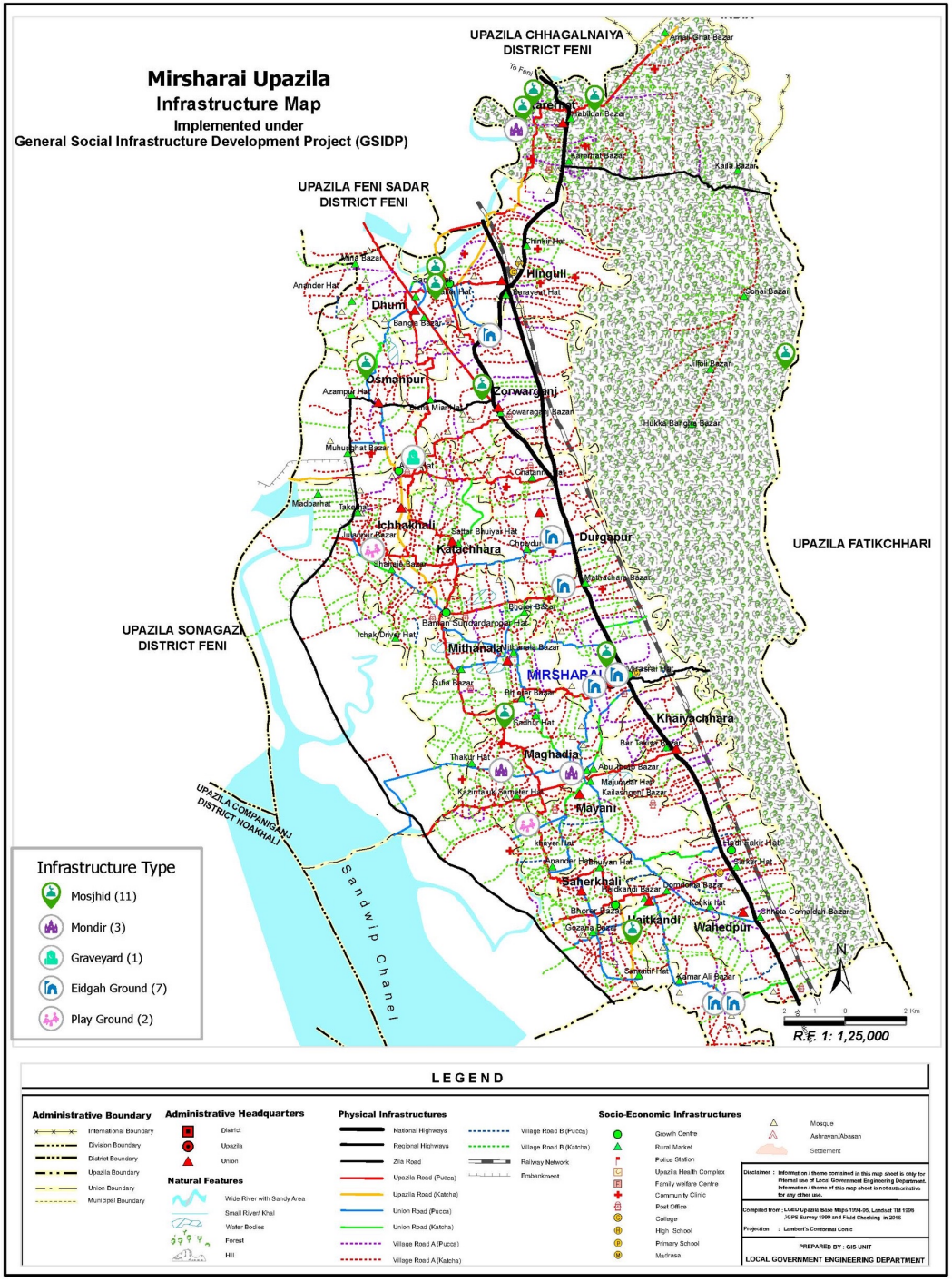


Proportion of Flood damaged Infrastructure



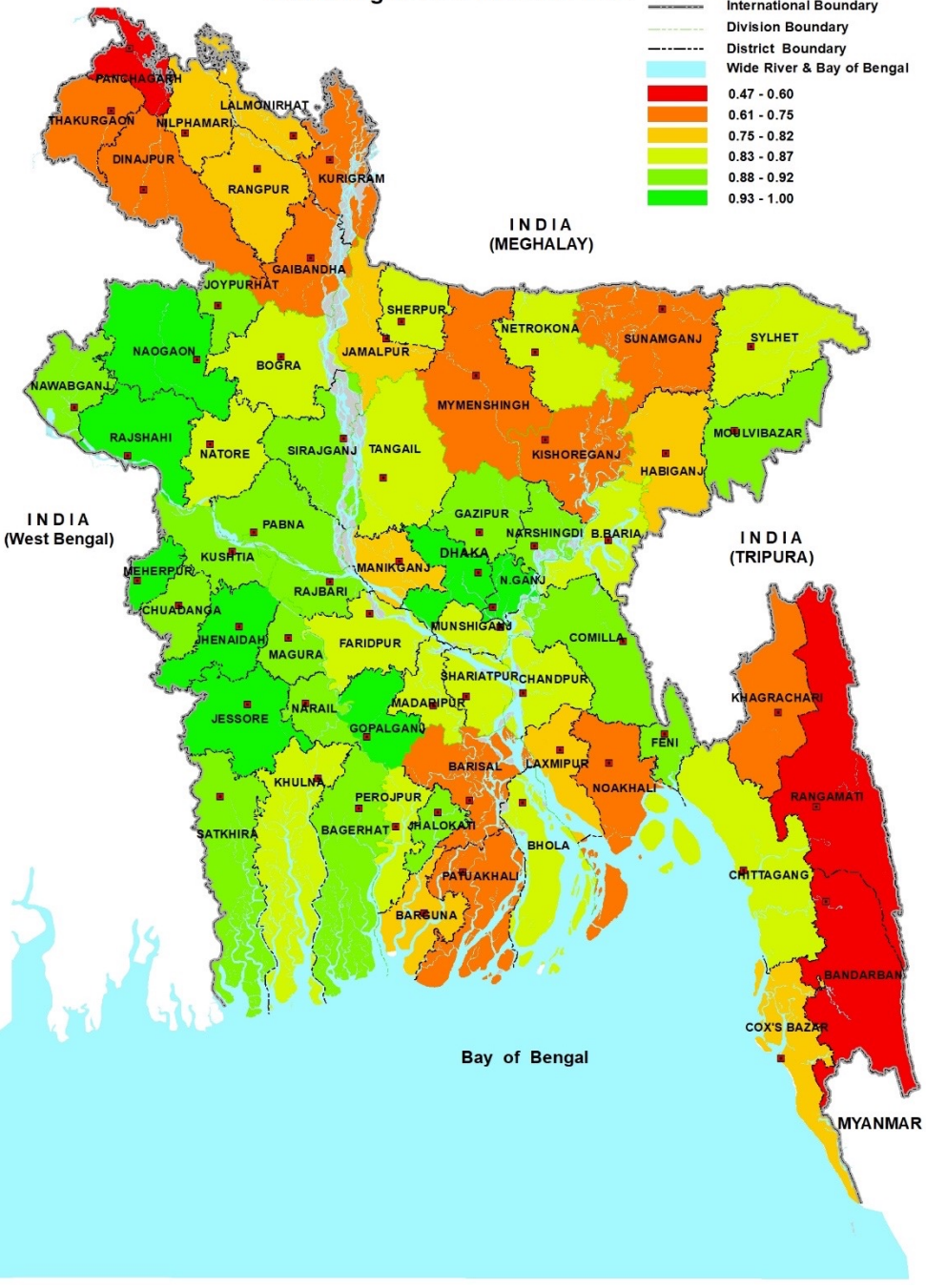


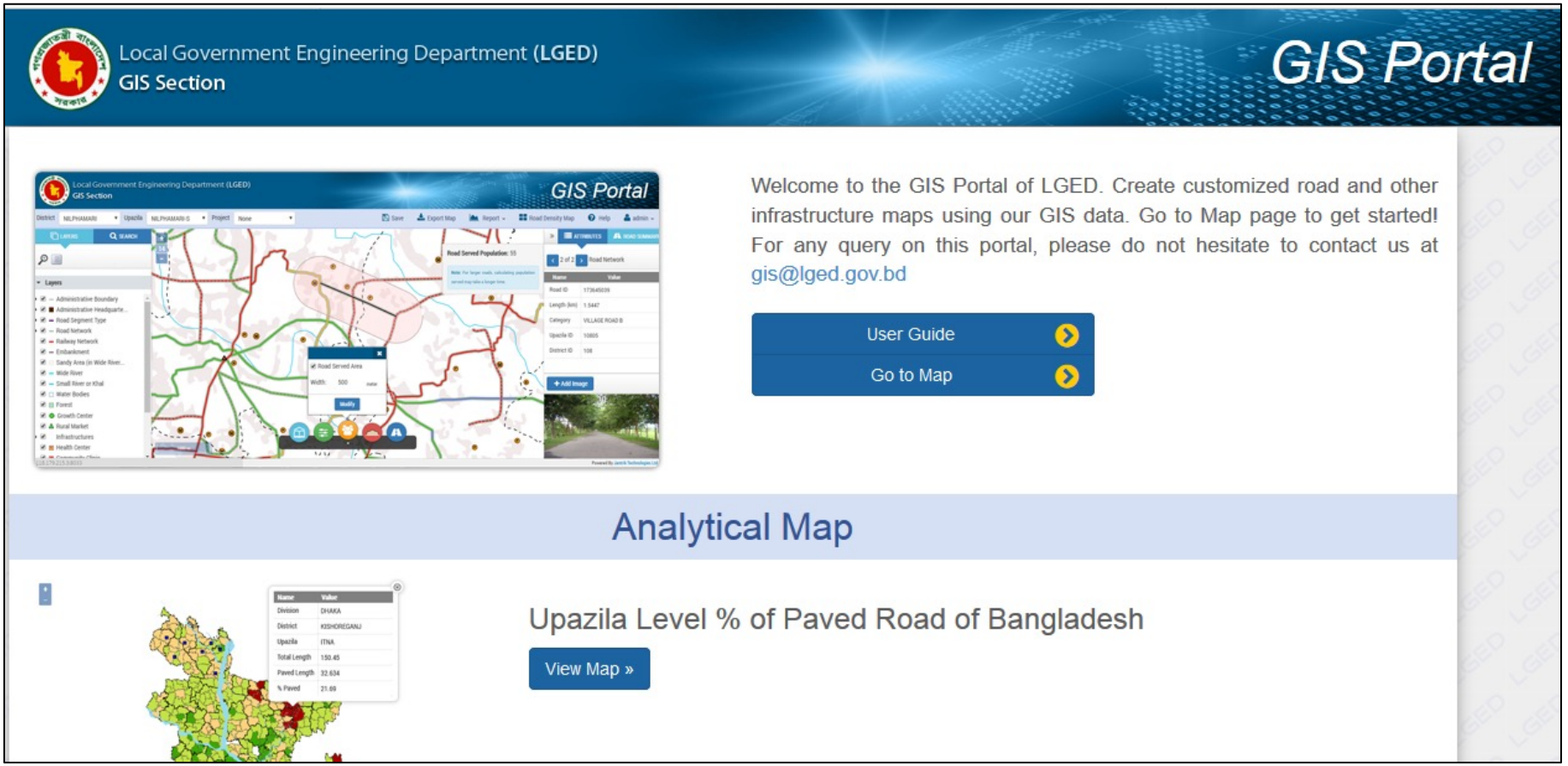
Completed Project Map



Rural Accessiblity Index Map

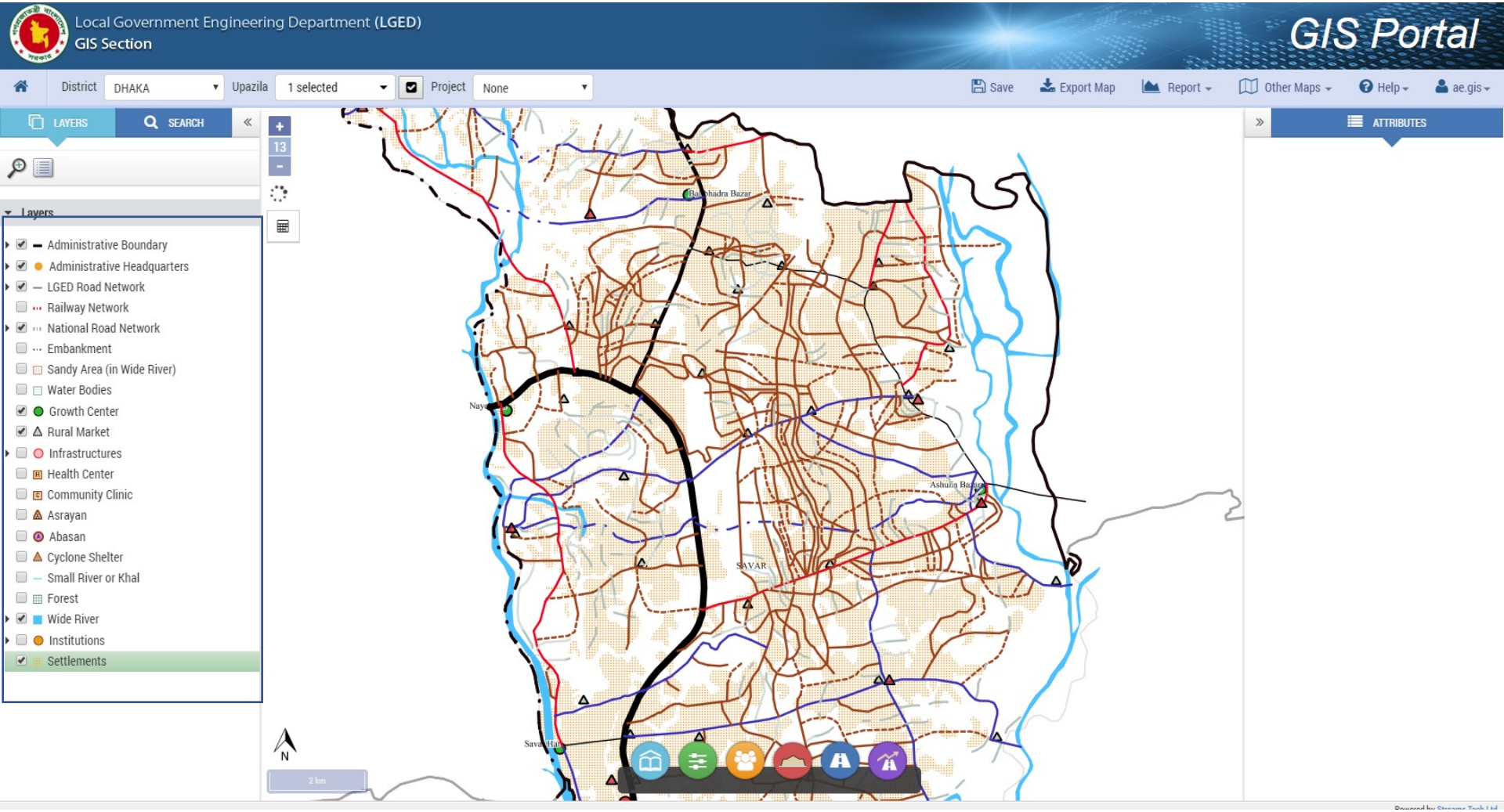
According to SDG Indicator 9.1.1



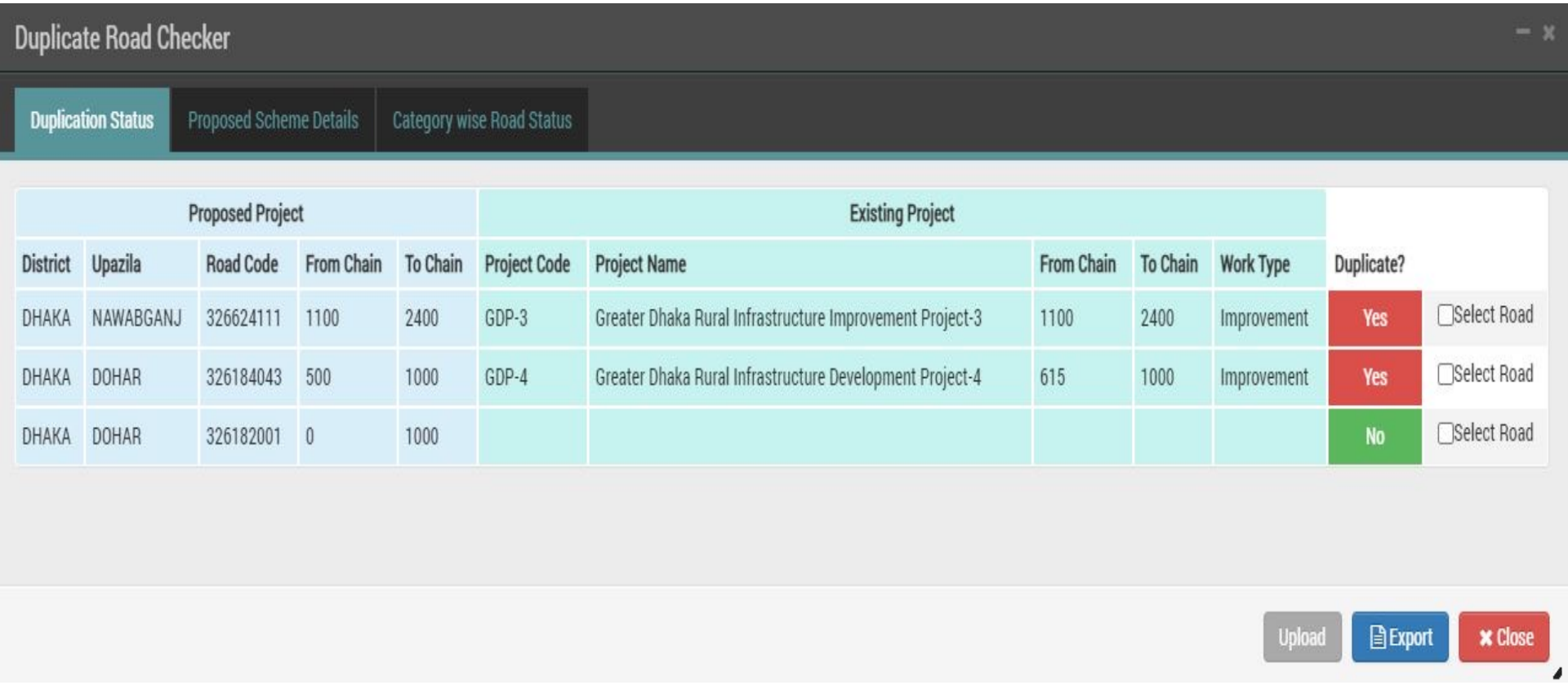


gis.lged.gov.bd

Create Customized Maps in the Easiest Way…



Checking of Scheme Duplication



Future Plan

- ❑ **Development of Rural Road Master Plan**
- ❑ GIS based **Asset Management system (AMS)**



Proposed Road Prioritization System

Development of Rural Road Master Plan

Under the Rural Connectivity Improvement Project (RCIP) of LGED, financed by Asian Development Bank (ADB)



Necessity of the Assignment

Rural roads served as main catalyst of rural economic growth during last decade. In addition, government has determined to improve quality of lives of rural people by connecting villages, markets, educational institutes and health facilities, etc.

Therefore, present strategy of Bangladesh for development of rural infrastructure comprises following:

- Upgrading of all rural roads from unpaved to paved roads;
- Improvement of rural roads through repair and rehabilitation

Necessity of the Assignment

- For improvement or maintenance of rural roads, selection of **prioritized rural roads** is very important and needs to develop a smart tool for prioritization. It will help **impartial selection** of important roads for development using funds from GoB or development partners.
- This will be done using modern **geo-referencing and GIS techniques** and this initiative will develop a web based application.

Major Tasks

- Task 01: Enhancement and Updating existing softwares
- Task 02: GIS-based Survey and data collection for whole Road Network
- Task 03: Update the geospatial (GIS) database
- Task 04: Finalization of Core Road Network and Prioritized Rural Road Network
- Task 05: Workshop and Training

Attributes to be Collected

- Road alignment
- Bridge/Culverts/Gaps
- Administrative HQs
- Educational institutions
- Rail-crossing
- Other socio-economic infrastructures such as growth center, rural market, industry, religious building, health complex, community clinic, police station, public center, etc.

Major Outputs of this Assignment

i) Modified offline and online mobile app which will be capable to capture geo-coordinate of roads, bridge/culvert and other socio-economic infrastructures during survey;

ii) Highly accurate GIS database;

iii) Updated RSDMS with attribute information;

iv) System based Upazila and District wise prioritized road list considering road improvement and road maintenance including GIS visualization.

Possible Areas of Collaboration

- **Development of Rural Transportation Policy**

- **Intelligent Traffic System (ITS)**



Working with Other Agencies

IRRI

a2i
জনগণের দোরগোড়ায় সেবা
Service @ Doorsteps

BUET

JAXA

Bangladesh Bureau of Statistics

ICIMOD

SOB

JICA
Japan International Cooperation Agency

Thanks for Attention!!!

