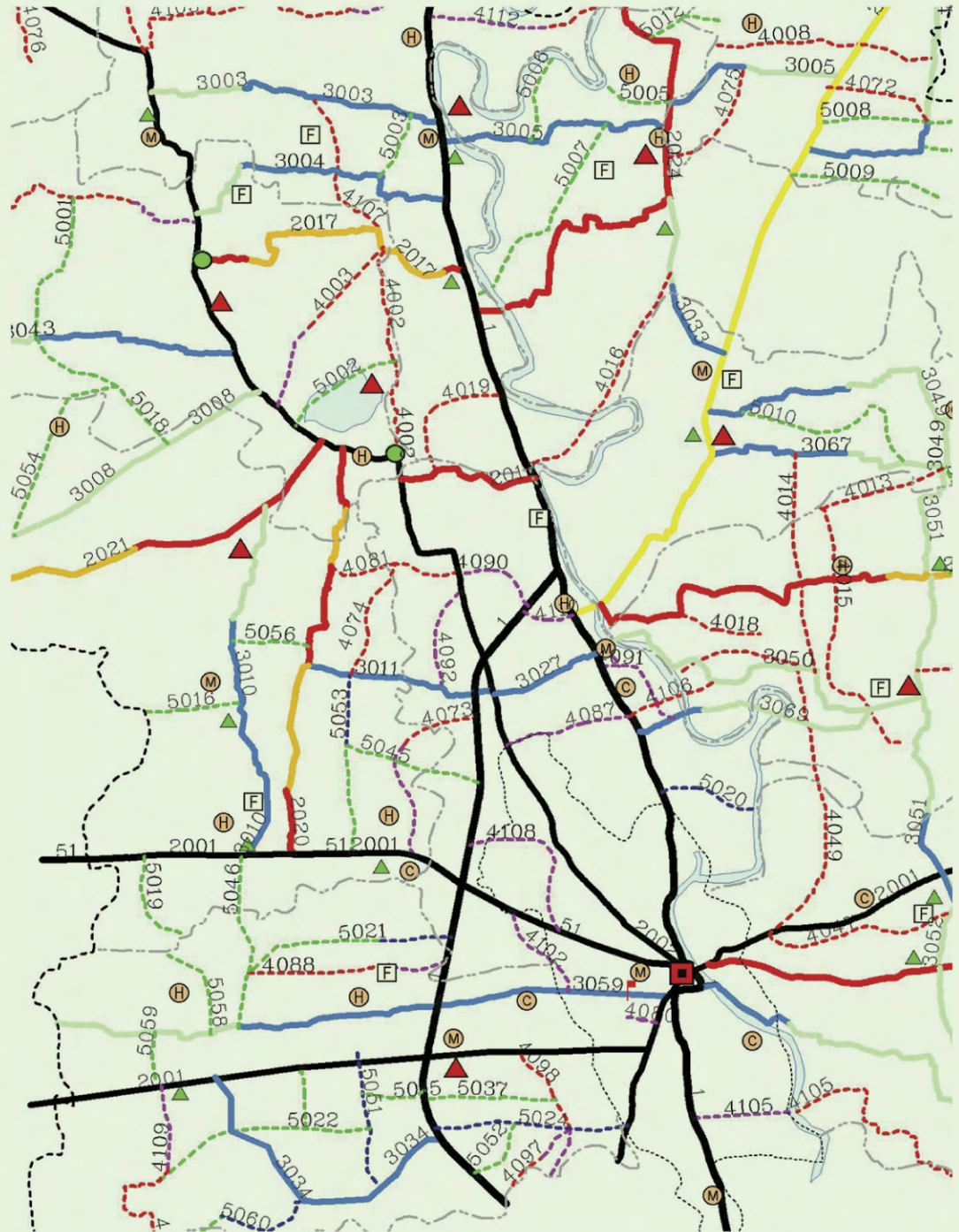




**Local Government Engineering Department (LGED)
and
Japan International Cooperation Agency (JICA)**



SYLHET DIVISION

Rural Infrastructure Maintenance Management Unit (RIMMU)

March 2005

PREFACE

It is a matter of satisfaction that LGED Road Database has been published through compilation of data that represent all relevant information of rural road network of the country in a structured manner. The Rural Infrastructure Maintenance Management Unit of LGED (former Rural Infrastructure Maintenance Cell) took up the initiative to create a road inventory database in mid nineties to register all of its road assets country-wide with the help of customized software called, Road and Structure Database Management System. The said database was designed to accommodate all relevant information on the road network sequentially and the system was upgraded from time to time to cater the growing needs. In general, the purpose of this database is to use it in planning and management of LGED's rural road network by providing detailed information on roads and structures. In particular, from maintenance point of view this helps to draw up comprehensive maintenance program including rational allocation of fund based on various parameters and physical condition of the road network.

According to recent road re-classification, LGED is responsible for construction, development and maintenance of three classes of roads, which has been named as Upazila Road, Union Road and Village Road (category A & B) in association with Local Government Institution. The basic information about these roads like, road name, road type, length, surface type, condition, structure number with span, existing gaps with length, etc. has been made available in the road inventory. Side by side, corresponding spatial data are also provided in the road map comprising this document. Updating of this road database is a continuous process as the road condition, surface type etc. are changing continuously.

Through publication of this document I wish to reiterate propagation of this message of preference for systematic planning and management of cost-effective development and maintenance of rural roads country-wide within the sphere of LGED, being fully conducive with respect to setting priority and optimal utilization of country's limited resources and alleviating poverty.

Technology is continuously advancing and innovations are taking place to cater the needs of the changing time, so is this document and software. This document is certainly not the compilation of static data; rather it will require periodic revisions, updating and refinement. Continuous updating of data is taking place in a planned way. Constructive and meaningful suggestion from any quarter to that respect will profoundly be acknowledged. I like to take this opportunity to extend thanks to JICA for their excellent cooperation to this effort.

I find myself of high spontaneity in expressing my pleasure to stamping this publication for LGED's use of highest order with regard to planning and management of rural roads of the country that would hopefully bring out the best in all of us.


(Md. Shahidul Hassan)

Preface

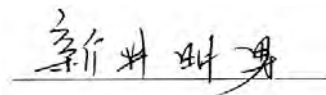
The importance of infrastructure in catalyzing development is well-known. With a predominantly rural economy, infrastructure plays a vital role in supporting socio-economic development of Bangladesh, which is dependent on roads for commercial activities and at the same time delivery of government services.

The Local Government Engineering Department (LGED) is one of the leading government organizations responsible for planning and implementation of rural infrastructure development and is a driving force in national development in Bangladesh. Over the decades of experience LGED has shown its active involvement in rural infrastructure development. Starting with only 4,000 km of primary and secondary highway networks in 1971, Bangladesh has now an extensive road network of nearly 223,000 km covering four broad categories of roads – national highway, regional highway, feeder road and rural road.

LGED has the responsibility of constructing and maintaining the rural road network. To restructure the organization with effective management system, the Rural Development Engineering Centre (RDEC) Setting-up Project, the technical cooperation project between LGED and JICA has been started. The project took over relevant engineering functions developed at the Head Office and different projects of LGED in the field of planning, designing, quality control, research and development. It is expected that the centre will strengthen the engineering capacity of LGED Head Office, field level organizations and local government institutions, not only in the fields of civil works, but also in social, economic and environmental areas through the provision of different technical support programs.

The Inventory of LGED Road Network is one of the remarkable outputs of technical cooperation between LGED and JICA. This publication would certainly serve as a source of information on the trend of development of rural road network of the country. I hope the data accumulated in the inventory would be used for effective planning and maintenance of rural roads and other infrastructural development and at the same time contribute to the steady progress of rural infrastructure development of Bangladesh.

I congratulate the LGED officials and JICA Experts for their effort in preparing this inventory.



Akio ARAI
Resident Representative
JICA Bangladesh Office

Acknowledgement

It's an excellent piece of documentation work on LGED road network and achievements of LGED's different rural infrastructure building initiatives. It does not give the mere description of the road network that has been developed and managed by LGED, but at the same time it also reflects other sectoral attribute and spatial information that has been achieved over the years date back from early 1960s.

This document is a long felt need though some stray attempts had been made earlier on a very ad-hoc basis. This is for the first time a well organised handy printed document is being published showing maps and the tabular description of roads and road infrastructure side by side, leaving scope for visualising how roads and eventual social development components are going at the very interior Bangladesh along with road and other related development.

This book shows the out-lay of the physical facilities developed throughout the country. One can easily see the trend of development of road transport infrastructure coupled with marketing out-fits, and can contemplate how country's agriculture and local agro-based cottage and small industries could be flourished in a planned way. At the same time social development status of a particular location can easily be identified by seeing the location of social infrastructure like schools, hospitals, community centres, recreation facilities etc. This book is a complete document displaying existing and future potentials of different parts of rural Bangladesh – in the field of agriculture, livestock, fisheries and other prospective areas; which could be extremely useful in rural infrastructure planning for all other Government agencies and development partners.

I want to express my heartiest gratitude to Japan International Cooperation Agency (JICA) for their fabulous help, not only for printing this very valuable document but also for the help and support for enhancing data collection methods from the field by providing equipment and training to LGED personnel. I also like to extend my special thanks to Mr. Kanezo Takeuchi, Team Leader, RDEC Setting-up Project for his continuous support and initiatives to get this document printed and giving me mental support in numerous way.

I hope everybody will find this document very useful and supportive in getting real data about rural road network throughout the country. Our sincere effort will be devoted for regular updating of this document in the years to come with my fellow colleagues who have largely contributed towards the compilation of this valuable document.



(Akhund Habibul Alam)
Additional Chief Engineer.

Inventory of LGED Road Network

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INVENTORY OF LGED ROAD NETWORK

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Introduction and Structure of LGED Road Database

1. Background

The road transport infrastructures are the valuable asset of the country. The Government of Bangladesh and the Development Partners have invested a huge amount of resources in rural infrastructure development in Bangladesh, most of these are on road infrastructures to improve rural transport network, employment generation and contribute towards alleviation of poverty. The Local Government Engineering Department (LGED) under the Local Government Division of the Ministry of Local Government, Rural development and Cooperatives has been entrusted with the responsibilities, among others; the development, improvement and maintenance of rural infrastructures of the country. To establish a systematic planning approach with respect to setting priority and optimum utilization of country's limited resources in this sector a reliable database is pre-requisite. The purpose of this road database is to use it as a planning tool for development and improvement of rural infrastructures under LGED as a whole, and more emphasis on the planning and management of the rural road network from improvement and maintenance point of view.

The Rural Infrastructure Maintenance Management Unit of LGED (former Rural Infrastructure Maintenance Cell) took up the initiative to create a road inventory database in mid nineties to register all of its road assets country-wide with the help of customized software called, Road and Structure Database Management System. The system was developed to compile and update the information on LGED roads and the appurtenant structures all over the country using a relational database management system. It was designed to accommodate all relevant information on the road network sequentially and the system was upgraded from time to time to cater the growing needs. The current road database accommodates all basic information about road network, like; road name, road type, length, surface type, condition, structure number with span, existing gaps with span, etc. in well structured fashion.

Another important aspect of this database is that the road information stored in the database are linked to the GIS database, so that it is easily possible to make perfect matching between the road database and the road maps using a common ID number. In this way, all roads in the database are completely consistent with the roads in the road map. That means any road shown in road map should have corresponding entries in the tabular database and vice-versa. The road map does not only provide the mere description of the road network, but at the same time it also shows accumulated physical development in all other sectors that has been

achieved over the years in the same place. Updating of this road database is a continuous process as the road condition, surface type etc. are changing continuously.

Through the maps compiled to this document, it would be possible to see the expansion of road transport infrastructure in the rural area linking with marketing out-fits. The map also indicates the socio-economic development in rural area showing the spatial distribution of social infrastructures, like; school, hospital, small and cottage industries, community centres, recreation facilities, etc. along with other physical features. Thus, the road database and maps presented side by side in this document could be extremely useful for planning and management of rural infrastructures of the country.

2. Road Network Under LGED

According to the road classification, LGED is responsible for construction, development and maintenance of three classes of roads, which has been named as Upazila Road (UZR), Union Road (UNR), Village Road (VR) in collaboration with Local Government Institution. There are about 4231 Upazila Roads, 7504 Union Roads and 67658 and Village Roads and more than 163600 structures (bridges and culverts) on these roads all over the country. As per the inventory updated in February 2005, the lengths of each category of road, also the surface type, are furnished in table-2.1 below:

Table- 2.1: Summary of LGED Road Network, Country-wide

| Surface Type | <i>Road Length in Km</i> | | | |
|---------------------|--------------------------|--------------|---------------|---------------|
| | UZR | UNR | VR | Total |
| Bitumen Surfaced | 17687 | 8360 | 7365 | 33412 |
| Brick Pavement | 3399 | 3299 | 5705 | 12403 |
| Concrete Pavement | 225 | 193 | 237 | 654 |
| Earthen | 14885 | 30650 | 157899 | 203434 |
| Total in Km | 36195 | 42502 | 171206 | 249904 |

It is to mention that the Upazila road length has been increased significantly from last revision due to transfer of 6280 km of roads from RHD to LGED and also according to recent Road Re-classification by the Planning Commission of Bangladesh; another 5720 km of Union roads has been upgraded to Upazila Road category by definition.

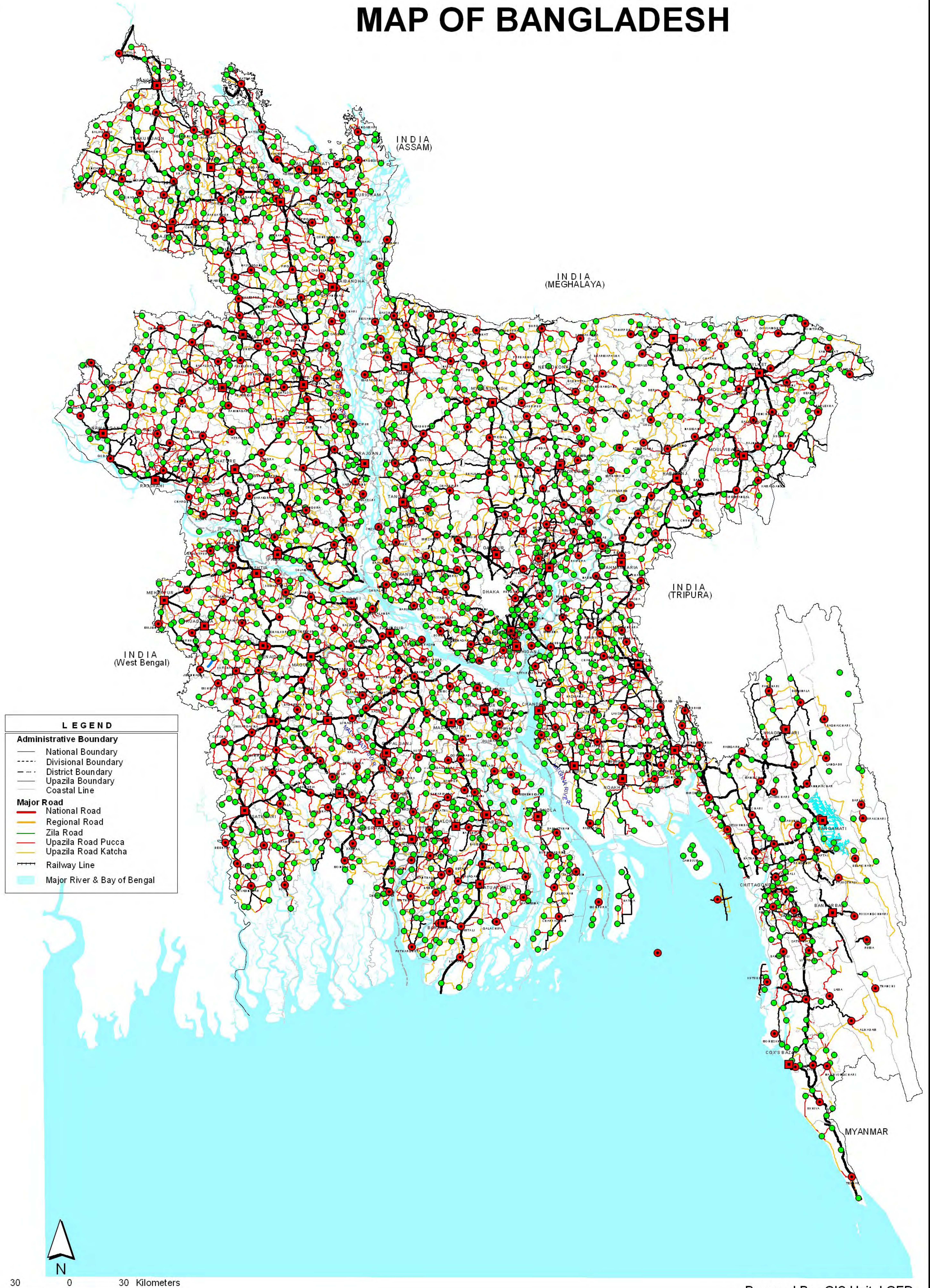
3. Structure of this Document

This document comprises of six volumes, one for each administrative division of the country. Each volume contains the following documents in sequence;

- a. Country map followed by country summary of LGED road network showing road lengths under various categories, surface types and their condition in tabular form and in chart country-wide.
- b. Division map followed by a divisional summary of LGED road network showing road lengths under various categories, surface types and their condition in tabular form and in chart division-wise.
- c. District map followed by a district summary of LGED road network showing road lengths under various categories, surface types and their condition in tabular form and in chart district-wise.
- d. Upazila road map followed by a list of all Upazila Roads, Union Roads and Village roads within each individual Upazila showing the road category, road name, length, surface type, structure number with span, existing gaps with span, etc. for each individual road.

The following pages of this document contain detailed inventory of the country's rural road network under LGED and also the road map showing the alignment of these roads along with the location of other features surrounding the roads.

MAP OF BANGLADESH



LEGEND

Administrative Boundary

- National Boundary
- - - Divisional Boundary
- · - · District Boundary
- · - · Upazila Boundary
- Coastal Line

Major Road

- National Road
- Regional Road
- Zila Road
- Upazila Road Pucca
- Upazila Road Katcha
- Railway Line
- Major River & Bay of Bengal



30 0 30 Kilometers

**LOCAL GOVERNMENT ENGINEERING DEPARTMENT
COUNTRY SUMMARY OF ROAD**

| ROAD TYPE | NUMBER OF ROAD | TOTAL LENGTH (Km) | SURFACE TYPE-WISE BREAK-UP (Km) | | | | CONDITION OF BC & RIGID PVT. ROAD (As of December, 2003) (Km) | | | | STRUCTURE | | EXISTING GAP | |
|----------------|----------------|-------------------|---------------------------------|------------------------|-------------------------------|-------------------------|---|-------------|-------------|-------------|---------------|---------------|--------------|---------------|
| | | | EARTHEN | FLEXIBLE PAVEMENT (BC) | BRICK PAVEMENT (WBM/HBB/ BFS) | RIGID PAVEMENT (CC/RCC) | GOOD | FAIR | POOR | BAD | NUMBER | SPAN (m) | NUMBER | SPAN (m) |
| Upazila Road | 4252 | 36155 | 14884 | 17646 | 3401 | 225 | 9004 | 5868 | 1986 | 937 | 46626 | 269528 | 6310 | 112150 |
| Union Road | 7513 | 42361 | 30551 | 8350 | 3268 | 193 | 5005 | 2221 | 824 | 336 | 43318 | 205206 | 11160 | 125327 |
| Village Road-A | 29717 | 94056 | 83194 | 6317 | 4365 | 180 | 4005 | 1688 | 513 | 186 | 51591 | 230373 | 28019 | 216960 |
| Village Road-B | 38266 | 77273 | 74821 | 1025 | 1370 | 57 | 794 | 191 | 71 | 24 | 23091 | 92681 | 24733 | 156226 |
| TOTAL | 79748 | 249846 | 203450 | 33338 | 12404 | 654 | 18808 | 9967 | 3393 | 1484 | 164626 | 797788 | 70222 | 610662 |

