MEMORANDUM OF UNDERSTANDING

between

The Local Government Engineering Department, Ministry of Local Government, Rural Development & Co-operatives

and

The Water Resources Planning Organization, Ministry of Water Resources

concerning

COLLABORATION IN SHARING DATA

Whereas:

a.   The Local Government Engineering Department, Ministry of Local Government, Rural Development & Co-operatives (hereinafter referred to as "LGED") is the leading government institution responsible for the provision of rural infrastructure, which will include small scale water management facilities

b.   To carry out the entrusted responsibilities properly, LGED produces thana maps country wide and prepares their digital versions with relevant attributes for the purpose of planning rural and urban infrastructures and other socio-economic development activities

c.   The Water Resources Planning Organization, Ministry of Water Resources (hereinafter referred to as "WARPO"), is the apex public organization for macro-level water resources planning and serves as the Executive Secretariat to the Executive Committee of the National Water Resources Council (ECNWRC) in providing administrative, technical, and legal support to ECNWRC

d.   The National Water Policy (NWPo) has mandated WARPO to prepare and periodically update the National Water Management Plan (NWMP), to set up and update the National Water Resources Database (NWRD) and Information Management System.

e.   The NWRD will be the major source of supply of water related data in the country and contain data of different agencies, organisations and projects, and

f.   NWRD data will be used in the formulation of plans by WARPO and other agencies concerned with the water sector

And Whereas:

g.   LGED and WARPO (hereinafter jointly referred to as "the Participants") in pursuance of their mandated activities and responsibilities, wish to collaborate mutually by signing an MOU for sharing between themselves data both in digital and hard copy form

NOW THE PARTICIPANTS AGREE AS FOLLOWS:

Objective

1. The objective of this MOU is to establish the relationship and framework of collaboration between the Participants with respect to sharing of data.

Relationship between the Participants

2. The working relationship intended by this MOU between the Participants is on the basis of mutual interest and benefit, with WARPO providing LGED with relevant data from the NWRD for the whole country and other data subject where required to the prior permission from source organizations, and LGED providing the relevant data and information required to undertake the National Water Management Plan and to establish and update the NWRD.

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Free sharing of data

3. Flow of information and sharing of data between LGED and WARPO will be undertaken without charge or cost to the recipient Participant save the cost of any transfer media such as tapes, diskettes, CD ROMs or paper.

Nature of data to be exchanged

4. The types of data that can be exchanged between the participants are described in the Annexes to this MOU, together with the software and storage devices in current use. For WARPO such description is given in Annex 1 and for LGED is in Annex 2.

Revision and correction of data to be notified

5. When in the course of using data supplied by one participant, the other discovers errors or when one participant adds to the information already supplied to the other, the participant noting or correcting the error or adding information shall promptly inform the other and shall promptly make available the revised, additional or corrected information.

Ownership of data and limitations on transfer to third parties

6. Data provided by one of the participants shall remain the property of that participant. The Participants will acknowledge the ownership and source when publishing the other's data in reports, documents or other media. Participants shall not transfer data of the other participant to a third party in original or processed form without the prior permission of the participant who owns the original data.
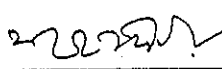
Effectiveness

7. This MOU will become effective upon signing by both Participants. This MoU may be amended or extended by written agreement of the Participants.

In Witness Whereof, the Participants have hereunder affixed their signatures on the date and place specified.

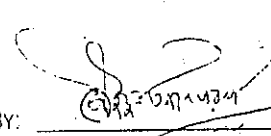| LOCAL GOVERNMENT ENGINEERING DEPARTMENT (LGED).	WATER RESOURCES PLANNING ORGANIZATION (WARPO).

BY: _____

MD. MONOWAR HOSSAIN CHOWDHURY
CHIEF ENGINEER
LOCAL GOVT. ENGINEERING DEPARTMENT

BY: _____

TAUHIDUL ANWAR KHAN
DIRECTOR GENERAL
WATER RESOURCES PLANNING
ORGANISATION

DATE: 18-4-2000

DATE: 18-4-2000

Description about WARPO data under NWRD

National Water Policy has mandated WARPO to create and maintain a National Water Resources Database (NWRD). WARPO collates data from different data collecting agencies and consolidates information from various projects/research centers on the existing hydrological system. Presently WARPO is formulating a National Water Management Plan (NWMP) for its short term and long term perspective. NWRD is supporting not only NWMP, but also all potential users involved in water resources planning in Bangladesh.

Since hydrological planning covers not only water resources sector but also other sectors, WARPO is creating a multidisciplinary database for its own plan and for other users. NWRD comprises mainly hydro and hydro-meteorological data and also covers ten main data layers. NWRD maintains a countrywide GIS database on administrative units, surface and ground water, meteorological, socio-economic, soil and agriculture, environment and fisheries information.

The main source of administrative spatial data is from DLRS map of scale 1:63,360 and AEZ map of scale 1:250,000; river coverage captured from 1:50,000 scale of 1989 spot images and coastal area updated from Landsat images of 1997; topographical features of land elevation (DEM) covers the whole country from BWDB irrigation map and SoB Topo sheet of scale 1:50,000.

The NWRD database is developed in SQL for back-end with ArcView GIS in front-end applications. The data of NWRD can broadly be classified into two categories: time series and spatial data. The time series data are kept in tabular format in SQL and the spatial data are in ArcView *shapefile* format. All spatial data are prepared in ArcInfo NT 7.1.2 and Arcview GIS 3.1. The images are edited in Imagine 8.2. All computers are under NT network system with one *Network Server* and one *Data server*. The data dissemination media is either in 3.5" floppy or CD. The backup system of NWRD is in *Dat tape* driver. The metadatabase, a data cataloging is also developed using *Geokey* software integration with NWRD. The metadatabase can be access through Internet explorer.

Description about LGED Data

LGED maintains a country wide GIS database which is used for planing and implementation of rural and urban infrastructure development activities. The main source of this digital spatial data is 1:50,000 scale thana base map which was printed by LGED during 1990 to 1994. Thana base maps are compiled from SPOT image (1989-90), Aerial photograph (1983-84), topographic maps of SOB, old PS maps of DLR and field checking. The projection system is Lambert Conformal Conic. Contents of thana base maps include basic spatial features of the thana such as administrative boundaries, physical infrastructure, socio-economic infrastructure, settlement pattern, natural features etc. Road layers of the digital data set are captured from 1:50000 scale road maps of LGED. The road attributes of corresponding spatial data are maintained in a national level tabular database. Apart from that a database on MIS is also developed under Small Scale Water Resources Development Sector (SSWRDS) Project for all water sector projects/ sub-projects/schemes.

LGED's data set is under the process of continuous upgrading and extensions. Both spatial and attribute databases of the road network are updated regularly. LGED has carried out GPS survey to update the road information (R1 and above roads) of 151 thana in 1997. The GPS survey of another 208 thana are in progress in 2000. There is a plan to use Landsat TM and SPOT image to update the existing digital features.

The software used in preparing the data are: Arc Info 7.1.2 and 3.5, Arcview GIS 3.1, Erdas Imagine 8.2, Auto CAD 14, Microsoft Visual Fox Pro 5.0 and Microsoft Access 97 etc.

The backup/archiving systems of data are CD/Zip Disk/Optical Disk etc.