

GroundWater Department, Uttar Pradesh

Offering	GIS Mapping and Digitization.
Customer	GroundWater Department, Uttar Pradesh
Visit at	http://gwd.up.nic.in/

Background

Ground Water Department, an irrigation sector plays a major role for the provision of drinking water to public and therefore it becomes important to manage the data for planning purpose at block level, tehsil level, district level and as well as the state level.

The department carries out block wise investigation planning and management of various ground water components to find out feasibility and availability of state water conservation, harvesting and recharging, ground water management and long time planning.

Client Brief

Ground Water Department is a multidisciplinary department which includes Hydro Geologist, Civil & Mechanical Engineer, Geophysicist, Chemist and Mathematician etc. The organization is headed by a Director and the work is carried out under divisions.

Requirement

A complete GIS mapping of Uttar Pradesh land resources and water resources was required by the directorate of the Ground Water. The objective was to derive complete information about land damage index, aquifer, water resources and rain water harvesting status all in a glance at map through Digitization of 820 development blocks of U.P. The second objective was to have software deduct relevant information once provided with correct inputs. Executing these tasks required massive assistance at the local level.

Solution

The project envisaged on utilizing the long term water level of 10,563 Rural and Urban Hydrograph stations to enhance the data using GIS technique with the objective to prepare various types of utility maps through G.I.S Module. Number of tasks that were accomplished are as follows:

- Rain water harvesting and recharging Software development
- Aquifer & pumping test Software development
- Digitization of GIS Maps for 820 blocks
- Land Damage Index application on GIS Map
- Ground Water Sources on GIS Map
- Software Development
- Software and Hardware Procurement
- GIS LAB
- Consultant
- Manpower Supply
- Installation, Implementation, Configuration, Training for all the developed Software

Results

As an IT Consultant for the Organization, MARG Software Solutions designed and implemented the complete infrastructure and provided advanced handling of the application software. Under the scheme, training sessions were provided on Arc GIS. The departmental blocks were taken up for Digitization and various Utility maps were prepared. Development of multi-layered

maps with complete GIS, Land Damage Index, water sources etc has been developed and successfully delivered to the department. They can be summarized as under:

- Block wise Index Maps
- Ground water Maps
- Ground water Quality Maps
- Litho Logical Maps
- Watershed Maps
- Ground water Availability Maps
- Land Damage Index Map

Services

MARG Software Solutions deployed a professional team which was geared up to ensure No Single Point of Failure (NSPDF) deployment of the system in high availability mode. The solution involving development, installation and training for the application software has been done across all the divisions of Uttar Pradesh.

The comprehensive support during the period includes the following:

- Digitization of the departmental Blocks.
- Proper functioning of the software such as MapInfo, Rainwater Calculation, Aquifer Test, Golden Surfer.
- Onsite Maintenance of proper GIS Lab.
- Latest Hardware Supply with Man power resources.

H/W and S/W environment

Backend Database: MS SQL Server 2000

Server: Microsoft IIS on Windows 2000

Programming: HTML, DHTML, ASP.Net, Java Script, VB Script

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