

## RURAL DEVELOPMENT SOLUTIONS

### PERSPECTIVE OF RURAL DEVELOPMENT

India has been an agrarian state ever since her Independence and the primary objective is of alleviation of rural poverty and development of rural areas. With focus on elimination of poverty, ignorance, diseases and inequality of opportunities and providing a better and higher quality of life for the rural areas are the basic premises. Rural development implies bringing the economic betterment of people as well as greater social transformation/equity.

In order to provide the rural people with better prospects for economic development, the focus has to be on increased participation of people in the rural development programmes, decentralization of planning to villages, better enforcement of land reforms and greater access to credit and employment opportunities. The focus, of course, is in the 74<sup>th</sup> Amendment of Constitution that provides for Panchayat-level planning and development.

India still has nearly half its people living in rural areas and that poses a challenge for the rural development task. With large scale de-centralisation and empowering panchayats to plan and undertake development comes the need to plan and develop our villages in a systematic manner, invest in rural infrastructure and improve the quality of life in our rural areas. There is an urgent need to address the downside of proliferating un-employment, increasing drought and agriculture loss, address rural poverty, of relentless march of rural amenities and address environmental issues.

One of the major requirements for rural development is to have the accurate and timely information – information in geo-spatial forms that allows generation and use of different maps, GIS data and applications. Information of rural areas that characterizes the social and economic environment, physical environment and rural services and amenities are critical in planning and development of rural areas.

### Focus of Rural development and Planning

In the rural framework, there are 4 core areas that are focus of planning and development:

- Rural Development – This focuses on development of rural manner in a holistic manner and improvement of quality of life. Important schemes for generation of self employment and wage employment, provision of housing and minor irrigation assets to rural poor and Rural Roads.
- Land Resources – This focuses on assessing and managing land as a resource unit in rural areas. The need is for increasing the soil and moisture conservation and productivity of the wasteland of the degraded lands thereby increase the income of the people.
- Drinking Water and Sanitation – This focuses on providing basic drinking water and sanitation facilities in rural areas.

### SPECIFIC INITIATIVES OF RURAL DEVELOPMENT INDUSTRY

Applications of GIS have great relevance to rural areas and can support rural development, land management, drinking water assessment and planning rural facilities – apart from aiding rural governance and panchayat administration activities. The focus of GIS in rural areas is to help prepare assessment of land – help map the landuse, soils, wasteland, drainage and prepare integrated watershed development and wasteland development plans; help map and monitor drought and prepare drought-proofing plans; map each and every rural Panchayat Assets and help Panchayat planning and utilization of funds at panchayat level; survey and map land cadastres and prepare re-survey settlement of land in rural areas; help prepare rural sustainable development strategies, systematic plans that can be monitored, involve panchayats in rural development and management, enable panchayats to manage their regions better and bring geographical knowledge to rural citizens.

Most of government's rural programmes stress the foundation of a GIS – like, **Pradhan Mantri Gram Sadak Yojana, (PMGSY), Rural Housing (RH) Sampoorna Gramin Rozgar Yojana (SGRY) and Swaranjayanti Gram Swarozgar Yojana (SGSY)**; Drought Prone Area Programme (DPAP) The Desert Development Programme (DDP) the Integrated Wasteland Development Programme (IWDP) and Land Reforms (LR), including National Land Records Modernisation Programme (NRLMP); The Swajaldhara, the Accelerated Rural Water Supply Programme (ARWSP) and the Total Sanitation Programme (TSP) etc

These activities and government programmes need GIS-Ready Data and GIS Solutions for Rural Development in every of the village/panchayat in the nation; Panchayati raj institutions require Panchayat-specific detailed GIS-Ready data and specific customized GIS Solutions of Panchayat Assets and Planning Panchayat-GIS solutions; rural amenities planning require detailed maps and GIS Applications for planning and developing rural infrastructure; drought assessment requires continuous monitoring crop and water conditions using temporal satellite images to detect the onset of drought and provide alerts and many others.

Every Panchayat area needs a Panchayat-GIS – a comprehensive map-based Geographical Information Systems (GIS) that powers panchayat planning and management. The GIS must meet the needs of the panchayat – with focus on Asset mapping and GIS-ready Asset database; incorporation of development plans and status and provide specific solutions for administration/planning/management that is based on modern data sources such as satellite and aerial and GIS databases, provide GIS-Decision Support System (DSS) for rural areas.

## **MAPMYINDIA OFFERINGS**

MapmyIndia has unique capability to meet the needs of rural development, land records modernization and panchayat planning and administration and can support specific needs of surveying in rural areas, land records survey, mapping for rural areas using satellite images, creating GIS data and customized GIS solutions that can help rural development and Panchayati-Raj institutions.

In support of rural areas and for any Panchayat in the country, MapmyIndia can offer:

- **READY-TO-USE GIS DATA FOR ANY PANCHAYAT**

MapmyIndia owns and maintain precision, GIS data holdings for the whole country and this can be provided to panchayat/rural authorities to power panchayat planning, rural development, rural land records mapping and critical Navigation Services in far-flung rural areas. MapmyIndia can offer ready-to-use and GIS-Ready, seamless GIS data for any rural village/panchayat.

- **MAPMYINDIA CAN UNDERTAKE WIDE VARIETY OF SURVEYS IN ANY VILLAGE**

MapmyIndia can undertake specialised and customized land records survey, rural development survey, panchayat assets survey in any village of India by which rural authorities can get their village-specific GIS-Ready data organised and value-added by MapmyIndia. Surveys can be using variety of methods – total stations for land properties, panchayat assets; GPS based location mapping surveys of panchayat assets; rural-specific surveys for properties, taxation, crop assessment etc.

- **MAPMYINDIA CAN GENERATE AND OFFER MAPPING SERVICES TO ANY RURAL AREA**

Mapping using satellite images to generate base maps, rural landuse maps, thematic maps – soils, drainage, ground-water potential etc, DEM, change analysis maps using temporal images, contouring, high-precision 2-d and 3-d mapping and a variety of value-added products. MapmyIndia can also undertake specialised drought assessment and mapping of crop condition, moisture assessment and prepare integrated drought-detection maps. Of special capability is Rural Asset Mapping and creating a Rural Asset GIS – a map-based record of each and every rural asset (school, water-source, health facility, trading facility, banks/credit facility etc) and link them to Asset databases. All these mapping activities are GIS-Ready image mapping content.

- **MAPMYINDIA CAN BUILD AND MAINTAIN PANCHAYAT- OR DISTRICT-GIS DATABASES**

The core of any rural GIS solution is the Rural-GIS database. Whether it is ingest of maps generated from images; ingest of available paper-data - scanning paper drawings, maps, aerial photos or satellite images and creation of document archives and vectorising the scanned products; geo-tagging tabular databases of text/tables; documentation solutions etc, MapmyIndia can create and organize GIS databases and even maintain them over time to form the back-bone of GIS solutions of any organization.

- **MAPMYINDIA CAN DEVELOP AND MAINTAIN CUSTOMISED GIS SOLUTIONS FOR ANY VILLAGE/PANCHAYAT**

That enables rural agencies and local governments to access ready-to-use GIS solutions on standardized GIS-Ready data holdings of their district/panchayat/village. MapmyIndia uses using advanced GIS serving technology and Standards to design, build and implement Rural-GIS Applications with Metadata access, GIS data access, GIS access and link with technologies of high-level data security, payment gateways and role-based access to GIS Solutions. Of specific interest will be GIS Solutions for watershed development, land records, drought assessment, ground-water mapping, crop assessment, rural amenities planning/monitoring, rural roads planning/monitoring, Panchayat Development, rural property management, rural administration etc.

Some rural-specific GIS Solutions capability of MapmyIndia:

- Land Records-GIS – where existing land records computerization with the cadastral maps can provide immediate and quick land management solutions for rural areas and identify land acquisition activity including focus on taxation and revenue collection.
- Natural Resources Management (NRM)-GIS– inventory and management of agriculture crops, land cover and landuse, forestry resources, soils, land degradation and wasteland management, water resources etc towards establishing a natural resources GIS and using Land Capability and Suitability models in rural areas.
- Panchayati Raj-GIS where MapmyIndia nation-wide GIS Asset can form the base for Panchayati Raj Spatial Asset Mapping and for Panchayati Raj project management.
- Rural-GIS applications of watershed management, rural roads management, village development planning and rural governance services

MapmyIndia can also offer off-the-shelf MapmyIndia navigation devices that can be used in urban areas for navigation support for urban fleets of municipalities, local police, bus transport etc.

### **MAPMYINDIA VALUE PROPOSITION**

MapmyIndia has distinct and unique GIS offerings to Indian Government (central, state and local governments) – GIS services that no other Indian GIS company offers today in a combined manner. MapmyIndia aims to serve the needs of the government through focused, innovative, efficient and quality GIS products and GIS services of relevance to all areas of governance in central government, state governments and even local governments. MapmyIndia brings horizontal and vertical integration of satellite/aerial Remote Sensing, Ground Survey, Positioning, GIS databases and GIS applications, GIS web-services and overall system integration services in GIS. MapmyIndia has the best professionals and experienced technology advisers/consultants in this GIS technology and boasts of a top technical team. The MapmyIndia team, with its vast experience and expertise, provides the back-bone of innovative, quality and effective solutions to all sectors of governments, private sectors, academia and non-governmental organisations.