NOTE ON DEVELOPMENT NEEDS OF THE DISTRICT REVENUE ADMINISTRATION IN NEXT 25 YEARS

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The enormous work involved in up-keeping and maintenance of Land Records and other works of District Administration, have been taken into consideration in projecting the development needs of the District Administration.

The department aims to achieve the following in the next 25 years:

- **DEVELOPMENT OF WELL FURNSIHED SETUP FOR COMPUTERISATION OF LAND RECORDS AND A GEOGRAPHICAL INFORMATION DIVISION**

- **MODERNIZATION OF SURVEY AND SETTLEMENT DIVISION WITH LATEST EQUIPMENTS AND TRAINING THE PERSONNELS INVOLVED**

- **WIDE AREA NETWORKING - CONNECTING ALL TEHSIL OF A&N ISLANDS WITH A SERVER AT THE DISTRICT COMPUTER BUILDING**

- **OTHER CITIZEN SERVICES LIKE IDENTITY CARDS, SMART CARDS, PERMITS ETC;**

- **CREATION AND UPDATION OF INFORMATION ON DATABANK AND DEVELOPMENT OF A SINGLE WINDOW SYSTEM FOR PROVIDING INFORMATION TO GENERAL PUBLIC ON THE SPOT.**

- **A MODERN COMPUTER BUILDING FOR COMPUTERISATION OF LAND RECORDS AND OTHER ALLIED WORK OF DISTRICT ADMINISTRATION.**

The above scheme is aimed at achieving the following objectives:

(i) To facilitate easy maintenance and updating of changes which occur in the land data base such as changes due to creation of irrigation facilities, natural calamities, or on account of legal changes like transfer of ownership, partition, land acquisition, lease etc.

(ii) Computerisation of ownership and plot-wise details for issue of timely and accurate copy of the record of rights to the land owners. Creation of 'land information system' and database for effective land reforms, revenue administration and development planning at the grass-root levels and distribution of computerized copies of Records of Rights (RORs).

(iii) Low cost, easily reproducible storage media for reliable preservation for longtime. Fast and efficient retrieval of information, both graphical and textual. The ultimate objective of the scheme is 'on-line management' and Modernization in Land Administration.

iv) Ensuring speed, accuracy, transparency and dispute resolution. Information empowerment of landowners and approach to management of land administration.

SELECTION OF SITE FOR COMPUTER CENTRE FOR THE DISTRICT

For undertaking such an ambitious project and to streamline the task of District Administration, district Headquarters must have a carpet area of 200-250 Sq.mtrs. by Construction of a separate modern computer Building and need exclusive work assignment of manpower engaged in the section shall be assigned specific task.

TRAINING AND DEVELOPMENT OF HUMAN RESOURCE

The target of Computerisation of Land Records Scheme would be achieved with trained manpower, well versed with various facets of recent information technology. There is dire need for appointment of a "Systems Analysts" who can visualise Land Information System (LIS) at the lowest level. Besides these, there

is a need for Mappers/GIS Specialists/Software experts, (especially those well versed with Relational Data Base Management System (RDBMS), Software like Oracle, etc.) as people need to be sensitised with details of Land Revenue Records/Maps and their utility. It is necessary to appoint technically qualified person/(s) for software and hardware maintenance as well.

A comprehensive training programme shall be drawn up. The source agency like **National Remote Sensing Agency (NRSA)** Hyderabad, NRSA Dehradun and **National Institute of Rural Development (NIRD)** Hyderabad, **Survey of India** etc would be associated.

Field unit functionaries, shall be trained for operating the system including updating of records for issue of authenticated copies of ROR etc. Some of newly trained persons shall be used for data entry operation. This will increase involvement, improvement of skills through hands on experience and increase their confidence level.

Likely requirement for Computer Hardware, Peripherals, etc.

HARDWARE

- High Capacity Server
- Computers
- Hardware for Dialup/VSAT connectivity
- A0 Size Scanner
- Global Positioning System (GPS)
- Any other such hardwares

SOFTWARE

- Relevant Software developed on ORACLE and VISUAL Basic or any other relevant software
- Land Records Data Entry
- Querying, Modifying and Printing from the Cadastral maps (GIS/LIS)
- Arcinfo/ ArcGIS/ArcView and other required softwares

NETWORKING

- Connecting All the tehsil of A&N Islands through Computer Network or WAN.

VISION

Dream of Building Land Information System(LIS) is the most important aspect of the present day need in the direction of actual land reforms process. Efforts are being made by various Govt. agencies, private sector companies etc but still the actual direction has to be achieved keeping in view the requirement of Land Sector. The attachment of the information attribute with the digitized map is not the ultimate aim of Land Information System. Without taking into consideration the selection and conversion of base maps with absolute accuracy, the consolidation process, generation of documents like jamabandi etc, cost effective GIS solution, the online networking solution, query feature for planning and decisions, display of land documents, web enabled access of records and the need of various departments of these revenue digital maps, are making crucial for building Land Information System(LIS).

The need of digital maps for Planning, Census, Irrigation, Electricity, Land Use, Rural Development, Transport, PWD, Agriculture and Forest departments are also to be considered. With the convert revenue villages to digital format we may help to overcome with the problem of exploitation of natural resources etc.

A Land Information System (LIS) is similar to GIS but is more focused on land records and detailed views of these records. GIS and LIS systems provide tools that support many types of record keeping, analysis and decision-making.

Components of LIS

Land Information System is an automated development of Cadastral Mapping. In general there are two main issues of concern for setting up a LIS, viz.

- Spatial component/Survey data describing the spatial disposition of the parcels in the real world – Cadastral Maps
- Non-Spatial component describing details such as ownership details, tax value etc – Legal Information

ADVANTAGES OF LIS

The advantages that would accrue to the department and the general public, when the existing cadastral data in the form of Block Maps, FMB's etc are converted into digital format are really innumerable. A few among them are:

- Outdated maintenance procedures can be phased out and replaced by computerized updating of the land records.
- The department can minimise vexatious boundary disputes and consequently civil litigation can efficiently safeguard the survey framework on ground.
- Harnessing of computerised database of every feature of land records in terms of Survey Fields and subdivisions (individual land holdings) for macro level and micro level planning activities, including the all important watershed development activity.
- Computerized Land Information System ensures easy and instantaneous availability of correct record to the public and thereby helps in introducing the much-warranted transparency of public records in this important domain.

Since the numeric data of each Survey Field shall be computerised, the maps generated by the computer are, without exception, far more accurate than the maps available at present and can function as efficient decision making tool.

To encompass the Computerization of land records in its entirety instead of just trying to deliver the text database, three parallel activities would be undertaken:

a. Digitization of the cadastral maps.
b. Transfer of existing database of parcel information into ORACLE or some other such appropriate RDBMS and defining which year's data is required to be kept/computerized
c. Building up of cadastral maps (in areas where these are not available) by, either –

- Resurveying with GPS so that digital maps with geo- coordinates are produced, or coordinates can be used for fixing village boundaries. OR
- Converting the data from FMB (Field Measurement Books) into maps, if a survey has already been done.

The detailed process for the aforesaid three activities needs attention to have a common platform and every plot map fits together while integration. The first layer of maps should be done on a simple platform for which a manpower of "mappers" can be built-up/trained quickly. Subsequent phases of LIS can be built up on the output of the first phase where digitisation of existing maps and survey data can be attached. This would comprise core cadastral data linked with spatial database, which has been built up by data entry. A good example of a standard platform is DXF File Format, which works well with most of GIS softwares like ARC/INFO, MAPINFO, AUTOMAP, GEOOUTLOOK etc. These phases shall comprise switching over to a "LIS" and a Management Information System. A basic Geographical Information System has to be built up from cadastral maps and used along with parcel database to form Land Information System which shall meet the needs of landowners, district administrators, state-level departments for land administration, and finally the Central government. Initially the accuracy of this GIS/LIS may not be 100% but Patwaris and Mappers can work back towards that from the initial base. The GIS system will comprise digital cadastral maps linked with parcel information of landowners in appropriate RDBMS. The LIS system would take off from GIS and be a "Query and Modify Software" working on an extensive network in the office of the Dy Commissioner / Land Records and/or Settlement Commissioner/Director Land Records.

This single scheme would fulfill the requirement of multifarious functions carried out by the District Administration.

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