

Digital India Land Records Modernization Programme

Land Administration has been the historical symbol of Government's authority. It links the Government with the vast majority of the citizens of the country who reside in rural areas and have direct or indirect linkages to land and land related activities. Land Records Information is one of the most valuable assets of any Government. By organizing land-related data into a meaningful Information Warehouse, Government decision makers can be empowered with a flexible tool to provide citizen-centric services and can assess their impact over the intended section of the population.

The evolution of the land administration system in India has been a complex process, well recorded in historical chronicles. In this electronic age, as the country embarks on e-governance initiatives, it is necessary to revamp the land administration system to keep pace with the times to provide service that are fair, efficient and transparent to the citizens of the country.

BACKGROUND

With a view to assist the States and UTs in the task of updating of land records & strengthening revenue administration and computerization of land records, two Centrally Sponsored Schemes viz., (i) Strengthening of Revenue Administration and Updating of Land Records (SRA & ULR) and (ii) Computerization of Land Records (CLR) were started in 1987-88 and 1988-89 respectively.

Although the two schemes of CLR and SRA&ULR have supported the efforts of the States for updating and computerization of land records and have generated awareness among the masses about the benefits of computerization of land records, there were some inherent deficiencies in implementing those two schemes.

The Union Cabinet, in its meeting held on 21.08.2008, approved the proposal of the Department of Land Resources, Ministry of Rural Development to merge its two existing Centrally-sponsored schemes of Computerization of Land Records (CLR) and Strengthening of Revenue Administration & Updating of Land Records (SRA&ULR) and to replace them with a modified Centrally-Sponsored Scheme in the shape of the National Land Records Modernization Programme (NLRMP). The programme has been brought under 'Digital India', the flagship programme of Government of India and has been converted into a Central Plan w.e.f. 01.04.2016. The Programme has since been re-designated as 'Digital India Land Records Modernization Programme'.

CONCEPT

The Digital India Land Records Modernization Programme (DILRMP) has been conceptualized as a **major system and reform initiative** that is concerned not merely with computerization, updating and maintenance of land records and validation of titles, but also as a programme that **will add value and provide a comprehensive database** for planning developmental, regulatory and disaster management activities by providing location-specific information, while providing citizen services based on land records data. The district has been selected as the unit for programme implementation.

OBJECTIVE

The ultimate goal of the DILRMP is to replace the present manual presumptive land-title system into digital conclusive land titling system. The present manual land records are old, insufficient, not duly updated, not agreeing among and within the corresponding records. The manual system of record keeping has become cumbersome, opaque, susceptible to manipulations and hard to administer by the administration. Further the present system of registration of deeds and documents as provided for in the Registration Act, the titles to property are merely presumptive and the State does not give guarantee for such titles. Once some substantial progress is made in implementing the programme, the country can switch to the system of “Conclusive Titles” as followed in most advanced and some of the developing countries.

The system of conclusive titling is based on 4 basic principles:

- (i) A **‘single agency’** to handle land records (including the maintenance and updating of the textual records, maps, survey and settlement operations, registration of immovable property mutations, etc.);
- (ii) The **‘mirror’ principle**, which states that, at any given moment, the land records mirror the ground reality;
- (iii) The **‘curtain’ principle**, which refers to the fact that the record of title is a true depiction of the ownership status, mutation is automatic following registration, there is no need of probing into past title transactions, and title is a conclusive proof of ownership; and
- (iv) **‘Title insurance’**, which refers to the fact that the title is guaranteed for its correctness and the party concerned is indemnified against any loss arising because of inaccuracy in this regard.

SCOPE OF THE PROGRAMME

The following is an outline of the components and activities to be taken up under the DILRMP.

I. Computerization of Land Records

- a. Data entry/re-entry/data conversion of all textual records including mutation records and other land attributes data.
- b. Digitization of cadastral maps
- c. Integration of textual and spatial data
- d. Tehsil, sub-division/district Computer centers
- e. State-level data center
- f. Inter-connectivity among revenue offices

II. Survey/Resurvey and Updating of the Survey & Settlement Records

(including ground control network and ground truthing) using the following modern technology options:

- a. Pure ground method using electronic total station (ETS) and global positioning system (GPS)
- b. Hybrid methodology using aerial photography and ground truthing by ETS and GPS
- c. High Resolution Satellite Imagery (HRSI) and ground truthing by ETS and GPS.

III. Computerization of Registration

- a. Computerization of the sub-registrar's offices (SROs)
- b. Data entry of valuation details
- c. Data entry of legacy encumbrance data
- d. Scanning & preservation of old documents
- e. Connectivity to SROs with revenue offices

IV. Modern record rooms/land records management centers at tehsil level.

V. Training & capacity building

- a. Training, workshops, etc.
- b. Strengthening of the Survey and Revenue training institutes

VI. Core GIS

Village index base maps from satellite imagery, for creating the core GIS. It involves integration of three layers of data:

- a) Spatial data from aerial photography or high-resolution satellite imagery;
- b) Survey of India and Forest Survey of India maps;
- c) Cadastral maps from revenue records.

VII. Legal changes

- a) Amendments to the Registration Act, 1908
- b) Amendments to the State Stamp Acts
- c) Other legal changes
- d) Model law for conclusive titling

VIII. Programme management

- a) Programme Sanctioning & Monitoring Committee in the Department of Land Resources (DoLR), Govt. of India
- b) Programme Management Unit (PMU) in the DoLR and in the States/UTs
- c) Information, Education and Communication (IEC) activities

CONTENT MANAGEMENT

1. Data entry, Updation and Data Verification / Validation process.

Land records data are available as (a) textual data, and (b) spatial data (cadastral maps). All textual data including the records of rights (RoRs), mutation data and other land attributes data shall be updated and computerized. All pending mutations shall be updated and the data entry shall be completed on priority basis. All spatial data shall also be updated and digitized.

The DILRMP Guidelines mandate the State to fix a reasonable cut-off date after which only computerized RoRs should be issued, and issue of manual RoRs should be discontinued thereafter. After the cutoff date, further mutation and updation of data shall be done in the computerized system on an ongoing basis, after following the procedure in the Land Revenue laws/manuals. Responsibility of Revenue officials should be fixed to ensure 100% checking, verification and validation of the data entered.

2. Digitation of Maps and Integration of Textual and Spatial Data

There is an urgent need to convert the existing paper maps into GIS-ready digital form in order to facilitate updating of cadastral maps in sync with the changes made in the RoRs. The GIS ready digitized Cadastral Maps are then to be integrated with corresponding Textual details of RoR.

3. Tehsil, Sub-Division/District Computer Centres

A Computer Centre at the tehsil/sub-division is necessary for maintaining the village-wise property records and for easier services to the citizens. District and Sub-Divisional level Data Centres should be involved for maintenance of district and sub-divisional level databases respectively for data analysis, planning, verification, etc. District Computer Centre will collate the land records data of all the sub-divisions and tehsils in the respective district.

4. State-Level Data Centre

In order to maintain data repository and backup, the State will need to establish a dedicated Data Centre for the land records data (including maps and registration data) at the State level. This Data Centre would have estimated storage capacity scalable from 2 to 20 terabytes, depending upon the volume of records, along with high speed processors, switches, fiber optic channels, software and security devices. Further, these would have appropriate backup media (like CDs and tape devices, etc.) for high volume storage.

5. Inter-Connectivity among revenue offices

All the land record offices, from the State level to the tahasil or equivalent level, as well as the registration offices will be securely connected via wide area network (WAN) in an appropriate configuration based on the functional and technical requirements. In order to achieve functional integration among the tahasils, districts, SROs and State Data Centre, each location would be provided with network connectivity with 2 mbps link for last mile connectivity from the point of presence (PoP) of the State Wide Area Network (SWAN). From there upwards, the data would ride over the NICNET network.

Till SWAN is put in place and is stabilized, alternative approaches can be taken for connectivity in the interim period, such as broadband/leased line with virtual private network (VPN) infrastructure or VSAT connectivity for secure data transmission.

6. Modern Record Rooms/Land Records Management Centres

It envisages support for upgrading modern record rooms/land records management centres with

- a) a storage area with compactors/storage devices for physical storage of records and maps,
- b) an operational area with computers/servers, storage area network (SAN), printers, etc., and
- c) a public services area for waiting/reception, etc.

The land records details shall be indexed and stored. A document management system, i.e., scanning of old records, digital storage and retrieval system shall be put to in use for online storage and retrieval of the records, indexing of data and images, etc. so as to move towards cyber record rooms/maintenance of land records in the dematerialized format.

7. Survey/Re-Survey and Updation of Survey & Settlement Records

Most of the villages were surveyed and corresponding village (cadastral) maps were prepared to the scale during early 20th century. The cadastral survey of an area which has already been surveyed earlier is known as Re-survey.

For reaching the stage of conclusive titling, the State shall have to undertake survey/re-survey using modern technology of surveying & mapping, i.e., aerial photography or high resolution satellite imagery combined with ground truthing using ETS+DGPS so as to ensure true ground depiction on cadastral maps and land records, adopting the methodology most appropriate for the terrain, location, etc. and update the survey & settlement records.

8. Computerization of the Registration Process

Registration is one of the major components of the DILRMP. Computerization of registration is necessary not only for making property registration efficient and hassle-free but also for integrating land records and registration.

The manual (non-computerized) registration process involves maintenance of paper copies of all the registered documents. This procedure of maintaining and registering property documents often results in misclassification of documents, misrepresentation of facts, and other such losses. Searching of reports, records and issuance of non-encumbrance certificates also take long time and turn out to be cumbersome tasks.

Under the DILRMP, all the SROs will be fully computerized with adequate hardware, software. Apart from above it is necessary to introduce following e-Governance activities.

- i) Online availability of stamp duty values so that the transacting parties can ascertain stamp duty liability online.
- ii) Re-engineering of the process, wherever necessary, by fixing the formats of the deeds in 2-3 pages.
- iii) E-stamping for depositing stamp duty should be implemented as soon as possible.
- iv) Computerizing the verification process in identity of the presenting person, fingerprints, other biometric identification, verification of stamp duty etc.
- v) Integration of the registration process with the land records maintenance system so that mutation notices and mutation remarks in the corresponding RoRs are generated automatically after registration.

9. Training & Capacity Building

State is required to draw up a comprehensive training programme to develop their human resources for effective maintenance and sustenance of the DILRMP, covering the policy makers, heads of the departments of revenue, survey, registration and their offices and staff, master trainers and field-level functionaries who will be trained for operating the system.

The capacity building programme should include awareness/appraisal workshops, long-term training programmes for field-level officers with hands-on training, and short-term training modules for senior-level officers.

10. Data Security

Digital data have given rise to new concerns related to security of the vital database in terms of authentication, access control, roles and responsibilities of various users in affecting changes in the database etc. These need to be appropriately addressed and the State must adopt and implement security management system as per ISO/IEC 27001.

11. Public-Private Partnerships (PPP)

The DILRMP has generated an enormous workload on the existing Revenue and Registration machinery. It also requires a high level of technological inputs at almost every stage. Capacity building of the in-situ staff is essential but is likely to take time. In order to streamline the implementation of the Programme and to achieve the targets within the proposed timeframe, the State may need to go for the PPP models in respect of certain activities under the Programme or outsource them on a turnkey basis subject to certain conditions as laid down in the DILRMP guidelines. However, the overall decision-making responsibility, supervision, monitoring and control in respect of these matters shall rest with the State.

12. Monitoring and Review Mechanism

The following monitoring and review mechanism at different levels is to be adopted under the Programme.

i) District-level Monitoring and Review Committee:

All the districts need to have a District-level Monitoring and Review Committee under the Chairpersonship of the District Collector along with ADMs dealing with land revenue matters, Sub-Collectors, District Sub-registrar, Settlement/Consolidation Officer having jurisdiction over the district, and District Informatics Officer of the NIC as members. Representatives from other technical agencies may be involved as per the need as special invitees. The Committee will review the progress of implementation of the Programme at least once a quarter.

ii) State level Monitoring and Review Committee:

A State level Monitoring and Review Committee has been constituted in the State for the DILRMP under the chairpersonship of the Chief Secretary. Member, Board of Revenue, Principal Secretary/Secretary of the Departments of Revenue, Finance, Planning & Co-ordination and IT, the Revenue Divisional Commissioners, Inspector General of Registration, Director, Land Records, Surveys & Consolidation, State Informatics Officer of the NIC, Chief Executive, ORSAC and CEO,OCAC are its members. The Committee shall monitor and review the progress of implementation of the Programme, facilitate the necessary process re-engineering, and guide the implementation authorities.

iii) Project Management Unit:

The Project Management Unit (PMU) under the Digital Land Records Modernization Programme has been constituted under the Chairmanship of the Chief Secretary, Odisha. It has been constituted in the form of a Registered Society at the State level under the name “Odisha Land Records Modernization Society”. The PMU has been mandated for formulating strategies, policies and plans for management of land records and for finalizing administrative, financial, legal and technical framework for the IT enabled land records management and related services.

EXPECTED OUTCOMES OF THE DILRMP

The long-term goal would be to usher in the system of conclusive titles with title guarantee in the country. Land Information System (LIS) will be the outcome of DILRMP. An LIS is an automated development of Cadastral Mapping. It is designed specifically to create, visualize, analyze report and publish Land based data such as: parcel information, zoning, land use, ownership and general property information. The major focus of the programme would be on providing citizen services, as outlined below.

1. Citizen services and benefits

- i. Real-time records will be available to the citizen.
- ii. Since the records will be placed on the websites with proper security IDs, property owners will have free access to their records while maintaining confidentiality.
- iii. Free accessibility to the records will reduce interface between the citizen and the Government functionaries, thereby reducing rent seeking and harassment.
- iv. Public-private partnership (PPP) mode of service delivery will further reduce citizen interface with Govt. machinery, while adding to the convenience.
- v. Abolition of stamp papers and payment of stamp duty and registration fees through banks or online etc. will also reduce interface with the Registration machinery.
- vi. With the use of IT inter-linkages, the time for obtaining RoRs, etc. will be drastically reduced.
- vii. The single-window service or the web enabled “anytime anywhere” access will save the citizen time and effort in obtaining RoRs, etc.

- viii. Automatic and automated mutations will significantly reduce the scope of fraudulent property deals.
- ix. Conclusive titling will also significantly reduce litigation.
- x. These records will be tamper-proof.
- xi. Will permit e-linkages to credit facilities.
- xii. Market value information will be available on the website to the citizen.
- xiii. Certificates based on land data (e.g., domicile, caste, income, etc.) will be available to the citizen through computers.
- xiv. Information on eligibility for Government programmes will be available, based on the data.

2. Benefits for Government.

- i) The Programme will be of immense usefulness to the governments – both Central and State Governments – in modernizing and bringing efficiency to the land revenue administration.
- ii) Other socio-economic data will also be integrated with geo-referenced cadastral maps. This integration of spatial and non-spatial information would greatly aid in village level planning. This will enrich the utility of cadastral maps in the present day context.
- iii) The Programme will offer a comprehensive tool for planning various land-based developmental, regulatory and disaster management activities needing location-specific information. The LIS as a tool for Government can be used in land value assessment, land use planning, protected area designation and monitoring, infrastructure management and environmental protection and resource management. The information can be used in generating field level soil health cards, smart cards for farmers to facilitate e-governance and e-banking, settlement of compensation claims, land acquisition and rehabilitation, crop insurance, grant of agricultural subsidies, community/ village resource centers, precision farming etc.

3. Benefits for others

Access to land records data would be provided to Cooperative and other financial institutions for facilitating credit operations. Even the private sector will be able to benefit from this comprehensive tool for planning business and economic activities.

CHALLENGES AHEAD

Every stake-holder of the DILRMP has to have clear understanding that this area of e-governance is the most complicated, intricate, difficult and tricky. This program is not easy than any other e-governance programme. This program has multi facets viz. techno, legal, administrative, behavioural, attitudinal, political will. Achieving DILRMP would involve, getting across many serious political, logistical, administrative, attitudinal change management hurdles.