Resurvey under DILRMP- Haryana

Introduction

Land, a scarce natural resource, has been regarded as a measure of wealth, status and power from time immemorial. Efficient land management leads to a Nation's development. Indian agricultural economy with poor land records is slowing its transformation to an industrialized economy.

5.1 Historical Background

In the early period, the sovereign earned the major share from Land revenue. From the very time of the sultanates, extended for more than 300 years, Jagirdar, King, Inamdar, Nawab, Subedar, Mirja, Zamindar etc. were made intermediaries who passed on the revenue to the sovereign. Indian Land records originated during the Mughal period. Dewan Todar Mal attempted to reform the system for the first time during Sher Shah Suri’s reign. Under the reign of Mughal Emperor Akbar, Raja Todar Mal, the then Finance Minister transformed the land revenue collection and assessment into a systematic practice by appointing a clerk in every Village. This system of maintenance by patwari is still used in the Indian sub-continent which was improved by the British and the Government of India.

5.2 Status of Haryana land records

Haryana’s Land records system is as old as that of the Mughal and the British period. The last land settlement was held in 1909-10 in United Punjab during British period. At the time of separation from Punjab in 1966, Haryana had seven districts. Its land area is 44212 square KM. Now there are 21 districts and 7085 villages. After independence, land consolidation was done from 1952 to 1964 in United Punjab. Land was divided into uniform grids of acres. Each acre is called a *killa*, having dimension of 40 *karam* x 36 *karam* and each *karam* is equal to 5.5 feet. Lowest land unit measured is KaramKilla grid of 25 acre called a *Muraba*. One Mussavi contains 16 *Murabas* i.e., 400 acres of land. *Mussavi* is the basic map of identification and location of ownership of land and prepared as per village area. Whole village area was shown in *shajra* map called cadastral map. Land ownership transfer details in Missal Hquiyat book and Field Books were prepared.

Mutation is a legal proof of change in any rights in the holdings occurred after preparation of last *Jamabandi* (supporting documents of land ownership). National Informatics centre has entered Record of Rights (RoR) data in Haryana Land Record
Information System. Mussavis remained un-updated for 50-60 years. Owners have changed but the land records continued to be in joint names and only share of land is registered as Land ownership, which created disputes.

**Haryana Space Application Centre (HARSAC)** which is the nodal agency for the state for geospatial application was assigned the task of National Land record modernization program by the State Government. In 2007, prior to launching of NLRMP, HARSAC took up re-survey for one village as a pilot project. With successful completion of the pilot project, the exercise was extended for whole of Sirsa district. Central Government appreciated the pioneer work of HARSAC.

**Objective**

The Government of India launched the NLRMP in 2008 to modernize land records which would reduce land disputes and enhance transparency in land records maintenance system. Land records having long historical link have errors coupled with missing documents created difficulty to update data by Revenue Departments. The resurvey component under NLRMP aims to develop planetary data of land record with geo referenced cadastral maps of record data. As per the project, every state has to modernize the land record data accurately.

**5.3 Methodology**

HARSAC’s land digitization model is based upon accurate geo referencing of planetary data, this reduces field visits and survey.

**Execution plan:-**

- Work was divided into three parts.
  - Firstly; scanning and digitization of *mussavi* and cadastral map generation.
  - Secondly; correcting maps using high resolution satellite data using primary control points as a monumentation for accurate photogrammetric process.
  - Thirdly; development of documents management system.
- *Patwaries*, revenue officials were trained at HARSAC and *Patwar Bhawan*.
- NLRMP’s business processing unit is established inside the premise of *Patwari* Training Center where workstations were connected to main server manned by the HARSAC.
- On field, every vendor must have district coordinator with the revenue officers.
- Margin of acceptable error was set less than 1%.

**5.4 Geo-referencing of land surface**

- For accurate geo-referencing of cadastral maps, monumentation easily identified in satellite images, of entire state was done as shown in the figure.
Initially, 35 Primary control points by the Survey of India were used to build reference map. Another 121 primary control points at a distance of 20 KM followed by 589 secondary control points at distance of 8 KM distance and finally 18000 tertiary control points were added to the network by HARSAC as shown in the figure.
5.5 Photogrammetric process

High resolution satellite data was acquired for photogrammetric process. Triangulation and digital terrain models were created for ortho rectification afterwards to establish ground control points as shown in figures.
5.6 Digitization of Mussavies for cadastral map and vector generation.

- Digitized mussavies were printed and sent to respective Patwaries for matching with record of rights and updating it. Corrections were made, thus a corrected and updated Mussavi was prepared.

- All mussavis of a village were made to cadastral map and verified by Patwari and Tehsildar; subsequently vetted by villagers.

- With Revenue officer, and villagers consent, cadastral map was superimposed upon geo-referenced image, as shown in figure below.

5.7 Document Scanning

- All documents of land ownership like Jamabandi, Misal Haqiyat, Field Book, Mutation, shajra—Nashb, Girdayri and registry deeds were scanned.

- Scanned documents were uploaded onto 'document management retrieval system' software. This data in DMRS was verified again.
5.8 Output

- Geo referenced cadastral map was linked with documents management retrieval system and Record of Rights data. Whole digitized data is shown to villagers in “Jalsa-e-Aam” for their approval and also social auditing by end users.
- 100% success rate in respect to land titles till date is observed.
- In this way, all documents are available online to everybody.
• All districts are preparing their data.
• Change can be swiftly and easily updated.
• Simultaneously hard copy of updated digitized cadastral map is given to Patwari, Tehsildar and DRO as a proof of land record.
• After concealing whole digitized data of a particular village in a PDS device with a GPS chip, the same will be given to Patwari. Patwari can measure village land area correctly with PDS device using the GPS.

5.9 Benefits

❖ Decrease land disputes.
❖ Updated Land record data available online.
❖ Facilitate government development, infrastructural project by simplifying land acquisition process.
❖ Increase government revenue and the efficiency of government machinery.
❖ Time saving.
❖ With this model any state can modernize their land record efficiently.
❖ To resolve the following:
  • Millions of land disputes lying pending in courts.
  • Farmers going countless rounds of courts and administrative officers for searching proper records of their land.
  • Government, Panchayat and Common land is being encroached upon and trespassed.
  • Compensation of land acquisition and natural calamities are not settled.
  • Land administration and management is becoming difficult due to fragmentations of land parcels.
❖ Nobody can cheat in land selling.
❖ Crop loss due to natural calamities will be calculated through modernized land records.
❖ Land registrations are easily checked.

Voice over

Today we have

• Technology to see land on our computer.
• Fast software to modernize land data.
• Experts to digitize any kind of physical records.
• Availability of satellite data to update the land records.
• Hence, today with technical abilities we can modernize our land record data.

An advanced space applications centre has developed an efficient model to modernize the land record data.
e-Registration in Maharashtra

6.1 Introduction to e-Registration

Computerization of the Sub-Registrar's Office and its integration with the Revenue Department are important components of the National Land Records Modernisation Programme for real-time updating of the land records whenever any land transaction is registered. For better provision of services to the citizens, it has also been provided in the DILRMP that the States enter valuation details of the property which shall remove any arbitrariness in charging of property tax. Some of the States have innovated in carrying out business process re-engineering in the registration process, making it citizen friendly. One such best practice is the concept of e-registration introduced by the Government of Maharashtra. E-registration is an attempt to save the registrants from the hassles of visiting registrar’s office, save cost in preparing documents for registry through the intermediaries and reduce time spent in registration of documents.

The concept of Registration of documents has gradually evolved with the advancement of technology. Department of Registration & Stamps, Maharashtra started computerization of registration of documents in the year 2002 by introducing SARITA (Stamp and Registration Information Technology Application). Then in 2012, the department introduced iSARITA (integrated SARITA) which was a centralized system of registration. It also included integration of facilities like online slot booking, online search, online payment etc. which benefited both the citizens and the department which ensured fast, transparent registration process. After centralized registration, reform towards online registration was required to eliminate queues in office. Centralized registration created a perfect platform for the department to further evolve the registration system into an avatar of e-Registration which is registration from anywhere, anytime. e-Registration allows a person to do the complete registration process online without going physically to the Sub-Registrar Office.

6.2 Legal reforms for e-Registration

For registration of documents, the physical presence of document executing party in Sub-Registrar Office was compulsory, as per the Registration Act. Therefore, to implement online Registration, the Government of Maharashtra amended the state’s Registration Act which made the visit to Sub-Registrar Office non-mandatory for the e-Registration. Accordingly, The Registration (Maharashtra Amendment) Act, 2010; the Registration Act in its application to the state of Maharashtra has been amended. The
amendment in the sections 32, 34 and 35 provides that when a document is presented by electronic means, the personal appearance of the party shall not be required and in such a case the Sub-Registrar shall do the enquiry and other process in the manner prescribed in this behalf. Simultaneously, section 69 has been amended to assign the powers of regulating the procedure of online Registration to Inspector General of Registration, Maharashtra State.

The above amendments came into force from 1st April, 2013.

Using the powers conferred under section 69, the IGR, Maharashtra framed, 'The Maharashtra e-Registration Rules, 2013.'

6.3 Software

The software for e-Registration has been developed by NIC, Pune.

6.4 Procedure of e-Registration

A standardized application for e-Registration has been developed by NIC and is available online. This application is provided (To the closed group like builder community) in VPN (Virtual Private Network) environment.

The submission module of e-Registration application requires certain actions by the executants to submit the document which are as follows:

1. Online preparation of document
2. Online payment of Stamp Duty & Registration fee
3. Online execution using biometric/digital signature
4. Online identification using UID and
5. Online submission

The Sub-Registrar module of e-Registration application which is available only to Sub-Registrars takes care of the activities of Sub-Registry. This module enables Sub-Registrar to perform the following activities:

1. Online verification of document
2. Online verification of identity
3. Online verification of payment
4. Online registration &
5. Online return of document

6.5 Documents eligible for e-Registration

Since the concept is at its nascent stage, only selected type of documents, which
meet the following criteria, are considered for e-Registration:

1. Documents which are simple
2. Documents which are stereotyped
3. Documents which are low risk
4. Documents registered in large number

This would benefit larger section of society and would reduce rush in Sub-Registrar offices. It is felt that at this initial stage allowing documents like Sale Deed which are complex in nature would be high risk proposition to bring them under the purview of e-Registration.

---

**e-Registration Application Workflow**

- **Step 1:** Login by User (citizen) in Submission module of e-Registration application
- **Step 2:** Online preparation of document by the citizen submitting information about Property details, Party Details, Consideration Amount and Payment Details
- **Step 3:** Submitting details of e-Payment of Stamp Duty and Registration Fee
- **Step 4:** Preview of draft document by the citizen
- **Step 5:** Execution by the citizen using Bio-metric device and digital signature (optional in some type)
- **Step 6:** Identification using Aadhaar number
- **Step 7:** Online Submission of document by the citizen
- **Step 8:** Using Sub Registrar module, Verification and Registration is done by Sub Registrar. Sub Registrar raises query in document if required.
- **Step 9:** Display of status of document. Document, Index-II and Receipt available for download to the party (citizen) in submission module.
- **Step 10:** Index II and registered document is also made available in e-Search application.
6.6 Infrastructure required for e-Registration

To avail the facility of e-Registration, the following infrastructure is required:

1. Computer with updated antivirus
2. 2 mbps internet connectivity for online transfer of Leave & License type of document otherwise 2 Mbps MPS VPN connectivity from BSNL/MTNL for other approved type of documents
3. A web camera
4. Bio-Metric device
5. A4 Size Printer
6. UID of executing parties

6.7 e-Registration of Agreement for Leave & License

Facility of e-Registration of Leave & License has been made available through multiple channels.

1. Citizens having required infrastructure can directly access e-Registration application from official website of IGR Department (www.igrmaharashtra.gov.in) under online services section and can do the registration.
2. Facility of e-Registration is also available through Common Service Centres (CSC) in Maharashtra. Citizens not having the required infrastructure can visit CSC for availing facility of e-Registration.
3. Door to door facility of e-Registration is also under development and will be available soon in collaboration with private agencies (Authorized Service Providers).

6.8 e-Registration of (First) Agreement of Sale of Flat

The developer (or builder) in Maharashtra can now do the registration of agreement of First Sale of Flat in his office only. The IGR first conducts the scrutiny of the project and authorizes the developer who can then start e-Registration after making requisite infrastructural arrangements. This facility has been made available to large housing projects where there are minimum of 200 flats to be registered for the agreement to sale.

6.9 Launch of e-Registration in Maharashtra

The IGR Maharashtra launched e-Registration on 13th February, 2014 with Leave & License type of agreement.

For the first time, the agreement of sale of flat between builder and purchaser was registered through e-Registration module on 10th July, 2014.
<table>
<thead>
<tr>
<th>S.N.</th>
<th>Parameter</th>
<th>Traditional Registration</th>
<th>e-Registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Office visit</td>
<td>Citizen needs to physically visit the Sub-Registrar office to avail Registration service.</td>
<td>No Need to visit SR office. Registration can be done sitting at home.</td>
</tr>
<tr>
<td>2.</td>
<td>Service Delivery timings</td>
<td>Service can be availed only in office hours.</td>
<td>Service can be availed anytime, 24 × 7</td>
</tr>
<tr>
<td>3.</td>
<td>Efforts by Citizen</td>
<td>It demands greater amount of time and energy of citizens</td>
<td>Saves time and energy of citizen.</td>
</tr>
<tr>
<td>4.</td>
<td>Process Transparency</td>
<td>As compared to e-Registration, lesser transparent</td>
<td>More efficient and transparent process, as Citizen directly deals with Government, with minimum human interface</td>
</tr>
<tr>
<td>5.</td>
<td>Reduction of load on Government offices.</td>
<td>Due to rapid economic development and real estate boom, load on offices has increased.</td>
<td>Helps to reduce crowd in Departmental offices thus giving more time to officers to deliver other services in a better way.</td>
</tr>
</tbody>
</table>

### 6.10 Promotion of e-Registration

1. To facilitate e-Registration, Department with the help of NIC provides training to the staff of developer.

2. Department has also developed FAQs on e-Registration to resolve queries of general nature. These FAQs are available through multiple channels to the citizens like web portal, mobile app, e-book and pdf files.

3. Department has started Call Centre which gives information about new initiatives like e-Registration to the citizens and on-call support to the citizens. Call Centre can be accessed at 08888007777, on all days, between 7 am to 9 pm.

4. Official website of IGR Maharashtra [www.igrmaharashtra.gov.in](http://www.igrmaharashtra.gov.in) has been revamped to provide information about e-Registration in a very simple and lucid manner. E-Registration User manual is also available through the link of e-Registration application.
6.11 Implementation of e-Registration

Document submitted by the citizen using e-Registration module is assigned online to pre-designate Sub-Registrars. Sub-Registrars are instructed to complete the necessary process of e-Registration and make available the registered document within 2 hours of submission. Department also has a monitoring cell which monitors the document pendency at Sub-Registrar Office.

6.12 e-Registration of Leave & License Agreement through Common Service Centers in Maharashtra

About 11% of documents e-registered with department relate to Leave & License agreements. As regards outreach of the e-registry, more than 97% of these documents are being registered from Mumbai, Thane and Pune. To further enhance outreach of the e-registration, the State government has decided to increase the channels of delivery with a view to reach the citizens who do not possess the required infrastructure. Accordingly, the Government of Maharashtra has authorized Common Service Centers (CSCs) in these regions to facilitate e-Registration. Citizens can simply walk into the CSC and get their document submitted online for registration at a nominal fee of Rs. 700. Currently, about 80 CSCs are providing the service of e-Registration. The list of CSCs is available on the official website of the Department www.igrmaharashtra.gov.in for e-Registration.

6.13 e-Registration of Leave & License Agreement through Authorized Service Provider (ASP)

The Department has also initiated steps to authorize certain agencies like law firms, cooperative societies, IT companies and competent tech savvy individuals to provide service of e-Registration to the citizens. These agencies will be called as Authorized Service Providers (ASPs) and will provide service to Citizen at door step or through their Centers.

6.14 Journey of e-Registration so far

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Month</th>
<th>e-Registrations done for Leave &amp; License Document</th>
<th>e-Registrations done for First Sale of Flat by Developers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feb-14</td>
<td>19</td>
<td>Nil</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Mar-14</td>
<td>46</td>
<td>Nil</td>
<td>46</td>
</tr>
<tr>
<td>3</td>
<td>Apr-14</td>
<td>121</td>
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<td>4</td>
<td>May-14</td>
<td>208</td>
<td>Nil</td>
<td>208</td>
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<tr>
<td>5</td>
<td>Jun-14</td>
<td>229</td>
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<td>229</td>
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<tr>
<td>6</td>
<td>Jul-14</td>
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<td>1</td>
<td>263</td>
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<tr>
<td>Sr. No.</td>
<td>Month</td>
<td>e-Registrations done for Leave &amp; License Document</td>
<td>e-Registrations done for First Sale of Flat by Developers</td>
<td>Total</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>-------------------------------------------------</td>
<td>---------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>7</td>
<td>Aug-14</td>
<td>302</td>
<td>43</td>
<td>345</td>
</tr>
<tr>
<td>8</td>
<td>Sep-14</td>
<td>319</td>
<td>79</td>
<td>398</td>
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<td>9</td>
<td>Oct-14</td>
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<td>459</td>
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<td>10</td>
<td>Nov-14</td>
<td>552</td>
<td>73</td>
<td>625</td>
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<tr>
<td>11</td>
<td>Dec-14</td>
<td>551</td>
<td>63</td>
<td>614</td>
</tr>
<tr>
<td>12</td>
<td>Jan-15</td>
<td>1044</td>
<td>63</td>
<td>1107</td>
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<td>Feb-15</td>
<td>1084</td>
<td>34</td>
<td>1118</td>
</tr>
<tr>
<td>14</td>
<td>Mar-15</td>
<td>1685</td>
<td>58</td>
<td>1743</td>
</tr>
<tr>
<td>15</td>
<td>Apr-15</td>
<td>1694</td>
<td>63</td>
<td>1757</td>
</tr>
<tr>
<td>16</td>
<td>TOTAL</td>
<td>8510</td>
<td>542</td>
<td>9052</td>
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</table>

**Document wise progress of e-Registration**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Type</th>
<th>Number of e-Registrations done (as on 29th April 2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agreement to Sale</td>
<td>476</td>
</tr>
<tr>
<td>2</td>
<td>Leave and License</td>
<td>8502</td>
</tr>
<tr>
<td>3</td>
<td>MHADA</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>9052</strong></td>
</tr>
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</table>
Tripura - Computerization of Land Records System

7.1 Tripura - Computerization of Land Records System under NLRMP

RoRs and Maps which were issued manually caused inconvenience to the people as well as Revenue Officials. In order to address this issue, computerization of Land Records was started initially under CLR Scheme. Subsequently the aforesaid Scheme was integrated and renamed as National Land Records Modernization Programme (NLRMP). The entire programme has been converted from stand alone version to web based system for efficient delivery of RoRs and digitized maps with full tracking online through web-enabled system.

Revenue Department, Government of Tripura has successfully created a web based single window solution, called Jami Software for Land Records Management System to handle land records including the maintenance and updating of textual records (RoR), Land Mutation, Maps, survey and settlement operations and registration of immovable property.

Home page of jami software:- web address http://jami.tripura.gov.in . There are two operational platforms in this software; one is Citizen Centric (for citizen view) and; another is Online Application Link (for Revenue Officials with User ID, and biometric logging). Online Land Records computerized process commenced in the State on 01.09.2011 with the following citizen centric facilities:-

- Mutated cases are incorporated by the Revenue Officers through live operational site, https://jami.tripura.gov.in.
- Date of hearing is fixed within 60 days of Mutation report and confirmed through SMS to the beneficiary. After preparation of khatian, the same is informed through SMS.
- All essential Forms are available on the website with print facilities.
- Computerized RoRs are available for delivery through 32 CLR Centres and State Facilitation Centre in the State.
- e-Application: Online application for mutation module is introduced to submit online application by the land holders for mutation.
- Digital Signature and barcode have been introduced for issuing of computerized RoRs in the circles.
• All digitized Khatians (RoR) are authenticated by the Revenue Officials. The name of the officials engaged in comparing and authentication work are recorded in the computerized khatians as “compared by” and “authenticated by” as a mandatory provision.

• 4,57,433 Nos. of computerized copies of RoR have been issued to the interested land holders on spot as per demand through 32 CLR centers and DLRS HQ since May 2004.

• Mutations are executed for 2,07,000 Nos. of beneficiaries through computerized system within 60 days as compared to the waiting time of 1-2 years in earlier method.

### 7.2 The agencies/organizations benefitted through this system

• The meaningful MIS, generated from e-jami Database can be used for planning poverty alleviation programmes, supplying agricultural inputs to small farmers, agricultural statistics etc.

• Banks and other financial institutions can access the database for processing various loan requests and also access the system for entry of loan and mortgage details in the RoRs.

• Courts can access the database for settlement of land disputes between parties.

![Digital Signature and barcode generated RoR](image.png)
7.3 Tripura Online Registration System

The Registration process in Tripura under NLRMP is computerized, web-based and online. The transaction is executed through operational web-site [http://jami.tripura.gov.in](http://jami.tripura.gov.in) and its link programme. The work for the integration of Sub-Registry offices and the CLR has been completed. Land Records & Registration System in the State has been integrated and both the systems speak to each other. After Registration, the system automatically publishes transaction details in RoRs. Citizens can ascertain the status of land before transferring by executing registered deed.

Various components under registration were taken up for execution.

a) Computerization of the Sub-Registrar offices (SROs)
b) Data entry of land valuation details
c) Data entry of legacy encumbrance data
d) Scanning & preservation of old documents
e) Connectivity of SROs with revenue offices
7.4 Digitisation of Cadastral Maps

The cadastral map for each Mouja is available in 16"=1 Mile, 32"=1 Mile, 64"=1 Mile and 128"=1 Mile scales. These maps represent the survey boundaries with Plot numbers, geographical features like transport network, location features viz. temple, trees, house and natural features like river, charra, nala, drainage etc. These cadastral maps have been prepared using plane table survey and chain survey.

As part of the digitisation of Cadastral Surveyed Maps in the state of Tripura, the Directorate of Land Records & Settlement had taken initiative to digitise maps. At the onset, the state map was digitised showing the Districts, Sub-divisions, Revenue Moujas (villages) including habitation, road, rivers, cherras, etc. Digitization of 5384 nos new CS maps in the State have been completed during the 1st Phase. Digitized maps, which are
under scrutiny, are being uploaded in the website for integration, display, up-dating and operation.

- 13,436 Nos. of beneficiaries got digitized Map through computerized system instantly without waiting for 10-15 days as used to happen in earlier system.

7.5 Integration of Textual & Spatial Data

Apart from digitization work, the Land Records database, as available in the JAMI Software, was merged with the map. By clicking on the respective Plot, all the necessary details viz. Name of the Raiyat/allottee, Class of land, quantum of land and other allied information can be accessed. Citizens can now ascertain the status of land before transferring through registered deed.
7.6 Survey

Re-survey using modern technology with ETS & DGPS based on GIS software supported by digitized map conducting ground truthing methodology has been commenced in 40 (Gandachhara=31+Karbook=7+Khowai=2) Revenue Villages (Moujas) with a target area of 1175.39 Sq. Km. in 3 Districts of the state. Field survey by ETS & DGPS has been completed in Nine Revenue Villages (Mouja). Detail Survey Works are under taken for another 9 Revenue villages (Mouja). A glimpse of the resurvey work in AD Nagar & Khowai area using ETS &DGPS is produced in the next photograph.
Himachal Pradesh - Computerization of Land Records System under DILRMP

8.1 Introduction

Over the last 25 years, the computerization of Land Records in Himachal Pradesh has been a major exercise. The aim to computerization a true replica of existing Record of Rights (RoR), was later integrated with the Registration process; and in the recent years a number of process changes have been introduced making the land records services citizen friendly. The Revenue Department of the State Government has brought in many amendments in the record keeping during computerization of land records to simplify and provide value additions to the RoR entries like: Removing internal fractions (dar-var) while specifying shares of land owned by co-sharers, and maintaining computerized records for a maximum of the last 10 generations in case of Shajra Nasb (genealogy tree)-Transferring more than 10 generations old to the record rooms etc.

The computerization of land records has resulted in the land owners getting a unique identification within a village/hamlet. In the records, the land has been categorized in two major types viz. cultivable and uncultivable. Cultivable land has been further classified as rain fed and irrigated. The software has been designed to enable extraction of information on irrigation sources as well as other data based on size of holdings. With implementation of the Himbhoomi, the State has become the first to have
computerized Shajra Nasb (genealogy tree) which acts as an index for the RoR (Jamabandi). Under Himbhoomi the data available in decentralized tehsil server is accessed by the central web interface to disseminate copies of Jamaband is and Shajra Nasbs through Citizen Service Centres (CSCs) at Panchayat level.

8.2 Objectives of Computerisation of Land Records

The project was launched in the State with the following major objectives:

- Making available certified copies of the RoR anytime, anywhere.
- Standardizing Records writing and Records keeping.
- Providing clean and legible copies of RoR. Before implementation of the project the Jamabandi were handwritten by Patwari which were often not legible. After computerization, citizens get clean and legible computer printed Jamabandi, Shajra-Nasbs and all related documents on the standard formats.
- Ease of access to land records for common citizen. In the manual system for the issuance of RoR, a landowner had to approach the concerned village Patwari who was often not easily accessible due to his various responsibilities.
- Implementing reforms through:-
  - Integration of Registration process with Land Records.
  - Authorization of Citizen Service Centre (CSC) operators for issuing RoR.
  - Updation of computerized land records within 7 days of every transaction.
  - Option for instant mutation.

8.3 Himachal Registration Information System (Himris)

In Himachal Pradesh, the powers of Sub-Registrar have been vested in Tehsildars and Naib-Tehsildars. The State Government felt that people who come from far-flung areas spending several hours on their travel to the Tehsil office should get as many services as possible on a single journey to the Tehsil Office. Since the computerization of land records has been completed in the entire State and e-governance related services including certificates of different kinds are offered to the citizen, it was considered necessary to introduce Property Registration Software also at these locations as it is closely linked with the computerization of land records. Therefore, Himbhoomi and Himris have been integrated since 2009. At present the Himachal Registration Information System (Himris) is operational in 123 Tehsils/Sub Tehsils in Himachal Pradesh. All types of deeds are registered by a system which has the feature to capture biometrics. The information provided in the deeds by the executants is validated with online land records data before registration of deeds. As the Himris software has been integrated with Land Records, any transactions related to property are recorded immediately on the Land Records database and reflected in the ROR.
8.4 **Strategy Adopted**

- Development of the correct software solution by the NIC which enables re-use of data that has been previously entered.
- Setting up of Land Record Computer Centres at District level.
- Creation of the post of *Naib-Tehsildar*-LRC (Land Records Computerization) for:
  - Supervision of data entry.
  - Keeping record of village manual records.
  - Coordinating with the visiting *Patwaris* who could come with the record from the field.
  - Making available print-outs of data entered.
  - Getting the data corrected.
  - Getting the corrected data certified from the *Patwaris*.
  - Releasing payment to data entry operators.
- Outsourcing Initial Data Entry.
- Training on IT tools and Land Records Computerization software to all *Patwaris*.
- Substantial reduction in manual work of *Patwaris*.
- Distribution of RoR through Tehsil LRC Centres/Sugam Centres.
- Issuance of necessary government orders.
  - Updation of computerised records within 7 days of every transaction.
  - Authorizing LMK operators to issue certified copies of RoR.
  - Integrating Registration process with Land Records database.
  - Option for immediate mutation upon registration entry of court cases in Land Records.
  - Change of Format of *Jamabandi* for easy understanding. Adoption of A4 size *Jamabandi* in place of A3 for easy handling purposes and printing through any cheaper printer.
8.5 Benefits

Implementation of the project has led to multiple benefits for all the stakeholders including the citizen and the administration apart from other social impacts. Some of these are as follows:

8.5.1 Citizens

- Reduced delivery time for registration/mutation/issuance of RoR copies.
- RoR copies on anytime-anywhere basis: Availability of certified copies of RoR (Jamabandi) and ShajraNash (Genealogy Tree) through LokMitraKendras (LMK-Citizen Service Centres) on 24x7 basis subject to the LMK Centre being open.
- LMK Centres available at the Panchayat level for these services.
- No need to visit Patwari offices for RoR.
- Legible & standard format of RoR: A4 size Jamabandi copy in place of A3 size paper for easy manageability.
- LMK Operators authorized to issue certified copies.
- There is no search fee for land records as the land records data has been placed in public domain since September, 2012 which can now be accessed any time by the land owners.
- For calculation of market rates, registration fee and stamp duty, the circle rates have been made available on the internet (Revenue Department website) for easy viewing by the citizens. The same rates are generated through the software for the convenience of the Department.

8.5.2 Department of Revenue & Registration

- Simplified procedures for Mutation/Entry of Court Cases/Multiple Service points have saved the time of the officials and resulted in better efficiency.
- The software developed under the project provides for Online System for Monitoring the progress of DILRMP.
- Graphical Reports for decision makers. The software generates various reports on the issuance of RoRs, collection of revenue etc which can be used by the officers for different administrative decisions.
- Integration of Land Records data with Registration has reduced the chances of fraud by unscrupulous elements.
• Record up-dation frequency has been reduced to 7 days on the computerized LRC.

• Reduction in the Processing Time of the Report. New Jamabandi processing time has been reduced to just 4 days as compared to almost 6 months under the manual system.

• Himbhoomi has enabled the entry of court cases in the RoR for easy reference.

• The State Vigilance Department has been given access to Land Records to check landed property details of any Government officials.

• Online verification of LMK issued RoR copies.

8.5.3 Social Impact

Apart from the direct benefits for the citizen and the administration as mentioned above, the Himbhoomi project has led to indirect social impact as mentioned under:

• Revenue generating service for CSC-LMK Operators

• Vigilant land owners

• Check on Corruption

• Trust in Government Functioning

• Reduced service delivery times, simplified processes

• Increased Transparency

8.6 Lok Parman

All Tehsildar and Sub-Divisional Magistrate Offices in the State issue different certificates to the people for their use in seeking employment, compensation, loans, jobs etc. On an average, the Tehsil/Sub-division offices issue around 25-50 certificates of different types to the general public which is higher in many Tehsils and Sub-divisions with higher density of population.

The State has developed a software application for the issuance of certificates by various authorities at the DC Office, SDM Office, Tehsil and Sub Tehsil office. To facilitate issuance of these certificates the application
Lok Parman is under implementation in all the Tehsils and Sub Tehsils in Himachal Pradesh. The following 14 types of certificates are issued through this system, ensuring uniformity in the formats of the certificates.

1. Bona fide Certificate
2. Rural Area Certificate
3. Indigent Certificate
4. Domicile Certificate
5. Agriculturist Certificate
6. Character Certificate
7. SC/ST Certificate
8. Dogra Class
9. Minority Community
10. OBC Certificate
11. Income Certificate
12. Non-Employment
13. Backward Certificate
14. Legal Heir

8.7 Awards: This project has brought many laurels to the State as presented below:

- **The Stockholm Challenge Diploma**: The HIMBHoomi Software was shortlisted for the final stage of Stockholm Challenge Award in the year 2006 under the Citizen Services category and was awarded the Stockholm Challenge Diploma.

- **Manthan Award South Asia and Asia Pacific – 2013**: The Himbhoomi Project has also been awarded Jury’s Special Mention - The Manthan Award South Asia and Asia Pacific – 2013 under eGovernance category.

- **National eGovernance Award (Golden Icon)**: The HIMRIS Software (Himachal Registration Information System) was awarded the National eGovernance Award (Golden Icon) under the Process Re-engineering Category in the year 2006 during the eGovernance Conference at Kochi.
### 8.8 Current Status of Implementation in Himachal Pradesh

| **Total Districts:** 12  
**Total Tehsils/SROs:** 117  
**Population:** 68 Lakhs  
**Area:** 55 Thousand square KMs |
<table>
<thead>
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<tbody>
<tr>
<td><strong>HimBhoomi (Land Records Computerisation-Jamabandi)</strong></td>
</tr>
</tbody>
</table>
| Software implemented in all 117 Tehsil  
Integrated with Registration SW  
Total Nakals issued: 23,42,293  
Total Registration Deeds: 5,23,328  
On average, three **Jamabandi Daur**s available for every village |
| **HIMRIS (Integrated Registration MIS)** |
| • Software: Year 2005 Now in all 117 Tehsil  
• Integrated SW: Year 2009 in all 117 Tehsil |
| **Digitization of Cadastral Maps** |
| In the first phase, out of total four districts, three districts are in the final stage of digitized data acceptance. The Himbhoomi web based RoR issuance software is integrated with Bhu-Naksha for the issuance of the map copy. Once the cyber security audit processes are completed for both the applications, the solution will be implemented.  
In the second stage, all remaining eight districts have been taken up and the digitization process through outsourced agencies is in full pace since January, 2015. |
| **Sugam Citizen Service Centers at District level** |
| All 12 Sugam centers are using web interface to issue RoR. |
| **Lok Mitra Kendras (LMK-Citizen Service Centers at Panchayat Level)** |
| Made operational in February 2011  
RoR of whole State Available at CSC- LMK Centres  
2,060 LMKs operational in State  
Total RoR issued: 17,68,217  
Revenue: Rs. 3,88,68,812 as service charges and Rs. 29,65,316 as government fee. |
Rajasthan - “Dharaa” app - a mobile-first approach

Records of Rights, also known as Jamabandi, largely paper based till a few years ago in Rajasthan, are being digitized under the guidelines of DILRMP RORs. Revenue Department wanted to digitally empower the citizens to access the land records information and allow filing of mutation applications online and revenue officials for their important work such as gathering crop survey records and to process the mutation applications.

The State’s vision was to transform these processes into truly digital medium and to provide the common man i.e. land-owner transparency and ease of access. The use of Smartphone is increasing exponentially. As per the research by the Associated Chambers of Commerce and Industry of India and PwC, expected smartphone users will to rise to 85 Crore in India by 2022.

Also, study by the Internet and Mobile Association of India reported that nearly 77 per cent of urban users and 92 per cent of rural users consider mobile as the primary device to access the Internet. Smartphones are easily available to a rural user compared to desktop. To increase the overall user-reach, Department decided to take a mobile-first approach for providing various land records related services at the click of the button using the Dharaa Mobile App.

**Dharaa** has been instrumental in helping the rural landowners across Rajasthan to view Jamabandi (Records of Right), Crop survey records (Girdawari), mutations and checking historical land records. Now, the land owner can have these services in his hand using just smartphone. The interface of Dharaa app is designed in a very simple and easy-to-use manner so that it can be easily used by the end user, especially rural user segment. Dharaa app is available in Hindi language.

The app has today more than 2.5 lakh downloads on Google Play Store and Apple App Store. With a plethora of services available, Dharaa is now the single citizen mobile application for land records in Rajasthan.

**Krishi Rin Rehan Portal** was developed simultaneously to ease the life of farmers by eliminating visit to multiple revenue offices and bank for Rehen (Loan), to visit to only Bank. Status of the Rehan application can be tracked from Dharaa App. **Rajaswa Adhikari app** is also being used by revenue officers to process mutation request, update crop records (Girdawari) and various other services.
Features of Dharaa:-

Dharaa offers various land records services such as:

- View and download **Records of Right**
- View and download **Crop records**
- **Apply for Online mutation**
- Where am I
- Old land records
- Talk to support

| Records of Right | • Search for RoR by Khata/Khasra/Owner name  
|                 | • The app supports quick Hindi alphabets access  
|                 | • Download PDF of RoR  
|                 | • You can also get signed RoR for a nominal fee  
| Crop Records    | • Download crop records for getting loan from banks  
| Digital maps    | • Maps for entire village, khasra also available in the app  
| Online Mutation | • Initiate mutation sitting directly at home  
|                 | • Easy to use interface, doesn't require specialized knowledge of filing mutation  
|                 | • Inbuilt validations and automation  
|                 | • Direct flow to NIC land management system in structured format  
|                 | • Instant generation of mutation number  
| Where am I?     | • Get Khasra details via GPS  
| Old Records     | • View history of a Khasra and get scanned copy of old land records  
|                 | • The records are available since the time of pre-independence |
Dharaa - Home Page
Village Page - View RoR (by Khasra/Khata/Name of Owner), Maps, Old Land Records
Where am I
National Generic Document Registration System “One Nation One Software” in Jharkhand

Introduction

The launch of National Generic Document Registration System (NGDRS) in seven states (Andaman Nicobar, Goa, Himachal Pradesh, Jharkhand, Manipur, Mizoram & Punjab) of the country has started a new era in the process of registration of documents and properties. Built on open source platform using latest technologies, the application has eased it for citizens to process land registration online and take prior appointments. The entire process, right from applying for registry to paying stamp duty and court fee has been made online, thereby eliminating the need of repeated visits to the sub-registrar’s office.

10.1 Historical Background

Registration system is an integral part of the Revenue System of the states, which leads to registration of deed, mutation and updating of land records. Assessment of Stamp Duty as per the Indian Stamp Act, 1899 or the State Stamp Acts is also a core function in the registration process. In order to computerize the process of Registration, all states have deployed software mostly developed in house by NIC under DILRMP. This software has evolved and matured over time. However, recent survey by the NIC & DoLR team has revealed that most of this software needs to be upgraded using modern technologies and hosted centrally for interoperability with the state Land Records System and easy, reliable, cost effective maintenance. It was decided that NIC will develop a single application centrally for the use of all state governments on the similar lines of application of Maharashtra government.

10.2 Status of Jharkhand NGDRS

On 24th October 2019, State government of Jharkhand launched NGDRS system in the state. Migrating from existing system, government has decided to adapt the modern version of the registration under the banner of NGDRS.

The newly adapted system NGDRS offers the following features for the citizens and officials of Jharkhand state.

- Citizen’s registration to request the access permission of the system
• Facility for online document entry for citizens
• Online valuation module with stamp duty calculation
• Role based access to citizens and department users
• SMS facility to send alerts to citizens and departmental users
• E KYC – UID based authentication with the help of biometric or iris at the time of admission
• Hierarchy based maker/checker facility
• Email enabled alerts to citizens and users
• Linking with land records system
• Storage of copy of registered documents using scanning technology
• Facility to view & download scanned documents and generate certified copy of authorized user
• Registration can be done anywhere within concurrent jurisdiction
• Unicode based local language support

10.3 Registration life cycle
10.4 Integration with other Services/Departments

The software has been integrated via web services with following departments:
- NSDL (PAN)
- Jharbhoomi
- UIDAI
- Jgrass
- Digilocker
- SMS
- eStamp
- Holding service (Land Records)

10.5 Monitoring System

Transactions in the system can be monitored with the help of dashboard given to the state authorities.

The dashboard gives the registration scenario across the state. Statistics for Jharkhand registration department since 24th October 2019 is given in the following dashboard as well as in table format.

<table>
<thead>
<tr>
<th>NGDRS DASHBOARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(By default dashboard shows current date data)</td>
</tr>
<tr>
<td>18 December 2019, 15:09:50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From Date</th>
<th>To Date</th>
<th>Extract</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-10-2018</td>
<td>18-12-2019</td>
<td></td>
</tr>
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<table>
<thead>
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<th></th>
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<tbody>
<tr>
<td>93620</td>
<td>7151</td>
<td>42</td>
<td>45535.78</td>
<td>45535.78</td>
<td>100514</td>
</tr>
</tbody>
</table>

10.6 Statistics
10.7 Benefits of the system

1. Time Saving and reduced visits of citizen to sub registrar offices
2. Online Process enabling hassle free operation
3. Minimum Interface with government
4. Prevention of fraudulent transactions
5. Auto calculation of various fees/duties

10.8 Potential Replicability

The product is developed using open source development tools. It is a web-based system implementing single instance for the entire state. As the name implies, the software is generic in nature and has been deployed as state specific instance. The development can be carried out considering the uniqueness and practices in all states' registration departments. The software is totally configurable as per any state's requirement.

10.9 Way Ahead...

NGDRS has now moved a step ahead by introducing data analytics and block chain technology. The proof of concept is now on the roll for both technologies.

10.10 Conclusion

The system has been developed for achieving ease of doing business which proves to be a landmark in the registration history. The system is citizen enabled, transparent and easy to adapt. This has also reduced the registration time and increased efficiency for registrar officials and staff members.