Social Impact of Computerisation of Land Records

Vinay Thakur[1*], D Dutta[1], Ganesh Khadanga[1], and D.S Venkatesh[1]

ABSTRACT

Government of India has implemented Computeriation of Land Records throughout the country upto the level of Tehsil investing crores of Rupees to arrest the recurring problems of inadequately maintained land record system with prime object to issue of timely and accurate copy of the Record of Rights, to store land data in reliable and easily reproducible format, to provide efficient retrieval of information in graphical and textual format and to develop land database for various developmental and land reforms activities. The Land record project has been implemented in most of the states. Now an impact study has been done to determine the impact of computerization of Land records project in the society -whether it has succeeded in reaching it's goal.

Keywords: ROR, CLR, Land Records

1. Introduction

Land Record system has been maintained since time immemorial by successive rulers to extract land revenue which was the principal source of income to their respective States. In erstwhile India, Sher Shah Suri (1540-1545) was the first king to attempt a major improvement with categorization and measurement of land with fixing of crop rates. This was further improved by Mughal Emperor Akbar (1556-1605) where various methods were utilized for determining land class and land revenue. During British Raj, they introduced land administration system to improve their land revenue collection. They established Survey and Settlement offices in various states and started survey & settlement process. But as there were around 500 princely states during British Raj with several states with British's own administration, an uniform land laws was too difficult to implement throughout the country; instead they strengthen land act to serve local needs which raised inconsistency in maintaining of land records. They introduced various land Acts i.e. Bengal Land Act, Punjab Land Revenue Act, Agra Tenancy Act, Uttar Pradesh Land Revenue Act, Punjab land Revenue Act, Delhi Land Revenue Act, Haryana Land Act, Karnataka Land Revenue Act, AP Land Revenue Act etc. which have been subsequently amended and regulated time to time as per their needs.

After independence, India inherited the land records management system from British and adopted with little modification. Understandably, the British system was primarily to "control" the land and "collect revenue" rather than to deliver any social justice or developmental activities. After independence, India has been witnessing massive reforms in all sectors where land resource were one of them. Considerable importance have been given to maintain land resources i.e. land type, ownership details, crops grown, irrigation facility exist, land use, land holding type etc. Also land reforms have been done by acquisition of

[1] National Informatics Centre (NIC), CGO Complex, A-Block Lodi Road New Delhi, India
* Corresponding Author: (Email: vinay@nic.in, Telephone: 91-9868227040, 1124305609)

ceiling surplus land and transferring to landless, issuing of Record of Right to make land holding legal etc. In order to improve land management, Government has decided computerize all land resource data to prevent further manipulation, make it transparent, paving way for issuing instant Record of Right land ownership certificates. They have already invested huge amount in computerization project throughout the country since 1988-89. Now has computerization of Land records succeeded in reaching it's goal? If yea, what is it's social impact?

The manual land record system

Land record system is state subject and hence maintenance of land records is the responsibility of respective state governments. The land records are documented through survey and settlement process. The status of survey and settlement process is not uniform throughout the country i.e. in some states viz. Arunachal Pradesh, Meghalaya etc are yet to be completed, some states not updated for several decades and some have only updated recently. Usually, respective State government initiates survey and settlement process village wise. Distinct land plots are identified and marked with numbers and recorded their cadastral properties i.e. area, boundaries, land type, land revenue due, crops grown, irrigation facility, land owner etc. in various registers as per formats prescribed by govt. Also map is drawn for each plot with the help of surveyor and recorded. This survey process continues from plot to plot covering the entire village and extended to the neighboring villages and complete for the entire district. After completion of the process, the data so collected and compiled are handed over to the custodian of revenue departments. Traditionally, a few nos of copies of each registers are prepared and stored at different hierarchy level of revenue offices of the district i.e. Tehsil, sub division or district HQ. The village level revenue officials who are knows as Patowari, Mandals or Village Accountant maintain the record of any subsequent updation or modification and then reflected it at the Tehsil (or circle, block or subdivision) level registers. Once it is being approved by competent Authority, it becomes officials. Later the master copy at the district HQ is subsequently updated. The subsequent change in the land records due to sale, deed, mortgage, lease, acquisition, partition, availability of irrigation, crops grown, consolidation, change of land type, partition etc are known as 'mutation'. Any physical change of land plot due to various possible causes i.e. erosion, earthquake, or otherwise are reflected in it's cadastral data as well as in the map.

Some interesting Land record systems

In Arunachal Pradesh land record is maintained only for the Govt. notified land, which accounts only about 10% of the total geographical area. No record has been maintained for private land. The land which has been acquired by the government is mainly located at district headquarters and selected sub divisional headquarters and the land at the village and blocks are yet to be acquired by the government. The Land record office is located at district HQ and sub-division level only and there is no setup at block level.

In Mizoram, traditionally land belongs to the Government till it is allotted to citizen. Any citizen who wants to own an unoccupied plot of land has to first obtain a temporary Pass from the Govt. The Pass can be given for a period of time for the citizen; however the Govt has the right to revoke the pass before expiry of the time period.

Lucane in Manual Land Record system

The existing manual land records maintained by various states are not free from flaws viz.

- Lack of standardization: Due to lack of standardization and hand written, sometime it becomes too difficult to retrieve data from land registers. The wear & tear further has worsen it.
- Susceptible to manipulation: A nos of voluminous registers are being utilized to maintain land records and it is difficult to trace if any anomalous entry is made. Already a large chunks of land belonging to government, reserve land, forest land , protected area have been manipulated and

ownership diverted to private owners by land mafia. Poor and under privilege are the worst sufferer as they have little idea about Record of Right.

- Unmanageability: Due to population explosion, expansion of cultivable lands and rise of mutation; maintenance of land records has become unmanageable. Manual compilation of records is time consuming and cumbersome. The revenue staffs who are already overloaded are frequently engaged in other activities viz. conduct of elections, relief and rehabilitation, medical camp, implementation of govt schemes, issue of certificates finding it difficult to maintain the onerous land records data.
- Difficult to enforce Land Reform Act: Though Govt has taken up series of land reforms for the benefits of landless and under privileges, but due to non availability of land data, it has become daunting task to implement these Act i.e. Ceiling Surplus Land Act, Wasteland and Bhoodan land, Ownership rights to tenants, Prevention of alienation and restoration of alienated tribal land etc.
- Unprofessional Land management: The revenue officials responsible to maintain land data i.e. Patwari, Village Accountant, Mandals are from the lowest strata of Govt revenue officials who lacks professionalism to maintain crucial land resources.
- Delay in updation: The Land record data at Tehsil and district HQ are not immediately updated leaving land records inconsistent in various hierarchies.
- Delay in delivery of land records: The acquiring of a Record of Rights (ROR) could be a nightmare for a public.
- Cumbersome Mutation process: The process of mutation is cumbersome. Entertaining of mutation request is virtually at the discretion of village level revenue officials. There is no reporting mechanism about pendency.
- Land Resource Management: Manually it is not possible to collate and analyze land resources i.e. soil type, existence of irrigation facility, cropping pattern etc in village/Tehsils/district level which is very valuable for various administrative and developmental purposes.
- No linkage with other institutions: The various other institutions i.e. Finance, Judiciary, District administration, various development departments, NGOs, organizations etc for whose accessing land resource data is very essential have been facing great inconveniences due to non availability of land data in electronic forms. Also it's non integration with Sub Registrar Offices has further increased litigations.
- Encroachment: Encroachment of government land has been going unabated and becoming difficult to arrest.
- Expansion of Mafia Raj: The leniency in maintenance of land records resulted severe growth of mafia raj causing disturbance to the society.

2. Government initiatives in Computerization of Land Records

Government of India took serious steps to arrest the recurring problems of inadequately maintained land record system through computerization. Initially they implemented pilot project in eight districts viz. Rangareddy (A.P.), Sonitpur (Assam), Singhbhum (Bihar), Gandhinagar (Gujarat), Morena (M.P.), Wardha (Maharashtra), Mayurbhanj (Orissa), and Dungarpur (Rajasthan) in the year 1988-89 with 100% financial assistance. The objectives was to issue of timely and accurate copy of the Record of Rights to the land owners, to store land data in reliable and easily reproducible format for long time, to provide efficient retrieval of information in graphical and textual format, creation of a Land Information System and database for Agricultural Census etc. During 8th Five Year Plan, the scheme was approved as a separate Centrally Sponsored Scheme on Computerization of Land Records and by the end of the five year plan, 299 districts were brought under the scheme. At present the scheme is being implemented in 583 nos of district of the country. During 1997-98, a decision for operationalisation of the scheme at the Tehsil / Taluk level was taken for facilitating delivery of computerized land records to users and public at large and already 4299 Tehsils / Taluks have been covered under the programme. The Ministry had also sanctioned Pilot

Projects for digitization of Cadastral Survey Maps in 2 or 3 tehsils in each states for testing appropriate technologies and providing copy of RoR with map. Under this 32 Pilot Projects on Digitization of Cadastral Survey Maps covering 21 states viz. AP, MP, Maharashtra, Manipur, Meghalaya, Mizoram, Gujarat, Goa, Haryana, Jammu & Kashmir, Bihar, Kerala, Karnataka, Tamil Nadu, Tripura, Nagaland, Orissa, Punjab, UP, West Bengal and Poducherry have been sanctioned by the Ministry. The tehsils were chosen in the districts where data entry and data validation work have been completed and ROR are being issued to land owners. The progress of implementation of the scheme is periodically reviewed at the level of Joint Secretary as well as through annual conferences of Revenue Secretaries and Revenue Ministers of the States/ UTs. The technology support including application software, training and operational support is being provided by National Informatics Centre.

Status of various computerization projects

The Land record project has been implemented in most of the states. The Software has been developed by NIC except Punjab and Daman & Diu where private vendors have been engaged by state Govts. The status across various States is given in Table 1.

Table 1: The status across various States

SN	State	Web Site, Security features	Platform (o/s) tools and Database)	No. of Tehsils / Taluk implemented
1	Karnataka	http://www.revdept-01.kar.nic.in/ G2G, Biometrics, Work flow enabled, Touch screen Kiosk, online mutation	Windows/ISM/ SQL Server-Client-Server	All 177
2	Tamil Nadu	http://www.tn.nic.in/tamilnilam/	Windows/Gist SDK/MSDE/Crystal Report, Colab Land, - Client-Server	All 207
3	Rajasthan	http://apnakhata.raj.nic.in/ G2C, Monitoring	Windows/Gist SDK/SQL Server/Crystal Report/Iplugin, Client-Server-Web enabled	241 out of 246
4	West Bengal	No Web interface	Windows/Gist SDK/SQL Server/Crystal Report, Client-Server	All 341
5	Maharashtra	http://mahabhulekh.mumbai.nic.in G2C	Lynux Sever/Windows/Gist SDK/SQL Server/Crystal Report/Client-Server-Web enabled	312 out of 358
6	Andhra Pradesh	http://apland.ap.nic.in/ G2C, Monitoring	Windows/Gist SDK/Oracle/Crystal Report/Iplugin, Client-Server-Web enabled	All 308
7	Madhya Pradesh	http://mpbhuabhilekh.nic.in G2C	Windows/Gist SDK/SQL Server/Crystal Report/Iplugin, Client-Server-Web enabled	257 out of 273
8	Uttar Pradesh	http://bhulekh.up.nic.in/ G2C	Windows/Gist SDK/SQL Server/Crystal Report/ ISM, Client-Server, Web enabled	305 out of 305
9	Orissa	http://bhulekh.ori.nic.in/G2C	Windows/Gist SDK/SQL Server/Crystal Report/ ISM, Client-Server, Web enabled	162 out of 171
10	Delhi	http://districts.delhigovt.nic.in/bhulekh.htm	Windows/Gist SDK/SQL Server/Crystal Report/Iplugin, Client-Server-Web	5 out of 27

			enabled	
11	Assam	http://lrcassam.nic.in	Windows/SQL Server/Crystal Report/ Iplugin, -Web enabled	3 out 155
12	Sikkim	No Web interface	Windows/Gist SDK/SQL Server/Crystal Report, Client-Server	2 out of 9
13	Chattisgarh	http://cglrc.nic.in	Windows/Gist SDK/SQL Server/Crystal Report/Iplugin, Client-Server -Web enabled	All 98 Tehsils
14	Kerala	http://lris.kerala.nic.in/	Windows/Gist SDK/SQL Server/Crystal Report, -Client-Server	14 out of 64
15	Himachal Pradesh	http://himachal.gov.in/ himbhoomi/ G2G, Online mutation	Windows/Gist SDK/ SQL Server/Crystal Report, Client-Server	67 out of 110
16	Goa	Online Mutation	Windows/Gist SDK/SQL Server/Crystal Report Maps, -Client-Server	11 out of 11
17	Gujarat	http://164.100.53.6/clr G2G	Windows/Gist SDK/ SQL Server/Crystal Report/Iplugin, Client-Server	All 226
18	Uttaranchal	http://gov.ua.nic.in/devbhoomi/ http:// gov.ua.nic.in/ landrecord G2C	Windows/ ASP.NET/SQL Server, Web enabled	55 out of 84
19	Haryana	http://jamabandi.nic.in /G2C	Windows/Gist SDK/SQL Server/Crystal Report/Iplugin, Client- Server -Web enabled	7 out of 115
20	Tripura	-	Windows/Gist SDK/ SQL Server/Crystal Report, Client-Server	11 out of 38
21	Puducherry	Touch screen Kiosk system, Bio metric device	Windows/Gist SDK/ SQL Server/Crystal Report	2 out of 8
22	Jharkhand	Software installed, equipment procured, data entry started.	Windows/Gist SDK/ SQL Server/ Crystal Report, Client-Server	Nil
23	Andaman and Nicobar	-	Windows 3K/Gist SDK/SQL/Crystal Report-Client-Server	Nil /9 Tehsils
24	J&K	-	LR 2003, -Client-Server	1 out of 60
25	Bihar		Implemented in district level in Window/ Unix module.	
26	Meghalaya	-	-	-
27	Mizoram		A recent web enabled SW in .NET platform and is being implemented in one pilot district	-
28	Nagaland	-	-	-

29	Manipur		-The software is developed in VB & SQL7, GIST SDK (Manipuri)	-
30	Punjab		Implemented by private vendor.	-
31	Arunachal Pradesh		Widows 2003 server, SQL 2000, ASP, and in English language	Data on Land Allotment entered in 10 districts
32	Chandigarh	-	-	-
33	Dadra Nagar Haveli	-	-	-
34	Daman Diu		Implemented by private vendor	-
35	Lakshadweep	-	-	-

3. Social Impact

Till now, a few Impact Studies have been done on Computerization of Land Records by NGOs, Research institutions, Private parties etc. Since NIC has been instrumental in implementation of the project throughout the country with wider network covering all district HQs, the Social Impact study have been done after receiving various inputs from various states and districts of the country;

- Easy access to ROR and quicker delivery: After computerization, one can walk to nearest tehsil computer centre to get the copy of RoR instantaneously. In some states, Land data has been put into Public domain and accessible by public through Internet. In some states, RoR can be viewed through Kiosks installed in some strategic locations. Earlier in manual system, it took long time to acquire a copy of RoR because it depends on availability of copier, Patwari, Srirastadar, Tehsildar etc. Now RoR can be printed instantly and delivered through Counter. In Chhatisgarh, Govt. has authorized schools as RoR center, where RoR can be downloaded from internet and validated by authorized teacher.

A view on the accessibility of RoR in some states are shown below

Table 2: View on the accessibility of RoR

Sl. No	Name of state	Accessibility	Remarks
1	Karnataka	Website, Kiosk	Instant copy of RoR are being issued. Kiosk in the Tehsil office further facilitates easier access to RoR.
2	Andhra Pradesh	Website	The RoR is available in Internet. RoR people still have to travel to the Tehsil office as earlier.
3	Tamilnadu	Touch screen	Govt. has installed Touch Screen Kiosks in all taluks in the State where people can access RoR.
4	Maharashtra	Website	The RoR is available in Internet. RoR people still have to travel to the Tehsil office as earlier.
5	Madhya Pradesh	Website	The RoR is available in Internet. But to acquire RoR, people still have to travel to the Tehsil office as earlier.
6	Chhatisgarh	Website	Government has set up authorized RoR center at selected schools where RoR can be acquired. So the traveling has been reduced.
7	Uttar Pradesh	Website	The RoR is available in Internet. But to acquire RoR, people still have to travel the Tehsil office as earlier.
8	Uttrakhand	Website	The RoR is available in Internet. But to acquire RoR, people still have to travel the Tehsil office as earlier.
9	Himachal Pradesh	Website	People have still need to travel to Tehsil office to acquire the RoR.

9	Gujarat	Website	People has still need to travel to Tehsil office to acquire the RoR.
10	Orissa		The RoR is available in Internet. But to acquire RoR, people still have to travel the Tehsil office as earlier.
11	West Bengal		People have still need to travel to Tehsil office to acquire the RoR.
12	Assam		RoR is available in internet for a few districts. But RoR is available in sub division HQ / District HQ.

- Increase of collection of RoR and revenue: Due to easy accessibility of RoR, large numbers of people are taking copies of RoRs. The data available on number of computerized RoR issued in few states is as follows:

Table 3: No of Computerized RoR issued

Sl. No.	Name of state	No of computerized RoR issued since computerization
1	Madhya Pradesh	1063405
2	Chhatisgarh	228889
3	Sikkim	13643
4	Gujarat	2329492
5	Assam	81698
6	Goa	931133

The collection of Government revenue has increased since people are paying charges of around Rs 15/- per RoR. Earlier the process of acquiring RoR was not transparent and most of the money paid by public goes to otherwise instead of government's coffer. The State of Karnataka has earned Rs 62.85 Crores by distributing copies of computerized RTC.

- Increase of Public Awareness: Prior to computerization, Land records maintenance were opaque to the common people. But after computerization, a large section of people i.e. government functionaries, data entry operators, private vendors, kiosk operators have been involved. In several states touch screen, Kiosk in public places and availability in internet have created wider awareness about land records amongst common people.
- Transparency: Earlier the procedure for obtaining RoR was not transparent to the common people causing great inconveniencies to them. But after computerization, the issuance of RoR through Kiosk at Tehsil/Taluk Centre have become transparent to public.
- Increasing Credit Flow: Since RoR is a vital document to acquire financial loan, the availability to acquire RoR easily has been helping the flow of credit fund to the households contributing the growth of economy.
- Increasing of land sale & purchase: Earlier people were reluctant to purchase land in some places due to non availability updated RoR. But after computerization, acquiring an updated RoR has become easier which facilitating quick buying & selling of land resulting growth of economy.
- Reduction of dispute: The land dispute is one of the major contentions in the society which originates from the faulty land record system. But after computerization, land records have been made structured and streamlined resulting declining of land related disputes. In some states, Land Records have been integrated with Sub Registrar Office resulting further reduction of litigation.
- Quicker mutation process: The manual process of mutation is cumbersome and entertaining of mutation request was at the mercy of village level revenue officials. Now in several states, mutations are being done on first –come first -serve basis in fixed number of days resulting in quicker mutation.

- Enforcement of Land Reform: Earlier, implementation of land reforms was daunting tasks due to difficult to compile messy of land data. But after computerization, the land data for the entire district can be compiled and any deviation from Land reform may be detected i.e. excess land owned by individual under Land Ceiling Surplus Act etc.
- Linkage with other institutions in many states, land records data have been made available in the Web and accessed by various institutions i.e. Judicial, financial, developmental departments, NGOs etc in their respective domains. In Karnataka, Banks has been authorized to access Land Records database.
- Creation of Jobs for Local youths: Since the Computerization of Land Records have been implemented in PPP model involving private partnership in data entry/updation, delivery of RoR through Kiosk etc creating job opportunity for local youths.
- Encroachment: In several states, land record database have been made transparent and government or public can immediately be alerted if any encroachment is made in Government land.

4. Disadvantages

The computerization of Land records is not a panacea. There are a few disadvantages also -

- Unexpected Delay in delivery Due to frequent power cuts, technical snags, lack of infrastructure in some districts/Tehsil causes great inconveniences to the public. The infrastructure requires to be upgraded, adequate power backup should be provided, non conventional energy sources may be utilized etc to tackle any crisis.
- Significance distance In some states, the RoR are being issued at Tehsildar office or District Collector office / Sub division office and people have to travel a long distances to acquire a copy of RoR. Till now, only a few states have made RoR available in the internet that too limited to display purpose. Steps should be taken to use PKI for digitally signing the data base on the internet for easy access and downloading. Also local youths can be encouraged to set up land records kiosk in villages/towns to provide copies of RoR at doorsteps.
- Delay in updation: The collection of field data regarding crops, mutations is still being done in traditional way which consuming precious time to update the land register. This may be improved if provisions are made for remote updation through mobile technology/Simputers straightway from fields.

5. Concluding Remarks

While studying the social impact of the computerization of Land Records, it has been found that the impact is very high. The computerization has been instrumental in implementing better land management system where people have been empowered with land records data and information. The availability of RoR should be made at the doorstep of villagers through setting up of Kiosks involving local youths. The land database should be made online and constantly refreshed. Online mutation is crucial for fresh data and need to be implemented. The land data should be allowed to access by various institutions i.e. financial institutions, judiciary, developmental departments etc for their respective domains. The infrastructure and delivery mechanism through kiosk should be improved with adequate power backup, additional HW, 24X7 support group etc. The computerization of land records is still evolving through advanced technology, where automation & integration with cadastral mapping and registration process would further improve the entire revenue administration system.

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About the Authors

Vinay Thakur is Technical Director in National Informatics Centre (NIC), Department of Information Technology, New Delhi. He holds BE from Jabalapur University and ME in Computer Science from Delhi University. He has been associated with software design and development for Land Information System for last 15 years and published around dozen papers on Land Records system and e-Governance. He has guided many graduate and post graduate level students on their research projects.

Dibyojit Dutta is BE (Electronics & Telecommunication) from Assam Engineering College, Guwahati and presently working in the Department of Land Resource, Ministry of RD looking after various projects of IWDP, DDP, DPAP. Earlier he worked in the Land Record, Property Registration and Tribal Development & Care projects in the NIC HQ, New Delhi. He had 16 years long experience in involving numerous Citizen Centric ICT activities towards social empowerment at grassroots level.

Ganesh Khadanga is a software developer in National Informatics Center at New Delhi in India. He hold a B.Sc Engineering from University College of Engineering, Orissa and a M.Tech from IIT Kanpur in Civil Engineering. He has published papers related to issues of rehabilitation of people in Gohira Irrigation Project at Orissa, land records computerization, discussion in ASCE, Journal of Irrigation and Drainage Engineering and authored a book on C# programming language. He has guided many graduate level students on their research projects and is having vast experience in local language translation from ISCII/ISFOC to Unicode and database applications in land records computerization in India.

D. S. Venkatesh is a Scientist-D (Principal Systems Analyst) in National Informatics Centre (NIC), Headquarters in New Delhi. He holds a B.E in Electronics from Bangalore University. He is a qualified Lead Assessor for Information Security Management System (ISMS) (ISO27001:2005) accredited by IRCA UK. He has also qualified as a practioner for implementing ISMS. He has been associated in the design, development, documentation, ISO Quality testing and certification and implementation of Application Software and databases for the domain of Land Records for various States in India. He has co-authored papers related to Computerisation of Land Records.