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Centre for Rural Studies
National Institute of Administrative Research
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Assessment of Computerization of Land Records in Orissa

Dr. Prem Singh
Dr. H.C. Behera

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PREFACE

Computerization of land records was first introduced in the State of Orissa (Odisha) during 1988-89 on a pilot basis. The full scale implementation of the project was started from the year 2003-04. It has been advocated by many experts that the computerization of land records will address the challenges faced in the Land Management and Administration in the country. It will also help the country move from presumptive system of title to Torrens' System. However, many states including Orissa have not been able to capture the spatial and non-spatial data in the RoRs till date due to factors like complexity of technology application, legal hassles and administrative difficulties. The lack of clarity in existing cadastral maps and lack of periodic updation of land records are also the cause of delay in the process of computerization of land records. The resurvey which is supposed to take periodically and the mutation which needs to be carried out immediately after partition, sale or inheritance are not reflected in land record management system. Therefore, the issue of lack of updation and lack of clarity in land records takes place. This is not the case only in Orissa but also in other states as well. Despite all these issues, the computerization of non-spatial data has been undertaken as a measure to ensure efficiency, transparency and accountability in service delivery. All the tehsils in the State are in a position to deliver computerized RoRs to the individuals. To bring clarity and accuracy in land records, facilitate periodic updation, and bringing commonality in the system of land records management, the National Land Records Modernization Programme (NLRMP) has been already rolled out in the state.

Two old schemes namely, "Computerization of Land Records (CLR)" and "Strengthening Revenue Administration and Updating of Land Records (SRA&ULR) have been merged in the form of new scheme- the National Land Records Management Program (NLRMP). Modern high-tech survey and preparation maps takes place in some parts of the state with aerial photography method. GPS and Total Station used for identification and fixation of ground control points. However some other activities such as computerization of registration and its integration with the Revenue Offices; establishment of Data Centre; creation of Modern Record Room; State level and District level training

institutes; Capacity Building programmes, etc. are yet to be developed in the state. Therefore, the scope for evaluation of the NLRMP as a holistic scheme was limited. Thus the focus in the report is primarily on assessment of computerization of land records which is already operational since early 2000s and is now part of the larger programme of NLRMP.

The report describes the background of land record computerization, the structural and functional arrangement under revenue administration and technology adoption. This is an effort to examine accountability, transparency, efficiency, quality improvement and cost effectiveness of the land records computerization program. The authors explore the problems as well as prospects of computerization of land records in the State.

The study is based on field survey conducted in four districts of Puri, Mayurbhanj, Sundergarh and Ganjam covering four different zones in the State. The IAS Officer Trainees undergoing district training coordinated data collection in districts of Ganjam and Mayurbhanj. In addition, the secondary literature and data collected from various nodal agencies such as Orissa Space Applications Centre (ORSAC), NIC and Revenue Department, Government of Orissa also assisted in preparing this report.

The study on 'Assessment of Computerization of Land Records in Orissa' is seventh of its kind undertaken by the Centre for Rural Studies (CRS), Lal Bahadur Shastri National Academy of Administration, Mussoorie.

We hope this report will provide an insight into various challenges and opportunities of this program and its recommendations will help various agencies in the State in effective delivery of services in the field of Land Administration and Management.

Dr. Prem Singh
Dr. H.C. Behera

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Dr. Prem Singh
Dr. H. C. Behera

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INTRODUCTION

The history of revenue administration and land records management in India dates back to the days of Sher Shah Suri. This practice was further improved during the reign of Mughal Emperor Akbar. Later, in the days of the British Empire, a more precise focus was on establishing a land revenue administration through surveys and mapping to create these land records. In those days, the basic motive of land administration was to squeeze land revenues from the farmers. It was a trend that more-or-less continued till the land reforms measures of the post-independence period wherein focus is on welfare measures.

There are several other usages of land records: for farmers, it is used as a security deposit to avail institutional finance or benefits provided by the government from time to time or to claim compensation for crop loss and crop insurance. Subsequently, it has been realized that secured land rights of individuals is fundamental to growth in agriculture and rural development and the provision of correct and updated Record of Right is instrumental in shaping livelihood security of millions among the rural population.

In India, more than 60% of population depends on agriculture. There are millions of landholdings in the country. The land parcels are also more in number. Identifying each and every parcel of land, measure exact size and its location to maintain proper spatial data base remains a challenge to the country. The original cadastral maps, used to this day, are very old and archaic. Only updating can reflect ground reality. Moreover, integration of cadastral map with non-textual land records is only possible after digitization of correct and updated cadastral maps and updated textual land records. Difficulty is realized to address the growing demand and necessities for creation and updating of land records by using manual survey and settlement procedures.

Moreover, the neo-liberal concept of land administration invokes better transparency and accountability, while emphasizing provisions for better quality with an efficient service delivery for citizens as well as for government agencies too. The dynamics of land administration in India in our times is an admixture of transnational perspectives in good governance which enhances the capacity of

multiple institutions dealing with land records management, survey and settlement, and property registration. Additionally it facilitates modern technology innovation, creation of enabling environment through formulating right policy for the state and union territories, bringing coordination between Centre and State for effective implementation of the program, developing capacities at various ladders of the revenue administration, etc.

The National Land Records Modernization Program (NLRMP) introduced towards end of the last decade is an impetus for growing synergy between Centre and State. Within a state, it brings about coordination between departments such as Survey and Settlement, Revenue Department and Registration Department to deliver services effectively and efficiently. 'The main objective of the NLRMP is to develop a modern, comprehensive and transparent land records management system in the country with aims to implement the conclusive titling system with title guarantee'. The program includes computerization of land records along with digitization of cadastral map and its integration with textual data, survey/resurvey and updating of all survey and settlement records, computerization of registration and its integration with the land records maintenance system. The program emphasizes on technology up gradation, infrastructure development by establishment modern records room, state and district level data centre, computer centers, process management, training and capacity building, etc. It is believed that the program has a huge impact on the revenue administration and on the landholders that can enhance service delivery because of an increase in efficiency, accountability and transparency in the system.

GENESIS OF MODERNIZATION OF LAND RECORDS IN INDIA

Considering issues like delay in service delivery, higher rent seeking behavior, lack of transparency, cumbersome process, etc. in the traditional land records management system, the Government of India had launched two major central sponsored schemes for the modernization of land records management during 1987 and 1988. From the 1980s the system of land records management has been revived by the introduction of information and communication technology (ICT). Computerization is one of the solutions to address problems faced by the Revenue Administration and the landholders. Computerization of Land Records (CLR) and Strengthening Revenue Administration and Updating of Land Records (SRA &ULR) are the emergence of new approaches during 1980s to ensure better management of land records in particular and land administration in general. These are SRA & ULR and CLR. SRA & ULR was meant to modernize survey techniques with the provision of modern equipments such as GIS, GPS, Theodolite, creation of record rooms, purchase of computers and other basic computer accessories, etc. for the speedy survey and

settlement activity, updating of land records data and resurvey activities in the regions where surveys were undertaken more than three decades ago. This includes computerization of both spatial and non-spatial data. The spatial data include village map or cadastral map which is in pictorial form and the non-spatial data include textual data like name of the landholders, landholding and account details including crop statistics. Although the objective of computerization of land records is to include both spatial and non-spatial data, yet most States in India have only computerized non-spatial/textual data.

In 2008, Government of India introduced an innovative programme called National Land Record Modernization Programme (NLRMP) with the objective to provide guaranteed tittles (conclusive titles) to its landholders. The programme follows the Torrens system that has been adopted in advanced countries like Australia, New Zealand, USA, England and Canada. It envisioned the replacement of presumptive titles with secure and guaranteed titles. Under NLRMP, two important schemes namely, the computerization of land records (CLR) and strengthening revenue administration and updating land records (SRA and ULR) have been merged. The NLRMP includes the computerization of registration department as well. The new programme centers on bringing the commonality, unity and integrity in the system while keeping objectives of each scheme intact (ibid.).

LAND RECORDS COMPUTERIZATION PER-SE

The report of Committee on Computerization of Land Records opined the objectives of the CLR could be as follows:

- Computerization of the mutation/updating process of land records & distribution of updated copies of ownership rights, tenancy, crop, land revenue, sources of irrigation etc.
- Distribution of computerized copies of Record of Rights along with details of plot boundaries to the landowners at reasonable charges on demand.
- According legal sanctity to computer generated certificates of Land Records/ title documents after authentication by authorized revenue officials.
- Abandoning manual system of issuance of records of rights once computerized system is stabilized.
- Levying suitable user charges for the services being offered by the computer centre for sustainability of the scheme in terms of AMC, hardware up gradation, etc.
- Focus on citizen-services which will ensure true implementation of e-governance at the grass root level.
- Integrating land records data with cadastral maps and land registration to achieve inter-operability and creating a Comprehensive Land Information System (LIS).

- To extend the scheme at exclusively in Sub-division, sub tehsil/ Mandal/ Revenue circle level in North Eastern States for easy accessibility and dissemination of data.

Further, computerization of land records is expected to:

- Ensure speedy delivery of record of rights, faster updating, easy retrieval of data, etc.
- Ensure quality and better transparency in the revenue system;
- Reduce corruption and rent seeking behavior including land related disputes;
- Depiction of correct data to ensure accuracy.

DIGITIZATION OF CADASTRAL MAP

The "Report of the Committee on State Agrarian Relations and the Unfinished Task in Land Reforms" has observed that the average age of village/cadastral maps available in most states was 50 years old dating back to the days of the British Raj as part of settlement operations. It notes that over the years, these maps have been subjected to vagaries of the weather, continuous and improper handling and unscientific storage rendering them fragile and tattered. The maps have also undergone shrinkage affecting their accuracy and credibility.

The report further states that Central sponsored scheme of computerization of land records with digitization of cadastral maps and their integration with non-spatial data have not produced impressive results.

The new record management system being sought to be put in place would remain incomplete in the absence of a matching system of updating of maps simultaneously with the updating of land records.

Under the central sponsored scheme, states like Andhra Pradesh, Karnataka, West Bengal, and Goa have done quite well whereas progress in other states has been tardy and needs to be expedited.

COMPUTERIZATION OF LAND RECORDS: Experience from Different State Evaluation Studies

The Computerization of land records project in Karnataka is called *"Bhoomi"*, in West Bengal it was *"Bhumi"* but was later changed to *"Bhuchitra"* due to integration of cadastral map with textual land records data while in Gujarat it is called "e-Dhara". Of course, all these names concern 'land.'

Bhoomi Project in Karnataka

The Bhoomi project in Karnataka, where all taluks have been computerized, has received a lot of national and international attention. Special kiosks modeled on

the lines of STD/ISD booths have been installed in front of taluk offices, to provide information to the landholders. The State Government has introduced biometric authentication, a fingerprint scanning device to check manipulation of land records. This replaces the traditional method of using passwords. Online mutation takes place under Bhoomi Project , revenue generated by the state government in the form of user charges collection is as follows:

Table-1.1 Revenue Generated in Karnataka in the Form of User Charges Collection

1	Total Documents issued from Taluk front office up to December, 2007	62,869,569
2	Total Documents issued from Rural kiosks till March 2008	46,30,577
3	Total Documents issued	62,869,569
4	Total user charge collected in Taluk office up to 2007	94,043,540
5	Total user charges collected from Rural tele service up to March 2008	69,458,655
6	Total user charges collected	1,012,502,195

Reference: http://www.dolr.nic.in/nlrmp/karnataka.pdf

'e-DHARA' IN GUJARAT

'e-Dhara' is the CLR project operational in all the *talukas* of Gujarat. Activities like data entry, verification or validation of data, mutation backlog updating is complete in all districts. The software used in the e-Dhara project is called Bhulekh Software. The issuing of manual records is banned in Gujarat as the state has legalized the authenticity of computerized RoRs.

The software modules are well designed and user friendly. The local Server at the *taluka* level is connected to the district NIC, which in turn is connected to the main server at the state NIC, Gandhinagar. The entire system is connected online through Gujarat State Wide Area Network (GSWAN). Through GSWAN one can view Record of Rights online anywhere in the government offices within the state. The Software is being maintained and managed by the NIC at the headquarters in Gandhinagar.

Monthly report from each district is reviewed by the State Monitoring Committee (SMC), Gandhinagar while *taluk*a level e-Dhara activity is reviewed by the 'District Collector', who takes monthly review meetings in the districts. Some Gram Panchayats are connected to Broadband Service by Airtel Network for e-Dhara operation. The services at the Gram Panchayat level are reviewed by the Mamalatdar. District Collector also reviews the progress at the village level during

monthly review meeting. At present, the *talatis* have limited role in land records management, making the entire system transparent (Vachhani & Behera, 2010).

The evaluation of Computerization of Land Records in Gujarat conducted by CRS reported that in many *talukas* the e-Dhara operation was conducted in the building which housed Mamlatdar's office as well. There was one counter in many e-Dhara centres, which resulted in long queues formed during working hours as the number of Computer Operators engaged in each *taluka* was insufficient to handle work pressure. Whereas, each *taluka* had two Computer Operators irrespective of the size of the landholders in the area, therefore revenue officials and Computer Operators found themselves overburdened.

The Gujarat Government's initiative to extend e-Dhara operation to Panchayat level is a step towards decentralization. With the setting up of e-Dhara centres at village level, the landholders will have the option to access land records from the *talukas* as well as from the Panchayats. It was noticed that though in some villages e-Dhara was operational, the server was slow. Government decision to provide Airtel broadband connection at village level can promote good governance; create better awareness among the landholders and *khatedars*. At village level, there was one technical person appointed at Panchayat level to operate both e-Gram and e-Dhara while being paid a meager salary of Rs.1000/- per month.

The e-Dhara operation has solved this delay as delivery of Records of Rights faster with increased efficiency in revenue administration.

While online mutation is carried out in Gujarat, two important departments of Registration and Revenue are not interlinked with e-Dhara.

The demand for computerized records has increased the collection of user fee which in turn has significantly contributed to state revenues. As reported by the Department of Land Resources, MoRD, as on March, 2008 the total RoR-VF 7/12 issued were 37002878 and amount collected was Rupees, 213755890/-; the number of RoR-VF 8A issued 20002671 and amount collected Rs,116443595/-; number of RoR-VF 6 issued 2922335 and amount collected Rs. 15210220/-. Total RoR issued 59927884 and amount collected is Rs. 345409705/.

"BHUMI" IN WEST BENGAL

Bhumi project in West Bengal, operational in all the blocks, was taken up in 1991. Certified copies of computerized RoRs are handed out from BL&LRO offices. In places, a person gets his copy on the same day. Evaluation done by Centre for Rural

Studies noticed the efficiency, accountability and transparency in the services. The State Government has recently undertaken the land record modernization programme under NLRMP. The survey and resurvey activities along with digitization of cadastral maps are taken up by the state . The report on CLR as documented by the DoLR, MoRD, Government of India shows that 123872 number of certified copies (RoR) were issued , the number of plot information copy issued was 94310, and amount collected was Rs.4316551/- for March, 2008.

Recently, the Government of West Bengal integrated cadastral map with RoR, naming the project "Bhuchitra" as it depicts cadastral map along with RoR.

CLR IN MADHYA PRADESH

The Computerization of Land Records has evolved as an important e-Governance in Madhya Pradesh too. Bhu-Abhilekh, an application software designed & developed by NIC for the Office of the Commissioner, Land Records and Settlement, Government of Madhya Pradesh to deliver excellent grass root level governance within the domain of land management. Computerization of land records (CLR) is a joint venture of National Informatics Centre (NIC), MoRD and State Government . It has been reported that records of 35 million khasra (plot/survey) numbers comprising of 10.5 million land owners have been computerized to date. The year wise distribution of khasra/B1 copy and the revenue collection is given below.

Table-1.2 Information Regarding Distribution of Computerized RoR/B1 and Revenue Generated in Madhya Pradesh

Year	Number of Khasra/B1 copy	Revenue Collection in Rupees
2002-03	557898	5513287
2003-04	580489	6091043
2004-05	793548	9188006
2005-06	1063405	14677193
2006-07	1340018	22890536
2007-08	1643434	25484739

Source: http://www.dolr.nic.in/nlrmp/MP.pdf

OTHER STATES

There are some states where computerization of land records has been successfully implemented and others where the project has not achieved any substantial progress. Until 2008, Karnataka, Gujarat, Goa, Tamil Nadu, Rajasthan, Maharashtra, Haryana, Madhya Pradesh and Himachal Pradesh had achieved progress in comparison to other states. Orissa, on the other hand had shown moderate progress.

WHY THE STUDY IN ORISSA?

The history of land administration in Orissa is complex. Land administration is traditionally based on three provinces of, Central province, Bengal presidency and Madras presidency. The elements of land tenure and revenue system such as survey methods, settlement, land tenures, revenue administrative structure, management of waste and communal land, forest management etc. are different in accordance with the province under which these regions were administered. Post-Independence, certain measures were taken by the government under Land reforms. Orissa Land Reforms Act, 1960 was considered a watershed giving land rights to the tenants. More pragmatic approach was followed to ensure the protection of tenants and the cultivators with the objective to enhance agricultural production.

Ceiling Act, 1974 was enacted with the intention of bringing social and economic benefits to the weaker sections. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 provides for recognition and vesting of forest rights to scheduled tribes in occupation of forest land prior to December 2005 and to other traditional forest dwellers who have been in occupation of forest land for at least three generations i.e. 75 years and up to a maximum of 4 hectare.

As per the Act, the Gram Sabha is the competent authority to initiate the process of determining the nature and extent of forest rights of individuals/community. Therefore, it is essential to look into the synchronization of land reforms measures and the objectives of computerization of land records in Orissa.

Orissa has of a little more than 22% tribal population which dwells in the southern, south-central and north-eastern regions. These regions are an industrial belt too, therefore making it more important to look into the progress of the computerization of land records and the impact of CLR on the farmers and landholders in tribal belt.

The state comprises of 30 districts and 171 tehsils having 51551 revenue villages. To make the tehsils co-terminus with community development block and to provide better service to the citizens, the State Government has created 145 new tehsils bringing the total number of tehsils to 316. As regard the RoR computerization, the legacy data entry in respect to all 171 old tehsils have been activated and computer generated certified copies of RoRs, mutation patta are being delivered to the general public (Annexure-I).

MAJOR COMPONENTS UNDER STUDY

- Structural and functional changes in revenue structure, changing organizational responsibilities, land records management and computerization of land records.
- Assessment of technology innovation and dissemination, infrastructure development, training and capacity building, legal arrangement, etc. under computerization of land records.
- Impact and effectiveness of the programme on the revenue administration and the landholders across various administrative zones in the state.

SPECIFIC OBJECTIVES OF THE STUDY

- To understand the process of land records management in Orissa, particularly in context to CLR. This includes computerization of both spatial and textual data.
- To study broadly:
  (a) the hardware and software utilized for the computerization of land records
  (b) Maintenance of the same
  (c) Measures for security and preservation of the data stored in the computer;
- To examine the role of CLR in efficiency, accountability and transparency in land records management. And,
- To assess impact of the CLR on Revenue administration as well as landholders.

METHODOLOGY

Based on the difference of agro-climatic zones, four districts from four agro-climatic zones namely, north eastern coastal plain, east and south eastern coastal plain, western central tableland and north eastern ghat were selected for the study. The study covered three districts from three different erstwhile provinces such as Bengal presidency, Central province and Madras presidency (one district from each region). These districts are: Puri, Sundergarh, Mayurbhanj and Ganjam, two tehsils were selected from these districts, from wherein 2 villages were selected, based on: (i) distance to the tehsil centre, and (ii) population size.

At the spatial level, remote villages, villages located mid-way and near the tehsil were selected. At the demographic level, villages with low, average and large population were selected (villages with extremely small or extremely large

population were avoided). From each village, 35 households owning land were selected according to stratified random sampling.

Field survey was conducted in the month of January and February, 2010. The data collected was based on household survey in the selected villages spreading across eight tehsils in four districts. Four set of questionnaires were designated and employed for household survey, village survey and data collection from the tehsil level. Questionnaires designed for tehsildars, computer operators became useful for collecting data related to administrative issues and other matters.

The data was collected both from the secondary as well as the primary source. The primary data consisted of interview schedules and supplemented by observation, case studies, and in-depth interview.

Data was collected by enumerators who worked under the supervision of the Centre for Rural Studies. The enumerators required to undergo training for one day. During the training, a general briefing was given regarding the terminologies in land revenue administration, the issues, indicators used, purpose of the study, and each question in the questionnaire was explained along with the methodology of the study.

Study Universe

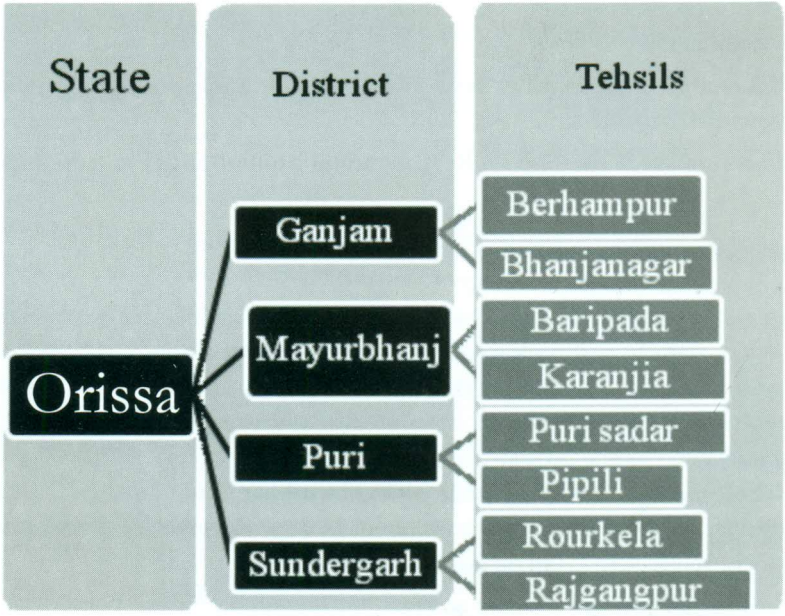


Table-1.3 Villages Covered Under the Study

Sl. No.	District	Tehsil	Villages
1.	Puri	Puri Sadar	Gopinathpur, Harikrishnapur
		Pipli	Ekchalia, Uttarasan
2.	Ganjam	Berhampur	Baidyanathpur, Korapalli
		Ghumusar	Halandakhola, Bada Dhimiri Jholli, Kalli Jhari
3.	Mayurbhanj	Baripada	Nuhamalia, Sansaraposi
		Karanjia	Badadeuli, Bisipur
4.	Sundargarh	Rourkela	Lathikata, Suidihi
		Rajgangpur	Lamloi, Laing

LAND REVENUE ADMINISTRATION IN ORISSA

To understand the process of land records management, it is necessary to have a basic understanding of Orissa's unique Land Revenue Administration. Initially, during British Raj, the Revenue Administration was divided into three regions governed by following provincial administration:

- Bengal Presidency (later, Bihar since 1912).
- Central Province, and
- Madras Presidency

Orissa has a number of land revenue assessment systems and tenancy laws making the system complex in nature. Based on the nature of land, geographical location, status of individual payee, etc., *Zamindari* and *Ryotwari* systems existed. In addition to this, there were 24 princely states, which though controlled by the British through a subsidiary alliance, under which the princes, had the freedom to decide their internal administration as long as they regularly paid tributes to the colonial authority (UNDP, 2008) .

STRUCTURE OF LAND REVENUE ADMINISTRATION IN ORISSA

The Revenue Administration functions under the Ministry of Revenue and Disaster Management. Thus, the Commissioner cum Secretary becomes the executive head of the Revenue and Disaster Management.

"Revenue and Disaster Management is a three tier system, with Revenue Department at the hub, the Board of Revenue being the main player controlling almost all the matters relating to collection of revenue and disposal of revenue disputes. The Board of Revenue, the state's implementing authority is headed by the Member, Board of Revenue"[9]. It is the State Level Steering Committee headed by the Member, BOR, which monitors the progress of computerization of land records.

The Member, BOR, is the Chief Controlling Revenue Authority, whose judicial authority is delegated to the Revenue Development Commissioners (RDCs). There are three RDCs in Orissa, one each for North, Central, and South

Zone[10]. District Collectors report to the RDC of their respective zones on revenue matters. Each district is sub-divided into one or several sub-divisions headed by Sub-Collectors, while tehsils function under the Tahsildar.

At the district level, the District Collector (DC) is superior authority for revenue administration. The district-level officers of different divisions of the BOR, e.g., the Assistant Settlement Officer, Assistant Consolidation Officer and the District Registrar report to the DC on administrative issues. The BOR also has a judicial role which is exercised through these field officers. The District Collector supervises the Sub-collectors (at the block-level), Tahsildars (in charge of a tehsil) and the Revenue Inspectors (RIs or patwaris) who cover a number of villages within the Revenue Circle.

The Tahsildar is in charge of the tehsil for revenue work including revenue court work, land records management and revenue assessment. He is the pivotal individual to execute and inspect the operation of computerization of land records at the tehsil level. Traditionally, Revenue Inspectors (RIs) are custodians of land records management at the RI Circles covering several villages. They are responsible for collecting primary data on land and revenue matters. Work burden has increased with rising population, increase in land transactions, land acquisitions for development projects, etc.

LAND RECORDS MANAGEMENT IN ORISSA

The land records management in Orissa, like any other state, is guided by the principle of state jurisdiction. Survey, preparation of RoRs and settlement of rent are brought together under Survey and Settlement operation. The Survey and Settlement Rules, 1958 (followed by the Survey and Settlement Rules, 1962) introduced uniform procedures for survey, preparation of RoRs and settlement of rent. Settlement is initiated by government in order to update the RoRs before determining the land revenue demand. The settlement operation should take place every 20-25 years. Despite the fact large areas in Orissa are yet to be surveyed, in surveyed regions too, a resurvey has to be carried out.

The system of land records management is complex in both structural and functional point of view. Both in plains and hilly areas, creation, updating and maintenance of land records is not an easy affair. Clear provision of titles to legal landholders has remained unsolved for long not only in Orissa but other states as well. In tribal pockets of Orissa, Chhattishgarh, Andhra Pradesh, Jharkhand and north eastern states there exists communal ownership; the system of *podu* cultivation or shifting cultivation is in vogue in few tribal areas. Legal ownership of land in these areas is difficult. Survey and Settlement has yet to take place in many

tribal areas. Social activists working in tribal belts have voiced their concern for tribal land rights. Land alienation and dispossession of land from tribal belt is taking place due to rapid industrialization, mining and other activities. In the process of land acquisition, tribals have been evicted, a fact confirmed by researchers and academics alike. UNDP has noticed that different categories of land and varied ownership, land use and management patterns make land resource management all the more complex. In tribal belts, concentration of land in a few hands, illegal possession of land by the elite, passing off irrigated land as un-irrigated land in land records and use of agricultural land for commercial purposes is some of the stumbling blocks in the individual's rightful access to land (ibid. p.14). There are areas where surveys and settlement operations took place long sometime back but need revisional survey and settlement operations. For example, in Sundergarh, Kandhamal, Keonjhar, and other tribal dominated districts, the survey is outdated with invalid survey records and fragile outdated village maps. This makes the modernization of land records very significant. A few years ago, strengthening of Revenue administration and updating of land records (SRA&ULR) was launched but turned out to be a complete failure due to lack of political commitment. Unlike a boost in the process of launching and issuing passbook system, the process of SRA and ULR has not been given due attention.

COMPUTERIZATION OF LAND RECORDS IN ORISSA

In the year, 1988-89 computerization of land records was launched in Orissa on a pilot basis. Mayurbhanj is the first district in the State where the programme was undertaken on an experimental basis. Despite the fact that the programme was launched in 1988-89, it was not actively operated until 1998-99. Delaying in delivery of services at the tehsil level defeated the purpose of efficiency in delivery of services even after a decade of the launching of pilot operation. In March, 1999 a review meeting was organized by the Board of Revenue, Cuttack to know status of the computerization of land records in the state. However, it was observed that the progress made so far in computerization of land records was bleak and unsatisfactory.

Today, almost all tehsils in the state are operational under this central sponsored scheme for computerization of land records, computerization of legacy data of record of rights and creation of computer cells in the tehsils, a major e-governance initiative by the Department of Revenue and Disaster Management, Govt. of Orissa. The basic Land Records in the state of Orissa comprises of i) Record of Rights (RoR) ii) Cadastral village maps.

The following items have been completed under the centrally sponsored scheme of computerization of land records in Orissa:

- Legacy Data entry of land records in 171 tehsils covering more than 10 million khatiyans
- Site preparation of Computer cells in 171 tehsils
- Procurement of computer systems and other peripherals for 171 tehsils
- Training revenue officials in computer basics, system administration and application software
- Annual maintenance of computer systems
- For backlog data entry of mutation records and fresh entry of final recently published RoRs

In 2007-08, Government of India had sanctioned Rs. 270.00 lakhs towards creation of Computer Cells in 45 new Tehsils which has been already utilized[11].

"Revenue Department is the custodian of Government land. As such Revenue administration is intimately connected with management of land in the state and other allied matters. It deals with assessment and collection of land revenue, rent, cess, public demand, water rent, auction sale of sairat sources and collection of registration fees and stamp duties. The Department is concerned with laws regarding land tenures relation between land lord and tenants, disposal of Govt. land and alienation of land and rights over land and consolidation of land holdings. Maintenance of land records, survey for revenue purposes and updating of record of rights constitutes one of the major activities of the Department. Other related matters with which this Department is concerned are land registration, land acquisition and registration of deeds and documents.

The second most important activity of the Department relates to handling of natural calamities, disaster management and restoration and rehabilitation of the victims of natural calamity. The Department looks after flood, famine, relief, cyclone, fire accidents, crop reports and forecast.

This Department also looks after central subjects like census operation, meteorology and Survey of India which includes preparation and supply of maps for state purposes".

For effective maintenance of the land records, Govt. of Orissa has enacted the Orissa Survey and Settlement Act, 1958. Under this Act, the Tahsildar is authorized to correct the Record of Rights and maps on the following grounds.

- On application from interested party.
- On receipt of reports from subordinates.
- On receipt of notice from the Registrar/ Sub-Registrar.
- On receipt of an intimation from a Court.

- On acquisition of land under Land Acquisition Act.
- On his own motion.

GOVERNMENT OF ORISSA' NEW INITIATIVES

Orissa Government has taken up several new initiatives to strengthen revenue administration as land issues are given adequate attention by the State Government. Various new schemes such as land passbook scheme, implementation of Forest Rights Act (FRA), Computerization of Land Records are taken up. The government is also taking up other welfare schemes to distribute free *patta* to the landless and poor individuals. Recently, the government has given priority to the implementation of the National Land Records Modernization Programme.

PRESCRIBED FORMS

Forms A: This prescribed form has to be filled by the applicant. This includes applicant details like: name, father/husband's name, caste address, service details such as village, R.I. Circle, Police Station and Thana Number; service required whether for the purpose of certified copy, miscellaneous certificate, mutation or revenue case.

Certified copy: It includes RoR, Plot Index, Trace Man and Case Record, and Order Sheet.

Miscellaneous Certificate: It includes Residence, income, Caste (SC/ST), SEBC/OBC, Valuation, solvenoy

Mutation: It includes Sale, purchase, Court decree, and inheritance.

Revenue Case: It includes Partition under OLR 19-1(c), Conversion under OLR 8 (A), Settlement of Land under OGLS Act and demarcation case

The applicant submits the filled-up application to the Dealing Assistant/Computer Operator at the tehsil level with a requisite fee as described as set out for each purpose. The Computer Operator/Dealing Assistant issues the authorization slip to Nazir for accepting payment and submits the slip along with a serial number. The intimation slip (Form C) is issued to the applicant indicating the time period, receiving up-to-date computerized document. The Computer Operator provides the details about the serial no. of application and the date of delivery of requisite information with his signature and date.

RECORD OF RIGHTS *(Khatiyan)*

It contains information on tenant, holding type, rent details, plot, land type, area of plot. This register is maintained village wise. After Survey and Settlement/Consolidation operation final publication of RoR is made .

Collection of user fee for computerized certified copies issued by the Tehsildars

Collection of land revenue is a state subject. After Independence, land revenue in many states has declined considerably. Over a period of time, reforms in land administration in various states have observed several changes. Various state governments have adopted different strategies to enhance their revenue directly or indirectly through different means. In the beginning of the new century, computerization or digital technology has been adopted as a method not only to enhance capacity but also a means to increase revenue for the state.

Computerisation of land records is one such way to increase revenue of states. In Orissa, the state revenue collection through user fee charges out of CLR programme is a remarkable achievement. The State Government's Resolution No. S-88/2005-39463 Dt. 28.9.05 is an approach for sustainable fund creation for expenses relating to maintenance, repair and purchase of daily consumables and to meet running expenses of the system. In addition, the state government has the guidelines for the user fee to be credited to government account. This gives an opportunity to the state to induce revenue collection through better implementation. As per the guidelines, the following user fees are collected through computerized services:

Table 2.1 Kind of document/copy issued through CLR and user fee being charged for each copy

Sl. No	Kind of document/copy	Amount of user fee (in Rupees)	Amount to be retained by the tehsildar (in Rupees)	Amount to be credited to Government Account (in Rupees)
1	2	3	4	5
1	Certified copy of RoR (per Khata/Holding)	20	15	5
2	Miscillaneous certificates (per piece)	20	15	5
3	**RoR as corrected by order in mutation case (per Khata/Holding)**	**35**	**20**	**15**

Source: Government of Orissa: Revenue Department Resolution No.S-88/2005-39463 Dt. 28.9.05

The guidelines issued on collection of user fee in tehsils under computerization of land records project with reference to Revenue Department Resolution No. S-38/05-39463/R. dt 28.9.05 shows that the delivery time for mutated land records is two months from the date of application. Application for a mutation proceeding shall be submitted in the counter of computer cell in form A. On receipt of application, the Computer Assistant shall allot one unique serial number to the applicant for maintaining order of first come first served and shall issue one authorization slip in form B to Nazir. Then the applicant has to deposit Rs. 35/per khata/holding with Nazir/cashier on proper money receipt towards charges for the mutation proceedings, i.e. right from institution of cases to issue of computerized patta. The user charges shall be collected per holding. It means fee shall be collected based on mutations of khata in the name of an individual tenant. In case of partition among co-sharers, the fee shall be collected taking into account the individual new khata to be created after mutation.

1. Automatic accounting procedure
2. Automatic generation of MPR
3. Tracking system of issue of misc. certificate meant for seven days or more.

However, one of the progressive measures taken up by the state is that the tehsils have the provision of maintenance cost utilized from the user fee collection in the form of:

1. Annual maintenance of computer systems, printers and UPS, AC and Stabliser.
2. Purchase of consumables like paper, printer head, ink/ toner/ribbon, cartridge, floppy, CD, cartridge tape (SLR-7 SLR-3 as applicable), and different registers etc.
3. Purchase of additional computer system, printer and other computer peripheral for up-gradation of computer systems on approval of DLSC.
4. Furniture and fixtures if required for strengthening of the infrastructure of the computer Cell.
5. Other contingent items which are essential for smooth functioning of computer cell.

The report on the activities of revenue and disaster management department for the year 2008-09 shows that user fee to the tune of Rs. 5.32 crores have been collected by providing computerized services.

Utilization of User Fee

Utilisation of user fee is followed as per the instructions in Para -6 (iii) of the Resolution, detailed guidelines on collection, utilization of user fee and accounting procedures.

District Level Steering Committee (DLSC) monitors and reviews progress of the computerization of land records as well as all collections and utilization of user fee for functioning of Computer Cell. In order to provide services without delay, a portion of the user fee collected is allotted for maintenance and repairing too.

Guidelines for Operationalization of Tehsil Level Computer Cell-Issue of Mutation Patta/Certified Copy of RoRs/Miscellaneous Certificates

The Board of Revenue, Government of Orissa (No. XXXVIII-33/02-9500/LRS, dated 23rd October, 2002, Cuttack) has already issued guidelines for operationalisation of Tehsil Level Computer Cell-Issue of Mutation Patta/Certified Copy of RoRs/ Miscellaneous Certificates etc. through computers. It was observed the CLR can generate following documents:

1. The mutation patta to the land owners in whose favour land is mutated.
2. Certified copy of Record of Rights to the applicant who may apply for the same on the ground of loss of the original for production before any Court of Law etc.
3. Residential Certificate under Rule 3 (ii) of the Orissa Miscellaneous Certificate rules, 1984 in Form No. III.
4. Caste Certificate under the Orissa Caste Certificate (for S.C. and S.T.) rules, 1980
5. Caste Certificate for the Socially and Educationally Backward Classes of the State in Form No. Annexure 'C' of the Government of Orissa. Tribal Welfare Department Office memorandum No. 4030m dated 29.01.1994.

Instruction followed to issue Mutation Patta/certified copy of RoRs through computer

Board of Revenue in a letter to all Collectors dated 23rd October, 2002, has issued the following instructions.

1. Paragraphs 365 to 401 of the Orissa Records Manual deal with Rules for granting copies. For issues of Certificated Copies through Computers some of these paragraphs namely 368, 370, 376, 390 and 392 need some changes. Steps are being taken to issue correction slips to these paragraphs separately.

However, pending issues of correction slips the following instructions may be followed.

(a) The present practice of filling of application in Form No. 79 of Appendix 3 (of the Orissa Records Manual, 1964) as prescribed under Paragraph 365 thereof shall be followed (Form No. L-III-325). Similarly, the application fee, prescribed in Para 366 of the Orissa Record Manual should be collected as prescribed under Para 367 of the Records Manual. The provisions regarding procedure to be followed on presentation of application for copy prescribed in Para 368, 369, 370 and 371 should also be followed except that there is no necessity to ask the party to supply any Folio of the purpose of Certified Copy of the Khatian. Paragraph 374 and 375 provide for copying or typing out of the documents and Para 376 about comparing of the prepared copies. In case of Certified Copies of the Record of Rights where R.O.R. data have been located in Computer, there is no necessity either for copying it out manually or to typing it out. The copy can be obtained from the Computer by getting access to the data of the particular Khatian fed to the Computer. As the data entered in the Computer have been properly compared, checked and validated before operationalizing the Computer Cell the Computer Copy can be deemed as the correct copy of the concerned Record of Rights and therefore, another comparison of the print-out with the Original Record of Rights is not necessary. In other words the provisions regarding comparing of the prepared copies given in Para 376 and 378 of the Records Manual need not be followed.

(b) Para 384 out of the Records Manual provides that copy to be supplied should bear at the foot the words "Certified to be true Copy" as required U/S 76 of the Indian Evidence Act, and should be legibly signed (not initialed) by the Authenticating Officer in Red Ink. The designation of the Authenticating Officer and the date of Certificate should be clearly noted together with words "authorized U/S, 76 Act. 1 of 1872" All these as specified in paragraph 384 can be written on the copy by impressing a Rubber Stamp except the signature and date of can also be scribed though the Computer itself. The Authenticating Officer means the Head Ministerial Officer in respect of the Tehsil office. Since Computer Copy is not required for visual comparison again, the certificate "Certified to be true Copy" should be given by Tehsildar/ Addl. Tehsildar/ Specially Deployed Officer himself who bring out the Computer Copy. The basis of his certificate is the data entered in the Computer and validated and therefore the certificate can be given in good faith without going for a

visual comparison. Since, the Head Ministerial Officer is not in the picture, in case of Computer Copies the Tehsildar/ Addl. Tehsildar/ Special Deployed Officer should act as the Authenticating Officer. The certificate to be given in such cases may read "Certified to be true copy as generated from the computerized data of the Record-of –Rights."

(c) Certificate of costs of the copy application should be given on the back side of the copy, as usual, by means of a Rubber stamp as provided under Para 385, by leaving the space blank against the items for which no cost is realized. As far as the certified copy of a computerized Record-of-Rights is concerned, the fees applicable for (a) application for copies (B) for printed form and (c) copying fee should be realized and shown on the back side.

(d) Since, the certified copy of the Record of Rights will be supplied either on the printed Record of Rights form or on computer paper/Xerox Paper, the cost applicable for printed forms should be collected from the applicant through adhesive stamps which should be affixed to the printed form or Computer paper and the upper portions should be torn off as required under Paragraph 386, retained in Office and destroyed by burning in presence of the Officer in-charge of the Record Room during end of the month.

(e) Paragraph 390 of the Orissa Record Manual Provides for copying charge where copy is granted in type written or manuscript form. When the certified copy of the Record of Rights may have to be granted by generating the entire material from computer the provision of this Para has to be followed and the change prescribed for type written material should be collected. However, where the certified copy will be granted in printed RoR Form the provisions of Paragraph 392 have to be followed mutatis mutandis. In such cases copying fee should be charged only for the data which the computer prints in the printed form and the copying fee should be collected in shape of Court-fees stamp to be affixed to the copy application. For calculating the copying charges the scale prescribed in Paragraph 390 should be adopted as usual steps are being taken to programme the Computer to print the number of words also on the body of the Certified Copy, so that a manual counting may not be necessary. Since the amount of copying fee chargeable can be determined only , after the Certified Copy is ready, the fee may be collected and affixed to the concerned copy application after the Certified Copy is ready and before it is delivered.

(f) On the whole the provisions regarding issue of Certified Copy prescribed under the Orissa Records Manual should be followed, mutatis mutants for issue of Certified Copies of the Record of Rights through computer keeping in view the above instructions.

2. The Mutation *Patta* is an original document. When a Mutation is allowed and orders are passed in the case records, the staffs take lot of time to issue the Mutation *Patta* and make necessary corrections in the records. With the Computerisation of Land Records, the correction can be carried over in the data base on the Computer screen and the *Patta* after correction can be generated instantly. However, the *Pattas* should also carry seal and signature.

3. On review of pending cases, it has been noticed that Land Records have not been updated for long and unless this is done, it is not possible to make the information system on-line. You are therefore, requested to take up an update drive by utilizing the services of the Revenue Field Staff. For this purpose, records should be sorted out year-wise and village-wise to ascertain the exact pendency of the cases and a Calendar Programme should be drawn up for carrying on the day to day updating work so as to complete the work within the stipulated time.

Rules and procedure in the manuals of *tehsil* which need to be changed after computerization of land records

To provide legal support to computerization of land records, a few amendments in the revenue manuals needed amendment. Our interaction with tehsildars gave the following recommendations:

Signatures from various officials such as Record Keeper, Head Clerk, Tahsildar are needed for issuance of RoR which is a tedious process. This procedure can be dispensed with under computerization. Also, land computerized land records are legal and authentic, so a legal amendment in record manual guidelines was not required.

DYNAMICS IN TECHNOLOGY APPLICATION

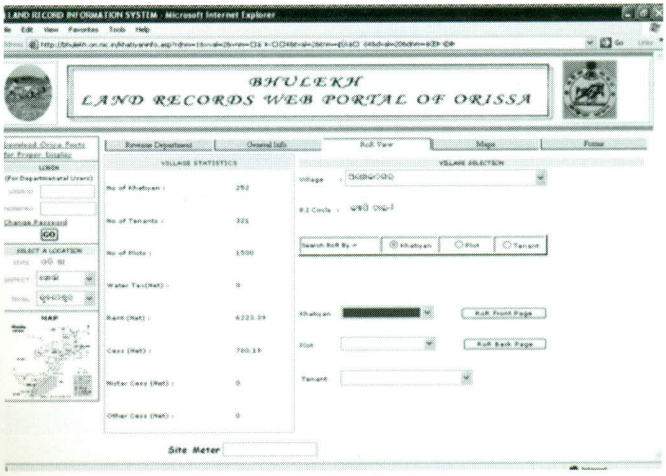
Computerization of land records deals with various technicalities such as application of software and hardware, use of modern technologies for addressing issues of connectivity/interconnectivity, integration of spatial data with textual data, storage and maintenance, etc.

The web portal for land records in Orissa is called *"Bhulekh"* (www.bhulekh.ori.nic.in). Any individual willing to view RoR/*Khatiyan* can access this portal and check its status online. It provides general information about the state and revenue details as well as other statistics. Under RoR view information about *khatiyan,* plot and tenant/landholder is stated. Village statistics provide details about *khatiyan* and *khatiyan* number, number of tenants, number of plots, water tax, rent and cess collected, etc. with provisions to display village maps. The application forms for land passbook, issue of miscellaneous certificate, mutation of land records, settlement of land, and application of *raiyat* for conversion of agricultural land for non-agricultural purposes, etc can be downloaded online.

Bhulekh Software and Other Technical Aspects

1. Bhulekh version 2.2.04 S/W was loaded at the time of installation with Front End Visual Basic and Back End SQL (Sequal) Server-2000.

A view of Bhulekh: The user friendly website



2. Bhulekh version 3.02 has been made available to tehsils. Unfortunately, most tehsils are still running old Bhulekh version.
3. Existing Bhulekh 3:02 software has an advantage over the earlier one so far as online mutation, generation of case record and notice is concerned.

Table-3.1 Hardware-Software Used: Tehsil wise

Tehsil	Software Version		Hardwa re	Maintenance	Security System
Baripada	Bhulekh version 2.2.04 S/W Front End Visual Basic and Back End SQL Server-2000	Bhulekh 3.02	1 Acer Server and 1 Acer Client	RICOH Printer-Scanner-Copier (Three-in-one), 1 Laser printer and I scanner added	Password, Biometric and daily backup
Karanjia	Bhulekh version 2.2.04 S/W Front End Visual Basic and Back End SQL Server-2000	No change	1 Acer Server and 1 Acer Client	No change	Only password and daily backup No biometric device
Puri Sadar		Bhulekh 3.5	Wipro Intel 512 MB RAM	WIPRO AMC	Password And weekly backup but no biometric device
Pipili	Bhulekh 2.2.04 Version		Wipro 2004 Intel 4	HCL	Password and Daily back but no biometric device
Berhampore	Bhulekh 2.02	Bhulekh-3.01Kiosk software Window XP operating system		Intel Pentium 4 processor 512 MB RAM	Password and daily back but without biometric device
Bhanjanagar	Bhulekh 2.02	Bhulekh 3.02	Intel (R) Pentum Ghz 512 MB RAM	Intel (R) CPU Ghz 512 MB RAM	Passward and daily back but without biometric device
Rourkela	Bhulekh 2.02	Bhulekh 3.02	NA	NA	..
Rajgangpur	Bhulekh 2.02	Bhulekh 3.02	NA	NA	..

Source: Field survey

SERVICES PROVIDED BY BHULEKH

RoR Module: Generates certified copies, information about plot index and *chumbak khatiyan.*

Mutation Module: Provision for mutation data entry and updating of the transaction data to master data base. It also generates history report.

Query module: Has the scope for generalized query and specific query.

Report module: Generates miscellaneous certificates

Administration Module: Online monitoring and review by authority.

PROBLEMS OBSERVED

1. Software does not access long sentences while writing address and has a back-up problem. In application module there is no mention of hamlet/pada.
2. Computer Operators are not imparted training in regular basis. They are overburdened with additional revenue related works who work beyond office hours.
3. Existing Bhulekh 3:02 software has certain advantages over its earlier version, like online mutation generation, generation of case record, etc. But this version has not been installed in many tehsils. Even tehsils where it has been the latest software version has been installed, computer operator and dealing assistant prefer doing the mutation process manually.
4. Some Oriya fonts/words are not displayed properly
5. There is no module generated for irrigation and other taxes, etc.

BENEFITS

Work executed: Correction of RoR, certified copies, verification of ROR for disposal of revenue cases, verification of land passbooks and other important correspondence.

SECURITY FEATURES[14]

- Biometric device: This includes fingerprint scanner for access control, Application roles for Database access
- Data encryption with Blowfish Algorithm (128 bit).
- Physical security through multiple (Tehsil, District, State) level data replication.

- User segmentation as operator supervisor and officer with varying permission
- User id and timestamp for record updating
- User segmentation as operator supervisor and officer with varying permission
- User id and timestamp for record updating
- State level audit, vigilance and reconciliation team.

MAJOR INITIATIVE BY GOVERNMENT OFFICIALS:

Bhulekh is geared not only for the citizens and government officials too, thereby providing G2C and G2G services. The major service provided to public are:

a) General information: News, highlights, interviews, feedback and revenue statistics.
b) RoR view: Online viewing and printing RoR for any tehsil
c) Revenue Department information: General information
d) Maps: Viewing and printing of cadastral maps
e) Downloading various revenue forms

BHULEKH SOFTWARE: A Few Comments

1. In Bhulekh Software there is problem for typing longer addresses. Only limited words are accepted by the software module.
2. Data backup is a problem.

Version 3.2 is more advanced and it provides varieties of modules. It has provisions for mutation operations, biometric/fingerprint and password security system,

DIGITIZATION OF CADASTRAL MAP AND ITS INTEGRATION WITH TEXTUAL DATA

The thrust of computerization of land records is attached with integration of map along with the textual data. One report says that there are approximately 1,20,100 nos of *hal* cadastral map sheets available in Orissa. As per the NLRMP guideline, the maps shall be scanned and vectorised while being interlinked with RoR database, adding the cadastral layer to the GIS system. But the Digitization of cadastral map remains a challenge. While, a few tehsils have been undertaken the task on experimental basis, there has been no substantial progress.

In 2007-08, fund of Rs. 434.05 lakh was sanctioned by GOI. The amount has been released by the State Government and placed to OCAC by the DLR&S as per the decision of the SLSC meeting for digitization of cadastral maps of four districts @ Rs.1000/- per map sheet. In the meantime, OCAC is scanning the mother maps in the Survey & Map Publication Office, Cuttack. No further progress has been intimated to this office.

"Integration of textual data with spatial data for each plot will require specialized utility software and interface software which will help in matching and tuning textual record of each plot with corresponding parcel map. This will be one time effort required to be performed at the time of installation of software. The necessary software may be developed by the NIC and made available to the states. This will help in establishing information security management system".

Table-3.2 Cost estimate and amount required for scanning, digitization, etc.

Cost estimate	Amount required
For scanning, digitisation, updation of 1,20,100 hal cadastral map sheets and integration of textual & spatial data in respect of 30 districts @ Rs.1000/- per map sheet	Rs. 1201.00 lakh

Target for 2009-10: Rs. 434.50 lakh has been placed to Orissa Computer application Centre (OCAC), Bhubaneswar for scanning, digitisation and updation of 43450 cadastral map sheets of Ganjam, Keonjhar, Khurda & Cuttack districts.

1. Hi-tech survey of lands and digitization of validated maps

As per NLRMP Guideline, survey, revisional or original, would be undertaken in 30 districts of the state for updating of cadastral maps and land records, as necessary. In addition, 10 degree hill slop survey in respect of 392 villages of four tribal districts to be undertaken with OTELP by using electronic total station (ETS) and differential positioning system (DGPS). All 30 districts will be completed in five years.

The survey/ resurvey will be undertaken by using the following modern technology: viz.

(a) Pure ground method using electronic total station (ETS) and positioning system (GPS); or

(b) Hybrid methodology using aerial photography and ground verification by ETS and GPS; or

(c) High Resolution Satellite Imagery (HRSI) and ground verification by ETS and GPS.

Target for 2009-10: Fund of Rs. 537.05 has been placed to Orissa Space Application Centre (ORSAC), Bhubaneswar for hi-tech survey in Ganjam district. Cuttack, Keonjhar and Khurda will be done by ORSAC this year.

ACTIVITIES UNDERTAKEN FOR QUALITY CHECK OF DIGITIZED CADASTRAL MAPS (existing maps digitized by OCAC)

- As per the request of OCAC, the Centre provided the technical specifications for map digitisation, quality check procedures and output format relating to digitisation of cadastral maps.
- Automated quality check software has been developed and parameters to be checked are finalized in consultation with OCAC in presence of vendors engaged for digitisation by OCAC.
- Sample QC of OCAC submitted 40 digital files have been completed and the procedure for error removal / layer generation /symbol creation etc has been explained to OCAC and vendors on 06.04.2010.
- QC works is continuing as per the dataset provided by OCAC.

PROVISION OF LAND RIGHTS AND LIVELIHOOD SECURITY IN ORISSA

The National Land Record Modernization Programme (NLRMP) and Land Titling Bill, came into the public domain by the DoLR, MoRD can provide some sort of solution to the cumbersome process of land administration. The issue of secured land rights will be addressed with the introduction of conclusive titling through NLRMP. The Forest Right Act (FRA) is already an innovative and secured land right initiative of the Government of India implemented in the scheduled areas and in traditional forest dwelling areas in the country. Moreover, state governments have their respective mechanisms in the form of Land Passbook System for providing land rights and taking up livelihood initiatives. By and large, the formulation of welfare policies at State and the Centre is worthy of note. The challenge is to implement these, incorporating periodic reviews while increasing public awareness. The state should take an upfront position for the implementation of these programmes effectively.

The National Land Record Modernization Program, launched in the year 2008 in Orissa was its most ambitious program. It sought to encompass computerization of land records, SRA, ULR and registration was integrated into one scheme. It's most striking feature is that the government's move towards conclusive titling from presumptive titling, legal changes, application of modern technologies such as GIS, GPS, and other necessary tools. Legal amendment for procedural support is also a significant initiative. Constructions of Modern Record Rooms, computer centers, etc. are part of the NLRMP scheme.

IMPACT AND EFFECTIVENESS OF THE PROGRAMME

There are 1842 Revenue Inspector (RI) Circles and 51551 revenue villages in the state. The total number of landholders/tenants is 26009447 and the number of khatiyans being 10798183. The number of plots recorded is 49023764 and is distributed across different geographical regions under various erstwhile Presidencies.

Computer Cells are set up and activated in all 171 tehsils. Computerized Certified Copies of RoRs and Miscellaneous Certificates are being delivered to the public on demand. The Government of Orissa is planning to extend new Computer Cells in all newly created tehsils in the state. It was found that the state government has effectively utilized the funds for legacy data entry, site preparation for computer cells, procurement of computer systems and peripherals, maintenance of computers, etc. Furthermore, the computerization of more than 99% RoRs has been completed.

Up-linking tehsils and Sub-divisions with State Data Centre is an important initiative of the State Government. In this regard, the State Government had received grant of Rs. 507.00 lakhs for interlinking Subdivision, District and State Headquarters during 2007-08. Till 2010 it was found that Rs. 82.10 lakhs had been spent for site preparation in respect to 58 Sub-divisions and 30 Districts and UC submitted.

A State Development Centre had been established in the Board of Revenue, Cuttack. The balance amount of Rs.424.90 lakhs had been spent for procurement of required HW/SW for Sub-division, District and State Data Centre and creation of Computer Cells in 48 newly created tehsils (Department of Revenue and Disaster Management, Government of Orissa).

ANALYSIS (PART-I)

Digitization of Cadastral Map and Computerization of Spatial Data

As far as preparation and digitization of cadastral map is concerned, six tehsils namely: Koraput, Rayagada, Salipur, Narsinghpur, Kendrapada and Bolagarh had

been taken in its purview. GPS application was favoured by the agencies for preparation of cadastral map and digitization .

There are 2,18,104 maps in the state. A sum of 3748 sheets of maps had been covered during 2007-08 (ibid.). In 2007-08, Rs. 434.05 lakh was sanctioned by Government of India, the amount was released by the State Government to Orissa Computer Application Centre (OCAC), an Orissa Government Undertaking as per the decisions of the State Level Steering Committee Meet for digitization of cadastral maps of four districts at Rs. 1000/-per map sheet. As per report submitted by the Government of Orissa to the Centre for Rural Studies, LBSNAA (NO. S-104/2009-25514/rdm., DT. 25.6.2009), it was reported that OCAC had scanned more than one lakh sheets of mother map in the Survey and Map Publication Office, Cuttack. Khurdha, Ganjam, and Keonjhar in addition to Koraput, Rayagada and Kendrapada districts had been taken into account.

However, considering the importance of updating cadastral map and textual land records data on regular basis, the five years perspective plans of Orissa has noted that there are approximately 1,20,100 hal cadastral maps sheets available in Orissa. These maps have to be scanned, vectored and interlinked with RoR database, adding the cadastral layer to the GIS database.

Under NLRMP project, the digitization of existing cadastral maps is done by OCAC as per the manual/guidelines prepared by ORSAC. The digitized maps are quality checked at ORSAC by automated SW developed for the purpose. Later on the same files are used for cadastral resurvey projects . ORSAC is identified by as the Nodal Agency of the state for Remote Sensing/GIS Satellite Communication activities. Further Department of Revenue and Disaster Management, Government of Orissa identified ORSAC as the nodal agency for operationalisation of NLRMP Cadastral Resurvey Project in Orissa. Under the Phase-I programme, ORSAC has taken up 4 districts (Ganjam, Keonjhar, Khurda and Cuttack districts) and in phase-II programme, 3 more districts (Balasore, Bhadrak and Mayurbhanj) have been taken up .

Amongst study districts, Ganjam with an area of 8216 square km of both plains and the hills has been selected for preparation and digitization of cadastral map. Government of Orissa decided to engage Survey of India to start a hi-tech survey in the district by Aerial photography as method of survey and preparation of map and GPS and Total Station for identification and fixation of peripheral ground control points .

A sum of amount Rs. 537.50 lakhs has been released through Sanction L. No. Date 2067/OCAC Dt. 16.09.2009 under NLRMP during the year 2009-10.

Table-4.1 Project expenditure till 31.08.2010 in Ganjam District

Head of Expenditure	Rupees in Lakhs
Satellite Data	172.10
Monumentation expenses	10.42
Extension of control networks	24.30
Seminar/workshop	0.12
Manpower and Centre Charges	7.51
Total	214.45

The pilot project was undertaken in Bijepadmanavpur and Pitambarpur Sasan village of Digapahandi Block, Ganjam district. The outputs of the project were demonstrated to both the Central and State Government officials and user agencies. Results of the pilot phase were found encouraging and acceptable to Revenue Department. A study by Mishra & *et al* submitted at ORSAC noticed that high resolution space-borne remote sensing image data show a high level of detail and provide many opportunities to be used as base for cadastral map generation. Orthoimages generated by using satellite data having 0.5 m spatial resolution are ideally suited for deriving cadastral plot vectors for plain areas. The obscured areas need ground survey intervention by DGPS & ETS. The habitation area vectors (very small polygons which cannot be resolved through 0.5 m data) of existing cadastral maps can be integrated to image vector maps to finalize the new cadastral maps of the villages. The images derived cadastral maps can be directly used by revenue official for tenant interaction, settlement activities and revenue administration. One significant observation of the study is matching of Total village area in Cadastral map area (after digitization), the image map of 2009 and RoR area. The final cadastral map generated by high-tech survey provides accurate matching of plot areas in 81% of plots. In total 80% of plots in both the villages derived by High-tech survey method shows acceptable level of accuracy, considering the fact that the mode of the area measurement by ground and automated method has significant variability. Including the Gharabari plots the total plot area in 95% (within 0-2% variations) of plots are matching with existing RoR.

It is also observed that the plot area of digitized cadastral map and the image map are matching but in case of some plots the RoR area shows wide variation. The variation is more in case of Government lands, Temple/Trust lands, Common Property Resources and plots near the village boundary etc. Authors emphasize that the adopted technology can be successfully used for Cadastral Resurvey and Cadastral GIS generation for plains of Orissa.

During the last decade, the process of digitization of cadastral map and the modern resurvey has experienced many shortcomings for example if the existing

cadastral maps match with updated land records both in area, positioning, etc, the digitization of maps is possible and if the maps do not match with land records then revisional survey is required.

The process of digitization involves both scanning and vectorization. So in order to expedite the process of scanning private vendors have been engaged.

A study by former Director, Land records and Survey, Board of Revenue, Government of Orissa reported that six pilot tehsils taken up for digitization of existing cadastral maps have not produced desired results. A field visit in Salipur tehsil in Cuttack district has reported that area as per final RRO, area as per digitized map and area as per field visit do match for most of the plots. Therefore, it was urged that error free cadastral maps with hi-tech survey can be a way forward.

ANALYSIS (PART-II)

In 2004, Computerization of land records was implemented in most tehsils. It must be noted that though Mayurbhanj was selected as a pilot district in 1988-89 it had no access to computerization until 2006. The year wise implementation in each tehsil is cited below.

Table-4.2: Year-wise implementation of CLR

Sl. No.	Tehsils	Year of implementation
1	Baripada	2006
2	Karanjia	2005
3	Berhampur	2004
4	Bhanjanagar	2006
5	Rourkela	2004
6	Rajgangpur	2004
7	Puri	2004
8	Pipili	2004

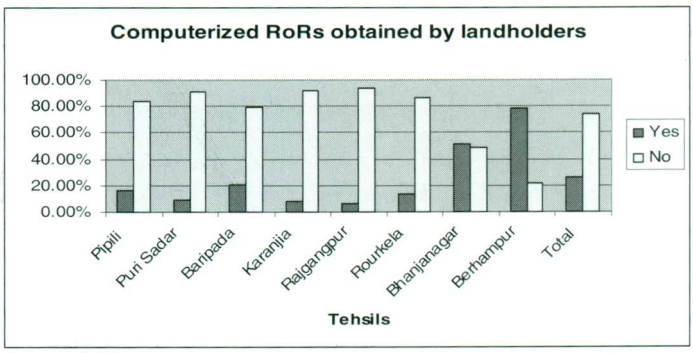
As mentioned earlier more than 99% of the khatiyans (RoRs) are computerized. Except Lathikata (86.2%) and Suidihi (67.4%) in Rourkela tehsil, all 7 other tehsils of four districts, computerization of all khatiyans was 100%. Both government and private landholdings are recorded, computerized and placed online.

An analysis from the data collected from the field survey indicates that while there is almost 100% computerization of RoRs/Khatiyans in the villages, people's access to computerization of land records is very low.

The number of landholders who had obtained computerized land records was highest in the village Suidhi (51.6%) of Rourkela tehsil, followed by Baidnathpur village (38.4%) of Behrampur tehsil. Bada Dimrijholi, Kalijhari in Bhanjanagar tehsil and Sansarposi in Baripada tehsil had not recorded any access to computerization of land records by the landholders. In Bisipur village of Karanjia Tehsil 6.8% of landholders had obtained computerized land records.

From the field survey (Figure-4.1) it was observed that the access to CLR is further low. Rajgangpour with 6.1% landholders and Rourkela with 13.9% landholders was recorded to be the lowest in terms of access to computerized RoRs. Berhampur tehsil with 78.4% and Bhanjanagar tehsil with 51.6% was recorded highest in terms of access to computerized RoRs. In Puri district, Puri Sadar tehsil was 9.1% and Pipili only15.9% landholders had access to computerized RoRs.

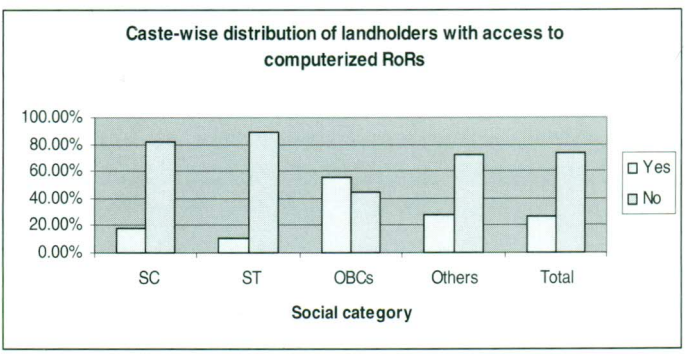
Figure-4.1 Tehsil wise landholders' access to computerized records of rights



Source: field survey

Caste wise distribution of landholders with access to computerized RoRs shows that SCs and STs had the lowest access to RoRs. Among all the social categories, the members of OBCs/SEBCs had highest access to computerized RoRs.

Figure 4.2 Access to computerized RoRs (caste-wise) distribution



AWARENESS ABOUT CLR

Access and awareness are directly proportional. Without awareness about the programme, there will be no improvement in access to CLR. So it was essential to seek awareness of respondents about CLR in the state.

After 5 years of the programme being operational in the state, it was expected that the public would to be fully aware about this programme. But primary observation showed that awareness about computerization of land records was low in most tehsils. In coastal districts namely, Puri and Ganjam only 44.5% and 65.1% of the respondents were aware of computerization of land records. In tribal dominated districts namely, Mayurbhanj and Sundergarh there were only 35.2% and 12.8% respondents aware of the computerization of land records.

Table-4.3 Awareness about CLR

District	Tehsil	Awareness about CLR		Total
		Yes	No	
Puri	Pipili	46 (36.8)	79 (63.2)	125 (100.0)
	Puri Sadar	64 (52.5)	58 (47.5)	122 (100.0)
	Total	**110 (44.5)**	**137 (55.5)**	**247 (100.0)**
Mayurbhanj	Baripada	14 (13.9)	87 (86.1)	101 (100.0)
	Karanjia	56 (57.1)	42 (42.9)	98 (100.0)
	Total	**70 (35.2)**	**129 (64.8)**	**199 (100.0)**
Ganjam	Bhanjanagar	34 (35.8)	61 (64.2)	95 (100.0)
	Berhampur	91 (93.8)	6 (6.2)	97 (100.0)
	Total	**125 (65.1)**	**67 (34.9)**	**192 (100.0)**
Sundargarh	Rajgangpur	16 (14.7)	93 (85.3)	109 (100.0)
	Rourkela	13 (11.0)	105 (89.0)	118 (100.0)
	Total	**29 (12.8)**	**198 (87.2)**	**227 (100.0)**
Total		**334 (38.6)**	**531 (61.4%)**	**865 (100.0)**

Further analysis on awareness distribution across social categories finds that the awareness among SCs and STs remain at the bottom followed by BCs and other General Caste categories.

Fig. 4.3 Awareness about CLR among the social categories

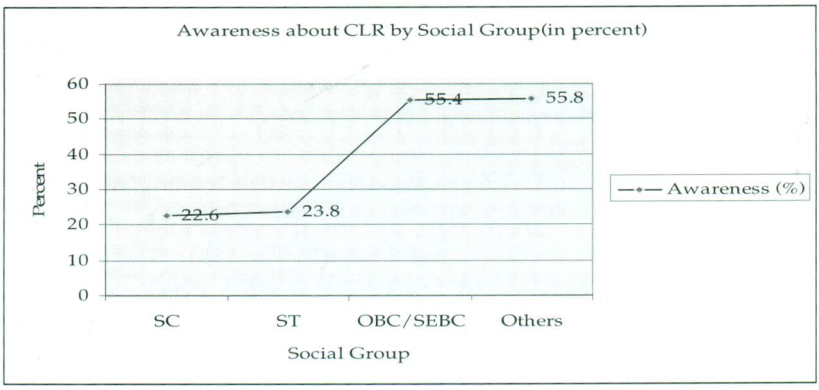
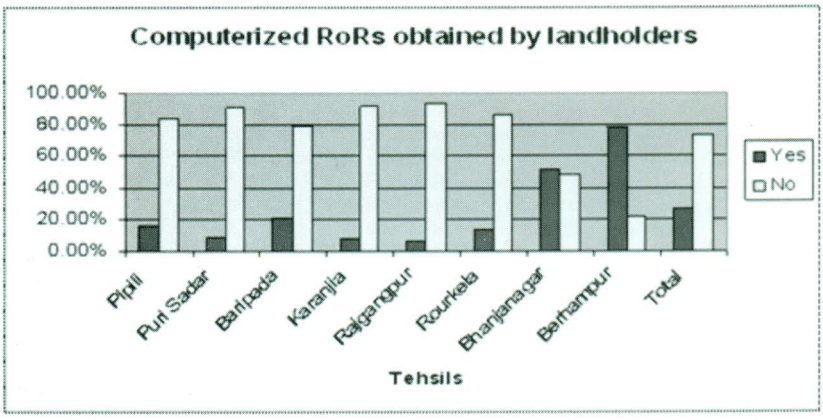


Fig. 4.4



We interacted with many respondents who had never visited tehsils or any Revenue Inspector, but were aware of the land passbook, which was launched in 2006 by the Government of Orissa. In some areas of Sundergarh, the landholders did not have any patta (RoR) to their landholdings. Some respondents had received patta but did not know where their land parcels were. This type of discrepancy exists primarily in few tribal areas.

In comparison to other states, the awareness to computerization of land records in Orissa is very low. There is no sincere effort undertaken to create awareness among the public. Unlike Gujarat and some other states where initiatives have been taken to create awareness, in Orissa there is no substantial step being taken up in this regard. Field survey showed that a little more than 72% of the respondents had only a vague idea about CLR.

We visited Rourkela tehsil to observe the activities under Computerization of Land Records (CLR). We observed that issuing of the Certified Copies of RoRs

and the Miscellaneous Certificates were undertaken sincerely where applicants gathered outside counters to get their certified copies or the ROR copy. The Tahsildar and the Dealing Assistant were also equally busy issuing certificates. A very few of the applicants came to follow up their mutated pattas while others were angry at the delay in the process. We had the opportunity to interact with a few of them who said that it was after several attempts that they were unable to get their updated RoRs. Overall observation was that the programme was partly successful due to delay in the mutation activity. There is instruction from the Board of Revenue regarding issuance of computerized RoRs. But lower revenue officials were not positive about the new system. They collected the prescribed user fee of Rs. 35/- for computerized mutation process from the landholders, but the mutation was undertaken manually. Some landholders in the study villages of Sundergarh district claimed that though they had applied for mutation with the payment of prescribed fee more than three months back, they had yet to receive updated land records.

The State NIC has developed many modules for the smooth functioning of computerization system. Mutation module, in most tehsils is not accessed by the Computer Operator-cum Dealing Assistant. Many people in the state are not aware about the 'mutation of land records' and after obtaining the sale deed, the transaction is complete. Others find approaches to the Circle Revenue Office or the Tehsil Office for 'mutation' as tiresome and expensive. Some felt victimized by intermediaries or middlemen where local lawyers, often turn middlemen to exploit people. In other tehsils, Dealing Assistants are enmeshed in corruption and are in cahoots with lawyers to extract money. Moreover, the rent seeking methods of lower revenue officials and their teaming up with local lawyers has not helped the process of land transaction.

We interviewed Dealing Assistant, Mr. Hrudananda Pati in the Rourkela Sadar Tehsil. He admitted that inadequate facilities or lack of appropriate mutation module was a constraint for the mutation operation by computerization. But the response from the District Informatics Officer, Sundargarh was a total contrast. His concern was that despite provision of all facilities and updated modules with the "Bhulekh", the lower revenue officials were reluctant to use these facilities as lower revenue officials would stop making money. If they were to use the new module or learn about the new module operation they would be burdened with the mutation activities in the tehsils which meant that the benefits from manual operation deferred.

Rourkela is not the only tehsil in the state where these manual practices existed. Tehsils in Puri, Mayurbhanj and Ganjam too had manual mutation. The

Comptroller and Auditor General (CAG) had agreed to the fact that there was existence of manual operation. "On verification of records of tehsil, the Comptroller and Auditor General (CAG) said in Dhenkanal tehsil traditional manual procedure was still in vogue even after installation of online module. Certified copies of RoR were numbered manually. Similar was the case in mutation module in 39 tehsils. The miscellaneous certificate module had a provision to generate only caste certificates and residential certificates but did not have provisions for generating caste certificates for socially and educationally backward classes (SEBC) and other certificates for legal heir, income and insolvency"[1].

A Report on the Activities of the Revenue and Disaster Management Department for the Year (2008-09) shows that "the Government at the beginning of the year 2008 up to the month of November new mutation cases have been instituted taking the total to 4,77,202 cases. Out of these, 2,80,677 mutation cases have been disposed, leaving a balance of 1,96,525 mutation cases at the end of November, 2008 at Tehsil levels".

A lack of awareness among the landholders has not reduced the role of intermediaries in accessing land information. An estimated cost of accessing land related information by a common citizen through intermediaries is, on an average, eighty rupees, which is four times the prescribed price. If proper awareness is generated, then this unnecessary cost can be reduced.

Our interaction with some of the landholders in tehsils reported that many landholders still depend on the intermediaries for any kind of land record issues. Private lawyers take advantage of the landholders who are ignorant of the advantage of computerization of land records, by extracting excessive rent from these landholders. In most of the cases, the landholders spend more than the prescribed fee to obtain land records.

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[1] The Orissa Government has already banned the manual procedure of land records and enforced strict instruction of Board of Revenue, Orissa vide letter No. 1843/LRS dt. 8.3.07 I am just to quote the letter of the Director, Board of Revenue, Orissa, Cuttack, No. XXXVIII-33/02-9500/LRS dated the Cuttack 23rd October, 2002, "With the Operationalisation of the Tehsil Level Computer Cells, the following documents can be generated without any difficulty.

i. Mutation Patta to the landowners in whose favour land is mutated

ii. Certified copy of Record of Rights to the applicant who may apply for the same on the ground of loss of the Original for production before any Court of Law etc.

iii. Residential Certificate under Rule 3 (II) of the Orissa Miscellaneous Certificate Rules, 1984 in Form No. III

iv. Caste Certificate under the Orissa Caste Certificate (for S.C. and S.T.) Rule, 1980 in Annexure-I

v. Caste Certificate for the Socially and Educationally Backward Classes of the State in Form No. Annexure 'C' of the Government of Orissa. Tribal Welfare Department Office Memorandum No. 4030m dated 29.01.1994

The Board of Revenue notified the instruction that with the Computerisation of Land Records, with the permission to undertaken mutation, the correction can be carried out over in the data base on the Computer screen and the Patta after correction can be generated instantly

http:/www.welcomeorissa.com/orissa_news.php?opt=view&id=18949&ChosenDay=02 & Chosen Month=03 & ChosenYear=2009 assessed on 6th July, 2010.

LAND PASS BOOK AND CLR

Government in Revenue Department vide Resolution No. 39723/R., dated 29.9.2005 have decided to provide Land Pass Book to all the land-holding families of the state. In the first phase, pilot programme was implemented in 33 selected Tehsils of the State w.e.f. 26th January, 2006. Since then, the Land Pass Book has been operational in most of the tehsils in the state.

Both "Computerization of Land Records" and "Land Pass Book" schemes were introduced in 2006 in most tehsils in the state. While the land record computerization is a Centrally Sponsored scheme, Land Pass Book distribution is a state scheme. The LPB is considered a legal document by government institutions. The district-wise distribution of LPBs in the study tehsils is given below.

Table-4.4 Distribution of Land Pass Books

District	Tehsil	Year in which Land Pass Book first issued in the Tehsil	No. of Land holders issued with land pass book by December, 2009
Puri	Puri Sadar	2006	12200
	Pipli	2006	122987
Ganjam	Berhampur	2006	119571
	Ghumusar	2006	13691
Mayurbhanj	Baripada	2006	74786
	Karanjia	2006	5287
Sundargarh	Rourkela	-	-
	Rajgangpur	2007	13597

Source: Field Survey

According to Orissa Land Pass Book Rules-2006, the following benefits will be accessed by the LPB holders:

1. Caste certificates
2. Legal heir certificates
3. Income certificate
4. Residential certificate
5. Proof to identify BPL families
6. Farmer's identity

The LPB will be a useful document proof to avail institutional finance, land related dispute hearing, payment of land revenue, etc. Land Passbook also shows legal heirs' name, the size of land and plot wise details which has got wide public

attention in Orissa. The state government popularized the Land Pass Book scheme by providing it free of cost to families Below Poverty Line (BPL). The application form for LPBs is available on the Bhulekh website.

In contrast to computerized land records awareness about LPD is not only high among the SCs and STs but in tribal belt as well making access to LPB among the poor and landless better (Village-wise distribution of LPBs is at Annexure-VIII). Since the usages of Land Pass Books and computerized RoRs are same and coinciding, the importance to access CLR some clashes with LPBs.

TRAINING PROGRAMME AND CAPACITY BUILDING MEASURES

Salipur tehsil in Cuttack district (taken up for a pilot visit) and other eight tehsils in Sundergarh, Puri, Mayurbhanj and Ganjam districts have the data about the training programme on CLR attended by the Tahsildars and other revenue officials in the state. Data shows that except in Salipur district where the Tahsildar had attended three training programmes for fifteen days, the training programme on CLR attended by other Tahsildars was less. In Rourkela tehsil there was no training programme attended by the concerned Tahsildar but Dealing Assistant had attended the training programme. In none of the tehsils did Revenue Inspector ever attend training related to CLR.

Revenue Inspectors are an important revenue functionary, but no training was imparted to them. The table shown below gives the details about training programmes attended by the Revenue officials.

Table: 4.5 Training programme attended by the Revenue Officials on CLR

	Type of Revenue Officials attended the training programme	No. of training programmes	Total Days	Training imparted by
Salipur tehsil in Cuttack District	Tahsildar	3	15	District NIC
Rourkela	Dealing assistant	NA	NA	OCAC and STG Internet, Cuttack
Pipili	Nil	Nil	Nil	
Puri Sadar	Tahsildar	1	1	OCAC
Baripada	Tahsildar	1	..	NIC, Baripada
Karanjia	Tahsildar	1	1	NIC, Baripada
Berhampur	&	&	&	&
Bhanjanagar	Tahsildar	1	3	OCAC

National Informatics Centre (NIC) and Orissa Computer Application Centre (OCAC) are the nodal training agencies for imparting training on CLR. The participation of Tahsildar in training programme is limited in most tehsils. During field survey it was observed that most of the Computer Operators were not trained regularly.

IMPACT OF CLR ON COMPUTERIZATION OF LAND RECORDS

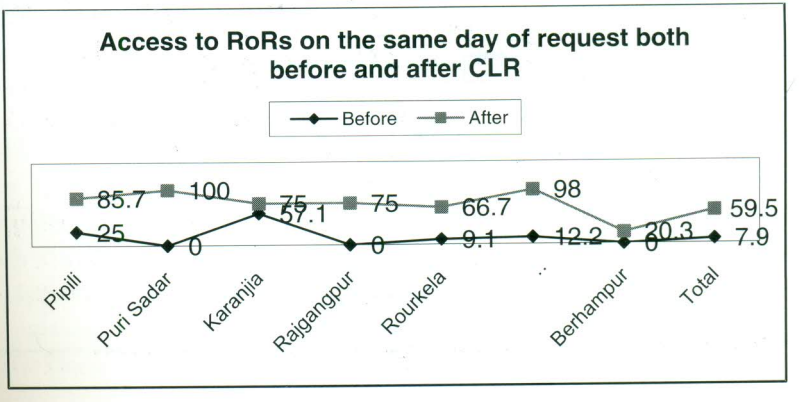
Efficiency in service delivery

One of the important objectives of computerization of land records is efficiency in land records management. Quick delivery of services to landholders, quick and easy access to information by government agencies, storage of land records, retrieval of data, etc. are some of the indicators of efficiency in land record management.

Computerization of land records is a tool to improve efficiency in land records management whereby all the land records are now placed online. The well designed information technology with proper database, separate computer centres complete with computer operators are well in place for the purpose of service delivery. In Puri Sadar, Bhanjanagar, Pipili and Karnajia tehsils there is quick and efficient land records management. It was reported that prior to computerization of land records there was only 7.9% landholder respondents who had obtained land records within a day. After computerization of land records it was observed that 59.9% of landholders respondents could obtain computerized RoRs on the day of request. Pipili, Puri, Karanjia, Rajgangpur and Bhanjanagar tehsils have recorded 75% and above in terms of access to RoRs on the same day of request. However, in Berhampur tehsil, 20.3% landholders had access to computerized RoRs on the same day itself.

The figure shown below represents increase in efficiency in terms of landholders' access to RoRs.

Figure 4.5



QUALITY MANAGEMENT

In addition to benefits in terms of increase in efficiency, the computerization of land records has also simplified procedures, reduced harassment, provided accurate and durable land records (RoRs), etc. More than 86% of landholders were of the opinion that new computerization process was simple and easy. There is no harassment faced by the respondents to obtain CLR. What an applicant has to do is to pay the fee as per the chart indicated in para-2 (iv) to Nazir and obtain a money receipt for the same. The applicant then approaches the Computer Operator at tehsil level computer centre, who then issues documents on accepting the money receipt and preserves the receipt. The process of first-cum-first service is followed in most of the tehsils, which makes it a simple and more transparent proceedure.

Since 1998, Correction and Validation of land records has been followed by the Board of Revenue. A series of validation procedure has been adopted after the data entry is complete, to check for mistakes or inaccuracies in the record of rights.

More than 90% of respondents who had obtained computerization of land records viewed that there is better accuracy in computerized RoRs than in manual land records.

Figure 4.6

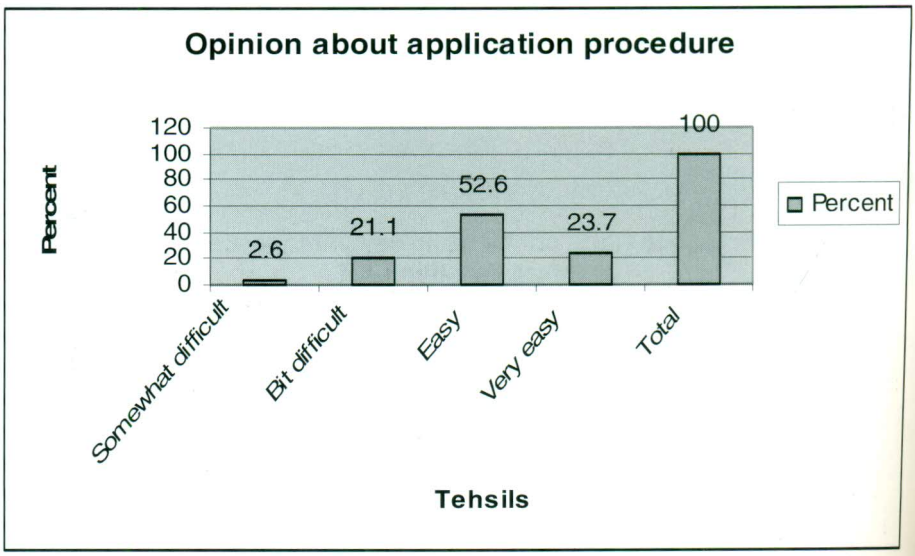


Figure 4.7

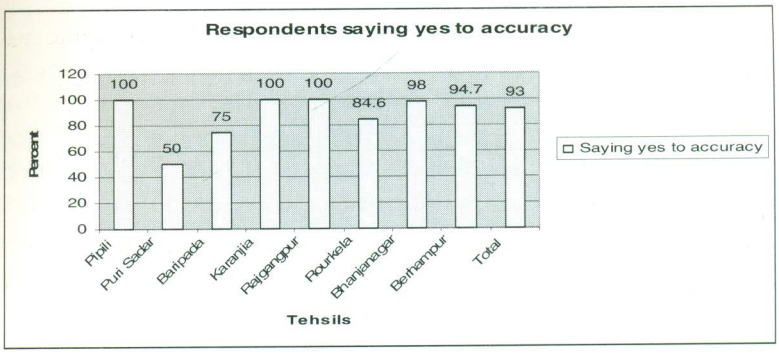
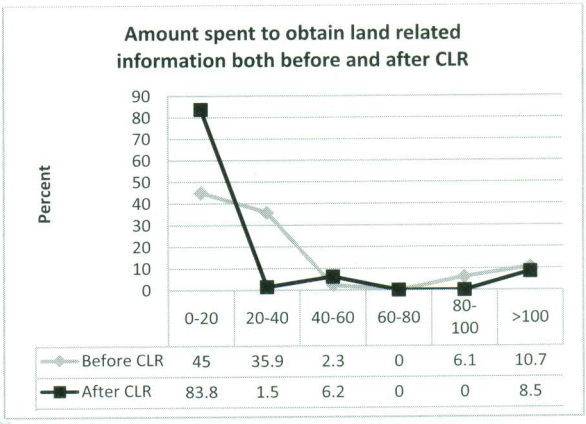


Figure-4.8



ON EXPENDITURE TO ACCESS LAND RELATED INFORMATION

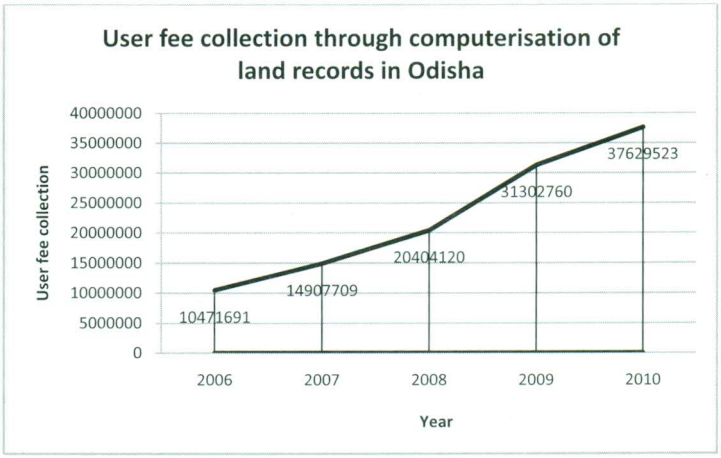
In the manual process, landholders used to spend certain amount in access to land related information. They bore the extra costs in travelling to and fro; transportation; wage loss; bribe, etc. However, computerization of land records has reduced these expenditures.

An assessment of the programme about money spent by landholders to access land related information reported that a large percentage (83.8%) of landholders had obtained land related information by spending around rupees twenty. The land record computerization has reduced this expenditure in terms of trips; approaching several officials; paper cost; etc. At the same time, installation of computer centres at tehsil level has not helped those landholders who come from far flung villages.

REVENUE GENERATION FROM USER FEE COLLECTION AFTER IMPLEMENTATION OF CLR

Computerization of land records in Orissa has helped increasing revenue generation of the state through user fee collection. The data collected from the Government of Orissa shows that since 2006 to 2010 there is continuous increase in revenue collection. In the year 2006 an amount of Rs.10471691/- was collected through user fee collection. By 2010, the total use fee collected was Rs. 37629523. Below are the details of user fee collection, amount credited with Government account, amount with tehsils, amount spent for maintenance and peripherals and the balance amount:

Figure-4.9



Source: Board of Revenue, Government of Orissa

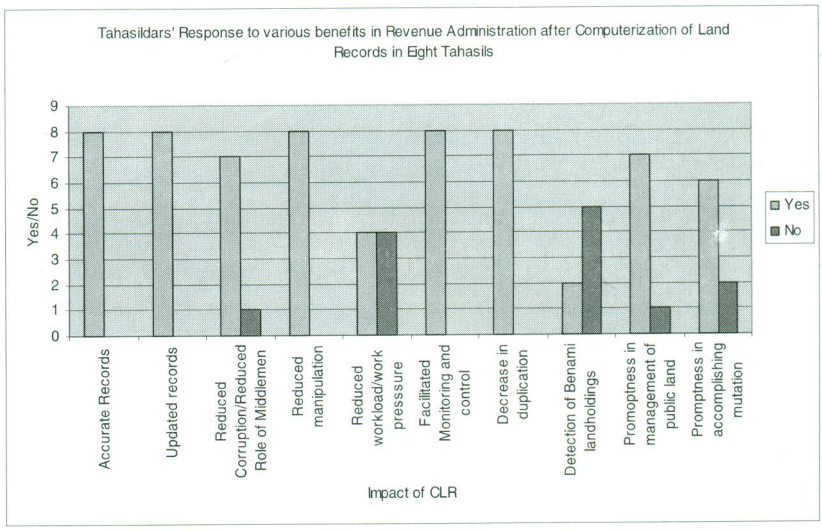
WORK LOAD ON REVENUE OFFICIALS

Evaluation in state shows that computerization of land records has not reduced the work of revenue officials. Land related activities have multiplied with increase of land transactions and land acquisitions. The revenue officials are engaged with disaster management, census operation amongst others while on the other hand, there is decline in numbers of revenue staff. The same problem is found in some tehsils in industrial belts and in urban and city areas in Orissa. There is increase in work of the Tehsildars and other revenue officials who handle multiple activities. Out of eight tehsils, in four tehsils the Tehsildars opined that work burden had reduced.

All Tehsildars in eight tehsils feel that Computerization of land records has helped in producing accurate land records, updating of records, reduced

manipulation and decreased duplication. Also the CLR has facilitated in monitoring and control of land records management.

Figure-4.10



MUTATION UNDER CLR

Mutation is one of the important activities under revenue administration. The process of mutation is very complex and requires time for verification, correction and updating under a manual process. It was expected that the introduction of computer in revenue management would reduce time of processing and updating of land records. Efficiency will increase not only in delivering RoRs but also in processing mutation and updating activities. The evaluation study of CLR in states like Gujarat, Rajasthan, and Tamil Nadu shows positive results of CLR in this field. In Orissa, the Computerization of land records has not benefited much. The report on the activities of revenue and disaster management department for the year (2008-09) indicates that at the beginning of the year 2008, 1,72,981 mutation cases were pending in different tehsils of the state and during 2008 up to the month of the November, 304,221 new mutation cases have been instituted making a total of 4,77,202 Cases. Out of these, 2,80,677 mutation cases have been disposed leaving a balance of 1,96,525 mutation cases at the end of November, 2008 at Tehsil levels. A study in Salipur tehsil in Cuttack district shows that the disposal of mutation cases before implementation of CLR was one year or above, which has not changed considerably since then.

MUTATION THROUGH BHULEKH SOFT: A comment

In 2004, each tehsil was instructed to process the mutation operation through computer. District Informatics Officers were instructed to provide training to the revenue officials in concerned tehsils. Few staff was trained to operate computers, but not any revenue staff in the tehsil was interested to proceed with computerization, hence manual process continues for mutation operation. Tehsildars lack monitoring and review of the operation in the tehsils. Mutation activity through computerization is given low priority, which in turn has resulted in backlog entry for mutation cases, which has caused a serious challenge for the state.

Frequent transfer of senior revenue officials at tehsil level, no specific in-charge for computerization of land records and no sincerity in taking monthly review operation, etc. are some of the limitations in land records computerization.

Benefits to government as responded by the tehsildars

1. Tracing out of records is easy and quick
2. Records are accurate
3. Reducing manpower
4. Permanence of Records
5. Generation of fund through user charges

Benefits to General Public assessed

1. Free access through Website
2. Decent and Distinct computerized *patta*
3. Clearly visible and readable
4. Durable

LAND RECORDS COMPUTERIZATION: Experiences shared by the Tehsildars

Puri Sadar Tehsil in Puri district

Puri sadar is the oldest tehsil in the state. The year of first settlement was established in 1898, whereas computerization of land records was implemented in 2004. There are approximately 126012 landholders out of which approximately 124012 RORs were computerized by December, 2009. According to Mr. Nimai Charan Sutar, Tehsildar of Puri Sadar Tehsil, the average number of disposal of mutation cases has decreased by 20% after implementation of CLR due to

reduction of staff. He pointed out that promptness in accomplishing mutation would be increase if the number of revenue staff was increased. However, government's zlack of attention in fulfilling the strength of employees has reduced over the years. As a result, CLR has not reduced the work burden of revenue staff in the Tehsil. Despite a few existing problems, the process of CLR is still considered significant to enhance capacity of the revenue staff, it has become fast, simple, accurate and has reduced corruption to a great extent. He expressed not only has CLR enhanced capacity of the revenue administration but also increased revenue of the State Government. On maintenance of the CLR system Mr. Sutar pointed out that WIPRO is engaged for the AMC. Also on rules and procedures in the Manual of Tehsil accounts, he said that Record Manual Guidelines should be changed as per the requirements after implementation of CLR. As per the Manual, the signatures of multiple officials prolong the process, therefore, only a Tehsildar and an Additional Tehsildar should be given legal authority for order of issuance of RoR.

Baripada Tehsil in Mayurbhanj district

Baripada Tehsil in Mayurbhanj district is one of the oldest but largest Tehsil in Orissa with 1105 revenue villages under its jurisdiction. However, the number of Revenue Inspectors in the Tehsil is only 17. The first settlement here was established in 1885 and 1886. The number of landholders in the Tehsil is 14,7942. According to Mr. Pranaya Kumar Jena, Tehsildar of Baripada, computerization of land records has achieved significant milestone in increasing efficiency, transparency and accountability in the revenue administration and also increased state revenue. As reported, there was a collection of Rs.1563895/- from 8th November 2006 to 31st December 2009 from user fee collection through computer generated copies. A portion of this revenue is utilized for maintenance of computers and peripherals. Annual Maintenance System is rendered by the authorized service provider company on payment basis. On security front, there is password, biometric device and backup procedures followed by the computer operators. RCC building with iron grill gate safeguards the computer centres. However, it requires preventive fire safety measures, internal security system amongst others. The CLR has helped revenue administration in accessing land records easily. Records are provided to government agencies as and when required, which in turn has enabled the revenue administration to act efficiently. Records are preserved permanently. For general public CLR has provided free access to land records through website. Land records are accurate, legible and clearly visible. The system is devoid of manipulation and tampering. Shortage of adequate revenue staff is also a problem in this Tehsil. Existing untrained staff and capacity building initiative has almost become dysfunctional. If attention is paid, Computerization of Land Records project will render better service to

tenants and landholders. For this purpose, adequate training and capacity building initiatives should be taken care off.

Bhanjanagar tehsil in Ganjam district

Bhanjanagar tehsil of Ganjam District is located in the erstwhile princely state of Ghumsar. This is one of the backward Tehsils with concentration of poor and landless tribals. The year of first settlement was established in 1908. The computerization of land records was implemented in 2006. There are approximately 90159 landholders here. The number of records issued in the Tehsil by December 2009 was only 6253. According to Mr. Bidhan Chandra Ray, Tehsildar of Bhanjanagar, the CLR has enhanced capacities of revenue administration. The system has ensured promptness in management of public land, making it easy to ascertain the quantum of public land available in a village from the CLR. He pointed out that it is a reformative stage to provide an updated land record system to the people. An individual can view his land records through on-line from the website anywhere in the state. As far as benefits of computerization of land records are concerned, government has got the benefits of promptness in public land management, revenue generation through user fee collection, quick retrieval of information, etc. General public too has benefited by prompt access to land records.

Rajgangpur tehsil in Sundergarh district

Rajgangpur Tehsil of Sundergarh district is located in the western part of Orissa and is well known for industrialization.The year of first settlement was established in 1936. The computerization of land records was implemented in 2003-04. There are approximately 47991 landholders here. CLR has helped in increasing efficiency in the delivery of services by producing accurate and updated records. The new system of land record management has decreased land related disputes, facilitated in monitoring and control of land record management, generated work and other revenue related activities.

Computerization of land records: A critical comment

Computerization of land records is considered to be a mechanism to increase efficiency, transparency and accountability. However, computerization is not panacea for all revenue administration issues. The structure of revenue administrative system, the attitude of revenue officials, political will, state priority, etc. are some of the factors that influence the functioning and good governance of the system. Also, the history of land reforms and implementation of land reforms play a significant role in speedy operation of computerization of land records. Computerization of land records can increase updating of land records if

it is effectively utilized. In Orissa, there are hundreds of land records yet to be updated and mutated. However, computerization has not helped to address these issues. In most of the tehsils the mutation process is carried out manually despite being banned. Officials seek bribe to expedite the process of mutation. It was observed that officials engaged in computerization collect the prescribed user fee of Rs. 35/- for mutation through computers but do so manually. As a result the time taken for mutation is not less than the manual procedure. The landholders have not got any benefit for mutation of their land records out of land record computerization.

Furthermore, revisional survey and settlement is so slow that if the current practice continues it will never fulfill the purpose of creation of updated land records and revenue assessment. Without revisional survey the digitization of cadastral map is meaningless as existing cadastral map will not reflect ground reality. The NLRMP addresses these issues and emphasizes the use of modern technologies for revisional survey and updating of land records data. This requires political will and committed leadership at the top.

Frequent transfer in the revenue system is an issue. Committed officials with interest in revenue administration and with basic understanding of revenue administration should be engaged in the system for a longer period. Also, as and when they are released they should be replaced with an equally experienced and competent official.

In Orissa, multiple agencies deal with land record computerization. OCAC for scanning and digitization of cadastral map, which engaged other consultant for the activity, ORSAC for modern survey and revisional survey, NIC for software design, private parties for AMC and so on. A complex procedure as the organization should reflect better coordination amongst each other in implementation of the project.

The computer operators are engaged for extra revenue works in most of the tehsils. For example in Pipili tehsils two computer operators engaged in the computerization of land records were also taking care of revenue matters. Most of the Tehsildars claim that the shortage of revenue staff is a major problem in revenue work.

CONCLUSION AND RECOMMENDATIONS

The land record computerization in Orissa has evoked much anticipation with ground work for computerization of land records started more than a decade back by setting up computer centres, data entry related work, correction and validation of data, etc. The Board of Revenue has certainly done substantial ground work before rolling out the computerization of land records project in the state. Computer centres have been set up in all the 171 tehsils and is further expanding to newly declared tehsils. Series of correction and validation work has been followed. Almost all the existing land records have been computerized across all the tehsils in the state. The computer centres are already issuing certified RoRs, miscellaneous certificates, etc. through computers. The digitization of cadastral maps is being undertaken under Orissa Computer Application Centre (OCAC), a Government of Orissa's undertaking. The OCAC is working in coordination with the Orissa Space Application Centre (ORSAC). Quality check is being ensured by the ORSAC, while computerization of all existing textual records has been completed, the computerization of existing cadastral maps is being carried out in Cuttack, Khurdha, Ganjam, Keonjhar, Koraput, Rayagada and Kendrapada Districts. A few years back, six tehsils in Koraput, Rayagada, Salipur, Narsinghpur, Kendrapada and Bolangir were also included into the ambit of the cadastral maps and digitization. But the digitization of cadastral map and its integration has not moved forward. Recently, the Government of Orissa has engaged the Survey of India for this. OCAC has completed scanning of more than one lakh maps. However, the previous effort of digitization of cadastral map had encountered some problems like reflecting ground realities and mismatch of area data published in final RRO, area as per digitized map and field visit. Hi-tech survey was advocated and is being taken up in some tehsils.

In Orissa the software used for computerization of land records is called 'Bhulekh'. A user friendly web portal www.bhulekh.ori.nic.in is designed by the NIC, Orissa Unit. The Bhulekh soft is fully operational the updated version 3.2 is advanced and has provisions for mutation operation through computer. A landholder can view record of rights online anywhere in the State. Password and bio-metric security provisions are added advantages. Board of Revenue (BOR) has

engaged computer operators on contract basis with a consolidated salary of Rs.4000/- per month. CLR training is done at OCAC. A major problem observed about training and capacity building is that very few training programmes were attended by revenue officials. There is no training programme imparted to the Revenue Inspector at the circle and at the level of Revenue Villages.

The state government has issued various instructions and guidelines for strict implementation of computerization of land records. Manual process has been banned under law. The computerization of land records has been considered authentic by all agencies in the state. Certified copies of record of rights (RoR)/khatiyan are issued to the landholders with the prescribed user fees charges. User charges for each RoR certified copy is very high in Orissa. The user fee collected for each RoR is Rs. 20/-per copy. This user fee charge is relatively high as compared to other charges where it is within Rs.5 to 15 rupees.

Unlike in Gujarat, where there is no specific provision for maintenance grant, in Orissa there is specific provision for maintenance grant. Each tehsildar retains Rs. 15 from the user fee collected from each RoR certified copies and miscellaneous copies issued to landholders and twenty rupees from the user fee collected from mutation charges. This is a great advantage for the tehsils to build their financial strength.

Despite the fact that the physical progress about implementation of CLR is satisfactory, the awareness among public about computerization of land records is low even in tribal belts. There is no proper mechanism by the state to create awareness about the programme. Access to computerization of land records is less in most of the tehsils in the state, as a result the real benefits of computerization of land records has not been realized by a large population of people. Though, the programme is fully operational in delivering textual land records/RoRs and in carrying out mutation activity, in most of the tehsil, the manual mutation operation is carried out. Monthly review is not taken regularly both at the tehsil and district level.

Most of the landholder respondents who had obtained computerized RoRs are quite confident of success of the programme. The computerization of land records has helped the landholders in accessing RoR. There is substantial time reduction in accessing land records also computerized RoRs are accurate and durable.

The CLR has helped in reducing harassment faced by the landholders in accessing RoRs. The application procedure under computerization of land records is simple. All the Tehsildars in eight tehsils feel that the Computerization

of land records has helped to produce accurate land records, updated land records, reduced manipulation and decreased duplication. Furthermore, CLR has facilitated in monitoring and control of land records management.

RECOMMENDATIONS

a) In spite of the state's substantial progress on technology adoption and project implementation of computerization at every tehsil, the awareness of public about computerization of land records is poor. There is no public investment in creating awareness through advertisement, media publication, posters or pamphlets. This has directly affected collection of user charges and state revenues. Also, the benefits of the programme have not been realized properly by the public. Therefore, the state government has to take active steps in creating awareness.

b) There should be special emphasis for creation of enabling environment and infrastructure development in the tribal and backward regions. Training and capacity building programme for the officers in these regions should be emphasized upon. Special attention should be given in the tribal regions for awareness generation.

c) As noticed, frequent transfer of trained officials is a serious impediment in the effective implementation of the programme. Officials who are properly trained should not be transferred frequently until and unless they are replaced by trained officials.

d) Training and capacity building initiatives under the computerization of land records is minimal. In most of the tehsils the tehsildars have not attended more than one training programme. This has reduced their capacity to be involved actively and undertake review and monitoring. Training programmes under CLR should be made compulsory for Tehsildars. The Revenue Inspectors too should be engaged in the CLR operation and training should be imparted to these officials as well.

e) Concerned officials should be trained about new software versions and their application.

f) Training allowances and incentives should be provided to the trainers and trainees both.

g) A specific officer should be in-charge of computerization of land records. He should take up all matters related to computerization of land records such as updating of land records, mutation operation, security verification, backup data entry, etc. to expedite the process.

h) In order to provide better citizen centric services touch screen kiosks should be installed in each tehsil.

i) Considering the Gujarat model, computerization of land records programme should be further disseminated at the gram-panchayat level.

j) In order to complete backlog data entry and mutation cases the State Government should think of alternative policies and engagement of external parties, if possible.

k) In each district, the District Informatics Officers should be provided better conveyance to inspect the tehsil level computer centres. If there is no vehicle or shortage of vehicles, the concerned districts should release some budget for travel grant.

This can help in checking and verification of software problems with on the spot corrections. This can avoid any manipulation or interpolation by the lower level officials with no excuse for software problem either.

l) There should be monthly review by respective district collectors. The collectors can see progress of mutation activity through computers, RoR issue, revenue generation, data verification and validation.

m) Some incentives or motivational packages should be provided to the persons engaged in the CLR. The persons involved overtime for updating of backlog cases should be provided incentives.

n) There is no serious initiative taken to integrate digitize cadastral map with textual land records data. The respective nodal officers should take a stock of the situation time to time and expedite the process. The state government can send their officers for exposure visit in West Bengal and Haryana where cadastral maps have been integrated with the textual land records data.

o) The process of engagement of private parties for digitization of cadastral mapping and integration should be considered. Agencies with competency and established track should be involved in modern surveying.

p) The inter-connectivity process is slow and there is no initiative taken up to integrate the SROs with the tehsil office. This has to be considered for speedy operationalization.

q) Single agency to deal with both revenue process and registration process should be engaged for interconnectivity activity. Agencies with prior experiences and track records should be considered for this work.

r) At present there is offline mutation process, which is again not used for mutation activities. Therefore, respective tehsildars have to take a note of this and process mutation through computers. The progress of

mutation by computer has to be maintained. Tehsildars have to review progress and revenue generation through computerized mutation. Online mutation activity has to be launched as soon as possible.

s) Frequent transfer of tehsildars and senior revenue officials at tehsil level is an impediment in progress of CLR. The state can notice this issue.

t) In the wake of the National Land Records Modernization Programme (NLRMP), an ASO or an equivalent rank officer at the tehsil level should be exclusively given the charge of computerization of land records. This can help progress with the technicalities of survey and settlement operation, integration of cadastral map with textual land records, etc.

u) Review of monthly progress both at the tehsil and at the district level should be taken up.

v) The state government should allow its team to make visit of different projects related to computerisation of land records. For example, in Andhra Pradesh Nizamabad district, "Bhu Bharati project"; West Bengal "Bhuchitra" project; and in Haryana and Gujarat land records project to observe best practices.

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Annexure-I

Details of tehsils where CLR is implemented (wholly and partly) in the study districts

Sl. No.	Name of the District	Name of the Tehsil	Status of Computerisation of Land Records implemented	
			Wholly	Partly
1.	Sundargarh	1. Sundargarh	Wholly	
		2. Balisankara	Wholly	
		3. Hemagir	Wholly	
		4. Lephripada	Wholly	
		5. Rajganpur	Wholly	
		6. Bonai	Wholly	
		7. Panposh	Wholly	
		8. Biramitrapur	Wholly	
		9. Rourkela	Wholly	
		10. Subdega	-	Partly
		11. Tangarpali	-	Partly
		12. Badagaon	-	Partly
		13. Bisra	-	Partly
		14. Gurundia	-	Partly
		15. Kutra	-	Partly
		16. Lathikata	-	Partly
		17. Lahunipada	-	Partly
		18. Kodia	-	Partly
2.	Puri	1. Puri	Wholly	
		2. Krushnaprasad	Wholly	
		3. Kakatpur	Wholly	
		4. Pipili	Wholly	
		5. Satyabadi	Wholly	
		6. Brahmagiri	Wholly	
		7. Nimapara	Wholly	
		8.Gop	-	Partly
		9. Delang	-	Partly
		10. Kanash	-	Partly
		11. Astranga	-	Partly

3.	**Mayurbhanj**	1. Bapripada	Wholly	
		2. Badasahi	Wholly	
		3. Betnoti	Wholly	
		4. Bahalada	Wholly	
		5. Rasgobindapur	Wholly	
		6. Rairangpur	Wholly	
		7. Udala	Wholly	
		8. Karanjia	Wholly	
		9. Roruan	Wholly	
		10. Sarakana	-	Partly
		11. Bisoi	-	Partly
		12. Kusumi	-	Partly
		13. Vijatola	-	Partly
		14. Bangiripasi	-	Partly
		15. G. B. Nagar	-	Partly
		16. Jamuda	-	Partly
		17. Kaptipada	-	Partly
		18. Khunta	-	Partly
		19. Kuliana	-	Partly
		20. Morada	-	Partly
		21. Thakurmunda	-	Partly
		22. Samakhunta	-	Partly
		23. Sukurli	-	Partly
		24. Suliapada	-	Partly
		25. Tiringi	-	Partly
		26. Jasipur	-	Partly
4.	**Ganjam**	1. Aska	Wholly	
		2. Berhampur	Wholly	
		3. Chhatrapur	Wholly	
		4. Chikiti	Wholly	
		5. Digapahandi	Wholly	
		6. Hinjilikatu	Wholly	
		7. Khalikote	Wholly	
		8. Kodala	Wholly	
		9. Purusottampur	Wholly	
		10. Kanisi	Wholly	
		11. Patrapur	Wholly	
		12. Bhanjanagar	Wholly	
		13. Sorada	Wholly	
		14. Buguda	Wholly	Partly
		15. Seragada	-	Partly
		16. Belguntha	-	Partly
		17. Dharakote	-	Partly
		18. Ganjam	-	Partly
		19. Jaganathprasad	-	Partly
		20. Kabisurjyanagar	-	Partly
		21. Posara	-	Partly
		22. Sanakhemundi	-	Partly

Source: Government of Orissa: Revenue and Disaster Management Department

Annexure-II

Land details village wise distribution

Tehsil/Revenue Villages	Name of the Tahasil/ Revenue Village	Total area of the Villages (in hectare)	Total Number of RoR /Khatiyan in the Villages
Tehsil	**Rourkela**		
Village	Lathikata	666.033	355
	Suidihi	289.820	141
Tehsil	**Rajgangpur**		
Village	Lamioi	330.29	446
	Laing	1269.96	614
Tehsil	**Puri Sadar**		
Village	Gopinathpur (Rautarapur)	75.98	1355
	HareKrishnapur	247.48	856
Tehsil	**Pipili**		
Village	Ekchalia	159.67	724
	Uttarasan	204.69	809
Tehsil	**Bapripada**		
Village	Nuhamalia	174.20	164
	Samsaraposi	456.65	128
Tehsil	**Karanjia**		
Village	Badadeuli	354	211
	Bisipur	582	307
Tehsil	**Berhampur**		
Village	Baidyanathpur	89.10	2943
	Korapali	240.8991	1646
Tehsil	**Bhanjanagar**		
Village	Halandakhola	172.9639	334
	Badadimirijhli	66	50
	Kalijhari	117.4860	102

Annexure-III

Land holding details

(i) Land distribution in the study villages

Sl. No.	District	Tehsil	Village	Total area of the village (in Acres)	Land under private ownership (in Acres)	Rest of the land (in Acres)
1.	Puri	Puri Sadar	Gopinathpur	190.72	188.14	2.58
			Harikrishnapur	550.32	432.61	117.71
		Pipli	Ekchalia	336.05	313.81	22.24
			Uttarasan	281.69	281.69	0
2.	Ganjam	Berhampur	Baidyanathpur	220.16	163.25	56.91
			Korapalli	595.26	449.36	145.9
		Ghumusar	Halandakhola	427.39	NA	--
			Bada Dhimiri Jholli	163.09	145.79	17.3
			Kalli Jhari	290.31	202.62	87.69
3.	Mayurbhanj	Baripada	Nuhamalia	430.45	218.61	211.84
			Sansarasposi	1128.38	529.24	599.14
		Karanjia	Badadeuli	874.73	617.75	256.98
			Bisipur	1438.12	1032.88	405.24
4.	Sundargarh	Rourkela	Lathikata	1996.98	598.11	1398.87
			Suidihi	131.82	NA	--
		Rajgangpur	Lamloi	817.90	688.06	129.84
			Laing	3133.22	2213.20	920.02

ii) Area under cultivation (crop wise)

Sl. No	District	Tehsil	Village	One crop	Two Crops	More than two crops
1.	Puri	Puri Sadar	Gopinathpur	82.4 Ac	-	-
			Harikrishnapur	144 Ac	56.37 Ac	0
		Pipli	Ekchalia	28 Ac	28 Ac	-
			Uttarasan	90 Ac	14 Ac	-
2.	Ganjam	Berhampur	Baidyanathpur	-	-	-
			Korapalli	180.9177 Ha	-	-
		Ghumusar	Halandakhola	71.2187 Ha	81.0840 Ha	-
			Bada Dhimiri Jholli	30.0000 Ha	10.0000 Ha	-
			Kalli Jhari	80.0000 Ha	40.0000 Ha	-
3.	Mayurbhanj	Baripada	Nuhamalia	105.60 ac	-	-
			Sansarasposi	86.615 ha	-	-
		Karanjia	Badadeuli	207	-	-
			Bisipur	285	38	-
4.	Sundargarh	Rourkela	Lathikata	-	-	-
			Suidihi	-	-	-
		Sundargarh	Lamloi	-	-	-
			Laing	560	125	

(iii) Number of tenants and area in the village

Sl. No.	District	Tehsil	Village	Total Tenants[2]	
				No.	Area In Acre
1.	Puri	Puri Sadar	Gopinathpur	40	203.61
			Harikrishnapur	56	277.24
		Pipli	Ekchalia	300	313.81
			Uttarasan	300	313.81
2.	Ganjam	Berhampur	Baidyanathpur	NA	NA
			Korapalli	1646	449.36
		Ghumusar	Halandakhola	384	376.34
			Bada Dhimiri Jholli	22	145.78
			Kalli Jhari	23	202.62
3.	Mayurbhanj	Baripada	Nuhamalia	164	218.54
			Sansarasposi	600	911.30
		Karanjia	Badadeuli	211	617.75
			Bisipur	304	1032.87
4.	Sundargarh	Rourkela	Lathikata	NA	NA
			Suidihi	NA	NA
		Rajgangpur	Lamloi	340	686.34
			Laing	608	NA

Annexure-IV

Status of Computerization of Land Records in Orissa

Name of the Tahasil/ Revenue Village	Total RoRs Computerized till December, 2009	Number of Landholders obtained Computerized RoR till December, 2009
Puri Sadar*	124012	22769 (18.4%)
Pipili		
Bapripada	147942	23386 (15.8%)
Karanjia	26070	7187 (27.6%)
Bhanjanagar	90159	6253 (6.9%)
Berhampur	NA	NA
Rourkela		
Rajgangpur*	41689	9821 (23.6%)

Annexure-V

Types of forms used for delivery of CLR in Orissa

FORM-A

Application for Computerised Services at Tahasil
(To be submitted at Tahasil KIOSK counter)

1. **Applicant's Detail:-**
   (a) Name:_____
   (b) Father/Husband's Name:_____(c) Caste:_____
   (d) Address:_____
   _____

2. **Service Details:**
   Village:_____ R.I.Circle:_____
   Police Station:_____ Thana No._____

3. **Service required for the Purpose of**_____

Sl. No	Types of Service required	Information to be provided
A	Certified Copy 1. ROR 2. Plot Index 3. Trace Map 4. Case Record (Order Sheet)	Khata No:_____ (Sabik/Hal) Plot No:_____ (Sabik/Hal) Case No & Year:_____
B	Misc. Certificate 1. Residence 2. Income 3. Caste(SC/ST) 4. SEBC/OBC 5. Valuation 6. Solvency	Khata No:- Permanent:
C	Mutation 1. Sale Purchase 2. Court Decree 3. Inheritance	(Sabik/Hal) Khata No:_____ Plot No:_____
D	Revenue Case 1. Partition Under OLR 19-1(C) 2. Conversion Under OLR 8(A) 3. Settlement of Land under OGLS Act 4. Demarcation Case	Area _____ Sale Deed No (With Date):_____

4. **Amount of Court Fee Affixed: Rs**_____
5. **Amount of User Fee to be paid: Rs.**_____

Declaration:
I here by declare that the above statements are true to by best of Knowledge.
* I agree to pay the required User's fee immediately to Nazir, Tahasil Office.

Place:_____

Date:_____ **Signature of the Applicant**

FORM - B

(Authorisation slip to be issued to Nazir by the Computer Asst. for accepting payment)

1. Name of the Applicant :

2. Serial No. of Application :

3. R.O.R. Certified copy/Mutation Patta/Misc. Certificate

4. User's Fee :

i)	R.O.R. Certified Copy-	Rs. 20/-	☐
ii)	Misc. Certificate-	Rs. 20/-	☐
iii)	Mutation Patts-	Rs. 35/-	☐

Signature of Computer Asst.

Date-

FORM - C

(Intimation slip to be issued to the applicant indicating the time period Receving up-to date computerized document)

1. Name of the Applicant :

2. Type of document required :

3. Date of Application :

4. Serial No. of Application :

5. Date of Delivery :

Signature of Comp

Date-

Annexure-VI

Information Contained in RoR (Khatiyan) in Orissa

I.RISD, NIC(Hqrs)

ORISSA

1. Record-of-Rights (Khatiyan) : Contains information on Tenant, Holding type, Rent details, Plot, Land type, Area of Plot. This register is maintained village wise. After Survey & Settlement/ Consolidation operation final publication of RoR is made. Updated upon mutation.

Front Page of RoR:

Schedule I Form No. 39-A

KHATIYAN

Village
Police Station
Police Station Number

Tahsil
Tahsil Number
District

Khewat Number

1) Khatiyan Number

2) Tenant's Name, Father's Name, Caste, Address

3) Rights Type

4) Tax

Water Tax	Rent	Cess	Patwar Cess	Total	5) Future conditions of rent

6) Special Incidence of rent

Final Publication Date
Rent Fixation Date

BLANK SPACE FOR STAMPING

Back Page of RoR:

Khatiyan Number		Village				District
Plot Number and Chaka Name	Land Type and Plot Tax	Detailed Description of Land Type & North, South, East, West Constraints	Area			Remarks
			Acre	Dec	Hectare	
7	8	9	10		11	12

Annexure-VII

Tehsildars' response to various benefits of computerization of land records

Sl. No.	Name of the Tehsil	1 (Y/N)	2 (Y/N)	3 (Y/N)	4 (Y/N)	5 (Y/N)	6 (Y/N)	7 (Y/N)	8 (Y/N)	9 (Y/N)	10 (Y/N)
1.	Rourkela	Y	Yes	Yes	Y	No	Y	Y	N	Y	N
2.	Pipli	Y	Yes	Yes	Y	No	Y	Y	N	Y	Y
3.	Puri Sadar	Y	Yes	NA	Y	No	Y	Y	N	Y	Y
4.	Baripada	Y	Yes	Yes	Y	Y	Y	Y	N	N	S
5.	Karanjia	Y	Yes	Yes	Y	Y	Y	Y	N	Y	Y
6.	Berhampur	Y	Yes	Yes	Y	Y	Y	Y	Y	Y	Y
7.	Bhanjanagar	Y	Yes	Yes	Y	Y	Y	Y	Y	Y	Y
8.	Rajgangpur	Y	Yes	Yes	Y	N	Y	Y	NA	Y	Y

Y = Yes, N = No, S = Same, NA = Not Applicable

1. Results in accurate records
2. Results in updated records
3. Decrease in corruption/ disputes related of land
4. Decrease in corruption/ manipulation
5. Has reduced workload on Tehsil staff
6. Has facilitated monitoring and control on employee work
7. Resulted in decrease of duplication in land records
8. Facilitated in detection of Benami landholding/ ceiling cases
9. Promptness in Management of public land
10. Promptness in accomplishing mutation

Annexure-VIII

About Land passbook in the study villages

Tehsil	Village	If land pass book being issued in the village (Yes/ No)	Year it was launched	Number of land pass book already issued	Number of land passbooks issued to			
					SC	ST	OBC/ SEBC	Other
Puri Sadar	Gopinathpur	Yes	2006	195	12	-	113	70
	Harikrishnapur	Yes	2006	50	10	1	20	19
Pipli	Ekchalia	Yes	2006	205	35	-	170	-
	Uttarasan	Yes	2006	105	45	-	50	10
Berhampur	Baidyanathpur	Yes	2006	371	3	0	160	300
	Korapalli	Yes	2006	247	14	04	107	122
Ghumusar Bhanjanagar	Halandakhola	Yes	2008	9	-	-	8	1
	Bada Dhimiri Jholli	-	-	-	-	-	-	-
	Kalli Jhari	Yes	2006	8	3	5	-	-
Baripada	Nuhamalia	Yes	2005	26	Nil	134	04	Nil
	Sansarasposi	Yes	2006	20	2	18	Nil	Nil
Karanjia	Badadeuli	Yes	2007	60	08	22	25	05
	Bisipur	Yes	2009	25	-	20	05	-
Rourkela	Lathikata	Yes	2006	-	-	-	-	-
	Suidihi	-	-	-	-	-	-	-
Rajgangpur	Lamloi	Yes	2006	25	-	22	3	-
	Laing	Yes	2008	118	30	74	14	-

About the Author

Dr. Prem Singh, IAS: Centre Director, Centre for Rural Studies, LBSNAA, Mussoorie.

Dr. H.C. Behera: Assistant Professor, Centre for Rural Studies, LBSNAA, Mussoorie

[1] Survey and settlement- Survey and settlement is prerequisite for creation of record of rights (RoRs) and updation of RoRs, settlement of land revenues based on the evaluation of quality of land, geographical location of land, and types of crops can be grown on the land. In India, each state has its own survey and settlement department.

[2] Conclusive titling- a conclusive title may be defined as an unassailable and conclusive proof of ownership of property. In India, the Registration Act-1908 provides for registration of deeds and documents, but does not confer title on the property owner, whose titles remains merely 'presumptive'. For details "Moving towards clear land titles in India: Potential benefits, a road map and remaining challenges by Rita Sinha can be referred.

(Reference: http://www.fig.net/pub/fig_wb_2009/papers/country/country_sinha.pdf)

[3] Torrens System-" Land registration system in which the government is the keeper of all land and title records, and a land title serves as a certificate of full, indefeasible and valid ownership. It was invented by Sir Robert Torrens, the 19th century reformer of Australian land laws" (Reference: http://www.businessdictionary.com/definition/Torrens-system.html).

[4] Rent seeking behaviour- Rent seeking behaviour is common among the lower revenue functionaries who seek illegal bribes otherwise prolong the process of delivery of RoRs and other revenue services to the citizens at the village level.

[5] "Report of the Committee on State Agrarian Relations and the Unfinished Task in Land Reforms", Department of Land Resources, MoRD, Government of India, New Delhi.

[6] Source: http://banglarbhumi.nic.in/

[7] http://www.mp.nic.in/Bhu%20Abhilekh.pdf

[8] For further reading refer "Status Report Land Rights and Ownership in Orissa", August, 2008, UNDP.

[9] Source: www.orissa.gov.in/revenue/INTRODUCTION/intro.htm

[10] RDC (North Zone) is located in Sambalpur and covers the undivided districts of Sundargarh, Sambalpur, Bolangir and Keonjhar. The RDC (Central Zone) is located in Cuttack and extends over Cuttack, Puri, Balasore, Mayurbhanj and Dhenkanal districts. The RDC (South Zone) is located in Ganjam and covers undivided Kalahandi, Korput, Ganjam, and Phulbani districts.

[11] Source: Letter No. S-104/2009-255/4/RDM, dated 25/6/09.

[12] Source: http://bhulekh.ori.nic.in/revpage.asp accessed on 2nd July, 2010

[13] Source: www.dolr.nic.in/CLR_ROR_REVISED2a.pdf accessed on 18th November, 2010.

[14] Source: http://as.ori.nic.in/nicosu/Bhulekh_files/frame.htm accessed on 2nd July, 2010

[15] Source: Report on the activities of Revenue and Disaster Management for the year 2007-08, Government Orissa

[16] Source: ORSAC (in reference to the letter No. CRS/DC/2009/40/7 (Orissa) dated 11.11.2010).

[17] Source: Orissa Space Application Centre (ORSAC), Government of India.

[18] The maps are required for presentation; use for different ground survey work and identification and correction of land each fragment of land on subsequent sub-division. Data model structure model may be developed for indication and identification of type of land (homestead, agriculture, gochar, *smasan* and forest), roads, river and water body, hills, etc by the SOI accordingly for requisite accuracy. Source: Board of Revenue, Cuttack, Government of Orissa.