Land administration is not an easy task in India where different methods exist with a lack of effort at bringing commonality into the system of land records. Ensuring transparency, accountability and efficiency in the age-old institutional arrangement is difficult. Thus, computerisation is an effort towards land administration reforms that overcomes certain issues pertaining to records management. This has reduced the work burden of various functionaries, brought down the number of land disputes and lowered the cost of transactions. Further, it has also brought efficiency in the delivery of services. However, issues like lack of updation of regular data, online mutation, automatic flow of information, etc, have not been addressed in many states.

1 Introduction
In India, where there are landholders in different geographical regions and in multiple forms and locations, management of land records is a serious concern among development planners, policymakers, and administrators. Besides, increasing population pressure on land has led to fragmentation of holdings further adding to problems in land management. As per a report of the Planning Commission, the percentage of operational holdings under marginal and small landholdings increased from 72.7% to 78.0% between 1976-77 and 1990-91. Similarly, the area under landholdings of both marginal and small landholders increased from 23.5% to 32.2% of the total during the same periods. The number of holdings in India has increased from 1,63,343 thousand hectares to 1,65,604 thousand hectares between 1976-77 and 1990-91 with the average size of operational holding in all groups reduced from 2 hectares to 1.57 hectares. Increase in industries during the last five decades has led to the acquiring of large tracts of fertile lands, displaced thousands of households from their cultivated and homestead lands and the dispute burden on the lower courts has grown.

A complete database for the land acquisition, land transfer, and land allotment remains absent. Illegal transfer of lands and the forceful acquisition has threatened the livelihood and socio-cultural security of millions of rural people across the country. It is clear that land records constitute an important database on which the revenue department operates. The system of land records maintenance, which was introduced three centuries ago is expected to be maintained by the revenue department, which also has the additional development tasks like social welfare, flood or draught relief, census work, compilation of voter lists, etc.

In the Constitution, maintenance of land records has been clubbed with the record of rights and cadastral surveys and they have been placed under the 45th entry of the state list in the Seventh Schedule. Land records form the basis for assignment and settlement of land titles and must protect the rights of the land's legal owner. Land records are also important for land taxes, reforms and administration. It can cover a wide variety of information, which include geographical data (such as land shape, size, form, and soil classification, etc), economic data related to irrigation, crop details, information about legal rights, liabilities and taxation.

Indeed, the creation of an accurate, complete land information system is one of the key challenges for governance today (Chawla and Bhatnagar 2004). Land records are a state subject. But they exist without any effort having been made in the direction of bringing some commonality into the different varieties of land records in a state. Till date, the land record maintenance pattern differs from state to state and in certain cases there are variations within a state itself. There are around 20 land registers maintained by the revenue department in some states. But regardless of the fact that wide variations exist within the state itself, land records should be accurate and kept up to date.

2 Institutional Structure and Persisting Problems
The state governments are bestowed with responsibilities of land management. By and large, in each state, three institutional structures such as the revenue, survey and settlement, and land registration departments handle all the responsibilities related to land and land administration. While these three departments are interdependent they differ in their functional area and administration. Therefore, regulating these three departments for bringing efficiency, transparency and accountability has never been easy.
While survey and settlement does not take place at regular intervals, in many states, the survey work has not been done in decades. In Andhra Pradesh, for example, the last survey of land records was done in 1920. Only about 30 of 130 towns in the state have been surveyed so far. As for rest of the towns, there are no survey records. With regard to about 5 million land parcels in Andhra Pradesh, 49% of tippans (land survey records) are in good condition, while the rest of the maps are brittle, faded or torn. Many traditional landholders have been unable to get the record of rights to their landholdings due to lack of dispute settlements or lack of proper survey. In Jammu and Kashmir, out of a total of 6,801 villages, the settlement operations have been completed only in 1,200 odd villages (Afzal and Khan 2005: 290). Similarly, large extent of land in several other states over which the tribal families or communities have had ownership right has neither been surveyed nor settled with clear proprietary titles. A few areas where survey and settlement operations have been extended, the conventional and corrupt processes have led to innumerable errors, anomalies and discrepancies. Consequently, the unique character of tribal land rights, community elements in land management and the customary rights of tribals over land-based resources are all at variance with the records churned out by land survey and settlement operations. Though different advisory councils under different political regimes have suggested measures for transparency and access to land records, speedy disposal of cases, and taking into account the oral evidence of land records in tribal areas, it has not been implemented in a majority of the scheduled and non-scheduled tribal areas. As a result, land in tribal areas has been alienated so frequently unlike in other areas of the country.

Revenue Department

Revenue departments do not have adequate information about all the occupants in its own revenue circle. In many cases the information about ownership rights (individual or joint ownership, group ownership or community ownership, etc) is not complete. The crop and account information that is maintained in the registers is inadequate. Persons who need information about their rights have to travel several times to the revenue department and for some of them even after frequent visits the efforts turn futile. It is not corruption alone that prevents them from accessing information, but the lack of information due to incomplete and irregular data collection are equally responsible. In the existing revenue structure, as regards matters of land administration public anger starts at the level of the lower revenue functionary, the patwari. The patwaris are blamed more than any other revenue officials for corruption and litigation in land records and for delaying the flow of information. The sanctity of land records is directly related to their accuracy and transparency. There are some instances, where it is found that due to poor maintenance of land records, checking frauds and corruption has become difficult in the manual system. In Karnataka, where state crop insurance has been made compulsory for those who take farm loans, the farmers make false claim to their crop loss by obtaining falsified crop records from village accountants. And, in most cases, those who benefit are the rich farmers who can afford to pay bribes. Since insurance is a zero sum game, it is the poor who suffer in the long run as premiums would go up (Bhatnagar and Chawla 2005: 56).

There are many complaints about the patwaris for charging more than the prescribed fee for issuing record of rights to landholders and withholding information at his/her own will. There exists a contradiction between the institutional objectives and the individual objectives of the revenue officials. Mutation of land records which is one of the important functions of the revenue department lies in the hand of the kanungo or patwari. This mutation activity has never been an easy responsibility for the administration. While it is hectic to mutate data or transfer ownership details, its operation in a manual process is subject to error. Put differently, the patwaris often exercises monopoly behaviour seeking bribes and alter data in favour of the party paying bribes.

Today, more than 70% disputes in courts are land-based either due to lack of proper settlement or due to misdeeds by the patwaris. It will not be fair, if only the patwaris are charged of corruptions or litigations. In a system of land administration, there are also instances where the other officials are involved in litigations. A study of the evaluation of computerisation of land records in Morena district of Madhya Pradesh reveals that superior revenue officials act through the patwaris (Sinha 1998: 63-64). Whatever be the fact, whether the patwaris or other officials are corrupt or not nevertheless the main problem, even recognised by the Department of Land Resources, Ministry of Rural Development, is the difficulty faced by a patwari in maintaining a large number of records at
the village level alongside carrying out his other duties, which multiplies his workload. Therefore, maintaining absolute accuracy is not easy.

In the land records management system, though the importance of building up and maintaining correct and up to date land records has been emphasised in the five-year plans, the fact remains that in large parts of the country no record of tenancy exists, and in areas where such records exist they are invariably incomplete and out of date. In Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, Maharashtra, Punjab, Rajasthan and Uttar Pradesh land records are expected to be kept up to date through annual revisions. Though the names of the tenants are required to be entered in the relevant village records, the fact of the matter is that they are seldom done. In many cases, the tenants do not insist on their names being recorded because of the danger of being evicted (Appu 1996: 102-03). So questions of tenancy security remain unresolved without any evidence of landholdings for cultivation. In states like Andhra Pradesh, Assam, Bihar, Karnataka, Kerala, Tamil Nadu, Orissa and West Bengal there is no system of annual revision of record of rights (ibid). However, in a few states like Tamil Nadu, the records of tenancy rights has been prepared by entering full details of registered tenants therein for safeguarding the interest of the tenants, but without any routine course (Ashokvardhan 2003: 194). The records are usually brought up to date only during resurvey and settlement. As these operations are usually done at very long intervals, the records remain out of date most of the time.

Registration Department

As far as the registration department is concerned, its responsibilities include registration of deeds, valuation of immovable property, collection of revenue (stamp duty and registration fee), preservation of copies of documents, issuance of certified copies of documents, issue of encumbrance certificates and registration of societies, firms, marriages, etc. At present, these two departments work separately though they depend on each other in many cases. Along with the increase in transaction taxes over the years, the additional expenditure due to lack of smooth conveyance and frequent approach to the officials during transaction process increases the burden of small and marginal farmers. The increase in transaction taxes induces both buyers and sellers to opt out the mechanism not to show on paper the real price of purchase and sale. As a result, the weaker party develops a sense of insecurity. Despite recent reductions of stamp duty by some states, rates remain at an average of slightly below 10% of the value of transaction, very high by international standards. This discourages formal land transactions, thereby reducing government revenue and threatening to undermine coverage by the land administration system.4

3 Computerisation

The process of computerisation of land records starts with the objective of improving the quality of services and bringing about efficiency, accuracy, accountability and transparency, etc. Computerisation of land records includes computerisation of both spatial and non-spatial data. Spatial data includes record of rights or khatauni, account register, crop details, irrigation details, etc, and spatial data includes digitisation of cadastral map, village map, etc. But the functional area under computerisation differs widely across states. Further, the computerisation of records differs in the line of traditional records maintenance of the states. States like Gujarat have already computerised various data on records of rights, crop details, account details, mutations entries, etc, whereas some other states like Rajasthan and Orissa are in the process of computerising these data. Similarly, Karnataka, Gujarat, Goa and others have completed the computerisation process in almost all the tehsils of their respective states while in several other states like Bihar, Jharkhand and Uttarakhand, the process is just beginning.

In states where the computerisation programme has almost been implemented, they have come out with many success stories as compared to the discrepancies of manual records management. A survey from Karnataka estimates that computerisation of land records in this state saved Rs 80 crore by way of bribes and Rs 6.6 crore in waiting time per year (World Bank Report 2007). Studies on evaluation of computerisation of land records in states such as Karnataka (2003), West Bengal (2003), Tamil Nadu (2007), and Rajasthan (2008) by the Centre for Rural Studies, LBSnAaA, have also reported that the computerisation of land records has led to the reduction of rent seeking behaviour of patwaris or village accountants. The evaluation study of computerisation of land records in Rajasthan conducted in 2004 by the centre found that less than 25% of farmers used to pay the prescribed fee or even less for obtaining the record of rights (RoRs) in manual process while more than 75% used to pay more than the prescribed fee. But after computerisation of land records about 81.6% of the beneficiaries obtain computerised patta by paying up to Rs 20, the prescribed fee by the state.

In Karnataka, the prompt availability of an ownership certificate across the counter has resulted in hundreds of owners getting their records of tenancy and cultivations (RTCs) on a daily basis. Their dependence on the village accountant almost disappeared for getting this document. Land conveyance has become easier in many states. There are also instances of reduction of disputes in states where computerisation of land records has been operationalised. Credit delivery to the farmers has become easier, in the areas where the pattas have been computerised. Thus it is expected that the speed operationalisation of land records would facilitate noting the charge on the land, and improve availability of credit. The report of the expert group on agricultural indebtedness 2007 recommended speed operationalisation of land records to facilitate easy flow of credit to the farmers (Paras 5.26 and 5.27).

It is not only the landholders who have benefited from the computerisation of land records, the respective state governments also benefited as their revenue collection increased from issuance of these records. In Madhya Pradesh with the gradual increase in computerisation of the number of copies of RoRs from 3,88,477 in 2001-02 to 7,93,548 in 2004-05 has proportionately increased the revenue collection
from Rs 34.79 lakh to Rs 91.88 lakh in the same period (Sharma and Agrawal 2005). Automation of the mutation process has reduced the turnaround time of mutation requests, thereby reducing the workload of revenue officials.

4 Issues

Despite the fact that there is scope for benefits of computerisation of land records in India, a significant surge has not been fully materialised in many states like Andhra Pradesh, Bihar, Kerala, etc. The management of land records is still performed manually without having any significant move towards computerisation. The process of computerisation is almost 20 years old but the programme is not yet active although it has been there to resolve the existing issues of manual process and management of land records. In some states like Haryana jamabandies (record of rights) are not updated due to the lack of effort by revenue officials for data verification. Even in the districts where jamabandies are updated no public counters are established to facilitate the issuing of RoRs.

Further, various states have adopted different technologies and languages. In the absence of standardisation of technology, these efforts would be in vain (Mishra 2003). Though consequently the states have adopted new and improved technologies, the state-wise variation persists as before. Given the variability in the land records systems across India, Bhatnagar and Chawla (2005: 64) viewed that a single system or software was unlikely to be usable at all places. The central government did not have clarity about the strategy to be adopted for implementation of the scheme. Nor did it insist on a detailed system design and implementation plan from states before funding. This was one project where a thousand flowers should not have been allowed to bloom. Each state should have had a well-coordinated strategy as in the case of Karnataka (ibid). Similarly, new technologies have not been able to address certain issues like automatic work flow automation, online modules for correction and updation, packages for various database creation, etc, existing in the states need to be urgently addressed.

Except a very few states like Karnataka, various modules of land records system were mostly stand-alone and there is no linkage between land records and the property registration system. There is no workflow automation. A study in Rajasthan revealed these issues, which need urgent attention and unless they are attended to, the objective of computerisation is expected to fail. Some issues in the existing computerised system in states like West Bengal, Rajasthan, etc, are erratic power supply, lack of equipments like uninterrupted power supply, generators that can be used as backup power supply, etc. No adequate technical personnel and trained staff to manage the system is another concern for some states. But the fact remains that the issues are common across any system. It is the responsibility of the respective state governments to prioritise the issues and work out the solution.

Many may view the investment cost is a barrier to progress, but the fact is that many states are not even able to utilise the funds sanctioned by the central government for the implementation of the project. The problem is not with funding alone, but it is the will power of the state government and functionaries to demand and utilise the funds and improve the system on an urgent basis. It is often the vested interest of the revenue functionaries that hinders the progress of computerisation in land records.

The patwaris and village accountants like lower revenue functionaries are showing less interest in areas where they are provided with responsibilities of cross checking and verification of data. In Haryana the patwari is the key functional in the verification and finalisation of the data, but due to lack of knowledge and a heavy workload patwaris had shown little interest in data finalisation. This resulted in delaying the data verification and finalisation (Bansal and Saini 2005: 19).

Creating awareness about the programme among the farmers or landholders, providing adequate training facilities and increasing the number of technical personnel, cross-checking and data verification, etc, are the responsibilities of the state governments. It is already evident that in Karnataka the computerised programme has achieved success due to the commitment at the village level of the staff and higher revenue officials. This model of success needs to be replicated in other states as well.

References


