Chapter–IV
Land Revenue

4.1   Tax administration

The receipts from Land Revenue Department are regulated under Karnataka Land Revenue Act (KLR Act), 1964 and the rules made thereunder and administered at the Government level by the Principal Secretary, Revenue Department.   The Principal Secretary is assisted by four Regional Commissioners, 30 Deputy Commissioners, 24 Assistant Commissioners and 179 Tahsildars.

4.2   Results of audit

In 2013-14, test check of the records of 42 units of Land Revenue Department showed non/short realisation of cost of land, conversion fine, compounding fine and other irregularities involving ` 33.92 crore in 88 cases, which fall under the following categories given in **Table 4.1**.

Table 4.1
Results of audit

(` in core)

Sl. No.	Category	No. of cases	Amount
1.	Information System Audit of 'Mojini' application in use in the Department of Survey, Settlement and Land Records, Karnataka	1	0
2.	Short/non levy of cost of land	12	7.28
3.	Short/non levy of conversion/ compounding fine.	29	9.24
4.	Short levy/ non recovery/non realization of lease rent	8	0.72
5.	Short levy of cost of Kharab land	4	1.15
6.	Other irregularities	34	15.53
	Total	**88**	**33.92**

During the course of the year, the Department had accepted under assessments and other deficiencies of ` 42.74 lakh in five cases which were pointed out during earlier years.   An amount of ` 51.83 lakh was realised in 19 cases during the year 2013-14. A few illustrative cases involving ` 19.99 crore are discussed in the following paragraphs.

4.3   Information System Audit of 'Mojini' application in use in the Department of Survey, Settlement and Land Records, Karnataka

Highlights

The Mojini was stated to be developed in-house. However, documentation on in-house competency, justification/business case for the same, Government approval, expenditure incurred, requirement specifications, timeliness and testing regime have not been maintained. This resulted in a system with inadequate segregation of duties without foolproof control against unauthorized modifications and inadequate control over back-up and recovery procedures.

(Paragraph 4.3.2)

Inadequacies in system logic resulted in contravention of accepted business policy of assignment of work to Licensed Surveyors.

(Paragraph4.3.3)

Inadequacy of Logical Access Controls resulted in use of identical passwords and with the same user holding several login identities.

(Paragraph 4.3.8)

Absence of integration with the application system in the Department of Stamps and Registration resulted in insufficient control against unauthorized sketches being used.

(Paragraph 4.3.10.1)

Non-integration of Mojini with digitized Akarband was leading to manual intervention and delay in issue of sketches to applicants.

(Paragraphs 4.3.10.2)

4.3.1 Introduction

Administration of Land is dealt by three entities viz. Survey, Settlement and Land Records Department (SSLRD), Department of Stamps and Registration (DSR) and Tahsildar Offices (TO). All the three are under the administrative control of the Department of Revenue, Government of Karnataka.
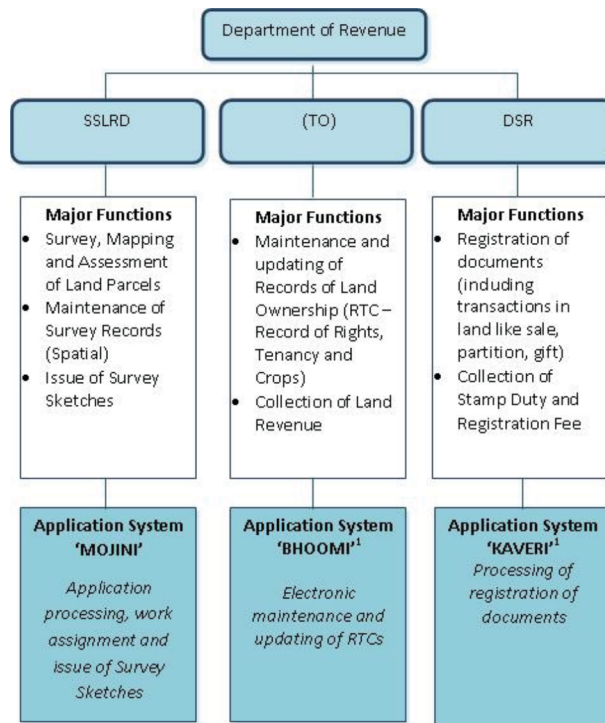
Transactions in land require the co-ordinated efforts of the three entities and involve sharing of data between the respective application systems manually or through interfaces between the same. The basic unit of reference for all transactions is the survey number[2] (Sy.No.).

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[1] IS Audit Reports on the Application Systems of Bhoomi and Kaveri were included in the Audit Report (Civil) for the year ended 31 March 2007 and No.3 of 2013 respectively

[2] A survey number indicates a specific piece of land.

The SSLRD, on application from owners of individual parcels of land, undertakes fresh measurements by employing the services of Government Surveyors or Licensed Surveyors[3] (LS) and issues sketches. Four kinds of sketches issued by the SSLRD are as in **Table** 4.2.

Table 4.2
Types of sketches

Sl. No.	Sketch	When required	Description
1.	Pre-mutation (11e) Sketch	To effect mutation involving part extents of a Sy.No. The sketch assures availability of land for mutation and enables updating the land records on confirmation of the transaction. Usually assigned to LS.	Sketch showing boundaries of an existing Sy.No within which the part to be conveyed etc. is marked out
2.	Alienation Sketch	When the owner of a parcel of agricultural land wants to convert part or whole of the same for non-agricultural purposes, it has been made mandatory that an alienation sketch of the land has to accompany the application for conversion. Usually assigned to LS	Sketch showing the area of land proposed to be converted.
3.	Phodi Sketch	When, as per RTC, specific extents within a survey number are held by different parties, but individual boundaries are not demarcated, it is a multiple owner RTC. In such cases, the sub-divisions within the survey number is not reflected in the original survey record, viz the Akarband. The owners of such lands may apply to the SSLRD for a phodi sketch, which will map the boundaries of the individual holdings (hissas). Based on this, separate RTCs for each hissa will be created at RD and Akarband will be updated at SSLRD. Usually assigned to LS	Sketch showing proposed boundaries of individual holdings within an existing Sy.No.
4.	Hadbust	An owner might apply to the SSLRD for mapping of his holding at his own instance. Assigned to Government Surveyors	Sketch showing boundaries of individual holdings.

Transactions in land are concluded through manual presentation of any of the above types of sketches and the various manual and digital documents within the departments get updated through manual or systemic processes. An outline of the manual and systemic linkages between the departments and the respective application systems is shown below:

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[3]   The SSLRD employs the services of Licensed Surveyors (LS), to whom a part of the user fee collected from applicants is paid as remuneration, for conducting survey and preparation of pre-mutation, phodi and alienation sketches.
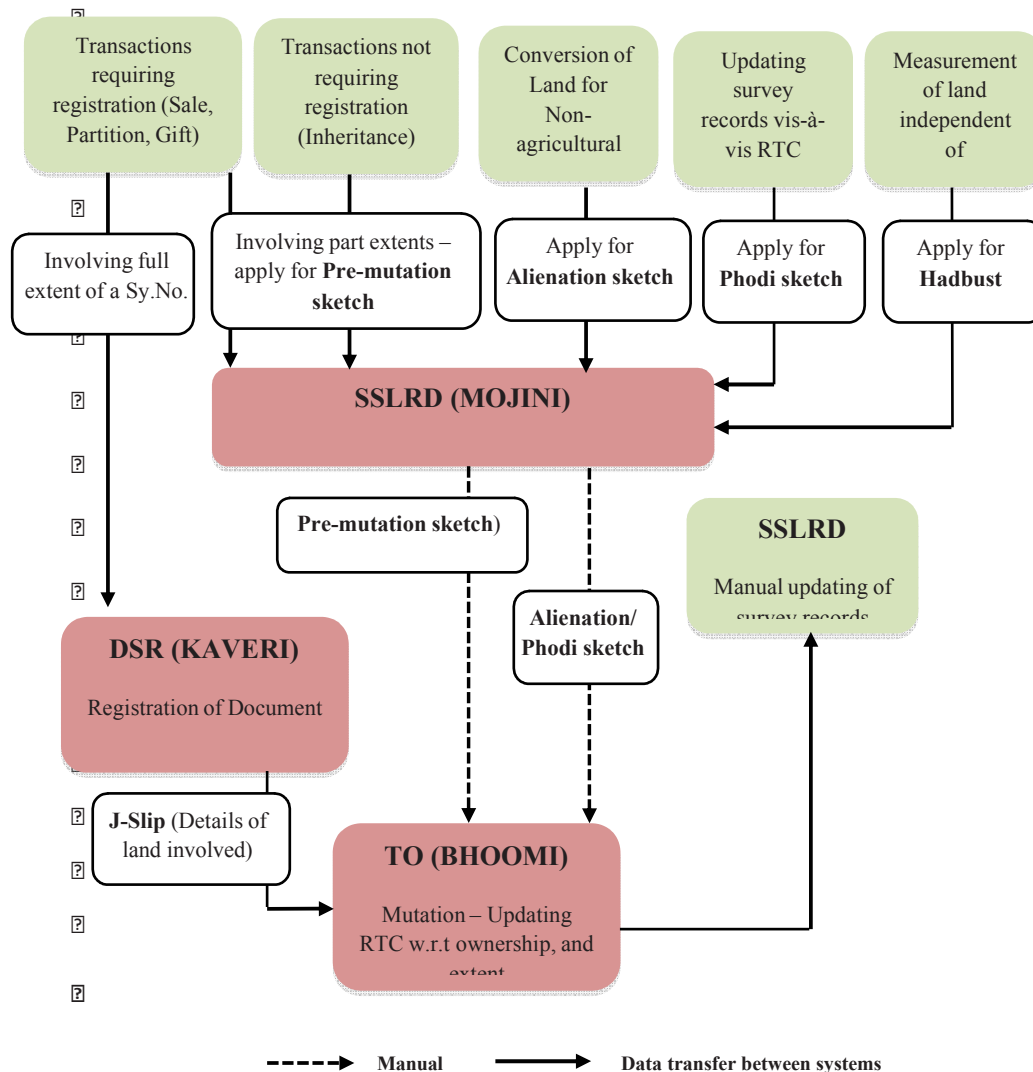
The Government of Karnataka introduced the pre-mutation (11e) sketch scheme in 2006 and made mandatory the submission of the same to effect any mutation[4] (of specified types – sale, partition, gift) involving part extents of a survey number.

Important survey records maintained by SSLRD and used in the preparation of sketches are shown in **Table 4.3** below:

Table 4.3 Records of SSLRD

Sl. No.	Name of the record maintained	Description
1.	Akarband	A Register showing the area and assessment of survey number. It contains the details of total extent of land, extent of cultivable land and non-cultivable land (Kharab), extent of dry, wet, garden and plantation areas within the land, sources of water and assessed amount of land revenue for each survey number.
2.	Tippans	It is the basic survey sketch. It is a hand drawn rough sketch, which is not to scale. It contains the measurement details of a survey number which is essential for calculating the area.

[4]   Transfer of rights

4.3.1.1   Organisational set up

SSLRD is under the administrative control of the Revenue Department, Government of Karnataka. The Department is headed by the Commissioner, Survey, Settlement and Land Records and is assisted by Joint Directors of Land Records (JDLRs) at Headquarters, Deputy Directors of Land Records (DDLRs) at the District level and Assistant Directors of Land Records (ADLRs) at the taluk Level. The Survey Supervisors, Government Surveyors, and allied staff at the taluk level are under the administrative control of the Tahsildar. Applications for various services are received at Nadakacheris[5] at the Hobli level.

4.3.1.2   Mojini

In 2007, the SSLRD developed a web based application software called 'Mojini' (Mojini I) for regulating the receipt of application, allocation of the work to licensed/Government surveyors, accounting of fee receipts and providing Management Information System (MIS) reports to management. Initially, processing of pre-mutation sketches and alienation sketches only were included under Mojini. Mojini was deployed in all the 830 Nadakacheries in 786 hoblis of the 203 talukas in Karnataka. A newer version of the application (Mojini II) was introduced from 1 November 2013 and has incorporated the process of issuing 'hadbust' and 'phodi' sketches also.

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[5]   Nadakacheries - are centres meant for the electronic delivery of citizen services at the Hobli level.

NEW APPLICATION ENTRY
By Nadkacheri Operator at Kiosks

VERIFICATION OF APPLICATIONS
By Government Surveyor w.r.t original documents

ALLOTMENT OF APPLICATIONS
By Surveyor Supervisor after verification and approval w.r.t original documents

ISSUE OF APPLICATIONS TO SURVEYOR
For field measurement and preparation of sketch

ISSUE OF APPLICATIONS TO SHIRASTEDAR
For effecting RTC correction

RECEIPT OF SKETCHES
Prepared by Government/Licensed Surveyors

RTC CORRECTION
At Taluk Office

VERIFICATION
By Government Surveyors

RE-DATA ENTRY
With corrected particulars

DATA ENTRY
Of sketches and other details by operator

FINAL APPROVAL
By Supervisor

Multiple Owner RTCs

FORM 10
(Details of individual hissas in a Sy.No.)

PRINTING OF SKETCH
On demand from applicant

BHOOMI
(For generation of individual RTCs)

The application was introduced with the intention of making the entire process of issuing sketches transparent and automated, and was essentially on the principle of First-in-First-out (FIFO). Other cited advantages of the system were streamlining the procedures involved in the preparation and issue of sketches and eliminating bias at all stages to ensure faster service delivery to citizens, reduction of corruption, facility for automatic tracking of status of applications through internet or SMS, security of processes through biometric login, progressive cleaning of Bhoomi data, and progressive re-creation of non-existing/defective survey records.

4.3.1.3   Information System Architecture

The application system is a web-based e-Governance solution hosted on Windows 2003 Enterprise edition with SQL Server 2008 as backend RDBMS and ASP.net 2.0 as front end tool. The nodes at headquarters and field offices are networked via the Karnataka State Wide Area Network (KSWAN), accessible also via internet. The database is hosted at the State Data Centre (SDC), managed by the Department of e-Governance, Government of Karnataka.

4.3.1.4 Audit Objectives

The objectives of the PA are given below:

1. To assess the adequacy of administrative and application level controls for ensuring the integrity of the system.
2. To verify the extent to which the system has been effective in achieving the declared intentions of computerisation.
3. To assess whether the system integrates well with applications/procedures in departments with which it is functionally related.

4.3.1.5 Sources of Audit Criteria

The audit criteria for the performance audit are derived from the provisions/rules given below:

1. National Land Records Management Policy, 2008
2. The Karnataka Land Revenue Act, 1964
3. The Karnataka Land Revenue Rules, 1966
4. Notifications, Circulars and Government Orders issued
5. Information Technology Audit Manual of SAI, India

4.3.1.6 Scope and Period of Audit

The audit period covered was from August 2008 to April 2014. We examined system development, IT Governance, application controls and nature of integration of the software with other related applications. Entry and exit conferences were conducted in May 2014 and September 2014 respectively.

4.3.1.7 Methodology

1. Data analysis using IDEA software
2. Field verification of samples selected on random basis.
3. Examination of process flow.

Audit Observations

4.3.2 General Controls

General controls include controls over application system development, maintenance of data centre operations, access, security, backup and disaster recovery plan.

We evaluated[6] the quality of the General Controls in the Development of Mojini I & II and found deficiencies in the process of IT Governance, encompassing System Development, Change Management and Business Continuity Plans of the Department as given below:

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[6] Diagnostic Tool developed by SAI India based on international best practices.

4.3.2.1　　　System Development

Request for Proposal (RFP), System Requirement Specifications (SRS), User Requirement Specifications (URS) and other functional documentation attest to good IT Governance, which in turn ensure ownership, responsibility and adherence to best practices. It also helps the organisation to get the system developed in a desired manner, train its staff or other end users, and procure required hardware and other infrastructure. Most importantly, the new system is introduced only after it is thoroughly tested and accepted by the management.

The application development of both Mojini I & II were stated to have been done in-house by the SSLRD. However, no documentation of in-house competency, justification/business case for the same, Government approval, expenditure incurred, requirement specifications, timelines and testing regimen relating to the same were available. SSLRD entered into a maintenance agreement with an agency in March 2012 for maintenance of the software. The contract ended in September 2012 and was not renewed thereafter.

4.3.2.2　　　Version Management

The SSLRD implemented Mojini II as a separate application system. Even after its introduction from November 2013, the SSLRD continued with the parallel operation of Mojini I in all the Taluks. New applications were received in Mojini II while the processing of applications received in Mojini I was not ported to the modified process flow of Mojini II.

4.3.2.3　　　Change Management

A detailed protocol for initiating and approving modifications to the existing software is known as Change Management. The protocol prescribed in this regard should be effective in prevention of unauthorized changes to the application and ensure that all approved modifications are incorporated without any errors.

We observed that SSLRD has not established a documented procedure for receipt of change requests from users, administrative review, approval and prioritization of the same, communication of the same to the application developer, testing of the resultant changes by constituting a User Acceptance Testing Team, trial run and final roll out of patches or versions. In the agreement entered into with the maintenance agency in March 2012, besides two specific change requests to be carried out by the maintenance agency, there was provision for incorporating additional changes in the software on finalisation of the estimate and consent for change requests communicated by SSLRD. There was no documentation of the change requests communicated to the maintenance agency. In the absence of formal change management procedure there was no assurance that all modifications made were authorised by the Department.

Besides, there were no audit trails for changes on the source code. Hence, the SSLRD does not have a foolproof control against ad hoc or unauthorized modifications to the same.

4.3.2.4   Business Continuity and Disaster Recovery Plans

The database of the application is hosted by the State Data Centre (SDC) under the control of the Department of e-Governance. We observed that the SSLRD has delegated its Business Continuity and Disaster Recovery Planning to the SDC. However, it was not ensured through a formal agreement, that the SDC maintain a schedule and plan of data backups as per the specific requirements of the SSLRD with respect to its acceptable downtime[7] and recovery period. The availability and location of any offsite backup was also not ensured.

In the exit conference (September 2014), SSLRD stated that RFP for revamping of Mojini has been finalised and that documentation with regard to SDLC would be ensured.

4.3.3   Work Allotment To Licensed Surveyors

One of the declared aims of introduction of Mojini was to rationalize the work of allotment to Licensed Surveyors (LS) by making the process automatic and following a 'round robin' pattern by which bias of any kind is eliminated. The detailed logic for the same also incorporates features aimed at promoting efficiency to speed up the process of preparing the sketches and ensuring convenience. Our analysis of the work allotment pattern showed the following:

4.3.3.1 Assignments made to Licensed Surveyors: In order to ensure timely action on applications, the work assignment logic of Mojini incorporates a control by which a LS who has any application pending for more than 30 days, will be 'skipped' in the round of assignments. The LS becomes eligible for further assignments only after the pending application is cleared. The process is to be automatic to avoid any bias in assigning the work.

       a. We found that in 1,12,313 cases out of 7,82,152 assignments, applications were allotted to LSs who were under 'skipped' status. This points either to a defect in the logic or facility for manual/malafide intervention.

       b. Further, we also observed 5,966 cases where the LS did not come under the skipped status on completion of 30 days of holding an application.

4.3.3.2 Assignments made to Licensed Surveyors who are under deactivated status: In addition to being automatically 'skipped' due to pendency, the Licensed Surveyors' accounts may be deactivated at the Project Monitoring Unit at Headquarters for disciplinary reasons, leave of long durations, exit from service etc. Such accounts can also be reactivated by a similar administrative action. De-activation has the effect of removing the LS from the assignment cycle until his account is reactivated. However, we found 597 (out of 7,82,152) cases of assignment of work to LS whose accounts were under deactivation at the time. This points to a programming error that renders ineffective the intended objective of the control and is likely to result in delays. Consequently, the application assigned to LSs on leave or who had

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[7]   Downtime is the period for which the system fails to provide or perform its function

quit the service would remain pending and may require re-assignment of the same to active LSs through manual intervention.

4.3.3.3   Applications pertaining to the same village assigned to different Licensed Surveyors: With a view to increasing efficiency and enabling a LS to complete several jobs in a single visit, the system was programmed to allot applications pertaining to the same village, if applied on the same date, to the same LS. Once the LS acknowledges the receipt of the applications from a village, further applications from that village were to be allotted to other LS in the list. The assignment is also subject to the LS in question being deactivated or skipped after the initial assignment.   To compensate for the extra assignments, the LS was skipped in as many cycles as he/she had received additional assignments.

Under the existing logic, we found 182 instances of applications pertaining to the same village on the same date having been assigned to different Licensed Surveyors. This indicated lapses in the functioning of the programming logic or possibility of manual/malafide intervention.

In the exit conference (September 2014), SSLRD stated that the System had a bug problem which persisted for several months but could not be fixed due to lack of technical assistance and that the same has now been set right.

4.3.4   RTC   Correction

At the time of processing applications received in Mojini, in cases of difference between RTC data and Akarband data with respect to a Sy.No., RTC correction is initiated. After correction of RTC, the process of allotment of application for preparation of sketch will continue in Mojini. The process of RTC correction is as below:
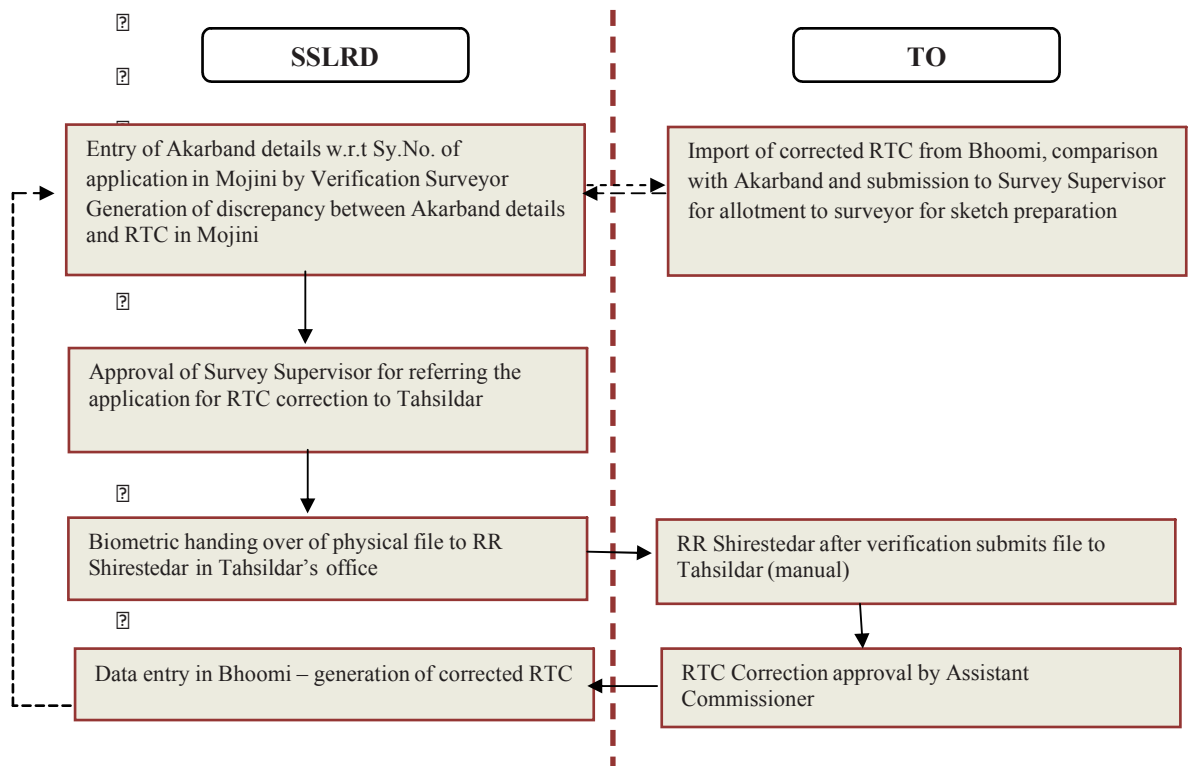
We observed the following in respect of the cases referred for RTC correction:

4.3.4.1 Failure to correctly identify nature of discrepancy in land records

Mismatch in the total extent of land in a Sy.No. between Akarband and RTC is one kind of discrepancy. The total extent of land in a Sy.No. as per RTC may differ from sum of the individual holdings recorded therein which is another kind of discrepancy. Mojini is designed to identify the category of discrepancy for correction in RTC.

In 24 cases, Mojini generated different discrepancies for different applications relating to the same survey number. Thus, there was an error in the programme logic which resulted in inconsistency in categorisation of the discrepancies.

4.3.4.2 RTC corrections in respect of applications of same survey number

The process of referring an application for RTC correction in Mojini is application specific, that is, each application is considered individually to refer for RTC correction. The system does not point out that RTC correction is under process or has already been processed by a Tahsildar in respect of a survey number, when subsequent applications require to be referred to the very same Tahsildars for the already identified discrepancy. This has the effect of the various processes of RTC correction having to be repeated in each case, resulting in duplication of work and attendant delays. We found that:

(i) Data analysis revealed that in 18 instances, different applications of the same survey number were referred to the Tahsildar for RTC correction for a common discrepancy. In eight cases, RTC correction had been carried out for the survey number and returned to the SSLRD. However, the subsequent application from the same survey number referred to the Tahsildar's office for the same reason continued to be pending in the Tahsildar's office.

(ii) In respect of 313 survey numbers, 683 applications received on different dates were referred to the Tahsildar for RTC corrections. The different applications in respect of a survey number were referred for correction of a common discrepancy. The time gap between the first and the subsequent application in respect of a survey number ranged from one day to 119 days. In respect of six cases, the RTC correction had already been completed by the Tahsildar at the time the subsequent applications for the same correction were handed over to the Tahsildar. The time taken by Tahsildars' offices to dispose of these cases ranged from two to 53 days.

SSLRD in the exit conference stated (September 2014) that Bhoomi does not have facility for simultaneous corrections of RTC of a Sy.No. Mojini may be re-designed to dynamically point out to the Tahsildar through MIS reports that applications relating to same survey number are pending for RTC correction so that all applications can be dealt with together and thus reduce delay.

4.3.5 Implementation of FIFO

One of the declared intentions of computerisation of the process flow was to ensure transparency and eliminate bias at all stages. Accordingly, Mojini is essentially based on First-in-First-Out (FIFO) principle with respect to each stage of processing of applications. We observed that the control has been implemented for all the stages within Survey Department. However, in respect of applications referred to Tahsildar for RTC correction, FIFO was not being implemented for the processes taking place in the Revenue Department. The applications re-enter the queue on FIFO basis after RTC correction.

Considering the practical issues at the Tahsildar's office, SSLRD may consider incorporation of FIFO in the Taluk office while providing for exceptions.

4.3.6 Delay in delivery of services

The declared objective of the SSLRD was to deliver the sketches within 30 days of the application.

We observed that, out of the 1,88,762 applications accepted in Mojini II from November 2013 up to 24 April 2014[8], only 8,040 were concluded and the sketches issued to the applicants.

Monthly progress of clearance against pendency of applications (consisting of Pre-mutation, Alienation, phodi, Hadbust sketches) is shown in the following graphs.
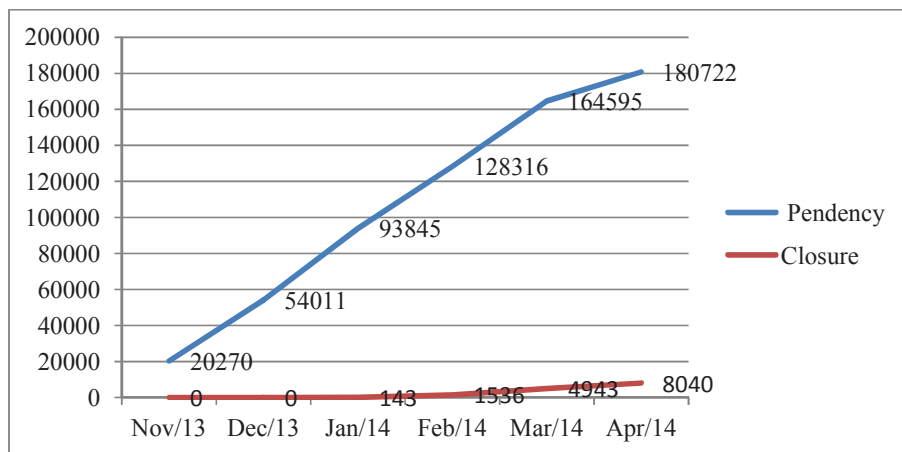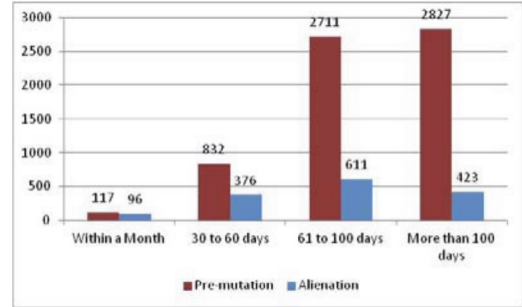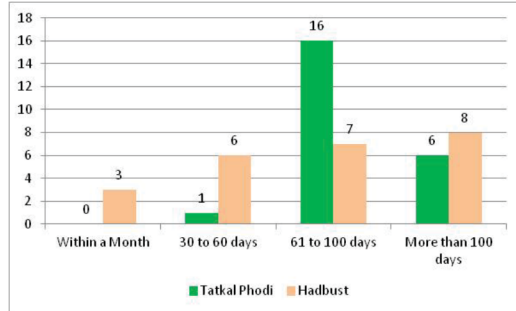

8   Cut off date on which Mojini data was taken for audit analysis.

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For the 8,040 applications that have been finally issued to applicants, a break-up of the time taken for each type of sketch to be issued is shown in the following charts.

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The duration of pendency of the remaining applications for each type of sketch is as shown below. Applications received later than 25 March 2014 (after providing for 30 required days) have not been considered:
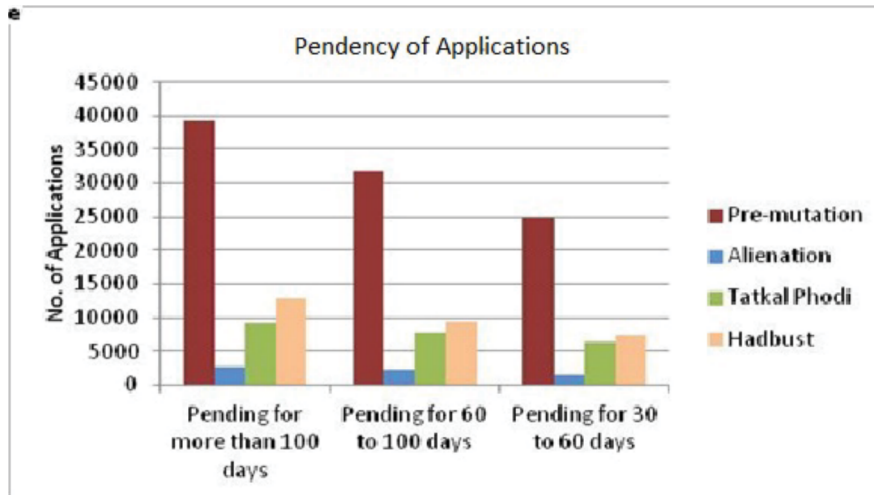
The above indicates that the SSLRD failed to comply with the requirement of issue of sketches within 30 days as also its own undertaking to issue the same within 15 days. This showed that even after processing and monitoring of applications received for sketches through Mojini, SSLRD had not achieved the intended objective of delivery of sketches within 30 days.

An analysis of the time taken in respect of the 8,040 sketches issued revealed that average time taken to issue a sketch was 92 days resulting in an average delay of 62 days in disposal of applications.

To understand the reasons for the same, we attempted to analyse the time taken at select stages of the process flow in respect of all the applications received. The same is given in the **Table 4.4**.

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Table 4.4
Average number of days taken at different stages

Stages	Activity	Average Time Taken (Days)
Stage 1	Time taken for the verification surveyor to search for Akarband, tippan, maps etc.	25
Stage 2	Time taken by Survey Supervisor in examining the applications and assigning the same to a Government/Licensed Surveyor	9
Stage 3	Time taken in acknowledging receipt of an application by the Licensed/Government Surveyor	10
Stage 4	Time taken by Govt./LS to complete the work assigned to him	26
Stage 5	Delay, after assigning an application for RTC correction at the Taluk office, in actually handing over the physical documents.	16
Stage 6	Delay in approving/rejecting sketches submitted by surveyors	5
Stage 7	In the case of multiple owner RTCs, sketch pertaining to the parcel in question is to be issued only after the phodi sketch for the entire survey number is submitted and single owner RTCs are created based on the same.	22
	Total	**113**

It is clear from the above that issue of sketch within 30 days is an ambitious objective and difficult to achieve given the field survey activities and manual office process involved. Time taken at stages 1 and 2 could be minimized by enabling Mojini to access digitized Akarband data.

In respect of actual survey by LS (stage 4), to ensure prompt disposal of work, Mojini skips allotment of application to a LS who has an application pending for more than 30 days with him. However, no time limit or controls are in place for the processing in other stages.

At present, if any application becomes pending for a period more than 100 days, Mojini restricts further allotment of applications in that office till the pending application is cleared. This has the effect of impeding rather than promoting process flow.

In this context, normative time limits for processing application at each stage could be incorporated in Mojini to monitor and generate stage wise pendency reports.

In the exit conference (September 2014), SSLRD stated that the Department was seized of the importance of disposal of pendency and was taking steps to clear the backlog after April 2014. SSLRD also reported that progress has since picked up as far as delivery time was concerned.

4.3.7 Denial of Hudbust sketches to multiple owner RTC holdings

Prior to introduction of Mojini II, all applications for Hudbust sketches were received and processed manually. On introduction of Mojini II, applications for Hadbust sketches were also received and processed in Mojini II. Mojini II was not designed to handle processing of Hudbust applications received in respect of Sy. No. having multiple owners. Hence, in November 2013, the SSLRD directed that all pending Hudbust applications received prior to 1 November 2013 in respect of Sy.No. having multiple owners should be returned by endorsement. Thus, a decision was taken to disallow a service to citizens that the SSLRD was mandated for due to inadequacies in the computerisation.

The SSLRD is yet to formulate an action plan for land holders in multiple owner survey numbers to get their boundaries marked.

4.3.8   Access Management

The Mojini application system incorporates a system of logical access controls involving usernames, passwords and biometric identification.   The functionalities made available to each user have been designed on the basis of their designation.   Biometric login has been disabled for Licensed Surveyors with the introduction of the latest version of the application, to facilitate access during the performance of their field assignments as well. Administration of access controls is done by the Mojini Project Monitoring Unit (MPMU).

Examination of the logical access control system showed that the SSLRD has not formulated, distributed and enforced a password policy to ensure adequate password discipline involving use of strong passwords, non-sharing of password and frequent change of the same.   Further, no protocols for management of user accounts have been documented and enforced.

The following deficiencies in logical access controls have been observed:

1. **Use of different login identities by the same user:** Mojini has 12,177 registered users who access the system on a regular basis. We observed that 428 officers were having more than one active login identity each, totaling 989 logins. In several of the above cases, this is a result of non-deactivation of the original account of an officer who gets transferred or promoted. Instead of establishing and following a protocol for modification of the user profile and permissions, the procedure being followed by the MPMU is to create yet another login account, without deactivating the original. This can result in the officer being able to exercise privileges over a jurisdiction that belongs to another.

2. **Use of identical passwords:** We observed from an analysis of the user account database that 10,627 users (87 per cent of total 12,177 users) have been accessing Mojini with only three passwords. The 7,744 users who share one password, include persons of all authority levels from Assistant Directors of Land Revenue and Tahsildars to Nadkacheri Operators. Such usage of a common password between a wide spectrum of authority represents a dilution of authorisation controls.

3. **Failure to ensure frequent change of passwords:** Only 1,446 users have changed their passwords at least once within 8 months from September 2013 to April 2014.

SSLRD stated (September 2014) in the exit conference that password strength and frequency of change will be ensured.

4.3.9   System Security

A Security Policy is a document that states how an organisation plans to protect its physical and information technology assets. We observed that the SSLRD did not have any documented Security Policy.

An agency was hired for the maintenance of Mojini by the SSLRD in May 2012. The agency has been provided with administrative login privileges and was also carrying out system development/modifications indicating that the privileges of the development team were not well segregated from those of the system administrator. In this scenario, it was ideal to have detection controls in the form of logs of user and administrator action. The logs should specify the time and nature of user actions and specify the identity of the node used to carry out the same. A schedule for periodic review of such logs should be documented and established. We observed that such controls were not established in SSLRD. Hence, it was not possible for audit to assess the extent of overlap, if any, between administrator and application developer actions.

4.3.10 Inadequate integration with other application systems/procedures

4.3.10.1 Integration of Mojini with Kaveri Application System

It is mandatory to produce pre-mutation sketches issued by SSLRD for registration of documents. This ensures registration of existing land as sketch is issued by SSLRD after survey. However, the Kaveri software has not been integrated with Mojini to ensure authenticity of pre-mutation sketch produced for registration. In the absence of integration between Mojini and Kaveri there is no assurance that all transactions proceed with an authorised corresponding pre-mutation sketch. Kaveri mandates the entry of the pre-mutation sketch number for registration. It was noticed that arbitrary numbers were being entered in Kaveri to bypass the Kaveri System mandate.

SSLRD stated (September 2014) in the exit conference that modalities for integration with KAVERI was being worked out with the DSR.

4.3.10.2 Integration with Digitised Akarband

Entries in Akarband Register[9] maintained at SSLRD at any given point of time form the basic record for any subsequent land transaction. In processing any application received for pre-mutation sketch, hudbust and alienation sketches, survey and measurement Akarband serves as a Master Data.

Under the Centrally Sponsored Scheme (January 2007) of computerisation of Land Records, scanning, cleaning and preservation of cadastral[10] records was taken up which envisaged digitization of Akarband.

Even after six years of introduction of Mojini, integration of Mojini with digitized Akarband has not been thought of. Details from Akarband Register are being manually entered into Mojini in respect of any land as and when applications were received in respect of that land. The access to digitised Akarband would not only help in ensuring the accuracy of the data for processing but also reduce time taken for issue of sketches.

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9 It contains the details of total extent of land and assessed amount of land revenue for each survey number.

10 Tippans and Village maps

In the exit conference (September 2014), SSLRD stated that although digitisation of Akarband was not conceptualised in Mojini, it would be considered in the next phase of project expansion.

4.3.10.3   Co-ordination for verification of alienation sketches

Conversion of agricultural land for other (residential, commercial) purposes (alienation) requires the owner of the land to obtain an 'alienation sketch' from the SSLRD (after payment of the requisite fee as prescribed from time to time) and submit the same, along with the application for conversion, at the Taluk office. The sketch is to be prepared after the surveyor makes a fresh measurement and survey of the land in question, with respect to its tillable and non-tillable (Kharab) extents, the exact boundaries of the land etc.

Our cross-verification of 490 conversions in 2013-14 as per conversion register in Taluk offices[11] (Hoskote, Raichur, Manvi, Maddur) with Mojini database showed that in respect of 280 cases, no applications had been received and processed through Mojini.

From the above, it is evident that there was no co-ordination between Tahsildar's office and Survey section to mandate the submission of alienation sketch issued through Mojini. Apart from the loss of revenue to Government (in terms of application fee for alienation sketches), use of unauthorised sketches cannot be ruled out.

SSLRD stated (September 2014) in the exit conference that the process of alienation was a manual process and the issue would be addressed as and when 'Namma Bhoomi[12]' is implemented wherein the process of alienation would be online.

4.3.11   Conclusion

The SSLRD, through the introduction of Mojini, has achieved a measure of transparency and fairness in allocation of work to licensed surveyors. Deviation from the declared work allotment policy have been observed in about 14 *per cent* of cases indicating scope for improvement. Incorporation of FIFO scheme in the work flow process has increased transparency in disposal of applications and assures the citizens of order of priority.

However, weak IT governance was indicated by inadequate documentation relating to System Development, Business Continuity and Disaster Recovery, Change Management and System Security. Non-integration of Mojini with digitized Akarband is leading to avoidable manual intervention and also contributing to delay in service delivery.

Accountability of processes could not be ensured for want of good password discipline and system logs. Authenticity of the sketches produced for registration are not ensured due to absence of integration with Kaveri.

Despite the issues discussed above, it is to the credit of the Government of Karnataka that it is one of the first States to introduce delivery of pre-mutation sketch and other sketches preceding the actual transaction of land with a view

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[11]   Gulbarga, Hoskote, Jewargi, Raichur, Maddur,Manvi and Yelahanka,
[12]   Proposed newer version of Bhoomi

to assure the citizens of clear land transactions and ensuring accuracy of land records. However to ensure optimum efficiency, the SSLRD may consider further improvements on the lines discussed above to strengthen land records management and provide improved service delivery to its citizens.

4.3.12 Recommendations

Government/SSLRD may consider:

Data porting of Mojini from one version to higher version instead of parallel running of both the versions.

(Paragraph 4.3.2.2)

Using Mojini to dynamically bring to the notice of the Tahsildar through MIS reports that other applications of the same survey number were pending for RTC correction.

(Paragraph 4.3.4.2)

Periodical review of user accounts along with system level controls that ensure adequate password strength and time limit for resetting the same.

(Paragraph 4.3.8)

Integration between Kaveri and Mojini to ensure that authenticated sketches are used at the time of registration.

((Paragraph 4.3.10.1)

Integration of Mojini with digitized Akarband and drawing up a time-bound strategy for building up e-database of Akarband to avoid manual intervention and for speedy delivery of services.

(Paragraph 4.3.10.2)

4.4 Loss of revenue due to incorrect fixation of lease rent

Under Rule 19 of the Karnataka Land Grant Rules (KLG Rules) 1969, the Deputy Commissioner may lease land to any individual or company or association for non-agricultural purposes. Prior sanction of the State Government is necessary where tenure of the lease is more than 10 years. The Deputy Commissioner shall fix the rent payable in respect of such land taking into account the locality and the purpose for which the land is utilised, etc.

Government of Karnataka approved (22 December 2012) lease of six acres of land in survey number 71 and 72 of Gunjuru village (Varthur Hobli, Bangalore) to M/s Gunjur club for 30 years with effect from 22 May 2013. Considering the then market value at ` 60 lakh per acre, the Government fixed the lease rent at ` 6 lakh per acre (at 10 per cent of the market value) with the stipulation to increase the lease rent by 10 *per cent* after every two years.

During audit, it was noticed that as per the guidance market value published by the Central Valuation Committee, the minimum value of agricultural land, per acre, applicable during that period was ` 1 crore in Gunjuru village. The jurisdictional Tahsildar had also informed (28 November 2012) the Deputy