iihs®
INDIAN INSTITUTE FOR HUMAN SETTLEMENTS

EVALUATION OF QUALITY OF LAND RECORDS

Karnataka

Contents

List of Tables

List of Figures

Summary: Critical Findings

A. **Karnataka has made significant usage of information technology such that almost the entire system of land information is digital, and accessible through online means to the citizens or concerned officers. Land records of 100 percent villages are computerised; 100 percent SRO offices are computerised; and 100 percent SRO offices are linked with land records.**

B. **Such a digital system allows the state to provide citizen service delivery at faster than required timelines. However, it may need infrastructure upgrades as Bhoomi servers for citizens are often slow or sometimes unavailable during working hours.**

C. **The state has tried to bridge the gap between RTC updates and update of spatial land records. This is through introduction of a pre mutation sketch in cases of partial transfer, and requiring an integrated mutation phodi in such cases. This ensures that going forward, all cases of partial transfer would be incorporated in textual as well as spatial records. However, the presence of 7-9 lakh paiki numbers continues to daunt the survey wing.**

D. **The completely digital system allows Karnataka revenue department to immediately retrieve datasets on most questions, including prevalence of shared ownership. The state has an average of 2.1 land owners per RoR**

E. All registrations for agricultural land require that seller's information must be inputted only from Bhoomi, and not manually. This ensures Bhoomi data is not surpassed at the time of registration, and keeps it up to date. However, similar linkage is not ensured for eSwathu or eAasthi, which are meant for non-agricultural land parcels and urban areas respectively.

F. The automatic triggering of mutation though J-slips is a very important feature in Karnataka, which ensures all registrations for agricultural land automatically lead to mutation applications, without requiring an intervention by citizens.

G. The state has brought in automatic processes for mutations which do not need a notice period, thus bringing down the timelines significantly. Most automatic mutations are now processed within a day, while mutations with notice period are processed within 10 to 18 days. Publicly available mutation dashboard and district wise rankings allow the state to track efficiency in its processes and target any gap areas.

H. Land ownership is a mix of single ownership and multiple ownerships (47 percent and 53 percent respectively in the two surveyed villages). In case of multiple owners, area under each is mentioned in the RoR and often there is a mutual understanding among land owners regarding spatial division. However, the land owners do not pursue partition proceedings.

I. **RTCs continue to have errors, including additional names, mistaken entries, land acquisitions or conversion not incorporated, and legacy errors, among others. These impact citizen convenience as they need to get the records corrected. According to village surveys, 25 percent of land owners reported some form of error in their RTC, and 16 percent of these were yet to approach correction mechanisms.**

J. **Spatial records are being computerised and georeferenced, with 58 percent completion rate. At the same time, various spatial record related services allow incremental update of spatial records. It is not clear whether these incremental updates through phodi applications are also incorporated in the Dishaank database.**

---

1. Introduction

Karnataka, a state in southwestern India, is known for its rich history, diverse demographics, and dynamic growth in service sector. Formed on November 1, 1956, through the States Reorganisation Act, it brought together Kannada-speaking regions from various parts of British India, creating a cohesive state to foster linguistic and cultural unity. Over the decades, Karnataka has evolved into one of India's leading states in terms of economic growth and urban development.

Karnataka is mainly divided into four revenue divisions (Belagavi, Mysuru, Bengaluru and Kalaburagi) and 31 districts. As of the latest census (2011), it had a population of around 61 million, making it one of India's most populous states. It is also the sixth largest state in India in terms of area. With Bengaluru as its capital, Karnataka has seen rapid urbanisation, driven largely by its technology sector, especially in cities like Bengaluru and Mysuru. The urban population has grown significantly, with around 39% of the state's residents now living in urban areas, reflecting the national trend toward increased urbanisation.

The history of land revenue administration in Karnataka dates back to ancient and medieval times, with notable contributions during the Vijayanagara Empire (14th–17th centuries) and later under Mysore rule. The British colonial administration formalized land revenue systems, introducing practices like surveying, tax assessments, and record-keeping, which laid the groundwork for modern revenue administration. Modern day Karnataka is formed out of four regions with different administrative histories: Belgaum division was under erstwhile Bombay Presidency; Bidar region was under the Nizam's rule or Hyderabad State; Mysore and surrounding districts were under Old Mysore region (or Mysore State); and some parts of Karnataka were under Madras Presidency. These regions were under different formats of land administration and taxation systems and they also followed different types of managing land records. Thus, there is significant variation and complexity in the legacy land administration system in the state.

Karnataka is one of the earlier states to take steps regarding the computerisation of land records. In 2000, the state undertook a huge drive to convert the manual records to computerised formats and became the first state to launch computerised land records, following it shortly with computerised registration system. The computerisation also ended up standardizing some of the terms, land categories and measurement units across various regions of the state.

There are three departments that are important when it comes to maintenance of land records in Karnataka. They are: Department of Stamps and Registration; Survey, Settlement and Land Records; and Revenue department. There are three online portals for the three departments- KAVERI, Mojini

and Bhoomi. These three portals are used for registration, survey and maintaining land records respectively. The department of Survey, Settlement and Land Records is actually part of the state level Revenue Department such that there is an integration at the state level.

Methodology

The methodology for this study was systematically divided into two main components: information collection primarily at state level, and primary surveys at village level. Data was gathered at multiple administrative levels, including state, tehsil, and Sub-Registrar Office (SRO) levels. This data was obtained from state and district-level officials from the revenue department as well as registration department and survey department. A comprehensive questionnaire was provided by DoLR, which was divided into multiple modules focusing on a specific aspect of the DILRMP, including Record of Rights (RoRs), cadastral maps, registration, mutation, and the Revenue Court Management System. Government officials at the state and district levels were asked these questions, to identify gaps between the reported achievements and the desired outcomes of the program.

With the recommendations from the State level revenue department, two villages were selected in Karnataka to analyse how the record keeping practices are carried out on ground and how people maintain and access the facilities provided by the state regarding the land records management system. The primary survey aimed to assess the real-time integration of textual and spatial records and the registration process in selected villages. For this purpose, two villages were selected in consultation with the Karnataka Revenue Department. A village named *Mavinakatti* from Belgavi district and a village named *Gaddekannur* from Kolar district were selected, keeping in mind that to represent the state geographically as much as possible. These villages were selected keeping in mind that they represent different historical systems of keeping land records, as Belgavi district primarily follows its practices from Bombay presidency and Kolar district follows Mysore state. In further consultation with District Revenue Officers (DROs) in both districts, specific villages were selected based on the minimal impact of urbanisation and the prominence of agricultural land use. Kolar was also selected to observe any impact of peri urban usage or high land values, due to its proximity to Bangalore, the state capital.

Detailed surveys of the selected land parcels were conducted to collect primary data on land records, ownership details, mutation status, spatial updation, loan, encumbrance, and any discrepancies. Additionally, the integration of textual and spatial records and the registration process were evaluated to understand the effectiveness and challenges of DILRMP implementation. In the two selected villages, a sample of fifty land parcels was taken from each village using snowball sampling ensuring geographical spread. The collected data from both components—information collection and primary survey—have been systematically analyzed to identify trends, discrepancies, and areas requiring improvement. These have been presented along different thematics as in the questionnaire to enable an

easy retrieval of collected information. The five informative sections on Record of Rights, Cadastral Maps, Registration, Mutation, and Revenue Court Management System are followed by village level survey findings, listing of gaps and good practices, and the recommendation made by IIHS.

Table 1: Commonly used Terminology in the state (including technological applications)

RTC/Pahani	Record of Rights, Tenancy and Crops (RTC) is the Record of Rights (RoR) maintained in the state of Karnataka. Simply put, it is RoR and additional information on crops.
Bhoomi	The online portal which maintains RTCs and other land information documents regarding rural areas. It is the primary website for accessing RoRs and mutation documents in the state.
KAVERI	Karnataka Valuation and e-Registration System Integrated (KAVERI) is the registration software/portal used in the state. The latest version is named KAVERI 2.0, and is managed by the Registration Department.
Mutation	In Karnataka, any change made in the RTC is through a process called mutation. Some mutations need a notice period (e.g. sale purchase through a registered deed), while others don't (mortgages, incorporation of court orders).
J-slip	A document (XML file) that records the sale of agricultural land and the details of the new owner. It is generated by the Sub-Registrar's office (SRO) after a transaction deed is registered, and is transmitted electronically from KAVERI to BHOOMI to speed up the mutation process
Mojini	A web-based application and digital tool which provides access to spatial records (cadastral maps) and land measurement related services (partition, demarcatiion etc) to citizens. It is managed by the department of survey, settlement, and land records.
Phodi	Bifurcation of land made on a survey number into sub-survey numbers
Hissa number	Sub-division number, within a survey number. A hissa survey was conducted across the state between 1920 and 1940.
Paiki number	Sub-division number, within a survey number, which is allotted only in textual records (RTC) without any changes in spatial records
e-Aasthi	Software/portal/application for maintaining khata details (regarding property tax) in urban local bodies. The portal is managed by Department of Urban Development.

e-Swathu	Software/portal/application for maintaining details of non-agricultural properties in rural areas. The portal is managed by Rural Development and Panchayati Raj Department, and was created to address information gaps regarding unauthorised plotting in agricultural land (referred as 'revenue layouts')
UPOR	Urban Property Ownership Record. Introduced first in 2012, the UPOR project aimed at creating new digital property cards for 5 cities on a pilot basis.

2. Record of Rights (RoRs)

Records of Rights in the State of Karnataka are called RTC (Records of Rights, Tenancy and Crops) or Pahani. RTC is a basic document of the land infomration system in the state, that captures the details of the land details, ownership details, crop details, etc. It comprises 13 columns to record these details about every land parcel.

- Column 1: Survey number of the particular land parcel
- Column 2: Hissa number (Sub-number) of the land parcel
- Column 3: Total area of that land parcel - Acre, Gunta[1], Annae and Paisae and it also captures the Kharab land of the private(a), Kharab land of the government(b)
- Column 4: Assessment rate of the revenue that the government collects for that land parcel
- Column 5: Category of the soil
- Column 6: Owner of the patta i.e. *Sarkar* (Government)
- Column 7: Number of trees in the land parcel
- Column 8: Sources of irrigation of the land parcel
- Column 9: Ownership of the land - Name of the owners, extent of their shares, Khata number.
- Column 10: Details of the mutation - year and reason for the mutation.
- Column 11: Details of bank loans, mortgages and court cases on that land parcel.
- Column 12: Year of the RTC, names of the cultivators, last updation of the season
- Column 13: Crop details - name of the crops, extent of the area it is sown.

A sample RTC is provided in Annexure 1.

[1] 40 guntas = 1 acre

Karnataka has made significant usage of information technology such that almost the entire system of land information is digital, and accessible through online means to the citizens or concerned officers. This allows the state to provide citizen service delivery at faster than required timelines. However, the system may need infrastructure upgrades as Bhoomi servers for citizens are often slow or sometimes unavailable during working hours.

100% of rural land records computerised

Karnataka has achieved 100 percent of RTCs being computerised. The RTCs are handled by the revenue department through Bhoomi portal, which was launched in the year 2000. Manual RTC records in the state were maintained only till 2002, after which they were discontinued and the process of applying for RTC copy was also made online. RTC is accessible to the public and anyone can download a copy of a legally valid certified RTC by paying twenty-five rupees. Local private entrepreneurs can also download and provide legally certified copies of RTCs and survey documents as a chargeable service (iWallet system). Every RTCs has its own unique number and a bar code (QR codes are not used).

Joint Ownership reflected as Shares; Average 2.1 land owners per RoR

An RTC can include names of more than one land owner. In such a case, the share of each owner is marked in the RTC in the form of exact area in acres and guntas. However, the location of this exact extent of each land owner is not marked in the spatial records, and the mutual-subdivision is not assigned a hissa number or phodi number.

According to Bhoomi Monitoring Cell, **there are 1.91 crore RTCs and 4.05 Crore owners in the State. Thus, the average number of landowners in each RTC is 2.1 people.**

In terms of database management, the state revenue department also differentiates between the single landowner and the owners who own multiple land parcels. They are referred to as unique land owners.

> *In the village surveys, 47 percent of land parcels had single ownership. Remaining 53 percent had some form of multiple ownership – either through joint cultivation or a mutual understanding between landowners.*

Bhoomi maintains records of only agricultural land parcels; eSwathu and eAasthi for others

According to the interviewed officers, the revenue department tracks the details of the land only till it is agricultural land. When the land use is converted into non-agricultural purpose through the land-conversion procedure, the Bhoomi portal stops tracking the land details thereafter. The land conversion software triggers an update (automatic mutation) in the revenue records, following which the RTC would reflect 'Bu.Pa' (short for bhu-parivartan, or land conversion), and would not get updated further.

Once the land is converted to non-agricultural use, its details are supposed to be maintained under the eSwathu portal (if the land is in a rural area) or eAasthi portal (if the land is in urban area). These are maintained by the gram panchayats and urban local bodies respectively.

Information and Process Gaps at land conversion stage

After land conversion, the converted land extent should be reduced both in Revenue and Survey records to prevent further transactions on the same land, and the converted land should be transferred to local bodies. However, there is no link between Bhoomi and local body khata data. This creates a vaccum in the land record management system between urban and rural tand systems. Moreover, the spatial records continue to remain with survey department, and their maintenance does not get transferred to panchayats or urban local bodies. The land conversion software updates only revenue records (Bhoomi) and not survey records.

The eSwathu application is relatively newer and may not include details of lands which were earlier converted to non-agricultural land use. Similarly, the use of some land parcels may have changed without an official sanction of conversion of land use. According to some proxy-estimates, around 62 lakh land owners may have their land converted to non-agriculture usage, but the details continue to be in Bhoomi.

As a result during registration, it may be difficult to ascertain whether the Bhoomi (RTC) records of a given parcel are to be taken into account, or eSwathu/eAasthi (khata) records, thus creating a scope for multiple transactions on same land parcel in peri urban areas.

Relatively slow progress in SVAMITVA

According to SVAMITVA dashboard[2], drone flying has been completed in 14584 villages in Karnataka, but the subsequent steps have been relatively slower and property cards have been prepared in only 3037 villages. 11.3 lakh property cards have been generated in the state out of which 10.6 lakh property

[2] https://svamitva.nic.in/; accessed 2 Nov 2024

cards are reported to have been distributed. Unlike RTCs, the property cards generated under SVAMITVA are not available in public domain, and are not updated upon registration of a transaction deed.

Provision for City Survey exists, but records not digitised or uptodate

As discussed, parts of Karnataka followed the Bombay Presidency rules, and hence the state has a provision for city surveys in settlement areas, similar to Maharashtra and Gujarat. City surveys were carried out in 48 cities and towns and property cards were created under the same. However, these records continue to be in manual formats. They can be accessed by the citizens from respective tehsil offices, and their updation depends on the interest taken by the citizens/property buyers, which has been typically low.

In 2009, the state had introduced Urban Property Ownership Records (UPOR) projects in 4 cities of Mysore, Hubli-Dharwar, Bellary and Shimoga, and later Bengaluru, on a pilot basis. However, the attempt was not very successful, and is yet to be rolled out in the remaining cities. As of July 2024, the UPOR database did not link to KAVERI 2.0, and a J-slip from KAVERI does not automatically trigger a mutation in UPOR property cards.

According to interviewed officers, urban citizens often rely on khata-records (maintained by urban local bodies for property tax collection purposes) for validation and updation purposes. This is particularly true for Bengaluru where the municipal corporation maintains GIS records of all the properties.

Government land status being verified through Land Beat application/program

Land Beat Application was introduced by the Department of Revenue to oversee the current status of and to monitor the lands owned by the Government. The objectives were to identify through field verification government land that was already encroached, mark such lands by geo-fencing; and protect further encroachment through periodic monitoring.

Land Beat Application was launched in February 2024 and as of end of July 2024; VAOs are physically visited, geo-fenced, taken photo & video of 2,93,258 land parcels out of 14,46,474 plots. Also, the revenue department is planning further to shift the responsibility to respective government departments to monitor their own lands in the near future after completion of collecting all the data.

BOX 1: Digitising All Legacy records through Modern Record Rooms

Karnataka plans to undertake digitisation of all legacy records stored in state record rooms in the state, to enable easier access to documents, and help in resolution of court cases. This is done though Modern Record Rooms.

The documents are categorized by retention period into five groups: E, D, C, B, and A. Category E documents are kept for one year, D for five years, C for ten years, B for thirty years, and A category records are preserved permanently. A color-coded system is used for these categories, and separate registers are maintained for documents retained and those scheduled for destruction; the latter is recorded in a "Destruction Register."

The Revenue Department has developed software for cataloging, indexing, scanning, and uploading records, with features for keyword addition and search functionality. This system, accessible through the single portal recordroom.karnataka.gov.in via KSWAN and the internet, enables government users to easily search and retrieve records. In the future, citizens will be able to access records electronically through the portal and platforms like Seva Sindhu. Currently, the initiative is in place in each district capital's Tehsil, with plans for expansion to all Tehsils across the state.

This project, though a time-intensive process of scanning and categorizing, greatly simplifies access to historical records by adding searchable keywords. It provides citizens a reliable source for their legacy documents, offering ease of access similar to current Pahani or Bhoomi records. Integration with other departments may help reduce disputes and expedite administrative processes.

Figure 1:Images of the record room at Magadi in Ramanagara district, and ongoing scanning, categorisation, and indexing work

53% of land owners and 49% of RTCs linked with Aadhar

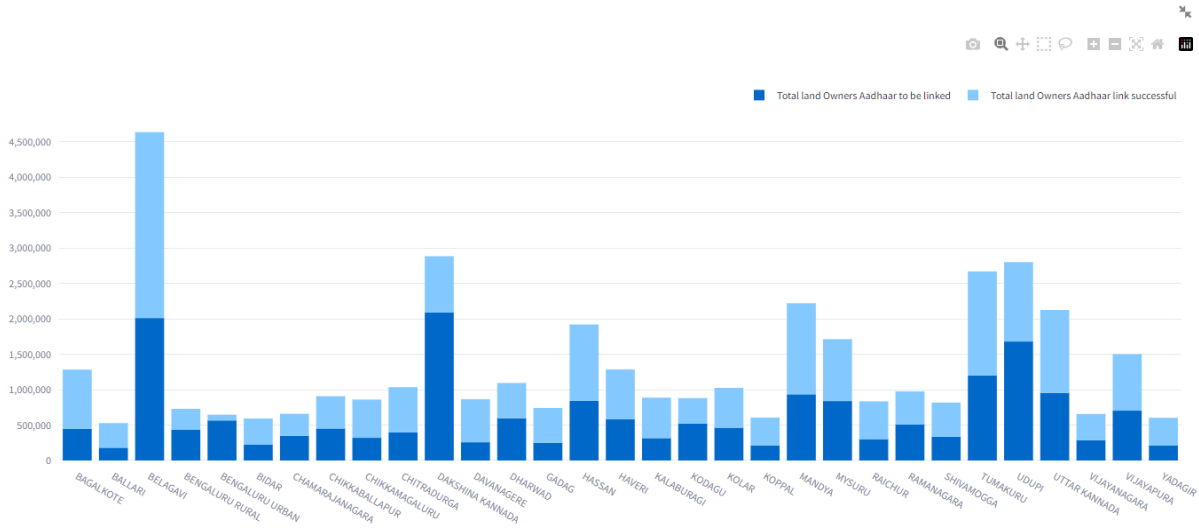
The revenue department is currently undergoing the process of integrating Aadhar number and RTCs. The state has ensured that before collecting the Aadhar number, consent of the farmer and e-Kyc is made mandatory. By the end of October 2024, 93 lakh RTCs (~49%) had aadhar linked for all the owners in the RTC, while another 25 lakh RTCs (~13% of total) had aadhar linkage for atleast one of the owners. Total **2.1 crore Aadhaar numbers (~53% of all landowners) are seeded with land record documents.** Land owners are also encouraged to link their aadhar numbers at the time of registration, to avoid fraudulent transactions of their land,and to enable anywhere anytime registration. The department also sends an alert message to the landowner when there is a change in RTC, if the landowner has given their mobile number during their registration. RTCs does not capture the gender of the landowners but as the Aadhaar seeding process is being carried out, now it is possible to get the details of the number of female landholders in the state. The state is also now able to identify Unique farmers, i.e. landowners who own more than one land parcel in one or more villages.

Figure 2: Aadhar-RoR Seeding statistics in Karnataka

Number of farmers/owners linked their lands with Aadhaar numbers	**7035799**
Total Column – 9 owners linked	**21666698**
Total RTC Column – 9 Blocks linked	**14756916**
Not all the owners in the Block linked, but at least one owner linked	1704472
All the owners in the Block linked	13052444
Total RTC/ROR Linked [At least one owner in the RTC/ROR linked]	**11881852**
Not all the owners in RTC linked, but at least one owner linked	2575817
All the owners in the RTC linked	9306035

Source: https://rdservices.karnataka.gov.in/service63, accessed on 2 Nov, 2024

Figure 3: District wise statistics of aadhar card linking



Source: Bhoomi Dashboard updated on 4th October, 2024.

RTCs are also linked with the Cadastral maps. By the end of July 2024, **97 lakhs RTCs (~51%) were linked with Cadastral maps.**

RTCs linked to Banks in all districts but exceptions present

The database of the RTC is also linked with all the nationalised banks and co-operative banks of all the 31 districts in the state through the E-Saala portal with the help of Farmer Registration and Unified beneficiary InformaTion System (FRUITS) Id of the farmers. This integration helps in notifying in RTC when there is a transaction of mortgage or loan transaction on that land parcel. The RTCs also reflect the mortgage release transaction in that land parcel. Through this integration, the farmers need not visit the Sub-Registrar office to update their RTCs. This ensures the speedy process and accessibility for the farmer's loans, crop's loans, etc. See Annexure 2 for details on FRUITS and its linkage with Bhoomi, SRO and Banks.

> *However, the village level survey revealed that 11% land owners have an existing loan which is not reflected in the RTC. These were cases where farmers availed loan from a local cooperative bank. The other 36% had loans indicated in their RTC.*

Gaps in RTC updation status: Pending Acquisition and Inheritance

While the complete land information system in Karnataka is digital, it does not necessarily mean all land records are accurate and uptodate. The exact numbers of the gaps are difficult to establish at state level. However, some estimates can be drawn from proxy indicators such as declarations made by Village Administrative Officer (VAO) in the Aadhar seeding project. The district level reports (accessed 2 Nov 2024) state that out of the 4.1 crore (non-unique) land owners in the state, 93,000 declared that their land was now government land, while another 2.5 lakhs reported that their land had now been acquired. This can be read as a gap that RTCs for around 3.4 lakh (non-unique) owners are yet to be mutated to reflect changes in ownership.

Similarly, VAOs reported that around 48 lakh of these landowners mentioned in the RTC are now dead, indicating that the mutation of RTC in the name of respective inheritors has not taken place. Another 62 lakh landowners reported that their land is already converted to non-agricultural land use, and thus they may not need to be in Bhoomi database anymore.

Errors and Mismatches exist in the RTC

While Karnataka was the first state in India to introduce a statewide computerised system of maintaining land records, it continues to face accuracy issues in the records. Some of the predominant types of errors include:

1. **Subdivision carried out in RTC but not in spatial records**: These cases are referred as paiki/pyki numbers wherein a specific land parcel was divided into two or more land parcels, thus creating two or more RTCs, each with a subdivision number. However, the process was restricted to the Revenue officials, and there is no spatial subdivision marked in the case.

According to some estimates[3], there are around 1.9 lakh paiki survey numbers and 7 lakh paika hissa numbers in the state.

2. **Difference between the area noted in the RTC and the area on ground**. This comes up at the time of subdivision (phodi), when the physical survey done through latest technologies such as ETS and drones reveals that there the area on ground is not the same as area in RTC. These issues may get resolved on a case to case basis, but they may lead to data-management issues at the village scale.

3. **Additional names in the RTC** – sometimes extra names get added at the time of subdivision or mutation as result of errors. These names often have 0.00 area against them.

4. **Crop details are also often incorrect or not updated** – revenue department has now introduced a service where landowners can update the crop details themselves.

In the village surveys, 25 percent of RTCs had an error of some form. Of these 11 percent were ownership related errors such as inheritance or family arrangements not being incorporated (no application from citizen's end), additional names present in the RTC, or errors having crept in. The remaining errors were of minor nature. Out of the total 25 percent land owners who reported some form of error in the land records, 16 percent land owners were yet to apply for a correction.

According to a 2012 circular[4], the errors had crept in the manual records over five or six decades, and were supposed to be corrected incrementally as part of the computerised system, but the pace has not been sufficient. It can be observed that initiatives such as requirement of a pre-mutation sketch and introduction of integrated mutation phodi (IMP) and are attempts to keep the number of new errors as low, and to bridge the gap between RTC and spatial records.

The state does not have a provision for online application for correction of errors in RTC, and the citizens must visit the concerned tehsil offices. The error correction timelines depends on the type of error. The state government has recently launched a 'podi andolan' to correct errors in the RTC especially in cases of land grants, change RTCs with multiple owners to single owner RTCs, update any inheritance details (removing names of dead persons), and other services, by making these facilities available at door step to farmers, and without any financial implications.

[3] https://kgis.ksrsac.in/HissaMapping/CadastralReport.aspx, accessed 03/11/2024
[4] Circular no. RD.104.BHUDASA.2012, dated 23/06/2012

RTCs continue to have errors, including additional names, mistaken entries, land acquisitions or conversion not incorporated, and legacy errors, among others. These impact citizen convenience as they need to get the records corrected

3. Registration

In Karnataka, like the rest of India, there is a process of registering the instruments used for transfer of land, as per the Registration Act, 1908. This process acts as a form of revenue generation, and record keeping of land transactions by the state.[5]

100 percent SROs are computerised and linked to Bhoomi

The computerisation of the Sub-Registrar's Office (SRO's) in Karnataka began in June 2003 and was completed by April 2004. There are currently a total of 257 SRO's in Karnataka which are completely computerised and fully integrated with the Bhoomi portal.

According to the interviewed officers**, the link with Bhoomi is mandatory for agricultural land parcels.** When applying for registration, the name of the seller is auto-fetched from the Bhoomi platform and cannot be entered manually. In case the seller's name is not reflected in Bhoomi (for e.g. in cases of inheritance, Bhoomi may have the name of seller's father), the seller must get the Bhoomi records updated, and then apply for registration. This was done to minimize the cases of J-slips being rejected at the time of mutation[6].

[5]Goswami, A., Mitra, S., Lushington, K., Jha, D., Wangchuk, T. (2021). Land Records Modernisation: Karnataka. Indian Institute for Human Settlements: Bengaluru

[6] According to a 2006 circular, the J-Slip maybe rejected in the following cases: a) the seller listed on the J-Slip is not recorded as an owner in the RTC available on Bhoomi b) the extent sold in the transaction exceeds the extent available to the seller c) the seller has no recorded extent in the RTC d) the RTC is not available in the Bhoomi database.

All registrations for agricultural land require that seller's information must be inputted only from Bhoomi, and not manually. This ensures Bhoomi data is not surpassed at the time of registration, and keeps it up to date. However, similar linkage is not ensured for eSwathu or eAasthi, which are meant for non-agricultural land parcels and urban areas respectively.

KAVERI 2.0 also integrated with eSwathu but partial linkage with e-Aasthi

There is a differentiation in the type of records that are integrated with the KAVERI 2.0 portal. Depending on the kind of registration, the data is fetched from Bhoomi, E-Swathu or E-Aasthi.

- The agricultural land records that fall within the gramathana (village boundary) is available with Bhoomi and the non-agricultural land records that fall within the gramathana (village boundary) is available in e-Swathu. Both these portals are integrated with the registration portal.
- The urban property tax records are available in e-Aasthi, but there is limited integration with the registration portal. As of Jul 2024, 44 wards of BBMP[7] were integrated with KAVERI 2.0. No other city municipal corporations were integrated. As a pilot, integration of registration portal and e-Aasthi is made mandatory in Ramanagara and Kanakapura.
- According to latest news reports, starting from 1st October 2024, eKhatas (generated under eAasthi and eSwathu) were made mandatory for property registration in Karnataka.
- During registration, data is not fetched from UPOR and no j-slips are shared with UPOR systems. Similarly, older city survey records (in the 48 towns where city surveys were conducted) and property cards generated under it are not linked.

[7] Bruhat Bangalore Mahanagar Palike (BBMP), the municipal authority in Bangalore city

BOX 2: Steps involved during the workflow of the registration process:

Step 1: Citizen Data Entry for online application

Step 2: SR Verification and Confirmation of Stamp Duty (SD) and Registration Fee (RF) (query and rectification provision)

Step 3: Citizen Payment and appointment. SMS triggered.

Step 4: SR Presentation and Allocation to DEO (Data Entry Operator)

Step 5: DEO - Photo and Thumb impression, Summary report

Step 6: SR Verification and Register / Reject

Step 7: DEO - print and scan (8 signatures of officials required)

Step 8: SR digital Sign of scanned document and generates a J-slip. SMS triggered.

To understand the workflow of the registration process in detail, the steps involved during a sale deed application in the SR Portal can be looked into. Upon receiving an application from a citizen, it is first allocated to a First Division Assistant (FDA) or Second Division Assistant (SDA) for evaluation, where the SR will either review it or delegate it to the FDA/SDA, using a FIFO (First In, First Out) method for processing. If the application involves high-value transactions or gift deeds, it is sent for auditing. Following the audit, the application is returned to the citizen for confirmation. Once the citizen confirms, the application is then allocated to the DEO for biometric processing. After the biometric data is collected, the application, along with a summary, is returned to the DEO for printing and scanning. The processed application is then forwarded to the DEO for obtaining a digital signature. Finally, the completed application is sent back to the FDA/SDA for acknowledgment. In case of a network failure, the backend reschedules the transactions.

Litigation details can be uploaded in KAVERI database

There is provision for SR to fill certain articles during the verification and confirmation of SD and RF stage as well. The SRO can check the latest litigation status of a property scheduled for registration online. These litigation details are currently manually entered into KAVERI by uploading scanned documents from eCourts or other sources. Additionally, there is functionality for adding and removing court orders from the application as well.

Circle rates are available online

Circle rates are known as guidance value in Karnataka, and these are available online for citizens to check. An online SD calculator is also available through the KAVERI 2.0 portal.

In case of real estate projects, builders need to get the guidance value of the apartments complex fixed at SRO office before any sale deeds can be registered. The ideal process is that builders are supposed to get e-Khatas sanctioned for every apartment from respective municipal corporation, and then registered conveyance deeds using these khata numbers. There is currently no link between RERA and KAVERI 2.0.

Deed templates are not available in the state, and plan to design such templates is in progress.

Aadhar verification to be rolled out soon; PAN verification under discussion

The identification documents accepted include PAN Card, Driving License, Passport, and Aadhaar Card. Users can upload their ID documents directly into the system. However, this entry is not cross-verified with a central database. PAN verification at the citizen data-entry stage is based solely on the number-format. For transactions valued at ₹2 lakh or more, it is required to upload PAN details, and discussions with GOI agencies are underway to implement this more effectively. Aadhaar authentication is expected to be rolled out shortly. Additionally, there is no capture of party signatures using digital pen and pad.

J-Slip leads to auto triggering of mutation in Bhoomi

Once the registration of transactions is completed in the SRO, the Sub Registrar's have to generate an xml file containing information of the J-Slip and upload it in the State Data Centre, which will forward it to the concerned taluk office. The J-Slip contains information of taluk, hobli, village, survey number, hissa number, seller (executor) information, extent involved in the transaction, new owners and their address, and the extent of land acquired. This means the land buyer does not need to separately apply for mutation. Due to the FIFO system adopted, the J-Slip can be processed only in order of earliest application received.

J-slip does not trigger similar mutations in eAasthi. Instead, in Bengaluru, citizens provide an acknowledgement letter to BBMP which then processes the application. The change in BBMP khata can happen online as well.

Sale of govt land is flagged; previous deed checked as practice

In case of sale of government land, the transaction will be blocked and a pop-up appears indicating the property to be government land. For private land, the sub registrar as a matter of practice checks the

deed document uploaded by the applicant against the details provided during the pre-registration process, which is handled entirely online. As per applicable regulations, the registration department is not mandated to check the previous registration deeds.

Bhoomi details are automatically incorporated during registration application, and hence do not need to be separately checked.

Anytime Anywhere registration is available in three districts

Anytime Anywhere registration allows citizens to register a sale deed or gift deed etc. from any SRO office in the district, irrespective of whether the land is located within that SRO's jurisdiction. The feature is currently available in Bangalore, Belgaum and Tumkur. This feature is limited to SRO's within the same district. Additionally, if a seller wishes to register two properties simultaneously, there is an option to add both properties in the portal, even if the properties are located in different districts. In such cases, the citizen will file a memo indicating that two documents have been registered in the same SRO within one district.

The interviewed officers were confident that anytime anywhere registration will soon be rolled out across the state, especially with increasing linkage between RTCs and aadhar number of owners.

A state legislative Bill which allowed for registration of properties without visiting the SRO office was passed by the state assembly in February 2024, but it is yet to be approved and notified in the gazette. Hence, the facility is not available currently.

A home visit module, through a mobile application, is currently under development.

GIS enabled download of encumbrance certificate

An encumbrance certificate can be searched on the basis of Property Number and name, but not with the document registration number. The EC system is GIS enabled, allowing users to locate the survey number on the map if the exact property details are not known. Citizens can select the year from which they want to obtain the EC. During the application process, users can request documents for periods before or after 2004 using two different workflows.

Certified copies of registered deeds can be downloaded

Certified copies of registered deeds can also be downloaded online after paying requisite fees. Upto last year, entire deeds were available for public viewing, after login. However, after some cases of identity theft using registration documents emerged, only the first 1-2 pages of the registered deed are now available, and the rest can be downloaded only after payment. The state is yet to use AI software such as Nibhrit to mask personal information in the documents.

Legacy registration records are accessible but yet to be computerised

Computerisation of legacy data prior to 2004 has not yet been carried out. To access such records (upon application), the DEO will scan and upload the relevant documents from the physical register into the SR login portal, where the Sub-Registrar (SR) will electronically sign them. There is no digital indexing of these records; all available data prior to 2004 is manually sourced. A pilot project for computerisation of legacy data in underway in Gandhinagar SRO in Bengaluru urban district.

Online Grievance redressal mechanism available

An Online grievance redressal system is available for filing complaints related to property registration at the Sub Registrar Office. During the financial year 2023-2024, 181 grievances were filed and settled.

4. Mutation

Mutation is the process of transfer of rights in immovable property through which the owner's name and particulars such as liabilities are changed. **Since 2002, changes in RTC's (Record of Rights) can only be made through an online mutation process**, which is facilitated by the Bhoomi software application.

In Karnataka, there are two types of mutation categories: registered mutations (which are triggered by a registration in KAVERI) and unregistered mutations (for which applications need to be filed by concerned citizen). The mutation requests can be made through Nadakacheris[8], Taluk offices or citizens can apply online.

The subsequent mutation process happens in two ways: with notice period and without notice period (now referred as automatic mutation).

Prevalence of Auto-triggered mutation through j-Slips

Karnataka has a system of mutations getting automatically triggered in Bhoomi through a document (XML file) named as J-slip, which is generated after a transaction deed is registered in KAVERI. No

[8] Nadakacheris are established at Hobli level. These local offices work through the single window system where the citizens can connect to other government departments. Some of the service they offer are Issuing of RTC Copies, Mutation of land records, Encumbrance Certificates,etc. It is also called as Atalji Janasnehi Kendra.

separate applications need to be filed in such cases. These mutations are typically referred to as registered mutations.

J-Slip was first introduced in 2006 for the purpose of linking KAVERI and Bhoomi. The state has taken steps to ensure tightening of the j-slip integration, by minimizing the number of rejections at mutation stage.

The automatic triggering of mutation though j-slips is a very important feature in Karnataka, which ensures all registrations for agricultural land automatically lead to mutation applications, without requiring an intervention by citizens

Automatic Mutation for Mortgages and court cases from April 2024

Karnataka considers any form of change made to the Record of Right (RTC) as a mutation. The mutations are categorised into two types: those that need a notice period; and those that don't need a notice period. The latter type (without a notice period) is now processed automatically, and does not require any manual intervention or field-visit by revenue officials. These include mutations for mortgage, release of mortgage, inheritance, updation of land acquisition details, updation of phodi details, incorporation of conversion of land use, and incorporation of court orders, among others. Out of these, mortgage and release of mortgage need a registration prior to the mutation; the others can be initiated directly.

The auto-mutation feature for mutations which don't need a notice period was introduced in April 2024. For the financial year 2023-2024, around 25 lakh mutations were processed in the state, out of which 18 lakh were without notice mutation and 7 lakhs were with notice mutation. Out of the total mutation cases received, mutations related to sub-division were 3.5 lakh mutations and registered mutation cases with entire survey numbers were around 2.9 lakh mutations. **Between April 2024 and September 2024**, around 8 lakh mutations have taken place.

The state has brought in automatic processes for mutations which do not need a notice period, thus bringing down the timelines significantly. Most automatic mutations are now processed within a day, while mutations with notice period are processed within 10 to 18 days. Publicly available mutation dashboard and district wise rankings allow the state to track efficiency in its processes and target any gap areas.

Assured timelines for land records related services

Karnataka guarantees certain services to its citizens within specified timelines, under the Karnataka *Sakala* Services Act 2011. These are referred as Sakala services and Sakala timelines.

Table 2: Assured timeline for various land record related services

Service	Sakala timeline
• Updation of land conversion details in RTC for 1.Residential 2. Industrial 3. Commercial • Updation of Pledge and release details in RTC1.Pledge 2.Release 3.Government Restriction • Updation of land Acquisition details in RTC	5 Working Days
Updation of Phodi details in RTC 1.Division (9 days) 2. Amalgamation (7 days) 3. Extent Correction (10 days)	10 Working Days
Issue of Urban property Ownership Record (PR Card)	• 1 working day if final PR is card ready • Otherwise, draft PR card to be issued within 5 days after submission of all required documents
11 (E) (in case of Single land - Multiple owners)	45 Working Days (if no issues and from the date of System Auto Allotment)
Conversion of agriculture land to non-agriculture purpose	120 Working Days
Mutation Extract	7 Working Days
Change of Khatha (mutation) in Undisputed Cases - Registered	32 Working Days
Change of Khatha (mutation) in Undisputed Cases - Unregistered	40 Working Days
Issue of Duplicate copies in Survey Section (Aakar-Band; Index of Land Records; Tippan; Atlas; Village Map)	07 Working Days

Source: https://www.sakala.kar.nic.in/, accessed 07/06/2024

E- chavadi is a platform through which citizens can get all kinds of details about agricultural land transactions such as details of land categorisation, mutation notices and details, revenue court transactions, among others.

2024 Mutation timelines are between 1 to 18 days

As per the Bhoomi Monitoring Cell, there is no pendency in the mutation orders getting reflected in the RTC unless a dispute is involved.

The time taken to complete the mutation process is as per the Sakala Act, but in practice it happens in a lesser number of days. As per Sakala, the timeline for mutations with 7 days notice period is 32 days, mutations with 15 days notice period is 40 days and mutations without notice happens in 5 days. In 2023, the average time taken for mutation with 7 days notice period was 13 days, with 15 days notice period was 32 days, and without notice was 3 days. But currently since January 2024, the time period has substantially reduced to 9.44 days, 17.53 days and 0.73 days respectively.

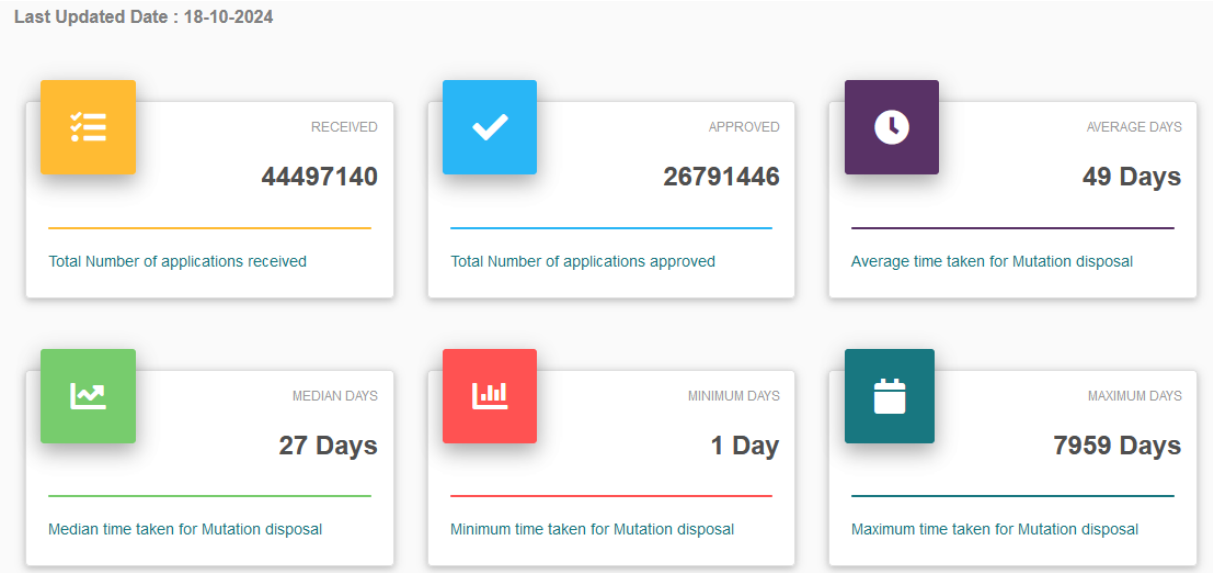
Figure 4: Mutation timelines in June 2023 and Jan 2024

TYPE OF MUTATION	Average Time taken in June 2023	Average Time taken in January 2024
MUTATIONS WITH 7 DAYS NOTICE PERIOD	13 DAYS	9.44 DAYS
MUTATIONS WITH 15 DAYS NOTICE PERIOD	32 DAYS	17.53 DAYS
MUTATIONS WITHOUT NOTICE PERIOD	3 DAYS	0.73 DAYS

Source: Bhoomi Monitoring Cell, Bangalore

From 1st January 2001 to 18th October 2024, a total of 4.4 crore applications have been received by the Bhoomi portal, out of which 2.6 core applications have been approved. The average time taken for mutation is 49 days, while the median time taken in 27 days – however these numbers are indicative of previous 24 years, and the timelines have significantly reduced in last few years.

Figure 5: Mutation related statistics in Karnataka



Source: https://landrecords.karnataka.gov.in/service127

The Bhoomi website regularly tracks how many applications are received at village, tehsil and district levels, and assess them on efficiency and delays. Details are in Annexure 3.

> *In the village surveys, 75 percent of respondents mentioned that they had applied for a mutation in their lifetime. Of these, 17 percent reported that their application was processed within a month, while 23 percent reported that it was processed within 1 to 3 months.*
>
> *Among these 75 percent, 14 percent reported that they needed to visit the revenue office only once, while 23 percent reported that they visited between 1 and 5 times. 9 percent reported visiting the revenue office/s more than 5 times.*

Mutation orders and mutation register are available online

The certified copy of mutation can be downloaded from Bhoomi. In cases of disputes, these certified copies are available on the RCCMS website. The Bhoomi portal allows users to check pending mutation requests for each village and download a village-specific pendency report. Bhoomi also provides access to the mutation register and enables users to retrieve mutation history for each survey number.

BOX 3: Mutation workflow in Karnataka

Mutations with Notice period workflow

The types of registered conveyance deeds that initiate a mutation with notice period include sale deeds, gift deeds, partition, will, exchange deeds etc. The cases are referred as 'registered mutation' and the requests come to Bhoomi through a J-slip trigger from the registration software, KAVERI 2.0. The registered mutation requests have a 7 day notice period, and the process is completed as per Sakala timeline of 32 days. The types of transactions that initiate an unregistered mutation with notice period include inheritance and partition. In case of unregistered mutation requests have a 15 days notice period, and the process is completed as per Sakala timeline of 40 days.

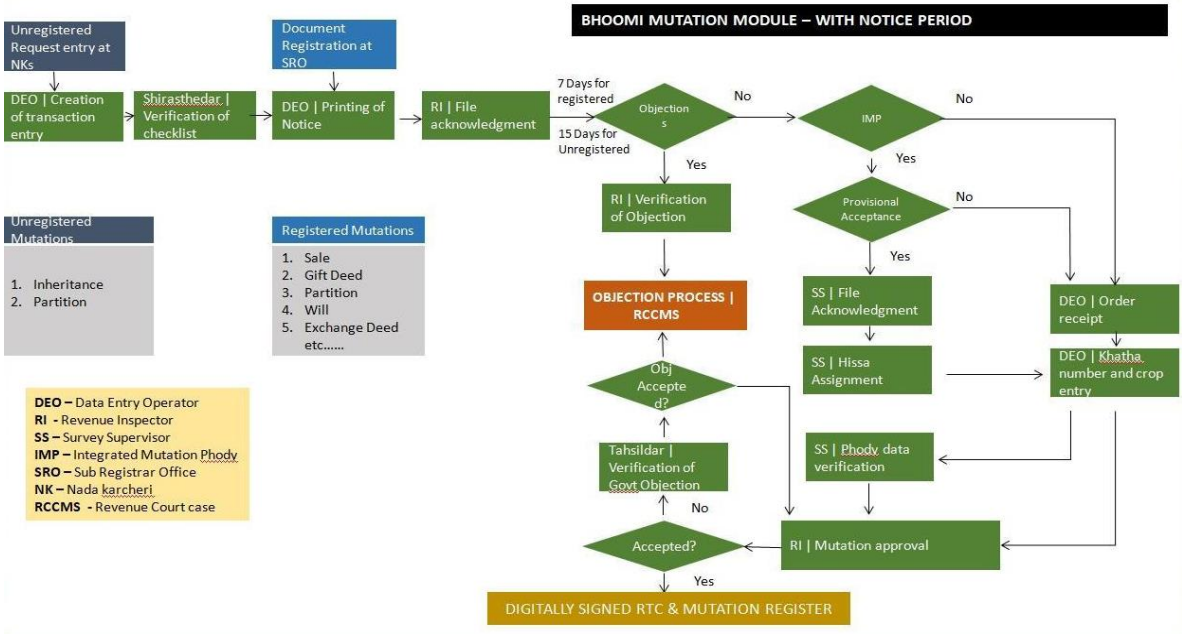
Once a J-slip is triggered, an auto notice is generated, which is put up for objection. **An SMS is sent to the concerned parties when a mutation request is acknowledged** and a physical notice is put in the concerned village through VAO or gram sahayaks. There are two ways in which the process happens, once an objection is raised and when it is not. If no objection is raised, through an integrated mutation phodi (IMP) process, a provisional acceptance is made. The survey supervisor acknowledges the file, and assigns a hissa number. The DEO makes entries of khatha number and crop information. The file goes to the survey supervisor for phodi data verification, and is passed on to the revenue inspector. The revenue inspector approves the mutation, and a digitally signed RTC is generated. The changes to RTC are reflected in the Bhoomi portal and Mutation register simultaneously. There is no provision for a certified copy to be sent via whatsapp or email, but it can be downloaded from Bhoomi.

If an objection is raised, the citizen must come to the taluk office or nadakacheri to raise it. There is currently no online objection system available. A physical copy of the objection is maintained in the dispute section of the taluk office. The revenue inspector verifies the objection and is put up in the RCCMS portal. If the objection is raised by the revenue inspector during approval of mutation, the tehsildar verifies the objection, and is put up in the RCCMS portal. In such RCCMS cases, the final mutation order is available on RCCMS website, but it is incorporated in the RTC through an automatic mutation process. In case of disputes dealing with registered mutation, they are resolved by the civil courts only.

An unregistered mutation request can be applied through Nadakacheris, where the DEO makes the transaction entry and the shiristedar does the verification and generates MR number, and the revenue

inspector acknowledges the file. The workflow is the same for both registered and unregistered mutations with notice period once the file is acknowledged by the revenue inspector. In case of disputes dealing with unregistered mutation, they are resolved by the Tahsildar within a period of maximum 45 days. In cases where the Patwari (VAO) is required to submit a report, he comes to the taluk office and hands over in Bhoomikendras.

Figure 6: Mutations with Notice period workflow



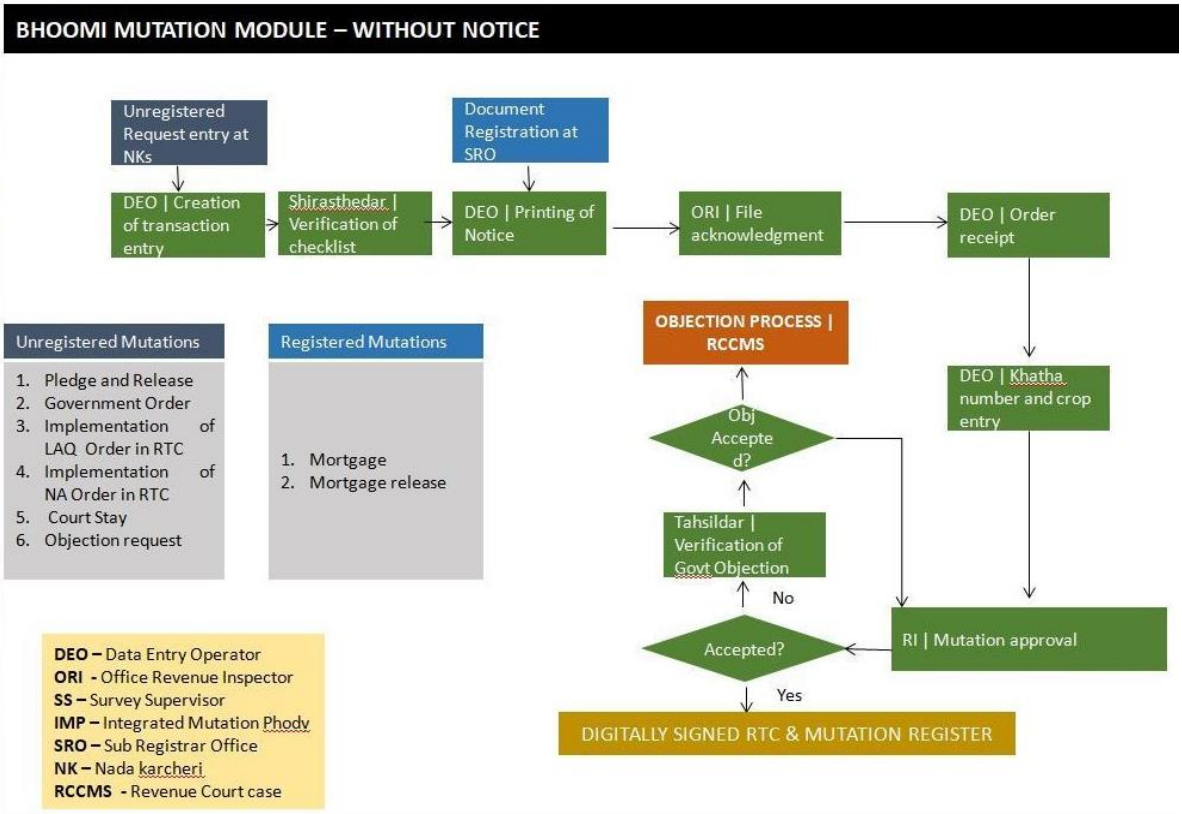
Source: Bhoomi Monitoring Cell, Bangalore

Mutations without Notice period workflow- Auto-mutation

The types of transactions that initiate a registered mutation without notice period include mortgage and mortgage release. The types of transactions that initiate an unregistered mutation without notice period include pouthi khatha (inheritance khatha change), land acquisition orders, phodi, land conversion, court stays, court stays, rights and liabilities (pledge and release), and these mutation types are considered for auto-mutation. In other words, mutations without notice which do not require field verification are considered for auto-mutation. Auto-mutation process is completed in compliance with the Sakala timeline of 5 days.

An unregistered mutation request can be made at nadakacheris and the registered mutation requests come through KAVERI 2.0. The process flow is the same for both requests after the revenue inspector acknowledges the file. Once the file is acknowledged, the DEO makes entries of khatha number and crop information. The revenue inspector approves the mutation, and a digitally signed RTC is generated. The changes to RTC are reflected in the Bhoomi portal and Mutation register simultaneously. If the revenue inspector raises an objection, it is verified by the tehsildar, and if the objection is accepted, it is put up in the RCCMS portal.

Figure 7: Mutations without Notice period workflow



Source: Bhoomi Monitoring Cell, Bangalore

In view of the increasing urbanisation and high land values in and around Bengaluru, the process of land conversion (from agricultural land to non-agricultural land) is also very important in Karnataka. The state has taken initiatives to curb fraudulent practices around unauthorised conversion of land, and its sale-purchase as revenue layouts, by making the land conversion process easier and transparent. Details are in Annexure 4.

5. Spatial Records

Cadastral maps are the maps that are prepared to show the boundaries and extent of the land parcels in the village. There are two types of maps or spatial records being maintained in Karnataka villages. One, village maps which show all the land parcels in the village, but only the original survey numbers. These are prepared in the scale of 1:7920. The others are parcel maps, which show individual land parcels with dimensions, and with subdivisions, if applicable. The scale for these are generally larger.

Complex system of legacy spatial records

In Karnataka, the original land survey was carried out in the year 1863 to 1890. A resurvey was done in the state from the period of 1900 to 1920. Subsequently, a Hissa survey was carried out from 1920 to 1940 which marked subdivisions within the survey numbers.[9] Records created during each of these are important to correctly ascertain the boundaries and area of a current land holding. The state also draws its revenue system from four sperate erstwhile systems, which adds to the complexity.

The state is in the process of complete digitisaion of all the legacy spatial records, so that they can be accessed online. The important spatial records maintained in Karnataka include:

- Akarband: A Register showing the area and rate of assessment of holdings. It has 29 columns where all the details like land use, type of land, etc are recorded.
- Pakka book: Field Book
- Hissa maps: subdivision maps which are prepared for individual survey number wise after subdivision in that survey number happens.
- Tippan: The sketch of a number not drawn to scale but showing the measurements.

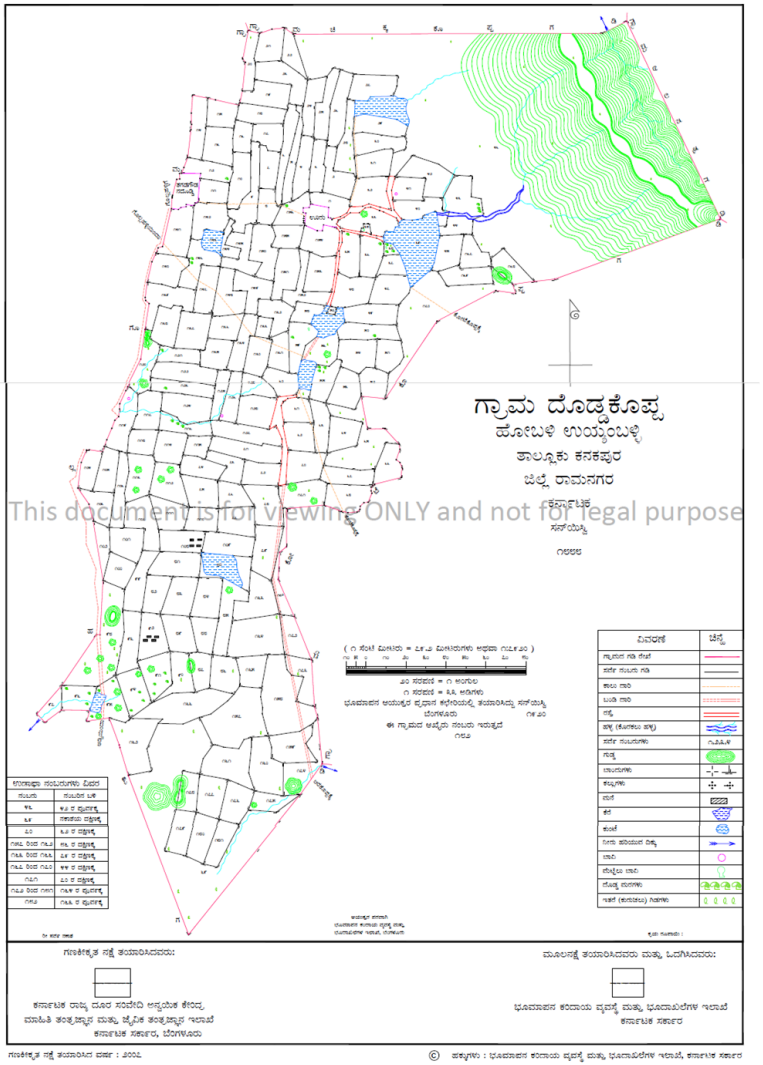
Annexure 5 presents the above records for a specific randomly selected land parcel, together with its RTC.

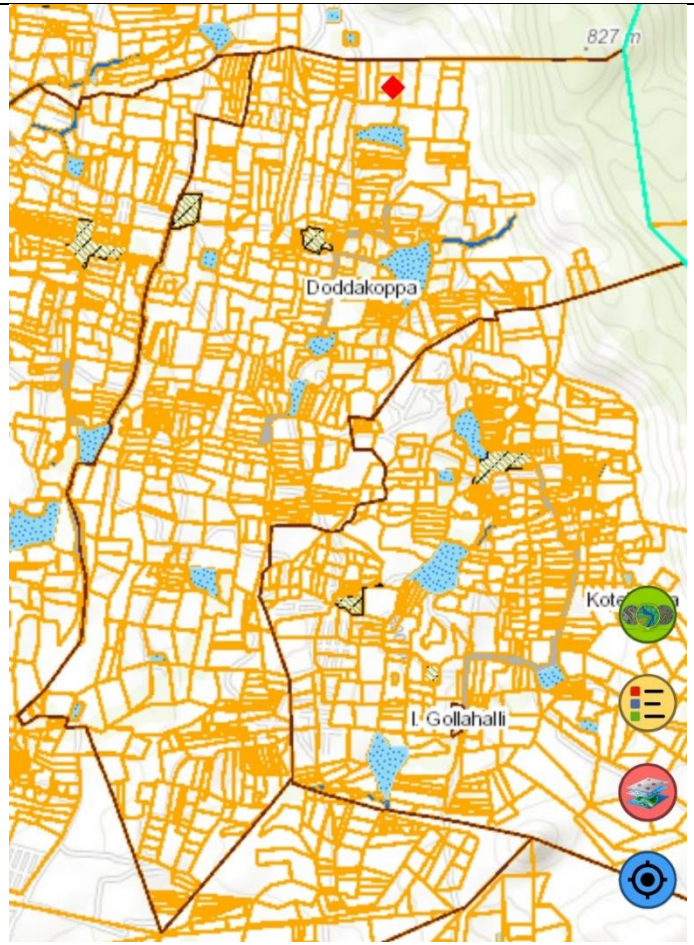
100% Village maps georeferenced; 58% hissa maps georeferenced

There are a total of 37,175 villages in Karnataka. Total number of cadastral village maps available in the state of Karnataka is 33891 sheets. During 2005-2006, the Karnataka Remote Sensing Application Center (KRSAC) scanned and digitised village maps using CAD and other similar software. It did not have details of small block level data (i.e subdivisions) but these village maps could be viewed publicly and improved the transparency of land records. Subsequently, all of these village maps were georeferenced, and some of these can now be downloaded as KMZ files as well.

[9] Usually, a survey number is allotted to the land parcel and when subdivision happens in that survey number, sub numbers are assigned. This assignment of sub-plot numbers (hissa number) is not uniform throughout the state – in some villages it could be numeric whereas in some other villages it could be alphabetical.

Figure 8: Comparison between village map with just survey number boundaries, and a digitised Hissa map with subdivision boundaries



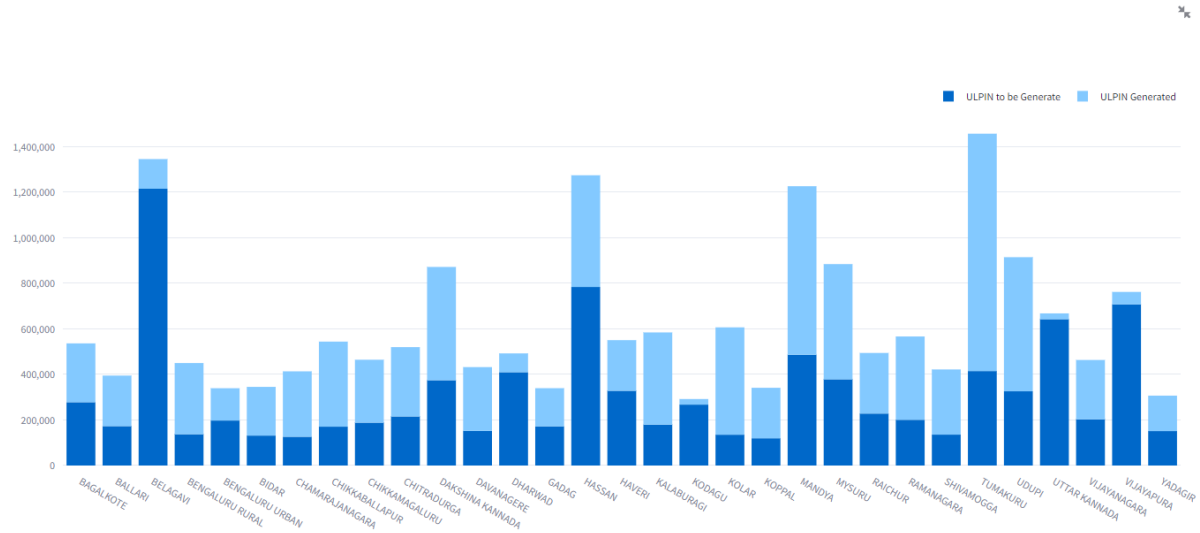


Regarding hissa maps 1,80,97,149 maps are available and among those 1,14,00,040 maps (63 percent) are scanned.[10] Among these maps, 1,04,27,501 numbers of maps (58 percent) have been digitised and geo-referenced. Remaining hissa maps are under the process of being digitised.

The cadastral maps are linked with ROR's to an extent of the survey numbers. There is 100 percent completion with the survey number level of integration. But the integration of ROR's of hissa numbers with the hissa maps have not been completed by the government. Around 68 percent integration of the hissa maps with Hissa numbers details in RTC was complete.

Total number of georeferenced land parcels in the state is 97,54,794. All of these have been assigned a Unique Land Parcel Identification Number (ULPIN). This number helps in identifying and maintaining the land records of that particular land parcel and also in transacting that. Other than ULPIN, no other unique number is allotted.

Figure 9: District wise progress in generation of ULPIN



Source: Bhoomi Dashboard updated on 4th October, 2024.

Dishaank app displays hissa boundaries on satellite imagery

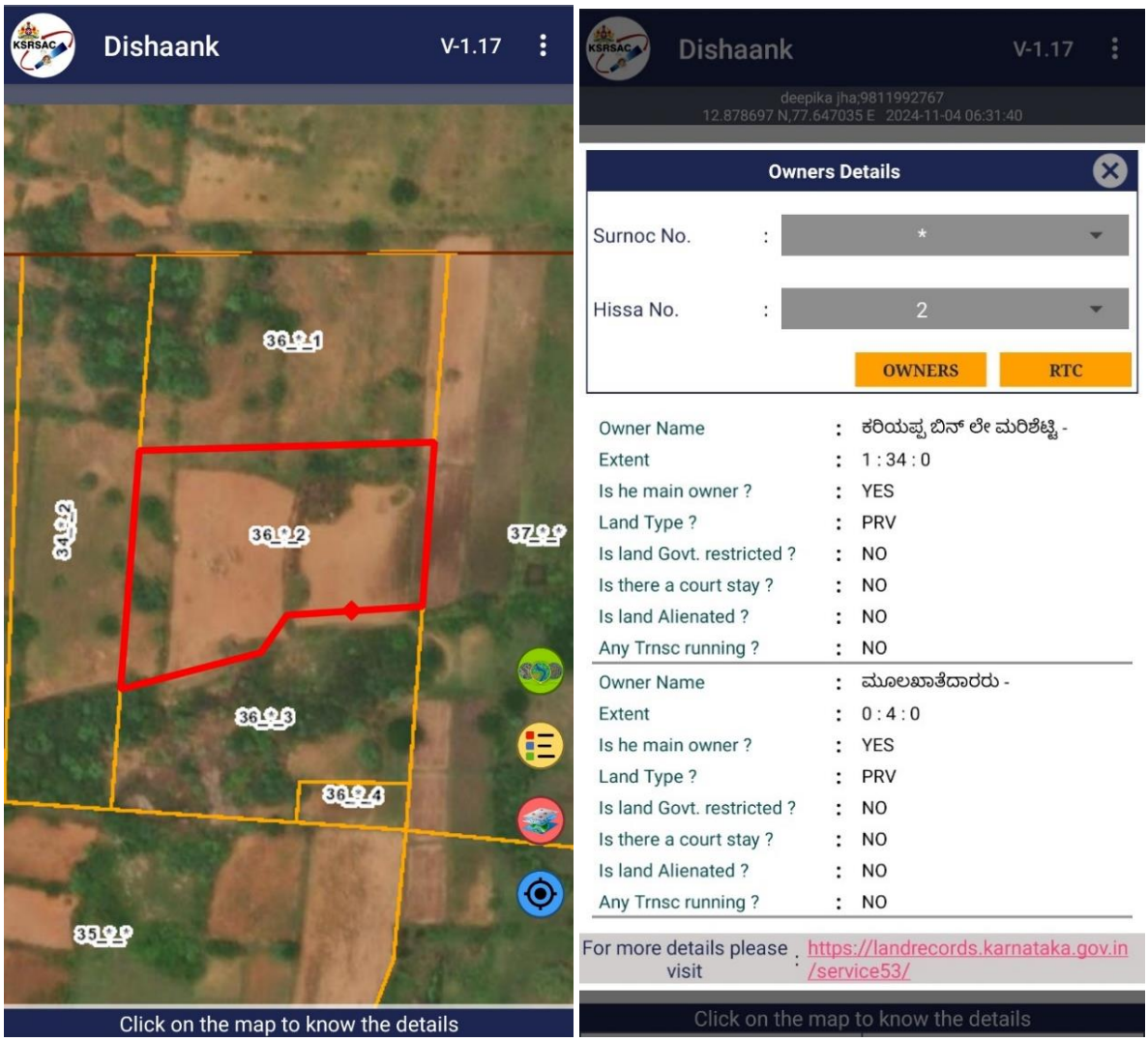
The digitised and georeferenced village maps are available as PDF or KMZ files for download. These copies are not legally valid, and are meant for information pusposes. They also do not show hissa boundaries within a survey number.

[10] All status and statistics in this section refer are from end of July 2024.

Dishaank is a relatively new app which displays the georeferenced hissa boundaries on top of satellite imagery, and linked to RTC/Bhoomi records. It also allows a citizen to view the land records of the place they are located in, using GPS. Interactions with VAOs in the village survey revealed that they also rely heavily on Dishaank.

Dishaank is a mobile application and does not have a website yet. It is a work in progress and interviewed officers cautioned that while the application is very useful, the information is incomplete since only 58% of hissa maps have been georeferenced.

Figure 10: Screenshots from Dishaank app showing hissa (subdivision) boundaries overlaid on satellite imagery and linked to RTC information



While Hissa survey maps are being digitised and georefernced under Dishaank, further subdivisions exist on ground based on mutual understanding, which do not get reflected in spatial records. In the village surveys, 44 percent of land owners reported that they have a mutual understanding regarding division of land parcels, but they have not undertaken a phodi/partition process. Thus the spatial records do not reflect accurate ground realities.

Pre-Mutation sketch and Integrated mutation Phodi as Good Practices

Karnataka revenue department and Survey and Settlement wing have recognized that there is a gap between updation of textual records i.e. RTC and updation of spatial records. This is particularly true when a landowner is selling off only a portion of their land, without clear delineation of the exact boundaries of the land being sold. In numerous cases, Podi was delayed for several years, even after mutation was approved.

- To address this, Karnataka first introduced the concept of a pre-mutation sketch (11E) which made it mandatory for buyer/seller to provide a sketch of the proposed sub-division of land holding, before registering the conveyance deed for a partial sale. This sketch was made available by the SSLR wing through the mojini app, and ensured that there is clarity between the buyer and seller regarding the land being sold.
- Integrated Mutation Podi now combines the mutation and phodi processes to ensure spatial subdivision is completed alongside mutation approval. Transactions involving partial land extents or multiple owners in the transacted RTC will automatically be directed to Integrated Mutation Podi, ensuring that an updated RTC is generated for the new owner upon completion of the mutation process.

The state has tried to bridge the gap between RTC updates and update of spatial land records. This is through introduction of a pre mutation sketch in cases of partial transfer, and requiring an integrated mutation phodi in such cases. This ensures that going forward, all cases of partial transfer would be incorporated in textual as well as spatial records. However, the presence of 7-9 lakh paiki numbers continues to daunt the survey wing.

Online services available for survey requests

Mojini is a web platform which allows citizens to file various requests relating to spatial records. These include:

- Request for Land Survey: Citizen can apply online for 11E (Pre-mutation sketch), land conversion sketch, Haddubasthu and Tatkal podi by paying the fee online
- Request for Survey Documents: Citizen can apply online for Online Survey Documents like Tippan, Pakka book and Atlas, by paying the fee online . These documents can be viewed online without a fee.
- View Sketch: To view 11E Sketch, alienation & Phodi sketch

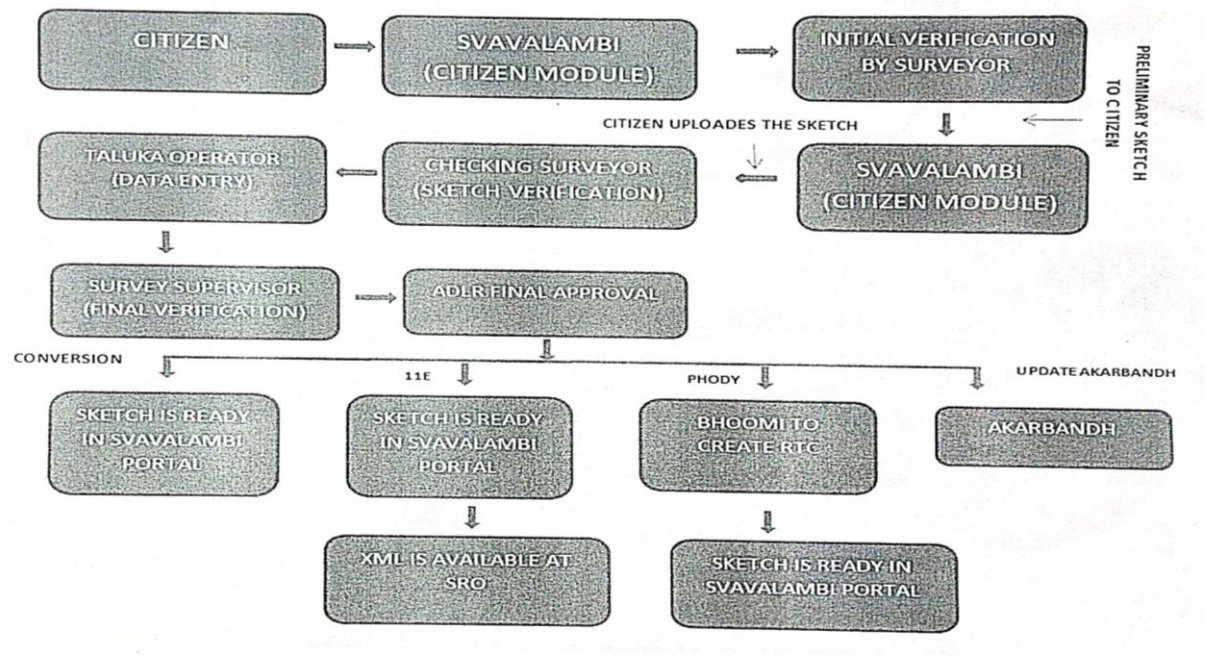
However, there continues to be a high demand for survey applications and waiting time for citizens. According to Sakala (right to citizen services) timings, **a pre-mutation such as 11E or a request for a hudbust sketch can take upto 45 days, or even 120 days in cases of correction of RTC or non-availability of survey documents).** This delays the registration of the land parcel, since the documents are typically needed prior to registration. Citizens can get the status of their application and status of surveyor allotment through the website.

To address this, the state has invested in capacity building to train the workforce related to GIS work and other works. There are two types of surveyors: Government survey and Licensed Survey. There are currently 4000 licensed surveys deputed. 2000 more surveyors are being added. The state has also procured drones for carrying out survey operations.

Svavalambi: Self-survey app for subdivision requests

The Svavalambi scheme introduced in April 2022 allows self-sketch by citizens where the citizens can make their own sketches for subdivision of their own land parcel through an online facility. A citizen can avail the sketch within 7 to 10 days from the date of application. Prior to this, citizens would have to apply through ‘Mojini software’ for all the services related to the SSLR department. They could apply online or through kiosks and allotment of the surveyor happens through FIFO method and they would wait till 60 days to get the sketch in the flow. Svavalambi reduced this timeline significantly.

Figure 11: Workflow diagram of Svavalambi



Source : Survey, Settlement and Land Records Department.

Spatial records are being computerised and georeferenced, with 58 percent completion rate. At the same time, various spatial record related services allow incremental update of spatial records. It is not clear whether these incremental updates through phodi applications are also incorporated in the Dishaank database

Area mismatches between RTC and spatial records

According to interviewed officers from the SSLR wing, onground measurement of land parcels undertaken during boundary marking or partition often reveal a difference in the area between RTC and the actual measurement on ground. This difference is generally resisted by citizens when the measured area is lower than RTC area (especially because stamp duty and property taxes are charged for the RTC area statistics), and accepted when it is higher than RTC area. The increased usage of latest surveying technology has led to higher number of discrepancies being revealed.

According to some of the interviewed officers, a resurvey may be the only way to address such concerns, and thereby accurately record the exact area of each land holding. With this purpose in mind, Karnataka has carried out drone surveys on a pilot basis in Ramanagara district.

New RTC format based on drone survey proposed

Carrying out the drone-based pilot survey allowed SSLR wing to propose creating a new RTC format which includes spatial details, and which will thus end the practice of duality between updation of RTC and updation of maps.

6. Revenue Courts

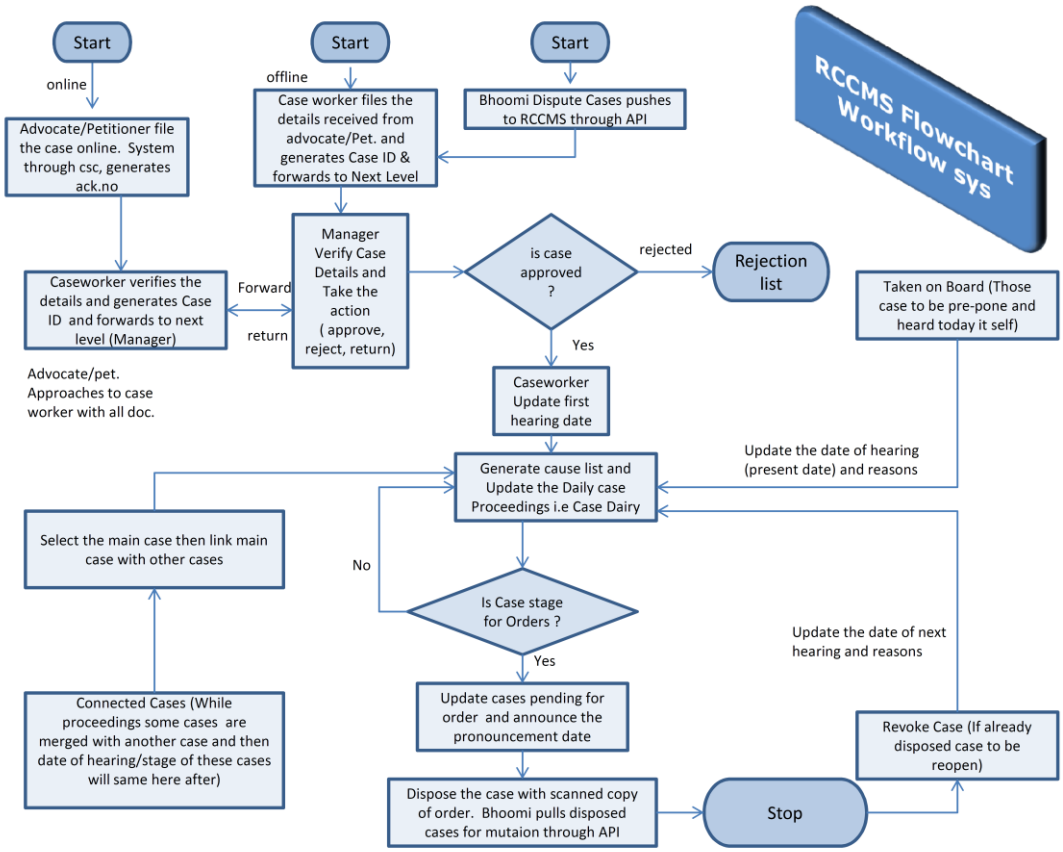
To understand mutation requests related to disputes or court stay orders, it is important to examine the Revenue Court Case Monitoring System.

All Revenue Courts are computerised

Revenue Court Case Monitoring System (RCCMS) is a web enabled application for effective monitoring of all ongoing court cases filed in Deputy Commissioner, Assistant Commissioner and Tahsildar Courts (RCCMS portal). There are more than 600 revenue and survey courts present in the state and all of these courts are computerised.

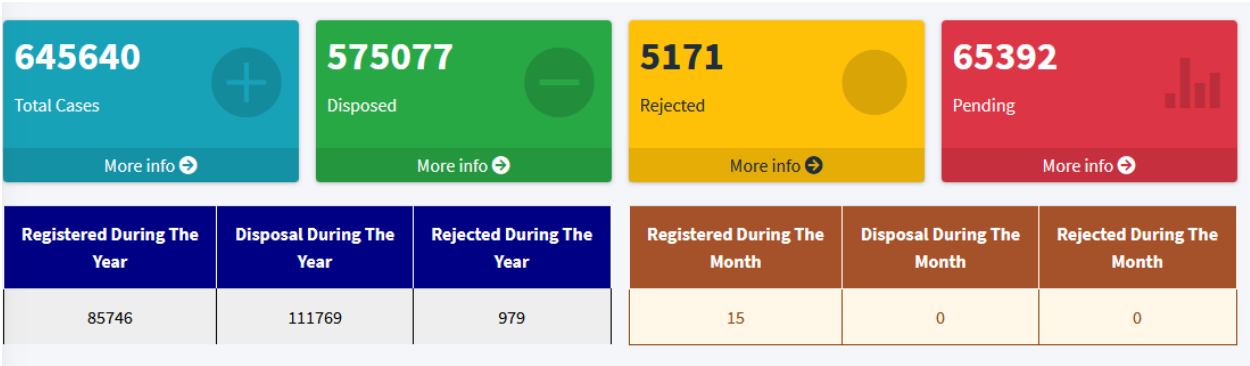
In the RCCMS portal, citizens can add the case details, track the date of the hearings, postpone the date of the hearing, etc. Cases can also be filed offline with a physical application through lawyer or the individual themselves, but these cases are also added on RCCMS and there are no manual cases involved. The RCCMS portal sends online appointment date and time - hearing, judgment and postponement information through SMS and mail to the applicants. The public could access real time pending cases in courts, view judgments, cause list, etc. The court cases documents are stored electronically in the court and relevant court orders in form of PDFs are uploaded on the website. However, the cases are heard only in physical mode.

Figure 12: Karnataka RCCMS workflow flowchart



Source: RCCMS User manual, retrieved from https://rccms.karnataka.gov.in/, 02/11/24

Figure 13: Karnataka RCCMS Dashboard Statistics



Registered During The Year	Disposal During The Year	Rejected During The Year	Registered During The Month	Disposal During The Month	Rejected During The Month
85746	111769	979	15	0	0

Source: https://rccms.karnataka.gov.in/rccms/public/abstractview.aspx, accessed 02/11/24

RCCMS is linked to Record of Right

This RCCMS system is linked and integrated with the land records departments and portal, which allows the revenue courts to access the land records documents and any dispute cases through Bhoomi are pushed into RCCMS through API. Bhoomi portal is also linked to RCCMS which results in changes

reflected in the RTC (11th column, under liabilities), in the event of a stay order issued in a particular case, which allows red flagging. However, the RTC reflects only the stay order, and not when the case is registered and is on-going.

Revenue court cases which require correction in the RTC or mutation register are separately tracked through RCCMS. These cases are referred to as RRT cases and over the last three financial years they have formed around 85 percent of the total cases filed. As discussed in the mutation section, incorporation of court orders in RTCs does not require serving a notice to the concerned parties and is typically treated as automatic mutation.

KAVERI 2.0 is not linked with RCCMS. As discussed in the registration section, KAVERI 2.0 has the provision for details of court orders to be uploaded manually, so as to red-flag any related transactions. This provision is used primarily for civil court orders, as revenue court orders anyway get reflected in RTC through automatic mutation.

65% of pending revenue court cases in and around Bengaluru

According to RCCMS Dashboard, total of 6.45 lakhs cases have been filed or tracked through the online system, of which 5.75 lakhs have been disposed and around 65,000 cases are pending. Of the pending cases, 27 percent are in Bengaluru urban district, while its surrounding districts of Tumakuru, Bengaluru Rural, Kolar, Ramanagara, and Chikkabalapur form another 38 percent of the pending cases.

Table 3: Revenue Court cases filed and disposed in last three years

	2021-22	2022-23	2023-24
RRT Cases Filed	48,891	70,738	1,00,025
Non- RRT Cases Filed	10,418	13,711	15,345
Total Cases Filed	59,309	84,449	1,15,370
RRT Cases Disposed	68,789	65,575	1,24,135
Non-RRT Cases Disposed	14,090	15,590	21,449
Total Judgements/Disposed	82,879	81,165	1,45,584
Rejected Cases	239	291	708
Pending Cases	4,876	8,424	13,816

*RRT cases refer to cases which require a change in the RTC or mutation register

Source: https://rccms.karnataka.gov.in/rccms/AgeWisedashboard.aspx, accessed 02/11/24

In the pending cases, around 45 percent have been pending for less than a year, 36 percent cases have been pending for 1 year to 5 years, and 12 percent cases have been pending for more than 5 years.

Link to Civil Courts under development

There is a pilot project being carried out by the revenue department in the state to link and integrate with the e-courts system of civil courts. The pilot project is in two districts - Doddaballapur and Chikkaballapur – and allows citizens to fetch a copy of the order using survey number of the concerned land parcel.

Currently, Bharat API, a platform that publishes open APIs for India's High Courts and Sub-ordinate courts, along with the authorization mechanism, is linked to Bhoomi.

7. Village level survey findings

The primary survey aimed to assess the real-time integration of textual and spatial records and the registration process in two selected villages: Mavinakatti village in Belagavi district, and Gaddekannur village in Kolar district. As discussed in the methodology section, detailed surveys were conducted to collect primary data on land records, ownership details, mutation status, spatial updation, loan, encumbrance, and any discrepancies. The important findings from the survey are organised under various thematics.

Land ownership patterns

- 47 percent of land parcels are owned through single-ownership
- More than half i.e. 53 percent of land parcels are owned through some kind of multiple ownership. Among these, landowners in 44 percent parcels are related to each other through family. This clearly shows that the land ownership is very tight and closely knitted.
- Gaddekannuru had a higher proportion (56 percent) of single ownership land parcels as the village is close to a national highway and near Bengaluru. The village also has higher number of sale purchase transactions.
- In cases of multiple ownership, respective area under each owners (i.e. share) is known and mentioned in the RTC. However, the exact location and boundaries are not indicated in the cadastral maps.

Accuracy and updation status of ROR

- 75 percent of landowners answered they do not have any errors in their textual record (other than area error) which is a positive sign of their RTC being clear.

- In 11 percent of these parcels, on-ground ownership does not match with the RoR records. The reasons for not matching included mainly the following:

    - Inheritance not updated in RoR
    - Family arrangements not being reflected in RoR
    - Presence of additional names due to errors
    - Court order not reflected, or erroneous entry during a mutation

  Some of these cases (2 percent) were under ongoing disputes while another 2 percent reported that mutation has been pending since long. According to a village level officer, citizens also do not feel the necessity to change their RTCs because most of their land parcels are within their own families and they operate or cultivate through mutual agreements.

- 14 percent landowners reported some kind of errors in their RTC. To clarify, an error may be in the spelling of the name, or father's name, etc. which does not directly impact ownership.

- Out of the total 25 percent land owners who reported some form of error in the land records, 16 percent land owners were yet to apply for a correction. Out of these, 6 percent were either preparing for such an application, 4 percent believed that it was not a need to apply for a correction, and 2 percent found it difficult to pursue the error correction process.

- 75 percent of respondents mentioned that they had applied for a mutation in their lifetime. Of these, 17 percent reported that their application was processed within a month, while 23 percent reported that it was processed within 1 to 3 months.

- Of the 75 percent respondents who had ever applied for a mutation, 14 percent reported that they needed to visit the revenue office only once, while 23 percent reported that they visited between 1 and 5 times. 9 percent reported visiting the revenue office/s more than 5 times.

- While this was not an explicit question asked as part of the questionnaire, some land owners hinted towards a larger rent-seeking behavior across the departments that does not encourage citizens to go through the process of applying for correction or updating their RTCs. (e.g. applying for demarcation, partition or phodi, correction of errors like spelling mistakes, removing extra people from the RTC, etc).

- The Bhoomi website/servers at village level are mostly down during weekday. The use of the Dishaank app is very prevalent among the VAO, VAO assistants, etc. as it shows details about the sub-plot and does not have network issues such as those in Bhoomi. The network issues also impacts the officers like VAO while doing Aadhaar seeding process, etc.

Updation and Accuracy of Spatial Records

- Among the 53 percent of land parcels that have more than one owner, there is a spatial division of ownership decided mutually among the owners in 44 percent of land parcels. The owners in these land parcels owners are doing cultivation on separate areas with mutual understanding but this does not get reflected in the spatial records. According to anecdotal findings, most people reported that they find it convenient to decide mutually, as the partition proceedings are time consuming and expensive.

- Only 9 percent of landowners reported that their land holding is truly joint in nature i.e. the cultivation is also together.

- 5 percent of landowners reported that the area under possession with them is different from the area noted in RTC. Three percent of these were cases where land had been partially acquired to construct a road or public facility but the corresponding area was not deducted from the RTC.

- “People don’t want to lose even one metre of the land,” a farmer/landowner said in Gaddekannur village during the survey. Gaddekannur village sees a lot of interest in demarcation and partition, as the land value is higher due to its location on the highway and there is ongoing speculation about the land value.

Use of Land

- Since the villages were primarily agricultural in nature, non-agricultural land use was seen in only four percent of land parcels. Out of these, RTC indicated non-agricultural land use by recording area under cultivation as zero.

- Farmers reported that RTC does not capture the cultivation column accurately. However, this was not part of the questionnaire, and hence not captured statistically.

- The survey team observed that Bhoomi is accurate enough to capture different types of land - darghas, inam lands etc.

Encumbrances

- Out of the 47 percent land owners having existing loans with some kind of bank, 36 percent loans get reflected in the RTCs.
- The farm society bank details were not reflective - Prathamik Krishi Pattin Sahakari (PKPS) - this is a co-operative bank in Belgaum which works directly under District central cooperative bank. Most farmers in the village had a transaction with this bank and most of it was not reflected.
- 9 percent of land parcels had an ongoing or past court case. Of these, case details were noted in the RTC in just one percent of instances.

8. Good Practices and Gaps

Section/Theme	Good Practices	Gap
RECORD OF RIGHTS		
Computerisation status	• Almost the entire system of land information is digital, and accessible through online means • Karnataka has achieved 100 percent of RTCs being computerised • There are 1.91 crore RTCs and 4.05 Crore owners in the State.	However, the system may need infrastructure upgrades as Bhoomi servers for citizens are often slow or sometimes unavailable during working hours.
RoR format	Extensive RoR format capturing various details, including area under each owner in the RTC.	A new RoR format including spatial features has been proposed in the state but is yet to be incorporated.
Accuracy of textual records	• In village surveys, 74 percent of land parcels did not have errors in the RTC • Proxy indicators point towards 3.4 lakh owners mentioned in	Additional names in the RTC – sometimes extra names get added at the time of subdivision or mutation as result of errors Crop details are also often incorrect or not updated

Section/Theme	Good Practices	Gap
	RTC despite their land being acquired; 48 lakh dead people mentioned in RTCs.	
Joint ownership of land parcels	Joint Ownership reflected as Shares; Average 2.1 land owners per RoR	In village surveys, 44 percent of land parcels reported having a mutual understanding of subdivisions which are not reflected on the spatial records.
Aadhar seeding	~49 percent RTCs had aadhar linked for all the owners in the RTC, while another ~13 percent had aadhar linkage for atleast one of the owners.	
Error correction		Citizens cannot apply online for error correction. In village surveys, 16 percent respondents reported that they have not gotten their RTC corrected. Anecdotal evidence point towards rent seeking of some form.
Changes in Land use	Bhoomi portal does notify with the 'Bhu pa' when there is a change in land use from agriculture to non-agriculture which is a good initiative	• Information and Process Gaps at land conversion stage. There is no link between Bhoomi and local body khata data. • After a land gets converted, it doesn't lead to a change in spatial records. These continue to remain with survey department, instead of getting transferred to panchayats or urban local bodies.
Legacy record computerisation	• Establishing modern record rooms to digitise all the legacy revenue records	Legacy registration records are accessible but yet to be computerised

Section/Theme	Good Practices	Gap
	• The Revenue Department has developed software for cataloging, indexing, scanning, and uploading records, with features for keyword addition and search functionality. In the future, citizens will be able to access records electronically through the portal and platforms like Seva Sindhu.	
Bank integration	The database of the RTC is also linked with all the nationalised banks and co-operative banks of all the 31 districts in the state through the E-Saala portal with the help of Farmer Registration and Unified beneficiary InformaTion System (FRUITS) Id of the farmers.	RTCs linked to Banks in all districts but exceptions present. Village level survey revealed that 11 percent land owners have an existing loan which is not reflected in the RTC.
REGISTRATION		
Registration related services	• All 257 SRO's in Karnataka are completely computerised and fully integrated with the Bhoomi portal. • The SRO can check the latest litigation status of a property which is manually entered into KAVERI by uploading scanned documents from eCourts or other sources. • Circle rates are available online for citizens to check. An online SD calculator is also available through the KAVERI 2.0 portal. • Aadhar verification to be rolled out soon; PAN verification under discussion • Anytime Anywhere registration is available in three districts,	

Section/Theme	Good Practices	Gap
	Bangalore, Belgaum and Tumkur. This feature is limited to SRO's within the same district • Certified copies of registered deeds can be downloaded. GIS enabled download of encumbrance certificate from KAVERI portal – makes it citizen friendly • An Online grievance redressal system is available for filing complaints related to property registration at the Sub Registrar Office	
Integration with Land Records	When applying for registration, the name of the seller is auto-fetched from the Bhoomi platform and cannot be entered manually.	
Integration with urban agencies		• Integration with eAasthi is only partial – mandatory in two tehsils and now BBMP as pilot project. • KAVERI does not link to UPOR or earlier property cards (which are still ppaper-based)
Svamitva property cards registration	According to SVAMITVA dashboard, drone flying has been completed in 14584 villages in Karnataka. 11.3 lakh property cards have been generated in the state out of which 10.6 lakh property cards are reported to have been distributed	• Subsequent steps after drone flying have been relatively slower and property cards have been prepared in only 3037 villages. • Unlike RTCs, the property cards generated under SVAMITVA are not available in public domain, and are not updated upon registration of a transaction deed.

Section/Theme	Good Practices	Gap
MUTATION		
Auto-mutation	• J-Slip leads to auto triggering of mutation in Bhoomi. This means citizens do not need to file separate applications. • Automatic Mutation for Mortgages and court cases from April 2024	• J-slip does not trigger similar mutations in eAasthi. • As of July 2024, the UPOR database did not link to KAVERI 2.0, and a J-slip from KAVERI does not automatically trigger a mutation in UPOR property cards.
Mutation pendency and timeline	2024 Mutation timelines are between 1 to 18 days. As per the Bhoomi Monitoring Cell, there is no pendency in the mutation orders getting reflected in the RTC unless a dispute is involved.	Gaps in RTC updation status: Pending Acquisition cases and Inheritance cases.
SPATIAL RECORDS		
Digitisation and Updation	• 100% Village maps georeferenced; 58% hissa maps georeferenced • Total number of georeferenced land parcels in the state is 97,54,794. All of these have been assigned a Unique Land Parcel Identification Number (ULPIN). • Pre-Mutation sketch and Integrated mutation Phodi as Good Practices	
Spatial and Textual record mismatch	Initiatives such as requirement of a pre-mutation sketch and introduction of integrated mutation phodi (IMP) and are attempts to keep the number of new errors as low, and to **bridge**	Pyki numbers are subdivision carried out in RTC but not in spatial records.

Section/Theme	Good Practices	Gap
	the gap between RTC and spatial records.	
Citizen services	Svavalambi: Self-survey app for subdivision requests	
Drone Mapping	New RTC format based on drone survey proposed	Modern survey technologies reveal area mismatches between textual and spatial records.
RCCMS		
	• All Revenue Courts are computerised • RCCMS is linked to Record of Right	65% of pending revenue court cases in and around Bengaluru

9. Recommendations

Karnataka is a good example of a completely digital system of land record management, which has improved incrementally and has ensured that majority of citizens services are available online and are delivered in time. However, the state continues to struggle with errors in land records (including legacy errors), area mismatches, and rent seeking activities by different stakeholders. Following recommendations can be considered for the state of Karnataka:

1. It is clear that the transition from rural agricultural land to urban or non-agricultural land is a point of gap, wherein more coordination between the departments concerned can help. The state can consider developing an integrated rural and urban land information portal which makes it easy for citizens to trace details of any given land parcel, irrespective of its usage or the jurisdiction under which it falls. The platform can be GIS based, for ease of citizen access.

2. KAVERI must connect to e-Aasthi mandatorily, including automatic incorporation of j-slips by e-Aasthi database.

3. Karnataka can also try to incrementally implement the new RTC format which includes spatial details, especially in cases where phodi takes place.

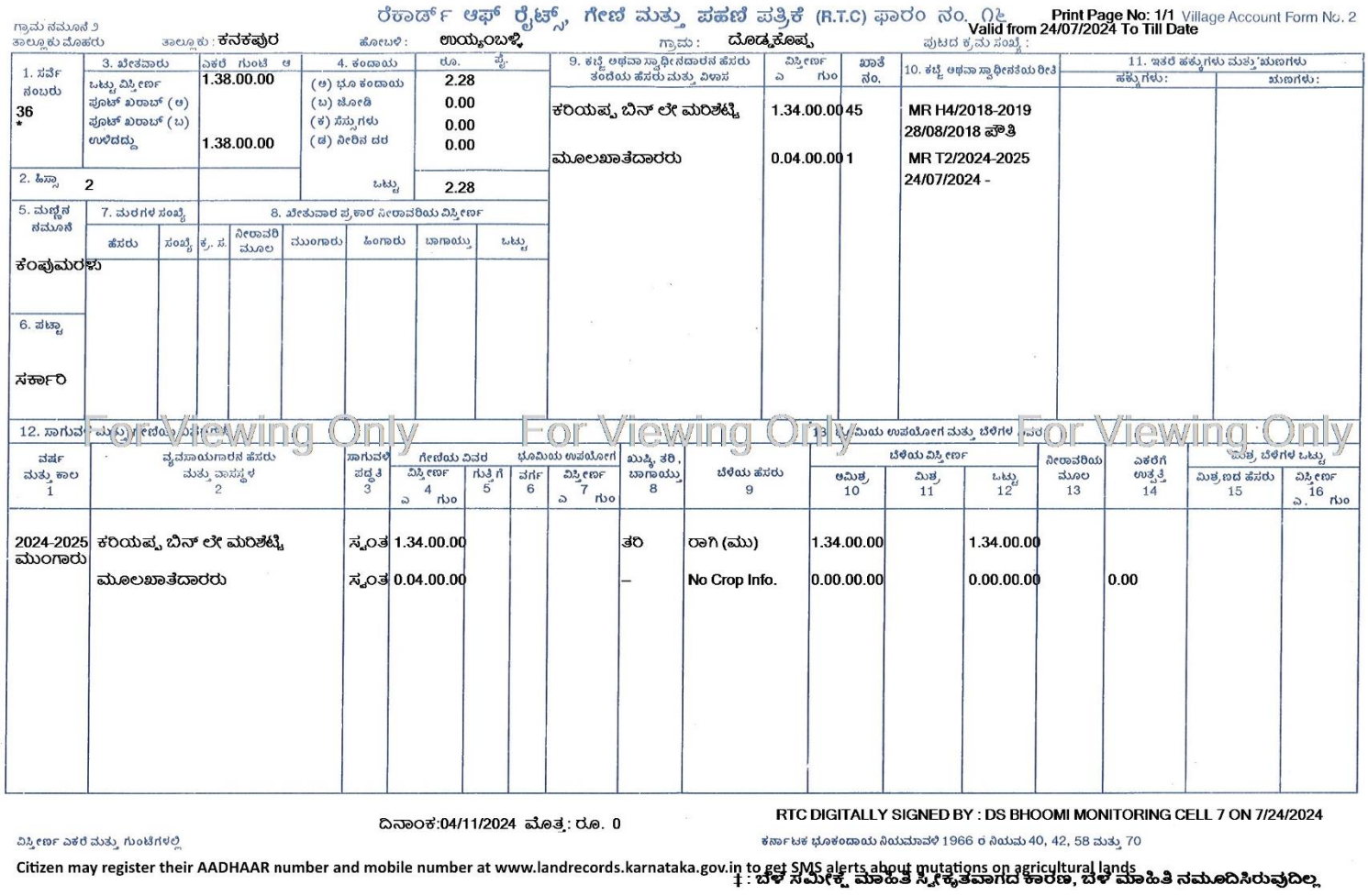
4. Karnataka has taken several initiatives to plug-in the gap between textual updation and spatial updation, including increasing the capacity of the survey wing through private licensed surveyors. These should be continued, and supplemented by more citizen friendly processes.

5. Modernization of record rooms is an important initiative which help preserve the diversity of legacy records available in the state, make them accessible to the public easily, and improve resolution of disputes, and must be continued and scaled up. Similarly leagacy registration records should also be digitised. Initiatives such as proposed link to civil court cases should be carried forward.

6. A village level officer recommended that there should be more programmes such as podi-andolan which helps the people to get their RTC updated at a single place, within the same day and without much of expenses. General citizens do not wish to get into hassle regarding going through procedures to update or correct their RTCs and also find it expensive to go through the process. A programme such as this will allow for quicker resolution of grievances.

Annexures

Annexure 1: RTC format



ರೆಕಾರ್ಡ್ ಆಫ್ ರೈಟ್ಸ್, ಗೇಣಿ ಮತ್ತು ಪಹಣಿ ಪತ್ರಿಕೆ (R.T.C) ಫಾರಂ ನಂ. ೧೭

Print Page No: 1/1 Village Account Form No. 2
Valid from 24/07/2024 To Till Date

ಗ್ರಾಮ ನಮೂನೆ ೨
ತಾಲ್ಲೂಕು ಮೊಹರು ತಾಲ್ಲೂಕು : ಕನಕಪುರ ಹೋಬಳಿ : ಉಯ್ಯಂಬಳ್ಳಿ ಗ್ರಾಮ : ದೊಡ್ಡಕೊಪ್ಪ ಪುಟದ ಕ್ರಮ ಸಂಖ್ಯೆ :

1. ಸರ್ವೆ ನಂಬರು	3. ಜಾತವಾರು	ಎಕರೆ	ಗುಂಟೆ	ಆ	4. ಕಂದಾಯ	ರೂ.	ಪೈ.	9. ಕಬ್ಜೆ ಆಥವಾ ಸ್ವಾಧೀನದಾರನ ಹೆಸರು ತಂದೆಯ ಹೆಸರು ಮತ್ತು ವಿಳಾಸ	ವಿಸ್ತೀರ್ಣ ಎ	ಗುಂ	ಖಾತೆ ನಂ.	10. ಕಬ್ಜೆ ಆಥವಾ ಸ್ವಾಧೀನತೆಯ ರೀತಿ	11. ಇತರೆ ಹಕ್ಕುಗಳು ಮತ್ತು ಋಣಗಳು	
													ಹಕ್ಕುಗಳು:	ಋಣಗಳು:
36 *	ಒಟ್ಟು ವಿಸ್ತೀರ್ಣ	1.38.00.00			(ಅ) ಭೂ ಕಂದಾಯ	2.28		ಕರಿಯಪ್ಪ ಬಿನ್ ಲೇ ಮರಿಶೆಟ್ಟಿ	1.34.00.00		45	MR H4/2018-2019 28/08/2018 ಪೌತಿ		
	ಪೂಟ್ ಖರಾಬ್ (ಅ)				(ಬ) ಜೋಡಿ	0.00								
	ಪೂಟ್ ಖರಾಬ್ (ಬ)				(ಕ) ಸೆಸ್ಸುಗಳು	0.00								
	ಉಳಿದದ್ದು	1.38.00.00			(ಡ) ನೀರಿನ ದರ	0.00		ಮೂಲಖಾತೆದಾರರು	0.04.00.00		1	MR T2/2024-2025 24/07/2024 -		
2. ಹಿಸ್ಸಾ 2					ಒಟ್ಟು	2.28								

5. ಮಣ್ಣಿನ ನಮೂನೆ	7. ಮರಗಳ ಸಂಖ್ಯೆ		8. ಜಾತುವಾರ ಪ್ರಕಾರ ನೀರಾವರಿಯ ವಿಸ್ತೀರ್ಣ					
	ಹೆಸರು	ಸಂಖ್ಯೆ	ಕ್ರ. ಸ.	ನೀರಾವರಿ ಮೂಲ	ಮುಂಗಾರು	ಹಿಂಗಾರು	ಬಾಗಾಯ್ತು	ಒಟ್ಟು
ಕೆಂಪುಮರಳು								
6. ಪಟ್ಟಾ								
ಸರ್ಕಾರಿ								

12. ಸಾಗುವಳಿ ಮತ್ತು ಗೇಣಿಯ ವಿವರ | 13. ಭೂಮಿಯ ಉಪಯೋಗ ಮತ್ತು ಬೆಳೆಗಳ ವಿವರ

ವರ್ಷ ಮತ್ತು ಕಾಲ 1	ವ್ಯವಸಾಯಗಾರನ ಹೆಸರು ಮತ್ತು ವಾಸಸ್ಥಳ 2	ಸಾಗುವಳಿ ಪದ್ಧತಿ 3	ಗೇಣಿಯ ವಿವರ ವಿಸ್ತೀರ್ಣ ಎ 4	ಗುಂ	ಗುತ್ತಿಗೆ 5	ಭೂಮಿಯ ಉಪಯೋಗ ವರ್ಗ 6	ವಿಸ್ತೀರ್ಣ ಎ 7	ಗುಂ	ಖುಷ್ಕಿ ತರಿ, ಬಾಗಾಯ್ತು 8	ಬೆಳೆಯ ಹೆಸರು 9	ಬೆಳೆಯ ವಿಸ್ತೀರ್ಣ ಆಮಿತ್ರ 10	ಮಿತ್ರ 11	ಒಟ್ಟು 12	ನೀರಾವರಿಯ ಮೂಲ 13	ಎಕರೆಗೆ ಉತ್ಪತ್ತಿ 14	ಮಿತ್ರ ಬೆಳೆಗಳ ಒಟ್ಟು ಮಿತ್ರಣದ ಹೆಸರು 15	ವಿಸ್ತೀರ್ಣ ಎ 16	ಗುಂ
2024-2025 ಮುಂಗಾರು	ಕರಿಯಪ್ಪ ಬಿನ್ ಲೇ ಮರಿಶೆಟ್ಟಿ	ಸ್ವಂತ	1.34.00.00						ತರಿ	ರಾಗಿ (ಮು)	1.34.00.00		1.34.00.00					
	ಮೂಲಖಾತೆದಾರರು	ಸ್ವಂತ	0.04.00.00						–	No Crop Info.	0.00.00.00		0.00.00.00		0.00			

ದಿನಾಂಕ:04/11/2024 ಮೊತ್ತ: ರೂ. 0

RTC DIGITALLY SIGNED BY : DS BHOOMI MONITORING CELL 7 ON 7/24/2024

ವಿಸ್ತೀರ್ಣ ಎಕರೆ ಮತ್ತು ಗುಂಟೆಗಳಲ್ಲಿ

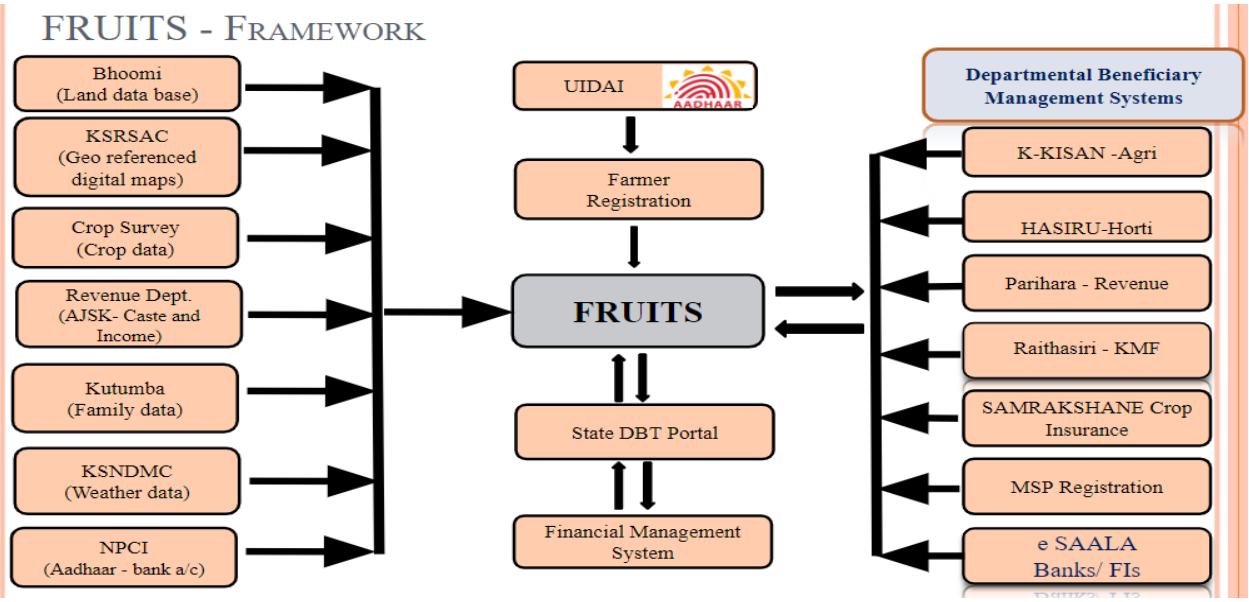
ಕರ್ನಾಟಕ ಭೂಕಂದಾಯ ನಿಯಮಾವಳಿ 1966 ರ ನಿಯಮ 40, 42, 58 ಮತ್ತು 70

Citizen may register their AADHAAR number and mobile number at www.landrecords.karnataka.gov.in to get SMS alerts about mutations on agricultural lands

‡ : ಬೆಳೆ ಸಮೀಕ್ಷೆ ಮಾಹಿತಿ ಸ್ವೀಕೃತವಾಗದ ಕಾರಣ, ಬೆಳೆ ಮಾಹಿತಿ ನಮೂದಿಸಿರುವುದಿಲ್ಲ

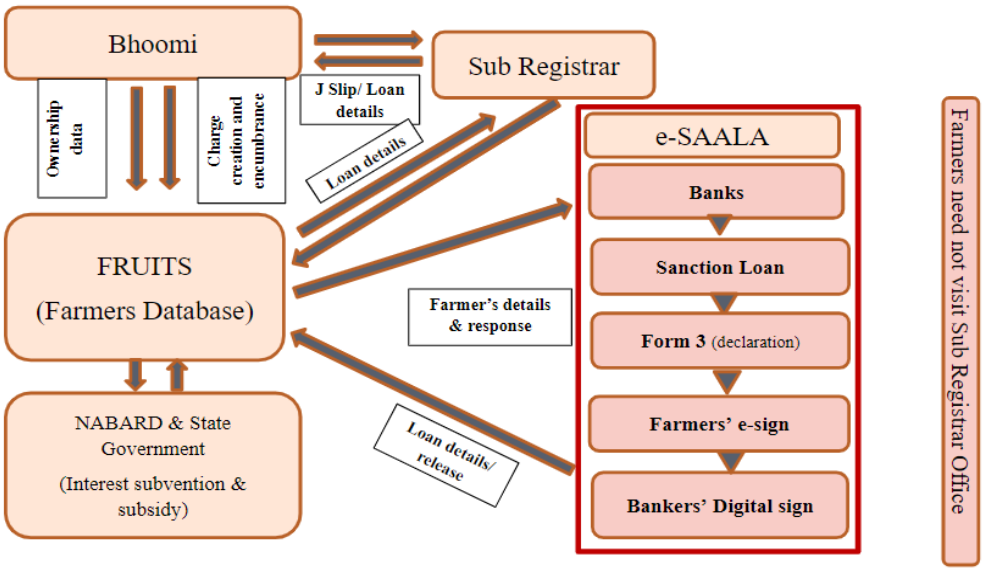
Annexure 2: Farmer Registration and Unified beneficiary InformaTion System (FRUITS)

Giving each farmer a unique ID which is interlinked with all the possible government details and schemes, land details, bank details, etc which helps the state to keep a track of the details of the farmers and also useful in executing schemes like distribution of funds during disaster, crop failure, etc. This id is also interlinked with banks and financial institutions which allows them to access credit. It is helpful as it also allows it to get reflected in the RTC when both the loan or mortgage is taken and paid back.



Source : Bhoomi Monitoring Cell, Bangalore.

Figure 14: Data flow in the integration between Bhoomi, FRUITS and Banks



Source: Bhoomi Monitoring Cell, Bangalore

Annexure 3: Measuring District level efficiency in Mutation Applications

DI is measure of how many times faster as compared to prescribed time for delivery. Better performing districts have higher DI.

Sigma measures how many service requests were delivered beyond prescribed time. Better performing districts have lower Sigma.

Rank	District Name	Total Applications	DI**	Avg	Sigma##
1	Bagalkot	10559	4.99194	3.65	4.4
2	Kodagu	3323	4.89396	4.4	4.48
3	Dakshina Kannada	11174	4.82534	3.86	4.18
4	Koppal	5040	4.68727	4.8	4.44
5	Raichur	8456	4.601	4.73	4.32
6	Udupi	7884	4.45884	5.27	4.24
7	Hassan	7462	4.38642	5.93	4.34
8	Yadgir	5034	4.37055	5.36	3.94
9	Dharwad	4222	4.3038	6.91	5
10	Chitradurga	6113	4.29249	5.7	4.12
11	Vijayanagara	4620	4.25254	5.48	4.24
12	Bijapur	14193	4.19486	5.33	3.78
13	Belgaum	20505	4.1755	5.55	4.12
14	Gulbarga	7750	4.17198	5.86	4.18
15	Chamrajnagar	4583	4.13177	5.67	3.84
16	Gadag	4744	4.07268	5.64	3.92
17	Haveri	7534	4.05212	6.19	3.78
18	Shimoga	6286	4.00113	5.23	3.28
19	Davangere	6145	3.88294	5.95	3.7
20	Uttar Kannada	5060	3.8542	6.57	4.22
21	Bidar	4416	3.77498	7.74	3.58
22	Ramnagar	4574	3.68921	8.19	4.52
23	Mysore	8291	3.68066	6.58	3.4
24	Bellary	4123	3.34649	9.01	3.92
25	Mandya	9579	3.30463	8.24	3.14
26	Chikmagalur	4102	3.29542	7.05	3.16
27	Bangalore Rural	4461	3.28611	8.36	3.52

Rank	District Name	Total Applications	DI**	Avg	Sigma##
28	Chikkaballapur	4038	3.21307	9.17	3.9
29	Kolar	5394	3.15449	10.57	3.58
30	Tumkur	12285	3.01204	8.65	3.48
31	Bangalore Urban	2599	2.64495	13.68	2.78

** :- "DI is measure of how many times faster as compared to prescribed time for delivery"

##: - Sigma measures how many service requests delivered beyond prescribed time.

2.1) Sigma 0 = 5 lakh out of 1 million beyond prescribed time.
2.2) Sigma 1 = 3 lakh out of 1 million beyond prescribed time.
2.3) Sigma 2 = 1.5 lakh out of 1 million beyond prescribed time.
2.4) Sigma 3 = 66000 out of 1 million beyond prescribed time.
2.5) Sigma 4 = 22000 out of 1 million beyond prescribed time.
2.6) Sigma 5 = 6000 out of 1 million beyond prescribed time.
2.7) Sigma 6 = 1350 out of 1 million beyond prescribed time.

Annexure 4: Land conversion process

Affidavit based Land Conversion

The citizen or the case worker raises the application for land conversion through an affidavit in Bhoomi. There are two drop downs in the application portal: Main type of conversion (residential, commercial, etc.) and Sub- type of conversion (apartments, layout, etc.) to determine the type of land conversion. Notifications are sent to various departments simultaneously based on the type of conversion. The departments include Revenue Inspector, Deputy Commissioner (DC), Assistant Commissioner, Town Planning Department, Forest Department, State Pollution Control Board, Industrial Board. The departments excluding the DC get a timeline of 15 days to send recommendations or inputs based on the checklist provided to each of the departments. The recommendations are sent to the DC for approval, and the timeline can extend to about 30 days.

Conversion/Re-conversion based on Master Plan:

Here, the application directly goes to the DC. Recommendation is required only from the Town Planning department as well as Urban Development Authority. This process takes approximately one week.

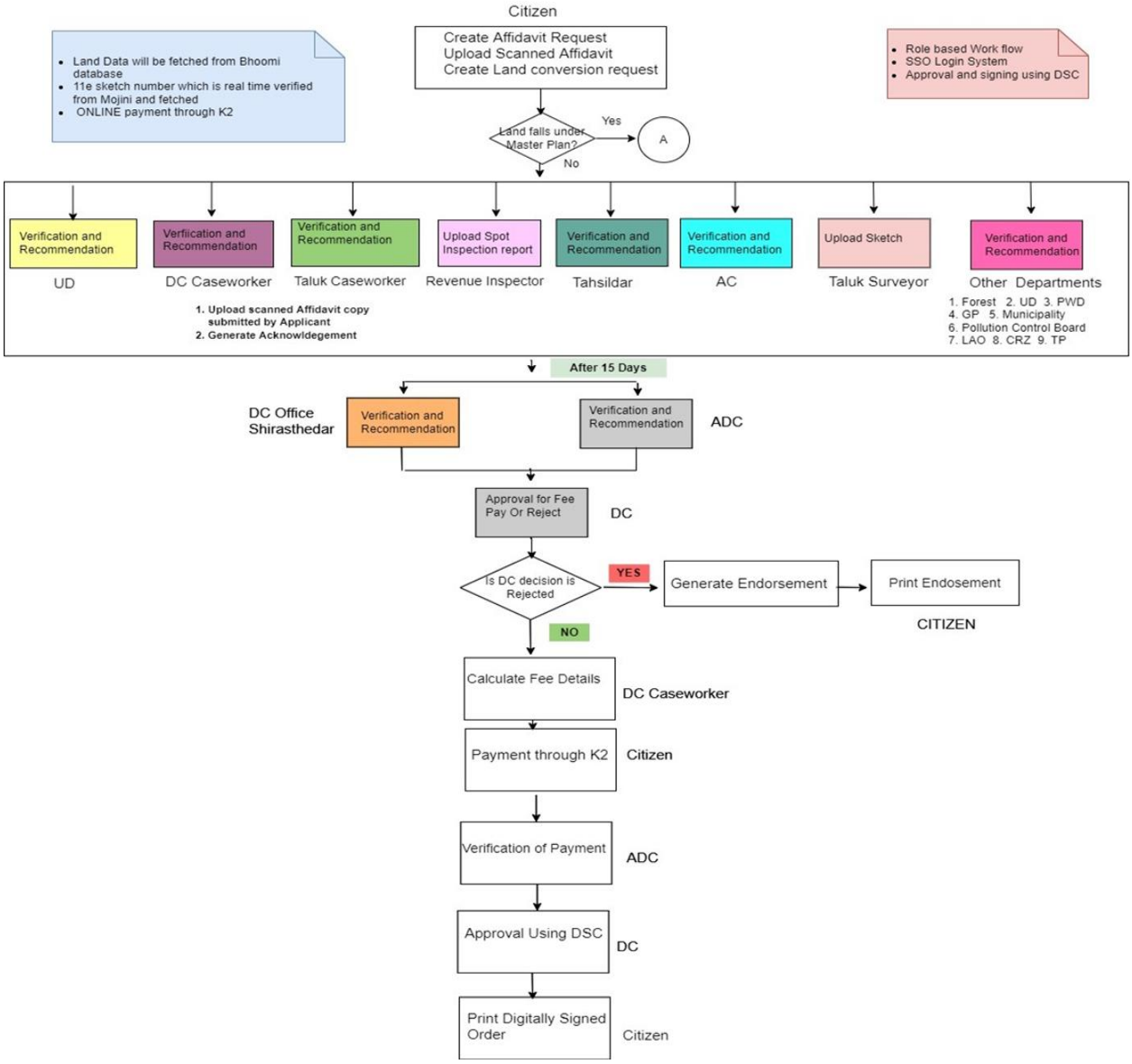
Bhoomi has a pendency dashboard to show the number of land conversion requests and the ones awaiting approval. A pendency report can be fetched from the portal for each district. The image below gives a snapshot of the details available in the pendency report.

Figure 15: Pending Land Conversion Request Report

S. NO.	District Name	Number of Affidavit request created	Number of Land conversion request created	Awaiting for recommendations from other departments								Pending for DC Office Shirasthedar verification (After 30 Days)	Pending for ADC verification and recommendation (After 30 Days)	DC Caseworker Fee calculation	Pending for Payment from Citizen	ADC Fee receipt Verification	Pending for Deputy Commissioner Approval	Disposed	
				RI		TAH		AC		TS									
				0-10 days	11 to 20 days	0-10 days	11 to 20 days	0-10 days	11 to 20 days	0-10 days	11 to 20 days							Approved	Rejected
1	BALLARI	12580	5882	34	12	33	11	34	18	34	18	7	7	0	42	0	20	3035	2712
2	UDUPI	25508	18022	117	46	130	54	160	132	160	132	53	62	3	124	20	32	14791	2582
3	BENGALURU Rural	19660	3073	3	9	3	9	3	9	3	9	18	18	0	0	2	0	1589	1428
4	Dakshina Kannada	31421	16383	76	20	84	26	108	48	114	95	0	0	15	85	5	0	12982	3012
5	Ramanagara	10659	3709	13	7	13	7	13	7	13	7	4	4	0	25	2	0	1592	2064
6	BELAGAVI	14063	9490	80	83	80	81	83	94	83	94	111	111	3	84	15	0	4609	4456
7	Bagalkote	8792	5391	41	29	41	28	44	39	44	39	105	146	0	24	0	11	2794	2277
8	DHARWAD	7724	4774	46	26	45	27	46	35	46	35	206	207	3	16	11	0	2010	2419
9	Uttar Kannada	14616	10266	45	19	50	20	50	26	50	26	71	106	4	72	0	2	5420	4255
10	Davanagere	9350	5466	59	29	58	23	61	47	61	47	29	31	3	50	8	2	3165	2069
11	CHIKKAMAGALURU	12274	10322	76	80	76	81	76	82	76	82	336	351	14	57	16	0	6374	3296

Source: Bhoomi website

Figure 16: Affidavit Based Land Conversion



Source: Bhoomi Monitoring Cell, Bangalore

Annexure 5: Examples of spatial records

Figure 17: Digitised village cadastral map, available online

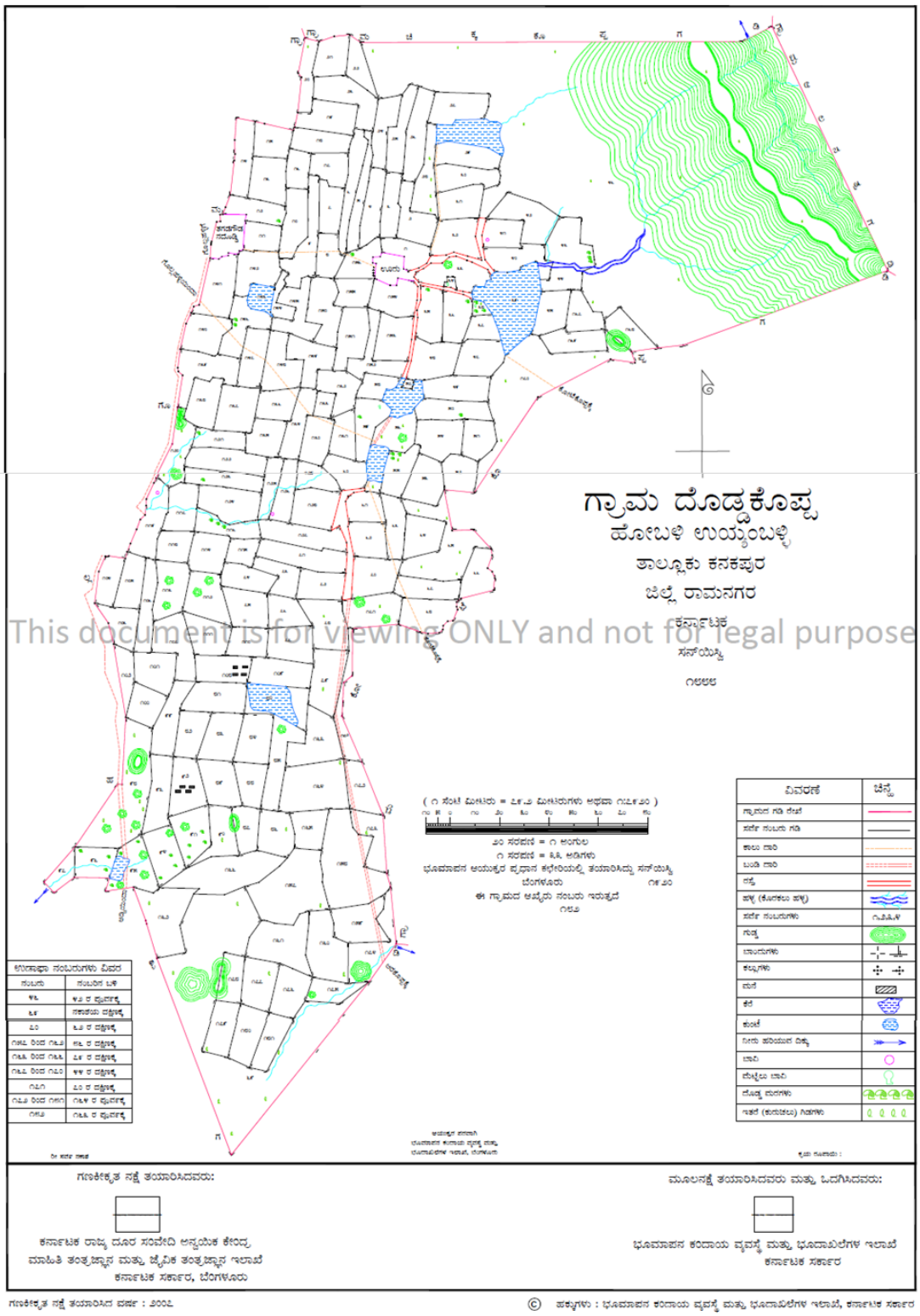


Figure 18: Hissa survey Atlas

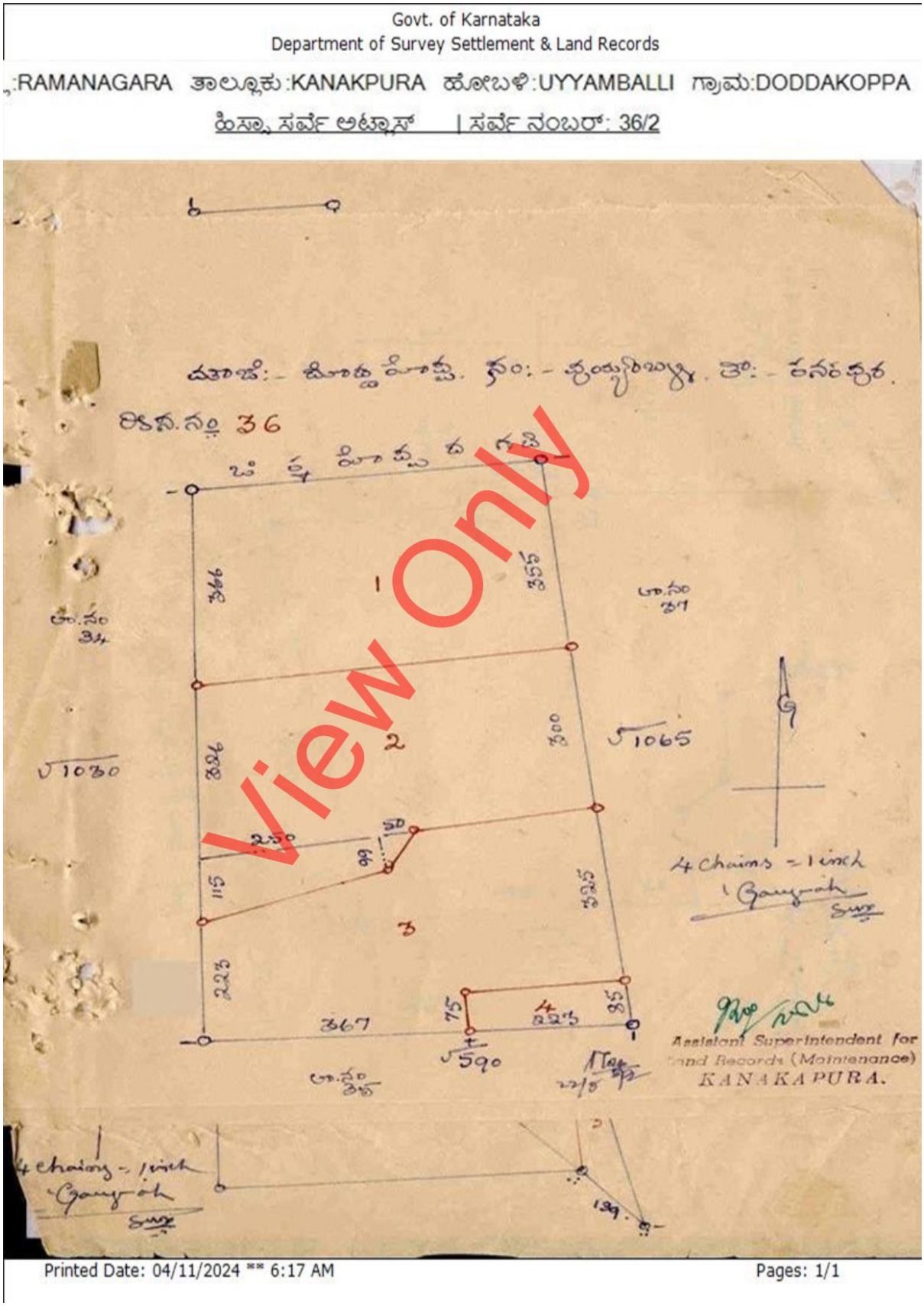
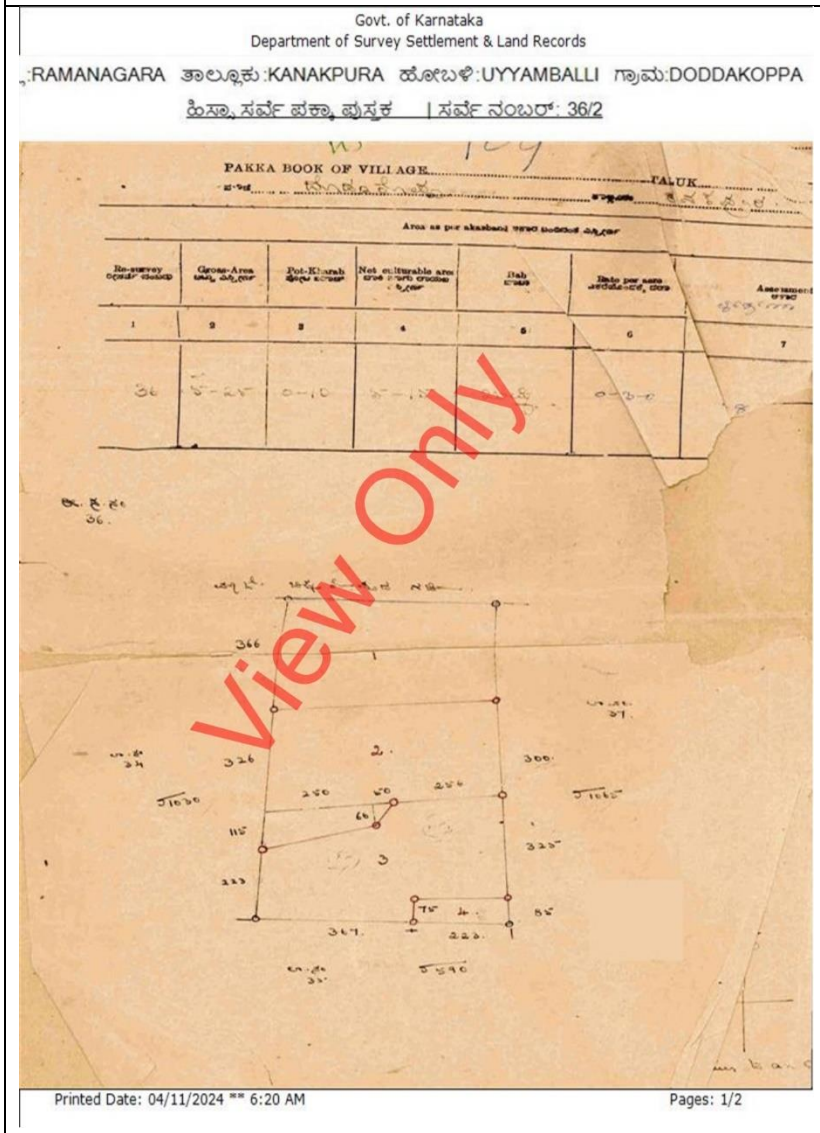


Figure 19: Pakka book - Hissa survey (left side and right side)



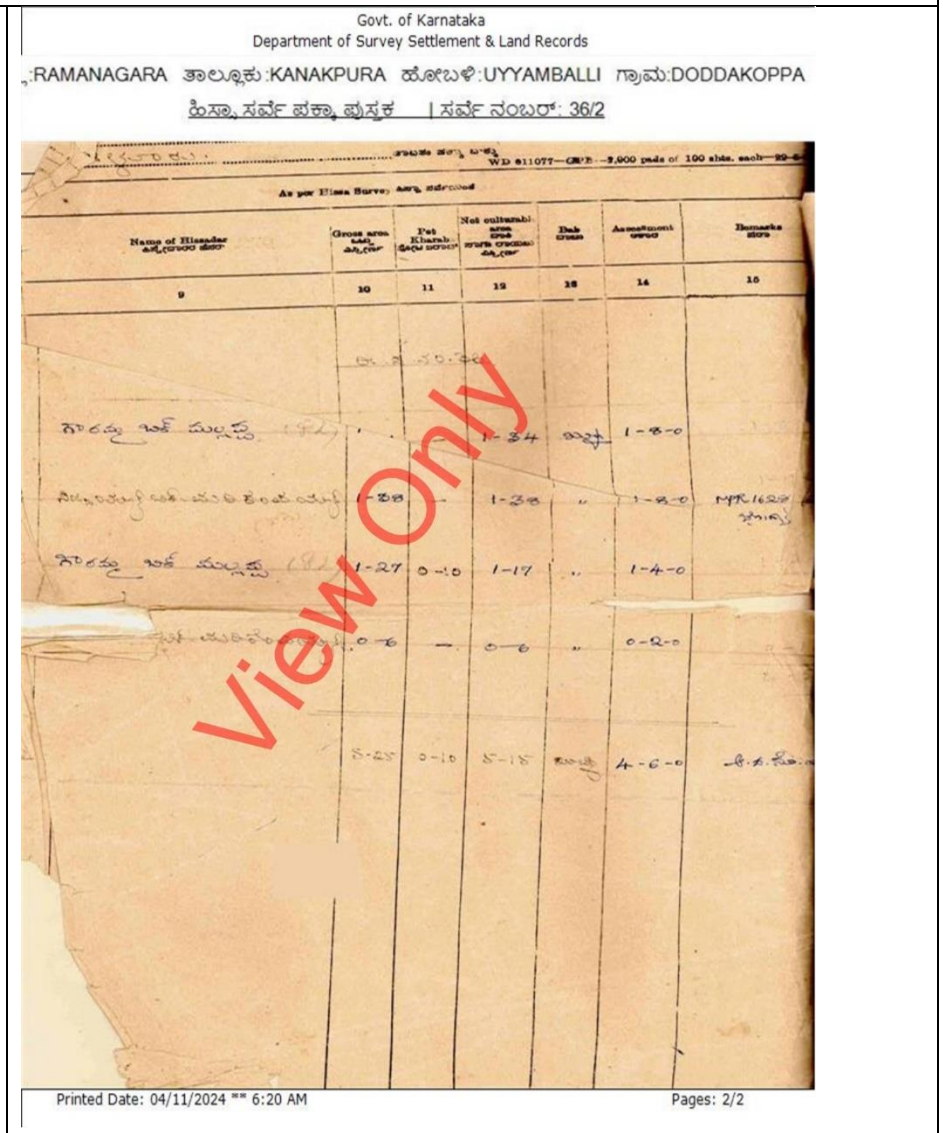


Figure 20: Hissa survey - Note book