



Quality of Land Records (Ladakh Report)

B N Yugandhar Centre for Rural Studies

Lal Bahadur Shastri National Academy of Administration

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INTRODUCTION

The Evaluation Study on the Quality of Land Records in Ladakh was conducted on the basis of both primary and secondary data collections. The secondary data, as per the objectives of the study, is clustered into five modules covering various aspects of the computerization of land records (RoR), digitization of spatial records, online land registration, revenue court management systems and land mutation. This data was collected by visiting the Office of the District Collector, the Office of the Additional Revenue Officer and Tehsil offices in the prescribed format.

In-depth interviews were conducted with officials from the District Revenue Department, Tehsildars, Revenue Kanoongos and village-level land revenue functionaries to understand the types of revenue records maintained, how the land records are managed, and the processes involved in revenue records management and digitization of land revenue-records, service delivery system and policies, acts pertaining to land related matters. Different formats, registers, and documents related to land revenue records and land revenue services were studied to understand the processes involved in land ownership transitions, registration of landed property, land mutation, partition and subdivision, demarcation, land use, land mortgage, etc.

In Ladakh, both Leh and Kargil Districts were selected for the study. The real-time mirror status of land records was ascertained by conducting a primary survey using a structured questionnaire to interview the principal landowners of all land parcels in one village from Kargil tehsil and one village from Leh tehsil. Additionally, telephonic interviews were conducted to collect relevant information regarding the real-time mirror status of land records from one village in Sankoo tehsil of Kargil district. These three villages were selected based on two criteria: (i) the number of land parcels and (ii) the size of the village population.

QUALITY OF COMPUTERIZATION AND DIGITIZATION OF LAND RECORDS IN THE STATE

2.A. Computerization of Land Records

2.A.1. Record of Rights (RoR) and its computerization:

In Ladakh, the cadastral map shows a total of 3,78,721 land parcels. There are currently 248 Records of Rights (RoRs) available in the region. These RoRs, maintained on a village-by-village basis and locally known as 'Jamabandi,' provide manual records of land ownership by survey number. The process of computerizing the RoRs is ongoing; while the computerization for 36 villages has been completed, the records are still being finalized.

In Ladakh, there are number of documents/ registers maintained by revenue officials related to RoR and mutation. The documents/ registers are as follows:

- a. Jamabandi (Record of Rights)
- b. Girdwari (Field book)
- c. Mutation Register (Intekal Register)

Sl. No.	Name of documents and	Who/where maintains	What and When entries made	Process flow	Available Online/ Offline or both
1.	Jamabandi (Record of Rights)	Maintained at Village level (Patwari) final correction done in Tehsil Level for all villages	Owner(s) details, Class of land, tax details, irrigation details, Area, Mutation details. Changes related to land owner is captured. Entries are offline and after every	Jamabandi is offline document, when any changes occurred such as mutation/ succession etc., it will reflect	Offline

			four years new Jamabandi made, when any changes occurred in any Survey No. it will reflect and updated after four years.	through Mutation Register and updated after every four years	
2.	Girdwari/ Crop Inspection Register	Maintained at Village level (Patwari)	Owner/s details, crop details of Kharif and Rabi Entries made twice in a year; Kharif and Rabi season	Patwari visits each land parcels during crop inspection and registers crop details	Offline
4.	Mutation Register	Maintained at Village level (Patwari)	Survey No. details, owner/s name, New owner name to be inserted and old owner name to be deleted, type of mutation, Remarks Entries are offline when any changes related to ownership through partition, registration or succession that will reflect and updated online	As and when required	Offline

2.A.2 Status of computerization of Government held Land:

Records of Rights or Jamabandi, for all villages are currently maintained manually. Consequently, government-held land records are also in manual form and are not accessible through an online portal. The process of computerization of land records is underway.

2.A.3 Citizen Access on Land Records and its legal validity:

As the process of computerization of land is underway, therefore, land records are only available through Tehsil Office. No web-portal is in place to view or download land records, digitally signed copies of RoR is not available, therefore, only manual copy of RoR has legal validity.

2.A.4 Details of RoRs:

In a RoR 12 columns are mentioned which are as follows:

- 1) Khewat Number
- 2) Khata Number
- 3) Hamlet details with Lambardar¹ details
- 4) Owner details
- 5) Cultivator details
- 6) Means of irrigation
- 7) Field
 - 7.1 Name of the field
 - 7.2 Khasra Number
 - 7.3 Area
 - 7.4 Class
- 8) Rent paid by Cultivator
- 9) Share or measure
- 10)a. Detail of revenue cess Area of various Land type
 - b. Sur-charge
- 11)Reference of Mutation
 - 11.1 Type of mutation

¹ A lambardar is a village headman who is responsible for the administration of the village and for collecting taxes. In Ladakh it is a voluntary post.

11.2 Reference Number

12)Remarks

The details prescribed in jamabandi are captured regularly. There is no column in RoR to capture gender of land holders. The land measurement unit used in Jamabandi is Kanal and Marla; the conversion of Kanal to Acre is 1 Kanal is 0.125 Acre and 1 Marla is 0.05 Kanal.

Total Khata numbers in Kargil district are 35,366 whereas total Khata numbers in Leh district is not available. In the UT due to the non-digitization and non-computerization of records, Number of Khasra having single land holders is not available though approximately 30% Khasra belongs to single land holders as mentioned by the Revenue Officials. There is no data available of pending applications for inclusion of name in Jamabandi or average number of land holders against each khasra number.

2.A.5 Sharing of Extent among Co-sharers:

Sharing of extent is through Girdawari or crop inspection process. The co-sharers apply to the Patwari for Sharing of Extent among Co-sharers, then Patwari with the help Gram-sabha determines the share and will update in Girawari, which is later reflected in Jamabandi after 04 years. The details regarding Sharing of extent is mentioned in 4th Column under ownership. It is mentioned fraction like $\frac{1}{2}$, $\frac{1}{4}$.

2.A.6 Sub-division/Partition and Demarcation of Land Parcels:

The subdivision of land parcels is conducted through manual applications submitted by co-sharers to the Revenue Officer or via court orders. Citizens must appeal to the Revenue Officer, who performs thorough verification, including reviewing appeals from all co-sharers and conducting field assessments with revenue officials. Following this process, the Revenue Officer issues an order for the partition of the land among the co-sharers. Afterward, the textual record, known as the Record of Rights (RoR), is updated, and the survey number is divided, granting each landholder a new survey number. However, these changes are not reflected in the spatial records, such as hard-copy maps or digitized maps.

Process flow for demarcation:

Demarcation of landed property is initiated through manual application from the owners. Under Section 94 in J&K Revenue Act, citizen has to apply with the receipt of application fees (Rs. 100 up to 5 Kanal and Rs. 200 beyond 5 Kanal.)

to the concerned officer, after field inspection demarcation process starts by field official including patwari and kanungo.

2.A.7 Aadhaar linkages with RoR and Correction of RoR:

There is no linkages between ROR with Aadhaar. In Ladakh there is no provision currently in the State, for citizen for online application for correction in RoR. Citizen has to apply manually for correction in RoR to the Revenue Office and they shall record all changes in the revenue records such as Jamabandi, Girdwari etc. Due to non-computerization, there is no consolidated data available to show how many RoRs were corrected in last financial year whereas, as per the discussion with the revenue officials, less than 5% of land records were corrected in the UT related to correction of name and area.

2.A.8 Integration of RoR and Maps:

RoR is not linked with Cadastral Maps in the State, as cadastral maps are not digitized nor the digitization of land records has been completed.

2.A.9 Integration with Banking and Revenue:

Due to non-computerization of land records database, there is no integration between banking and revenue department. It is purely done through manual process where the bank informs the Tehsil Office through letter after loan disbursement, whereupon the Tehsil office makes entry into the jamabandi in Remarks column. The same process is followed during de-mortgage of property where, after repayment of loan, applicant submits bank letter to the concerned Tehsil Office.

2.A.10 Status of Urban Land Records:

Land records of urban and peri-urban areas are maintained by Revenue Department. Land records of urban areas in both format like textual and spatial are kept with Tehsil Offices, but no computerization took place.

2.B. Status of Computerization of Cadastral Maps

The initial cadastral survey was conducted between 1906 and 1909. In Leh District, out of 119 revenue villages, the survey was completed in 92 villages during 1906, in 20 villages between 2000 and 2019, and is still ongoing in the remaining 7 villages. In Kargil District, out of 129 revenue villages, 116 villages were surveyed in 1966-67, and the remaining 13 villages had their cadastral surveys completed later in the 1990s. There are a total of 1,875 cadastral maps

(890 in Leh District and 985 in Kargil Dist.); all were prepared at a 1:1320 scale. All cadastral maps were scanned but not vectorised and converted into digital format. In The UT, geo-referencing of cadastral maps are ongoing by using ground-truthing method. Vectorization of maps is also the part of geo-referencing programme, after that land parcels will be given ULPIN. There is no unique ID assigned to land parcels. There is no online facility available for land owners to request survey of their land parcel for sub-division. Sub-division of plots is not reflected in the cadastral maps, but there is a trace-map available with the Patwari where they made the changes, but it is for their own purpose only. There is no data available for ratio of survey numbers and land holders as per RoRs.

Sub-division of parcels happens through manual application by the co-sharers to the Revenue Officer or by courts orders. Citizen has to appeal to the Revenue Officer, after proper verification including appeals of all the co-sharers and field verification through revenue officials, Revenue Officer orders for Partition of land parcel among co-sharers. In this case after completion of this process, textural record i.e. RoR is updated and Survey Number is bifurcated and each land holder get a new survey number but nothing is updated or reflected in Spatial records i.e. hard-copy maps or digitized maps.

2.C. Status of Computerization of Registration in the State

In Ladakh, there are a total of 14 Registrar Offices: 7 Sub-Registrar Offices (SRO) in the Leh District, 5 SROs in the Kargil District, and 2 Registrar Offices (RO) located in the district headquarters of both areas are available and all are computerized. Computerization of SRO started in the Year 2022, and first office was computerized in March, 2022. It took two years to complete all Sub-Registrar Office computerization; in August 2024 last Sub-Registrar Office was computerized. Due to this computerization facility and integrated software-solution SRO is able to complete registration of land online.

In FY 2023-24, a total 1817 land properties were registered in the UT. No Sub-Registrar Office is integrated with Revenue offices for land record database. Online appointment for slot booking for registration is implemented in all offices. During the slot booking, details like transaction details, land details, current status of land, Assessment of Tax and construction details were captured. During online registration system the following property attributes

which are available in Jamabandi are captured like; Khasra Number, Khata, Khewat, owner details, etc.

Property Registration Process:

In Ladakh, the National Generic Document Registration System (NGDRS) has been implemented across both districts. To start, citizens need to create an account on the online portal by providing their username, password, name, address, and ID card details. They can also apply through an advocate or deed writer's account. Once registered, citizens log in using their credentials and enter details such as party information, identifiers, and witness information. Next, they upload the deed document and link it to the relevant Sub-Registrar Office (SRO). Following this, they can schedule an appointment for registration. During the registration process, the Sub-Registrar's office verifies the documents and captures the thumb impressions of all parties and witnesses. After successful registration, the buyer receives the original document, which is signed by the Sub-Registrar.

Anywhere registration is not allowed in the State, presenters must visit concerned SRO for registration, but the work it is under progress. A unique system is in place to verify the authenticity of records submitted for registration. Presenters are required to submit a 'Fard' a 20-column form signed by both the Patwari and the Tehsildar. This form outlines all encumbrances related to sellable land parcels, including details such as area, ownership, and any liabilities related to laws like the Big Land Estates Abolition Act, Land Acquisition, and the J&K Land Alienation Act. The Fard must be provided by buyers and sellers prior to property registration and the SRO will initiate the registration process based on this document. In this way, sale of govt. land is blocked in the UT. SRO check the seller's ownership records by Fard only.

Circle Rates/ Ready Reckoner Rates/ Guideline values/ Collector Rates for lands are available to citizens in the Registration software. Online payment facility is available for Registration fees through the official portal. e-Calculator (Online Stamp duty calculator) is available for citizens to compute fees. SRO checks party/ owner names and area details from 'Fard' before registration. PAN, Aadhaar number, mobile number are captured for each party. Online PAN verification system is not integrated for Registrations involving higher cost. Verification facility of eKYC of Aadhaar/ PAN is not available during admission of parties. Party signature is captured manually. Identification documents uploading facility is available online. SRO is able to complete registration online. Home visit module is available for SRO. Online encumbrance certificate is not available; it is processed manually when applications are received from

banking institutions. e-search facility is available. SRO can access legacy data till 2020 as digitization is completed till 2020.. There is no auto-mutation facility in place and no online litigation checking mechanism is available. Dynamic deed templates are not available. The work regarding masking personal information of PAN, Aadhaar number and fingerprint impressions on registered pdf deeds is under progress. Online grievance redressal system is not available for filing complaints related to property registration, the complaints have to be made offline. Document search facility based on Name, Property details like survey number, deed number, etc. is not in place. There is no mobile app developed for land registration related services.

2.D. Status of Online Mutation in the State

In FY 2023-24, a Total of 1622 numbers of fresh applications received by revenue department for mutation. In the same year, 1392 applications were disposed. Out of Total 1622 mutation cases, 85.81% mutation cases are disposed in FY 2023-24. The remaining 230 i.e. 14.19% of the total mutation cases are pending which are carried-forward in the FY 2024-25. Online facility is not available for requesting mutation. Auto-trigger mutation facility is not available for agricultural land which is registered through SRO regarding sale-purchase or gift or will. There is no data available for number of mutations related to sub-division and number of mutation cases of land with entire Khasra.

Process flow for Mutation:

In Ladakh, mutation process is done through manual process. Once the document is registered in SRO, the buyer will apply to tehsildar for mutation of land. A case number is registered in Tehsildar's office, then Tehsildar mark it to the concerned patwari to submit field verification report, after that a verification report is submitted manually to the Tehsildar. Final mutation order is passed and reflects in Mutation Register/ Intekal Reister, simultaneously it is mentioned in Jamabnadi in Remarks column with case Number. After 04 years, when new Jamabndi prepared, then as per the mutation order, new owner names will entered into the Jamabandi.

In Ladakh, manual notice is placed at Tehsil for receiving objections from public regarding mutation. There is no facility in place to send SMS to all villagers for receiving objections from public regarding mutation and there is no facility available for register online objections. The prescribed period for issue of mutation orders from the date of receipt is 30 days. There is no system

is place to send automatic SMS alert to applicant at each stage for his/her information. Patwari submits their field inspection report to Tehsildar by manual method. There is no provision as well to send certified order copy of the mutation to the applicant through email or whatsapp. Cyber Tehsil is neither functional nor proposed to be functional in the UT. After mutation, the changes marked in Jambandi with Mutation number in Remarks column and after Four years, this has been updated into the main column.

2.E. Status of Revenue Court Management System in the State

In Ladakh, there are 37 Revenue Courts, all of which operate in physical mode. During the fiscal year 2023-24, the Leh District received 192 cases, with 91 cases disposed of and 101 pending. Data for Kargil District is not available. Last year, all revenue court cases were managed manually across the state. The lack of an online revenue court management system has resulted in no integration between the revenue and registration departments, and all court hearings continue to be conducted in physical mode. Court orders sent to the concerned tehsildar for incorporating into the Jambandi in Remarks column number 12, this method used for both revenue and civil court cases. There is no data available of number of revenue court cases and civil court cases red-flagged in the RoR.

REAL TIME MIRROR STATUS OF LAND RECORDS

The real-time status of land records in villages is assessed through a primary survey aimed at evaluating the effectiveness of the integrated updating of textual and spatial land records alongside the registration process. This survey covers all land parcels across four villages in the state. The primary focus is to assess the Real-Time Mirror (RTM) status, specifically examining whether spatial and textual records are updated in real time during transactions, successions, and subdivisions. Data is collected from all land parcels in the selected villages, and the frequency of integration and updates of these records is evaluated using a designated questionnaire.

Selection of Villages:

To assess the real-time mirror status of land records in the two districts i.e. Leh and Kargil, four villages were selected, two from each of the districts. This approach ensures a comprehensive evaluation of the real-time updating process in varied regional and administrative contexts.

To ensure a comprehensive assessment of the real-time mirror status of land records across Ladakh, three villages were chosen from different the administrative regions of the UT. From Leh District, Umla village was selected and from Kargil District, two villages were selected namely; Bagh-e-Khomini which is nearby to the Kargil town that given an peri-urban representation and Itchoo Village which is in Sankoo Tehsil and provides a rural representation. This selection of villages allows for a representative evaluation of the real-time updating process of land records.

Data Collection:

Data collection for assessing the real-time mirror status of land records was conducted through a primary survey using a designated questionnaire. The data collection in Umla and Bagh-e-Khomini village from Leh and Kargil respectively was carried out through field surveys, where the questionnaires were completed with the assistance of landowners. Conversely, in Itchoo village, the questionnaires were filled out by the concerned Patwari and Tehsildar, ensuring that the data was gathered from villagers and sources familiar with land records management in these villages.

3.1. Differences between spatial records and the textual records

In the 03 sample villages there are discrepancies found in 02 sample villages related to extent of land parcels. In Bagh-e-khomini village, total area as per cadastral map is 42.8 Hectare whereas total area found as per textual record is 46.632 Hectare and having a difference of 3.831 Hectare. In Itchoo village, total area as per cadastral map is 41.200 Hectare whereas total area found as per textual record is 36.700 Hectare and having a difference of 4.5 Hectare. But in Umla village there is no difference found regarding area recorded in maps and textual data.

Table 1: Details spatial and textual records available in the villages and differences

Sl. No.	Village	Total Survey No. as per Cadastral maps	Total Khasra No. as per textual record	Total Area as per Map (In Hac.)	Total Area as per textual record (In Hac.)	Differences of Area between map and RoR
1.	Bagh-e-khomini	252	393	42.800	46.632	3.831
2.	Itchoo	144	144	41.200	36.700	4.500
3.	Umla	263	268	26.517	26.517	NA

3.1.1 Status of Land Partition and its recording system in village:

As mentioned in the previous chapter, partition among co-sharers does not reflect on spatial records, it only reflects in RoR. There is no provision available in the State to update partition details on spatial records. If any partition orders came to the Patwari, he/she sub-divide the land parcel in 'Tracing map' that is available with Patwari. Partition proceedings or court orders related to partition are incorporated in RoR. If the land is subdivided, then a new number will be given to that sub-divided parcel. The new number is generated through the total land parcels are 252 in the village, and Khasra Number 123 is sub-divided then the newly created parcel is given a new khasra number. i.e. 253/123 (here 253 is the new khasra number which is generated after partition of khasra number 123).

Table 2: Status of Land Partition and its recording

Sl. No.	Village	Partition took place in total Survey Nos.	Partition recorded in total Khasra Nos.	Partition recorded in total Khasra Nos. in %	Whether Updation of Partition done in map	Whether textural record Updated as per partition
1.	Bagh-e-khomini	NA	99	25%	No	Yes
2.	Itchoo	0	0	0	NA	NA
3.	Umla	5	5	1.86%	No	Yes

In Bagh-e-khomini village of Kargil Dist. out of 354 Khasras, partition took place in 99 Khasras i.e. 27.96% of the total Khasra. In Itchoo there is no partition in any Khasras. In Umla village of Leh Dist. out of 203 Khasras partition took place only in 05 Khasras i.e. 2.46% of the total Khasras. Demarcation has not taken place in any of the three villages.

3.2. Differences between on-ground status and land records status in terms of ownership

3.2.1. Land ownership and recording system:

In terms of ownership of land, Spatial records were prepared during survey-settlement operations during which time, ownership of land was defined and recorded in Textual records i.e. RoR. RoR is prepared only during survey-settlement and which is used a master data for revenue administration, which is not updated. But the copy of that RoR is known as Jamabandi which is updated every four years based on the changes and recorded in Mutation register.

Table 3: Land ownership Status in Villages showing Govt. and Private land holdings

Ownership	Bagh-e-khomini	Itchoo	Umla
Total Survey No.	252	144	263
Total Survey No. owned by Govt.	20	15	65
Total Survey No. Private owned	232	129	198
Total No. of Khasra	393	144	268
Total No. of Khasra owned by Govt.	39	15	65
Total Private Land Khasra	354	129	203

In Bagh-e-khomini village out of a total of 252 survey numbers, 20 are owned by the government, while the remaining 232 are privately owned. This distribution highlights a significant predominance of private ownership in comparison to government holdings, with private entities controlling approximately 92.06% of the survey numbers. Out of total 393 Khasras available in the village, 39 RoRs recorded in the name of Govt. land remaining 354 RoRs recorded as privately owned land i.e. 90.07% of total RoRs.

In Itchoo village out of a total of 144 survey numbers, 15 are owned by the government, while 129 are privately owned. Additionally, there are 144 Khasras in total. Of these, 15 Khasras are associated with government-owned land and 129 Khasras pertain to privately owned land.

Out of a total of 263 survey numbers, 65 are owned by the government and 198 are privately owned in Umla village. There are 268 Khasras in total, with 65 Khasras corresponding to government-owned land and 203 Khasras related to

privately owned land.

3.2.2 Status of updation of land records in Villages:

In Ladakh, updation of land records is done in many ways; like Mutation by sale-purchase, succession, will, gift-deed etc. Updation of land records by any of the reasons done manually through application but in case of succession, successors can apply to Patwari during Girdawari (crop inspection). The discrepancies between the ownership information listed in the Records of Rights (RoR) and what was found during ground verification in the same villages reveal some inconsistencies.

In the village of Bagh-e-khomini, there are 354 Khasras, which list a total of 1027 owners and this number is consistent with the on-ground verification. Both the recorded and actual number of owners match perfectly, indicating no discrepancies. There is no issue of discrepancies or updates needed for this village, as the RoRs accurately reflect the current ownership.

In the village of Itchoo, there are 129 Khasras that document a total of 669 owners, a figure that aligns perfectly with the on-ground verification. Both the recorded and actual numbers of owners match seamlessly, showing no discrepancies. Consequently, there are no issues regarding discrepancies or updates needed, as the Records of Rights (RoRs) accurately represent the current ownership.

In the village of Umla, there are 203 Khasras recording a total of 40 owners. However, during ground verification, it was noted that many records are outdated. Numerous villagers have reported that their names are missing from the Jamabandi, often due to the death of previous owners whose heirs have not been updated in the records. This situation highlights the need for an urgent review and updation of ownership documentation to accurately reflect the current ownership status. Approximately 25% more individuals are currently in possession of the land parcels, but since they have not applied for mutation, their names do not appear in the Jamabandi. This discrepancy underscores the importance of updating the records to accurately reflect all current owners and their rights to the land.

Table 4: Status of upation of land records in Villages

Sl. No.	Village	Total Khasra in Jamabandi	Total No. of Owner as per Current textual records	Total No. of Owner as per ground	On Ground Verification: Owner/ Person in possession	Why is Khasra not updated in case of differences
1.	Bagh-e-khomini	354	1027	1027	1027	NA
2.	Itchoo	129	669	669	669	NA
3.	Umla	203	40	25%* more than the recorded owners	25%* more than the recorded owners	Successors not applied for inheritance mutation. * this is approximate value based on the focus group discussions with the villagers

3.2.3 Status of Sharing of Extent among co-owners reflected in Land Records in case of single and multiple owners:

In Bagh-e-khomini, there are 354 Khasras, with 161 pertaining to multiple ownership and 193 to single ownership. Out of the Khasras having multiple owners, 81.36% have the extent of sharing among co-owners clearly determined, while 18.64% do not have this information specified. This indicates that while a majority of the Khasras with multiple ownership have defined sharing details, a significant portion still lacks clarity in this regard.

In Itchoo, there are 129 Khasras, with 93 showing multiple ownership and 36 indicating single ownership. Of the total Khasras, only 44.08% clearly outline the extent of sharing among co-owners. This means that 55.92% of these Khasras do not provide specified details about the sharing arrangements. This significant percentage of undetermined sharing highlights an inadequately documented ownership structure, pointing to a need for improved clarity and record-keeping regarding ownership distribution.

In Umla, there are 203 Khasras, of which 140 reflect multiple ownership and 63 indicate single ownership. However, the extent of sharing among co-sharers is not determined for any of these Khasras. This lack of clarity regarding ownership distribution underscores the need for better documentation and record-keeping to accurately reflect the ownership arrangements.

Table 5: Status of Sharing of Extent among co-owners reflected in Land Records

Sl. No.	Village	Total No. of Khasra	Khasras having Single owner	Khasras having Multiple owners	Sharing of Extent determined in No. of Khasras having multiple ownership (in %)	Sharing of Extent not determined in No. of Khasras having multiple ownership (in %)
1.	Bagh-e-khomin i	354	193	161	81.36	18.64
2.	Itchoo	129	36	93	44.08	55.92
3.	Umla	203	63	140	0	100

3.3. Classification of Land Parcels

Differences between on-ground status and land records status, in terms of Classification of land parcel:

In Ladakh, land type is recorded in Jamabandi, as per the list of land types mentioned in Land Revenue Code. Any local changes like agri land converted into residential use is reflected in Girdawari i.e. crop inspection book and later reflected in Jamabandi.

Each khasra recorded many land types; like a single khasra may consist of barren land, cultivable land, residential land, grass land etc. with their area in particular. Therefore no data is available to determine how many khasra belong to which category of land.

In Bagh-e-khomini, a total of 354 Khasras exist, with 101 of these Khasras i.e. 28.53% converted to non-agricultural use according to ground truthing. However, this conversion is not reflected in the Jamabandi, highlighting a discrepancy between the actual land use and the recorded information. The Jamabandi format is able to capture detailed categories of non-agricultural land uses, such as built-up areas. Consequently, the on-ground land use details do not align with the information mentioned in the Jamabandis.

In Itchoo and Umla villages, there are 129 and 203 Khasras available respectively but there is no land use change found during ground verification, as the record are recently updated and after that no such conversion happened.

Table 6: Status of Land types as per ground trothing

Classification details	Bagh-e-khomini	Itchoo	Umla
Total Number of Khasra (Private land)	354	129	203
Land use as per ground truthing	101 Khasras converted into non-agricultural	No land use changed	No land use changed

	(Partially or fully) use i.e. House, shops, Road, Water bodies etc.		
Is the non-agriculture land use reflected in RoR?	Yes	No	No
Difference in %	28.53%	NA	NA
Is the RoR format able to capture non-agriculture land uses in detail? (Area of built-up, commercial, flats ownership etc.)	Yes for area of built-up land		
Is on-ground land use details are coinciding with the details mentioned in RoR?	Partially	Yes	Yes
If not updated how long the record not been updated	There is provision in RoR formats to include non- agricultural land uses such as built-up areas, road, pond etc.		
Reasons for the same			

3.4. Differences between on-ground status and land records status, in terms of Encumbrances on parcel:

Various encumbrances e.g. loans, mortgages, litigations, court orders, acquisition proceedings are reflected into land records as discussed earlier. The encumbrance statuses and types recorded in the Khasras are consistent with those found during ground verification. No discrepancies were noted between the records and on-site observations, confirming that the Khasras accurately reflects the current encumbrances for the surveyed land parcels. In all the four villages there were no other encumbrances found in land records during ground verification.

Sl. No.	Village	Encumbrances status as per RoR	Encumbrances status as per ground truting	Type of Encumbrances mentioned in RoR	Type of Encumbrances as per ground truting
1.	Bagh-e-khomini	6	6	Bank Loan and Mortgage	Bank Loan and Mortgage
2.	Itchoo	0	0	NA	NA
3.	Umla	0	0	NA	NA

MAJOR FINDINGS, GAPS AND RECOMMENDATIONS

4.1 Gaps in Land Records Management in Ladakh.

Gaps in Computerization of land records:

- **Incomplete Computerization:** While 36 villages have completed the computerization process, the remaining villages still rely on manual records. The reliance on manual records increases the likelihood of errors and inefficiencies in managing land information, leading to potential disputes and misunderstandings.
- **Data Finalization Delays:** The ongoing finalization of computerized records indicates potential delays in making updated information available to stakeholders, which can hinder effective land management.

- **Manual Record-Keeping and Accessibility Issues:** Manual records may not be easily accessible to the public or landowners, creating barriers to information retrieval and transparency. Since land records can only be accessed through Tehsil Offices, individuals in remote areas may face challenges in accessing their records, resulting in inequitable access to information. The need to visit physical offices for information can be time-consuming and burdensome for citizens, particularly for those with mobility issues.
- **Outdated Information:** Given that manual records may not reflect recent changes in land ownership or usage, this could lead to outdated or incorrect information being used in decision-making processes.
- **Only Manual Copies Valid:** The legal validity of records is tied to manual copies, which can be lost or damaged, undermining security and trust in the land record system.
- **Lack of Online Portal:** The absence of a web portal limits public access to land records, preventing transparency and accountability in land governance. Without digital access, citizens cannot easily verify their land ownership or resolve discrepancies in records.
- **The absence of digitally signed Jamabandi copies** means that citizens cannot leverage technology for secure and verified ownership documentation.
- **No Digital Integration with Aadhaar:** The lack of land records linkage between RoR and Aadhaar limits the potential for secure identification and ownership verification, complicating processes for corrections and updates.
- **Lack of updated ownership records:** Due to manual process and inaccessibility from remote areas, updation of owners due to succession has not occurred on regular basis which leads mismatch of ownership details in records and ground realities.

Gaps in Computerization of Cadastral maps and integration with land records:

- **Static Spatial Records:** Changes made through legal processes are not reflected in spatial records, undermining the accuracy of land data. Therefore, changes in records did not match with spatial maps.
- Total Area of Khasras in Textual and spatial records differs from each other which create issues in future, in the two sample villages it is evident that total area of Khasras mentioned in textual records are different from what mentioned in cadastral maps (Mussavis).
- **Incomplete Digitalization:** While maps have been scanned, they have not been vectorized or fully converted into digital format, limiting usability.
- **Manual Sub-division Process:** The reliance on manual applications for subdivisions results in lengthy processing time and potential errors.
- **Limited Geo-referencing:** Ongoing geo-referencing efforts will provide geo-referenced village maps, but the textual records will not match with it as it is updated from time to time.
- No integration with textual records: Textual records are dynamic as Jamabandi updated in every four years but cadastral map is static, and both are not computerized and therefore, integration has not happened.

Gaps in Registration System

- **Limited Accessibility:** Presenters must physically visit Sub-Registrar Offices (SROs) for registration, which limits access, especially for those in remote areas.
- **Manual Verification Process:** The requirement for a manually signed 'Fard' for verification introduces inefficiencies and potential delays.
- **Lack of Online Integration:** No integration exists between the registration system and Revenue Office databases, leading to inconsistencies in land ownership records.

- **Absence of e-KYC:** Online verification of Aadhaar and PAN is not available, increasing the risk of fraudulent registrations.
- **No Auto Mutation Facility:** The absence of an automatic mutation process complicates updates to land records following registration.
- **Manual Processing of Encumbrance Certificates:** Without online availability, processing encumbrance certificates is slow and burdensome.
- **Limited Search Capabilities:** There is no document search facility based on key identifiers, making it difficult to retrieve necessary records.
- **No Grievance Redressal System:** The lack of an online grievance redressal system forces citizens to navigate a cumbersome offline complaint process.
- **Legacy Data Access Limitations:** Access to legacy data is restricted to records up to 2020, with ongoing digitization of older records hampered by inefficiencies.
- **No Mobile Application:** The absence of a mobile app for land registration services limits user accessibility and convenience.

Gaps in Online Mutation System

- **Lack of Online Application Facility:** There is no online platform for submitting mutation requests, necessitating manual processes that slow down efficiency.
- **Absence of Auto-Trigger Mechanism:** The lack of an automatic mutation facility for agricultural land registered through SRO limits timely updates to land ownership following transactions.
- **No Data on Sub-Division Mutations:** There is no available data on the number of mutations related to land subdivision or on specific Khasra numbers, hindering effective land management.
- **Manual Processing:** The entire mutation process relies on manual verification and reporting, which can introduce delays and errors.

- **Inefficient Public Notification:** The current process of placing manual notices for objections lacks modern communication methods like SMS or online registration for public objections, reducing transparency.
- **No Automatic Updates for Applicants:** There is no system in place to send SMS alerts to applicants at various stages of the mutation process, leading to uncertainty.
- **Delayed Updates in Jamabandi:** Changes from mutations are not reflected in the Jamabandi until a new record is prepared four years later, causing potential disputes over ownership.
- **Lack of Digital Documentation:** Certified copies of mutation orders are not sent electronically to applicants, resulting in reliance on physical copies that may not be promptly delivered.

Fard is a best practice in Ladakh that plays a crucial role in ensuring the accuracy of land registrations. It helps identify any disputes related to boundaries, Khasra numbers, Khata numbers, area, encumbrances, and court orders. The signed copies of the Fard by the Patwari and Tehsildar serve as a safeguard against fraudulent transactions, effectively protecting against the illegal sale of government lands.

Gaps in Revenue Court Management System

- **Manual Operations:** All revenue court cases are managed manually, which is inefficient and prone to human error. The absence of an online system prevents real-time tracking and management of cases, leading to delays in hearings and resolutions.
- **Lack of Integration:** The revenue court system is not integrated with the registration department, creating disconnects in information and record-keeping.
- **Physical Mode Hearings:** Conducting all hearings in physical mode restricts accessibility for citizens, particularly those in remote areas.

- **Inadequate Tracking of Court Orders:** Court orders sent to the Tehsildar for updates in Jamabandi are not systematically tracked, which can lead to inconsistencies in land records.
- **Limited Information on Red-Flagged Cases:** There is no data available on the number of revenue court and civil court cases flagged in the Record of Rights, complicating oversight and accountability.

4.2 Recommendations:

To address the gaps in the Records of Rights (RoR) and their computerization in Ladakh, the following recommendations are proposed:

1. **Accelerate Computerization:** Prioritize the completion of the computerization process for all remaining villages to ensure that all land records are digitized and accessible. Implement a clear timeline and standardized procedures for finalizing computerized records, ensuring timely updates and minimizing delays.
2. **Finalizing records and uploading in online portal:** After computerization of land records, records should be maintained in an online portal so that anyone from anywhere can view land records.
3. **Jamabandi should be dynamic in nature,** all kind of changes related to ownership, loan, disputes etc. should reflect in Jamabandi. The gaps of Jamabandi updation should be minimized from 04 years to 01 years.
4. **Vectorization of Cadastral Maps:** The scanned cadastral maps (Mussavis) must be vectorised through standardized process, uploaded and linked with the records. It enhances transparency and accountability of land records.
5. **Implement Online Services:** Due to the remoteness of the villages, some revenue related services should operationalize through online system; like grievance redressal in name correction in Jamabandi, Registration related issues, request for sub-division, succession etc.
6. **The ongoing geo-referencing process in Ladakh should be leveraged to simultaneously update land records by local revenue officials.** These officials can correct names, adjust land use classifications, and address other pending updates during the geo-referencing efforts. This approach would effectively utilize available manpower, ensuring that revenue records reflect current ground realities.
7. **Integration of other institutions:** Following the computerization of land records, it is crucial to integrate these records with other relevant

departments, such as registration, banking, and revenue courts to enable real-time updates. A unified platform should be developed for all three departments to ensure that any court orders are reflected in the Jamabandi immediately. This integration would enhance transparency and efficiency in the management of land records.

8. Auto-mutation facility: Auto mutation facility should be initiated as and when a property is registered in SRO so that it will updated in the revenue records as well.
9. Online Fard: The Fard is a vital document for verifying ownership and encumbrances on land parcels. Therefore, it is essential to establish an online mechanism that allows citizens to apply for and obtain a copy of the Fard through a digital system. This would enhance accessibility and streamline the verification process.
10. Transliteration facility: Currently, all records are maintained solely in Urdu, which limits accessibility for many individuals. After the computerization of land records is completed, it is essential to incorporate a transliteration facility. This will enable anyone to read and understand the details of the records, regardless of their language background.

Annexure

Questionnaire for Evaluation of Quality of Land Records

Sl. No.	Parameter and Indicators	
Module I Record of Rights (RoRs)		
1.	Total number of Land Parcels	3,78,721
2.	Total number of RoRs in the State	248
3.	No. of RoRs computerized	36 villages (verification is underway)
4.	What are the other documents/ registers maintained by the Revenue authorities in the State related to RoR such as Jamabandi Register etc.	a. Jamabandi (Record of Rights) b. Girdwari (Field book) c. Mutation Register (Intekal Register)
6.	Is RoR of Govt. held land computerized in the State	No
6.a	If No/Partial, reasons for the same	Under process
7.	Is RoR available on web portal for view/ download by any citizen	No
8.	Is digitally signed RoR available for download by any citizen	No

9.	Is digitally signed RoR a legally valid document in the State	No
10.	Is digitally signed RoR verifiable through a QR code/ unique ID	No
11.	Have manual records been discontinued so that digital records are the sole legal record?	No
12.	Is list of all RoRs of entire village available for view/download by any citizen	No
13.	Total Khata numbers in the State	35366 in Kargil Leh NA
14.	Average number of land holders in each RoR (Total No. of RoRs/Total No. of Land owners)	NA
15.	Number of single land holder RoRs	Approx. 30%
16.	Number of pending applications for including names in RoRs	NA
17.	Where more than one land holder is mentioned in RoR, is share of each holder mentioned in RoR?	Partial
18.	Details regarding in what format and in which column share of each holder is mentioned to be elaborated	4th Column under ownership
19.	Where more than one land holder is mentioned in RoR, is sub-division of plot also done? (Details of process followed may be briefly mentioned)	Partially
20.	Is RoR seeded with Aadhaar	No
21.	If yes, number of RoRs seeded with Aadhaar	NA
22.	Is RoR seeded with mobile number of land	No

	holder	
23.	If yes, number of RoRs seeded with mobile	NA
24.	On what occasion phone number and Aadhaar are seeded?	NA
25.	Is an alert message sent to the registered mobile number in case of any change in that RoR/ mutation?	No
26.	Is there a provision for citizen to apply online for correction of their RoR	No
27.	Total number of RoRs corrected in the last financial year (April 2023-March 2024)	Approx.5%
28.	Is RoR database linked with Cadastral maps	No
29.	If yes, Number of RoRs linked with Cadastral maps	NA
30.	Is RoR database linked with Banks for mortgage	No
31.	If yes, number of districts where it is linked	NA
32.	Also, number of banks and bank branches which are linked	NA
33.	Number of banks and bank branches which are not linked	NA
34.	Is mortgage mentioned/ red-flagged in the RoR	Yes
36.	Number of RoRs with mention/ red-flag of mortgage (as on date)	NA
37.	Is mortgage release updated in the RoR	Yes
39.	Is online transliteration facility available for RoRs	No
40.	Number of columns in RoRs;	12

41.	Is gender of land holder captured in RoR?	No
42.	What is the unit of land measurement used in RoR? What is its conversion in acres?	Kanal & Marla Kanal to Acre is 1 Kanal is 0.125 Acre and 1 Marla is .05 Kanal
43.	Is land record of urban and peri-urban areas also digitized and updated?	No

Module II Cadastral Maps

1.	Year when Survey was last done in the State	Initial cadastral survey was conducted between 1906 and 1909. Some villages are still ongoing.
2.	Scale of available cadastral maps	1:1320
3.	Total no. of Cadastral Maps	1875
4.	Total number of maps scanned	All
5.	Total scanned maps converted into digital format (vectorized)	NA
6.	Total no. of cadastral maps Geo-referenced	NA
8.	Number of Land Parcels assigned ULPIN	NA
9.	Whether any other unique ID assigned (Is unique ID a random number or does the ID has some	No

	logical basis? If logical, details of the same)	
10.	Is online facility available for land owners to request survey of their land parcel for sub- division	No
12.	Number of online requests pending for sub- division (as on date)	NA
13.	Is subdivisions updated in the cadastral map, as a practice?	No
14.	Ratio of Survey number and RORs land holders per ROR	NA
Module III. Registration		
1.	Total no. of SROs in the State	14
2.	Number of SROs computerized	All
3.	Month and Year of Computerisation of 1st SRO in the State	March, 2022
4.	Month and Year of computerisation of latest SRO in the State	August 2024
5.	Number of land properties registered in FY 2023-24	1817
6.	Number of SROs integrated with Revenue Offices and Land Record database	No
7.	Is there online facility for booking appointment slot for registration	Yes
8.	What information/ details are captured during online system for appointment slot booking	Khasra No., Khata, Khewat, owner details
9.	What Property attributes (survey number, door	Khasra No.,

	number, plot number, khasra, khewat, khatouni number, etc.) are captured in online system	Khata, Khewat, owner details
10.	Whether anywhere registration is allowed in the state	No
11.	Whether sale of Govt. Land is blocked/ red-flagged (details of process followed be provided)	Yes
12.	Whether Circle Rates/ Ready Reckoner Rates/ Guideline values / Collector Rates for lands are available to citizens in the Registration software	Yes
13.	Is Online payment facility available for application fee - Stamp duty, registration fees, etc.	Yes
14.	Is e-Calculator (Online Stamp duty calculator) made available for citizens to compute fees	Yes
15.	Is party/ owner names and area details checked from Land Records (RoR) before registration.	No
15.a	Is the copy of RoR downloaded as proof of checking?	No
17.	In practice, how many year's registration deeds are searched by SRO before registration?	NA
18.	Do SRO check seller's ownership document by past record.	No
19.	Whether PAN, Aadhaar number, mobile number are captured for each party	Yes
20.	Is online PAN verification system integrated for Registrations involving higher cost	No

21.	Is facility available to verify eKYC of Aadhaar/ PAN during admission of parties	No
22.	Whether party signature is captured using digital pen and pad	No
23.	Whether identification documents upload facility is available	Yes
24.	Whether SRO is able to complete registration online	Yes
25.	Whether home visit module is available for SRO	Yes
26.	Whether SRO has facility to generate encumbrance certificate and e-search	Encumbrance certificate Manual and e- search Online
27.	Whether SRO can access legacy data as a ready reference	Yes till 2020
28.	Does every registration trigger a corresponding digital mutation in the RoR	No
29.	Whether SRO can push pending data of mutation in case of any network failure	No
30.	Whether SRO can check litigations online for a property scheduled for registration	No
31.	Whether SRO is able to trigger SMS for important events during document registration	Yes
32.	Whether there is an online registration system for citizens available through eKYC for first sale, Leave and License Agreements to facilitate presence less registration anywhere anytime	No

33.	Whether dynamic deed templates are available	No
34.	Whether (AI Nibhrit) solution is available for masking personal information of PAN, Aadhaar number and fingerprint impressions on registered pdf deeds	No
35.	From which year is digitised legacy data available	2020
36.	Whether an Online grievance redressal system is available for filing complaints related to property registration at Sub Registrar Office	No
37.	If yes, number of online grievances received and settled during FY 2023-24	NA
38.	Whether a document can be searched based on Name, Property details like survey number, deed number, etc.	No
39.	Whether there is a mobile app developed for land registration related services (Yes/No)	No
Module IV. Mutation		
1.	Number of applications received for mutation in FY 2023-24	1622
2.	Number of applications disposed in FY 2023-24	1378
3.	Number of applications pending for mutation	244
4.	Is online facility available for requesting mutation	No
5.	Is auto-trigger mutation facility available in the State	No
6.	What type of transactions are eligible for auto-trigger mutation?	NA

7.	How many such transactions occurred in FY 2023-24 which were eligible for auto-mutation?	NA
8.	Of these, how many mutations were actually completed through auto-trigger	NA
9.	Number of mutations related to sub-division	NA
10.	Out of total mutation cases received through Registration how many are for mutation of land with entire Khasra	NA
12.	What is the process followed for receiving objections from public?	Offline
13.	Is SMS sent to all mobile number of all villagers?	No
14.	Is there facility for objections to be sent online?	No
15.	What is the prescribed period for issue of mutation orders from the date of receipt and what is actual period in practice	30 Days
16.	Is SMS alert sent to applicant at each stage for his information	No
17.	Does Patwari submit his report online	No
18.	Are certified order copy of the mutation sent to the applicant through email or whatsapp or is it available for download from RCMS website	No
19.	How many cases are pending where mutation orders have been passed but certified copy is not yet sent to the applicant? Average number of days of pendency of such cases?	NA

20.	Is Cyber Tehsil functional or proposed to be functional in the State. If proposed, what is the stage?	No
21.	Are RoRs updated immediately after issue of mutation orders or does the State follow a different practice and cycle of updation of RoRs?	After 4Yeras
22.	In what type of mutation request it is carried out without inviting objection?	NA
Module V. Revenue Court Management System		
1.	Total number of Revenue Courts in the State	37
2.	Number of Revenue Courts computerised	Nil
3.	Number of revenue court cases handled in the computerized system in the last financial year	NA
4.	Number of revenue court cases handled in the manual system in the last financial year	Kargil: Data NA Leh: 192
5.	Does State have online system for public to enter case details? What details are captured at data entry stage?	No
6.	Is online appointment date and time notified to applicant through email/ whatsapp/ website?	No
7.	Is the court order typed on the RCMS system directly or is separate pdf of the court order uploaded?	No
8.	Is court order sent to litigants on email/ whatsapp/ posted on website	Yes/No
9.	Are court hearings held online/VC or only in	Yes/No

	physical mode or hybrid	
10.	How the court cases documents are stored in the court (electronically/physically)	Physically
11.	Is Land Records database linked to RCMS system and can RoR be viewed/ downloaded by Revenue Courts	No
12.	Is Registration software linked to RCMS software enabling pushing of land registration to auto-mutation?	No
13.	Is the fact of a pending revenue court case red-flagged in RoR?	Yes
14.	Number of revenue court cases red-flagged in the RoR (as on date)	NA
15.	Is Land Records database linked to eCourts system of Civil courts?	Yes/No
16.	If yes, how many eCourts are linked with LR database?	NA
17.	Is Land Records database linked to eCourts system and can RoR be viewed/ downloaded by Civil Courts	No
18.	Is the fact of a pending civil court case red-flagged in RoR?	No
19.	Number of civil court cases red-flagged in the RoR (as on date)	NA



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