भूमि संसाधन विभाग
Department of Land Resources
ग्रामीण विकास मंत्रालय
Ministry of Rural Development
भारत सरकार
Government of India

Evaluation of Quality of Land Records in Telangana
"An assessment of Digital India Land Records Modernisation Programme (DILRMP)"

of DoLR, MoRD, GoI

Report Submitted to

Department of Land Resources (DoLR)
Ministry of Rural Development (MoRD)
Government of India (GoI)

Study Team

Dr. P. Kesava Rao
Ms. Swati Katiyar
Mr. Md. Abdul Moid

Centre for Geoinformatics in Rural Development (CGARD)
National Institute of Rural Develpoment & Panchayati Raj (NIRDPR)
Ministry of Rural Development (MoRD)
Government of India , Rajendranagar, Hyderabad-500030

ACKNOWLEDGEMENTS

We are indebted to many individuals and organisations that helped us to complete this study successfully. We take this opportunity to place on record our gratitude to them, particularly:

We would like to express our sincere thanks to Shri Shri Manoj Joshi IAS, Secretary, Department of Land Records (DoLR), Ministry of Rural Development (MoRD), GoI; Shri. R Anand, IPoS; Additional Secretary, DoLR and Shri. Kunal Satyarthi, IFS; Joint Secretary, Land Regulations, DoLR and Shri Rajesh Bahtia, the then Deputy Director General, Project Monitoring and Evaluation, DoLR for giving an opportunity and providing their valuable guidance and inputs to materialise and successfully timely completion of the study.

We would like to thank Dr. G. Narendra Kumar, IAS, Director General, NIRDPR, for his valuable insights, guidance and support throughout the study period for the successful timely completion of the study

Shri Attem Bhaskar, Joint director (Survey), Survey Settlement and Land Records Telangana for extending timely support in completion of the study in Telangana. We are thankful to Shri. Sanjay Rao, Tehsildar, Domakonda Mandal and Shri. B Karthik Kumar, Tehsildar and Shri. A Srinu Deputy Tahsildar of Veldanda Mandal for their support during field data collection

We would like to thank all the interviewed land parcel owners and department officials in respective two districts and selected two villages, who gave their time and shared their experiences with us and provided information that helped us for the study.

Our sincere thanks to the data collection enumerator teams associated in the field for quality data collection, present at the field in both the districts for timely and smooth data collection process.

While we are indebted to the individuals mentioned above for their contribution, we authors are solely responsible for the opinions expressed and any errors therein

Dr. P.Kesava Rao
Ms. Swati Katiyar
Shri. Md. Abdul Moid

CONTENTS

LIST OF TABLES

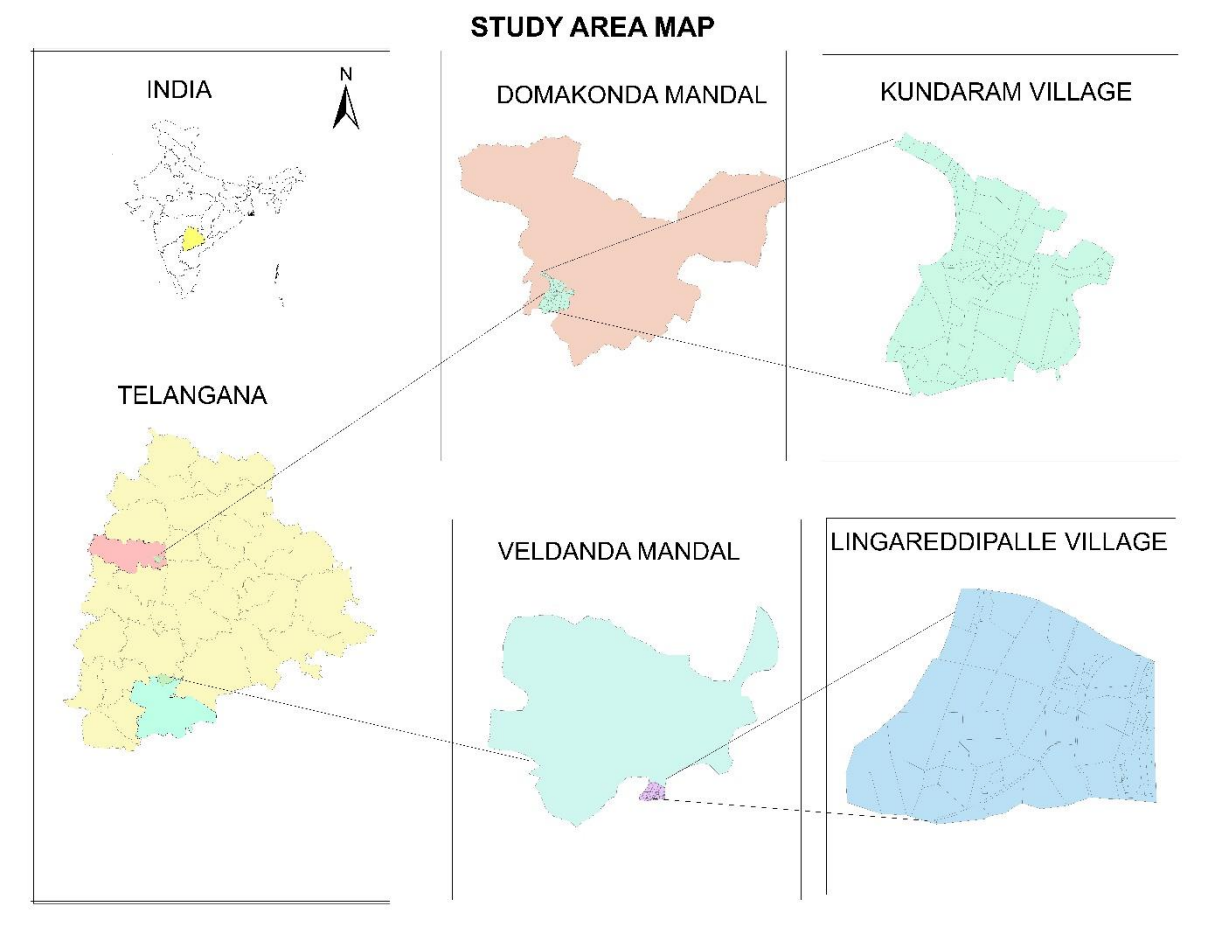
LIST OF FIGURES

EXECUTIVE SUMMARY

Using the stakeholder evaluation technique, this report summarizes the findings of the "Evaluation of Quality of Land Records in Telangana" study and evaluates the "Digital India Land Records Modernization Programme (DILRMP)" of DoLR, MoRD, and GoI in Telangana. The assessment study evaluated the extent to which the Survey & Land Records department of Telangana implemented the Digital India Land Records Modernization Programme (DILRMP) of DoLR, MoRD, GoI by taking into account and gathering field-based real-time experiences of all stakeholders regarding the quality of land records services provided by the land records department. The evaluation covered the following principal goals.

- To confirm the degree of saturation of the DoLR program's foundational elements,
- To assess the degree of quality of land record computerization or digitization in terms of the following six elements:
- Examining the progress made in digitizing textual records, digitizing spatial (geographical) records, computerizing the registration process, integrating these three elements, and creating Web-enabled land records as part of the computerization of land records (CLR).
- The effectiveness of real-time integrated updating of textual and spatial records as well as the registration process (in accordance with the standards established by the Department of Land Resources (DoLR)) will be evaluated by evaluating the state of Real Time Mirrors (RTM) in a few chosen villages.
- Getting input on Land Parcels and RORs (whole villages on quality services of land records) from individual beneficiaries, including input on access, process, usage, leaks, outputs, success, and the degree of improved land record services, among other things. Any modification to a land parcel's ownership, possession, classification, extent, or encumbrances should result in a record update, and ideally the records should "mirror" the actual situation on the ground.

Two revenue villages—Kundaram in Kamareddy district and Lingareddipalle in Nagar Kurnool district—were the sources of the main data.



Key Findings:

I. Computerization of Land Records (CLR)

A. Record of Rights (RoRs):

- There are 2,29,28,429 survey numbers in total, and 86,22,982 RoRs are registered in the state; all 86,22,982 RoRs have been effectively computerized.
- The state's government-held land records have been successfully computerized.
- A notable development in the state's land administration systems is the possibility for any person to download digitally signed Records of Rights (RoR) and digitally signed RoR is legally valid document in the state.
- In an ongoing endeavour to improve land record management's ease, security, and openness, the state has included a function that enables the digitally signed Records of Rights (RoR) to be verified using a unique ID or QR code (in passbook QR Code/Unique ID is available).

- Such a circumstance does not occur where many landholders are listed in the RoR. By assigning a khata number, each land tract is assigned to a specific person or pattadar.
- At the moment, landowners' cell numbers and Aadhaar numbers are connected to RoRs.
- Digitally signed RoR is made available and it could be downloaded by citizens.

B. Cadastral Maps:

- The last survey was conducted in 1936-1949 at scale of 8"=1mile ; 16"=1mile
- A significant amount of the state is covered by the 10480 cadastral maps in total, and all 10480 maps were successfully scanned.
- In all, 10253 of the 10480 scanned maps have been transformed into digital format (vectorized).
- A total of 8999 cadastral maps have been georeferenced.
- There are 8999 georeferenced cadastral maps in all, and 40 lakhs of land parcels have been georeferenced thus far.

C. Registration:

- There are 601 Tehsil Offices (Joint Sub-Registrar) and 142 Sub-Registrar Offices (SROs) in the state. These offices are positioned thoughtfully around the state to offer easily accessible services to the public. At the moment, every Sub-Registrar Office (SRO) and Joint Sub Registrar office in the state is fully automated.
- In 1999, the state's first Sub-Registrar Office was automated. Additionally, the state's most recent SRO was automated in 2020.
- Online Slot booking facility is available for registration for citizens
- In property transactions, property valuation rates—such as Circle Rates, Ready Reckoner Rates, Guideline Values, and Collector Rates—have a significant impact on registration costs and stamp duty. Public access to these tariffs is provided via **Telangana Registration and Stamp Department's website (https://registration.telangana.gov.in/).**
- According to the IGR Instructions, updating subdivisions on cadastral maps is not just a practice—it is an obligation in Urban Telangana whereas in Rural Telangana it is just a practice.

- It is necessary to record the PAN, Aadhaar, and mobile numbers of all individuals participating in registration procedures.

D. Mutation:

- Throughout 2023–2024, the relevant authorities received 30,220 applications for mutation.
- There were 16,972 pending mutation applications as at the end of 2023–2024.
- Online facility for requesting mutation is available.
- Auto trigger mutation facility is available in the state (in Dharini instant mutation occurs for every registration).

E. Revenue Court Management System

In Telangana Rights in Land and Pattadar Pass Books Act, 2020, distinct revenue courts are not mentioned by name. To administer the Record of Rights (ROR), the government has instead created the DHARANI digital platform. This software simplifies land records and makes information more easily accessible. To ensure localized maintenance of land records and rights, the ROR register is in fact kept at each village's Tahsildar office.

II. Real Time Mirroring (RTM)

The following are the main conclusions of Real Time Mirror (RTM) of six significant components.

A. Difference between Spatial Records and Textual Record

- More than three quarters (85.5%) of respondents indicated that there was difference with regard to updating partition and demarcation operations.
- Regarding the distinctions between textual and spatial records, specifically with relation to the updating of demarcation and partition operations. According to the entire field survey, RoR is only 100% existent in both villages.

B. Difference between on-ground status and land records status in terms of ownership

- In the state as a whole, the majority of respondents (90.8) stated that they did not think the RoR format could adequately capture non-agricultural land uses (such as in-built-up areas, ownership of apartments or individual floors), and only 9.2% said that it did. Regarding the variations in ownership between the situation on the ground and the status in the land records
- According to 21.8% of respondents, they discovered that, particularly when it comes to shared ownership, the information in the land record and the on-ground ownership details—including any built-up area on the land parcel—concur. However, 78.2% of respondents said that the information in the land record and the information on the ground, including any built-up area on the parcel, did not match, particularly when it came to shared ownership.

C. Difference between the on ground use of the land and the one stated in RoR?

- A total of 91.8% of the respondents stated that there is no difference between the Record of Rights (RoR) and On-Ground Land Use, while the remaining 8.2% stated that there are some anomalies present .
- In reference to the efficacy of the ROR format in obtaining detailed information about non-agricultural land uses, only approximately 6.7% of respondents said that RoR is catching these land uses, while the remaining 93.3% said that RoR is not.

D. Differences between the on ground location and that marked in revenue maps

- Overall, 89.4% of those surveyed said they could not discover any differences between revenue map markings and on-ground locations while 10.6% differ.
- Similarly, 94.8% of respondents said they could not discover any disparities in area between the Records of Rights (RoR), Spatial Records on Paper, and On-Ground Situation.

E. Difference between on ground status and land records status, in terms of Encumbrances on parcel

- Regarding parcel encumbrances, nearly all respondents (99.7%) stated that they could not detect any discrepancies between the status on the ground and the status in the property records.

F. What are the various encumbrances on the land parcels and how many of these mentioned in the RoR.

- On field visits, many people have been observed to be reluctant to divulge details about their lawsuits, court orders, liens, mortgages, debts, and acquisition processes. This resulted in only 3 of the 1079 responders answering, with the rest not responding at all. Because of the lack of data, mapping the figures becomes difficult.

Recommendations:

The following are the main suggestions for improving and successfully reaching out to the program based on the study findings:

- The level of land parcel variances between land cords and land parcels with relation to updating partition and demarcation operations was the only area where the Real Time Mirror (RTM) findings with field validation (few respondents) differed. Since 1949, no survey has been conducted to update the records, which is why they are out of date with regard to on-ground ownership facts. This needs to be fixed swiftly.
- Telangana's FMBs (spatial data) and Land Records (textual data) are both fully digital and interconnected one-to-one.
- It will be novel if residents have access to an online registration system via eKYC for first sales, leave, and license agreements, enabling presence-less registration at any time, anywhere.
- The projected Survey/Resurvey work and the Survey of India (MoU signed) must be started right away using cutting-edge survey technology, which will convert the current land records into a GIS-enabled geo-referenced land records platform. The current land records will be converted into a geo-referenced land records platform that is enabled by GIS. This platform will serve as a foundation for the incorporation of textual and spatial

data from other line departments, including registration, town and country planning, local bodies, electricity, PWD, banks, and civil courts, among others.

- The public will be able to easily access land records and services will be more efficient once the Survey/Resurvey work is successfully completed. As a result, a fully integrated land information management system will be developed, which will serve as the primary engine for the New India's infrastructural development and economic expansion.

1. INTRODUCTION

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

The Digital India Records Modernization Programme (DILRMP) is an initiative launched by the Government of India aimed at improving the management of land records across the country. The program seeks to create a transparent, efficient, and user friendly system for land administration through the integration of technology and modernization of existing land record systems. Telangana is on the states that is part of the centrally financed Digital India Records Modernization Programme (DILRMP). The initiatives goal is to digitize and update the states land records. The purpose of this programme is to facilitate citizen's access and to management of their land related documentation by increasing the effectiveness and transparency. A thorough process of digitizing and updating land records, including cadastral maps, land titles and ownership information comes under DILRMP umbrella objective. In order to guarantee that all land records are easily available to the publics in digital format, the initiative has been implemented gradually. The establishment of central database for land records is one of the main features of DILRMP. The 'Dharini' portal (The Sanskrit word Dharini signifies "earth" or "land") is and online resource that the government of Telangana, India developed, to provide users with a comprehensive and user friendly interface for accessing property data and expediting and streamlining land transactions Citizens may now access their land records with significantly less time and effort because they are no longer need to physically visit government offices. Another essential component of the DILRMP is the integration of land records with other government databases, including those related to land registration, taxes, and revenue. The process for land-related transactions has been streamlined because to this integration, which has also improved the accuracy and dependability of property data. With considerable increases in the effectiveness and transparency of land administration in the state, the DILRMP's implementation in Telangana has been a successful venture overall.

The DILRMP aims to create a contemporary, all-inclusive, and transparent land record management system that, among other things, enables the following:

(i) Enhance real-time land information;
(ii) Maximize the use of land resources;

(iii) Benefit sharecroppers and land owners;

(iv) Support policy and planning;

(v) Lessen land disputes;

(vi) Verify fraudulent or benami transactions;

(vii) Eliminate the need for in-person visits to revenue/registration offices; and

(viii) Facilitate information sharing with different organizations and agencies.

The Program has following component and activities

S.No:	Component	Activities
1	Computerization of Land Records	(i) Computerization of record of rights; (ii) Digitization of cadastral maps; (iii) Integration of record of rights (textual) and cadastral maps (spatial); (iv) Data centres at state level.
2	Computerization of Registration	(i) Computerization of Sub Registrar Offices (SROs); (ii) Connectivity between sub-registrar offices and tehsils; and (iii) Integration of registration and land records.
3	Survey/Resurvey	Survey/resurvey and updating of the survey & settlement records.
4	Modern Record Rooms	Modern record rooms / land records management centres at tehsil level.
5	Training & Capacity Building	Creation of DILRMP Cells at Administrative Training Institutes and /or the Survey/Revenue / Patwari Training Institutes of states.
6	Project Management Unit	To provide human resources and other infrastructure to provide support for the effective implementation of various components of DILRMP.
7	Computerization of Revenue Court Management System	Computerization of all Revenue Courts in the country and their integration with land records.
8	Integration of Aadhaar number with the land record database on voluntary basis	To link Aadhar number with Records of Rights (RoR).

1.2 BRIEF ABOUT QUALITY OF LAND RECORDS IN TELANGANA

Telangana's land records have changed over centuries as a result of different Nizami administrative procedures, British colonial control, and post-independence administration. Telangana's land record history is a reflection of the state's centuries-old agricultural legacy and changing administrative procedures. The Zabt system was put into place during the Mughal era by the administration, which classified land according to productivity and kept thorough land records for taxation. Whreas by instituting the pattadar system to formally record land ownership, the Nizam created a systematic land income system. Reforms were implemented after independence to dismantle zamindari structures and redistribute land, necessitating the updating of land records to reflect the altered ownership patterns.

Land ownership in the past was frequently not well documented, which resulted in disagreements and uncertainty over property rights. The administration of land has been made more difficult by the fragmented character of property holdings and the variety of ownership patterns found in rural areas. An essential component of efficient land management and administration is the calibre of land records. In Telangana, a state that was established in 2014, property rights, agricultural production, urban development, and socioeconomic stability are all significantly impacted by the integrity of land records. This study investigates the condition of Telangana's land records now, looking at the historical background, contemporary issues, and new efforts to raise the standard of these records.

1.3 DIGITIZATION AND E-GOVERNANCE INITIATIVES IN TELANGANA

- **Digital Telangana vision:** The state administration has outlined its plans for a "Digital Telangana," emphasizing the use of technology to advance infrastructure, governance, healthcare, and education. This concept entails the accessibility of digital technology to citizens and their integration into various government services.
- **Dharani Portal:** The Dharani portal is a leading endeavor for digitizing land records, as was previously mentioned. Online land transactions, applications for mutations, and land record access are all made possible for citizens. The objectives of this effort are to improve land administration process efficiency, decrease corruption, and increase openness.

- **The e-Government Mission of Telangana State (TSEMG)**: The Telangana State e-Governance Mission is in charge of directing the state's numerous e-governance initiatives. It seeks to advance efficiency in government operations and enhance service delivery via technology.
- **e-Panchayat Project:** Through the digitization of Panchayati Raj institutions, improved grassroots governance will be made possible. It involves creating a digital platform that will allow residents to access information and services at the village level and be used for the planning, carrying out, and monitoring of local development projects.
- **Mee Seva's Online Services**: Mee Seva is an online portal that provides a comprehensive range of government services in one convenient location. Through this portal, citizens can pay bills, apply for licenses, permits, and certificates, and access a number of government programs. By reducing the number of times citizens must visit government offices, the project hopes to increase efficiency and convenience.
- **State of Telangana Data Center**: The core of the state's digital infrastructure is the Telangana State Data Center. It facilitates easy access to information and services for individuals and government departments by hosting a variety of e-governance apps and guaranteeing data security and dependability.
- **Integrated Citizen Services**: Several integrated systems have been introduced by the government, including Telangana Online, which unifies different government services into a single portal, and TS e-Challan, which handles traffic management and fines. These programs are intended to streamline service accessibility and offer a comprehensive approach to governance.
- **Initiatives for Digital Education**: By encouraging the use of technology in classrooms and universities, Telangana has made investments in digital education. To improve the standard of education and increase accessibility, initiatives are being implemented that include digital materials, online learning environments, and smart classrooms.
- **Services for Health and Telemedicine**: In terms of digitizing health care, the state has also advanced. Patients in remote locations can now receive healthcare services through the Telangana Health Department's telemedicine initiatives, which enable online consultations with doctors. Data management and digital tracking tools are also used to assist the KCR Kit program, which focuses on mother and child health.

Telangana's digitization plans provide a holistic approach to modernizing governance and improving public service delivery. The state's goal in using technology is to promote transparency, efficiency, and accessibility, ultimately leading to greater government and socioeconomic development. Telangana's dedication to digitization presents it as a model for other Indian states interested in embracing digital transformation.

1.4 TELANGANA'S LAND RECORDS DIGITIZATION PROCESS: GOALS, PROGRESS, AND NEEDS

Objectives	Increase Accessibility: Using online platforms, make land records freely available to citizens
	To promote transparency, make land data accessible to the public. This will help to lessen conflict and corruption
	Simplify Procedures: Cut down on paperwork and streamline the land purchase procedure
	Boost Efficiency: Manage land records more effectively administratively
	Data Security: Prevent physical harm and illegal access to land records
Achievements	Digital Platforms: creation of publicly accessible internet portals (such as state-specific portals). Telangana using **Dharani portal** and Bhulekh portal for land management services.
	Digitization of Records: The effective conversion of paper records, frequently through data entry and scanning, to digital format has reduced land disputes in Talangana especially related to ownership.
	Integration of Technologies: The computerized registration system is in place, and landowners can apply for mutation online. Precise mapping and land use planning are achieved through the use of satellite imagery and GIS
	Incomplete Coverage: Because of insufficient digitization, several locations can still rely on paper records. Many of the older records are yet to be digitized

Gaps	Technical Issues: Difficulties like software flaws, UI glitches, and website outages
	Awareness and Literacy: Rural communities lack knowledge about how to use and access digital services.
	Resistance to Change: Some officials could be reluctant to embrace new procedures in favour of the status quo.
	Data Privacy Concerns: Matters pertaining to the protection of private data and possible data misuse

1.5 OBJECTIVES OF THE STUDY

The assessment will determine the extent to which the Survey & Land Records department of Telangana has implemented the Department of Land Resources' (DoLR), MoRD, and GoI's Digital India Land Records Modernization Programme (DILRMP). To accomplish this, all stakeholders' field-based, real-time experiences on the caliber of land records services provided by the land records department will be taken into account and gathered. The study's assessment of the Telangana State land records quality will encompass the following primary goals.

- To verify the extent of saturation of basic components of the DoLR programme like
- Computerisation of record of rights;
- Digitisation of cadastral maps;
- Integration of record of rights (textual) and cadastral maps (spatial).

- To confirm and authenticate the degree of quality in the computerization and digitalization of land records by examining the following six elements
- Computerisation of Land Records (RoR)
- Digitization of Cadastral Maps/FMBs
- Linkage of RoR with Cadastral maps
- Computerisation of Registration
- Integration of Registration (SRO) with Land Records (Revenue Office) and
- Modern Record Room
- To prepare a state-wise gap analysis in term of reported achievements and desired outcomes of the program

- Assessing the computerization of Land Records (CLR) in terms of progress across digitization of textual records, digitization of spatial records, computerization of the registration process, integration between these three components and Web Enabled Land Records
- Assessing the status of Real time mirror (RTM) in select villages to test the efficacy as per the standards set by the DoLR
- Obtaining individual beneficiaries (Land Parcels / RORs(complete village on quality services of land records) feedback on access, process, usage, leakages, outputs, successfulness, and extent of improved land record services etc

Finally, based on real time field based findings /experiences will helps in providing policy suggestions towards the expeditious implementation of land records modernization initiatives in the Telangana

RTM Sampling Villages:

Assessing the status of Real time mirror selected two distinct villages in Telangana state, each representing different geographical and administrative regions. The selected villages, Kundaram in Domakonda Mandal of Kamareddy District and Lingareddipalle in Veldanda Mandal of Nagarkurnool District, are located on opposite ends of Telangana, offering a contrast in regional characteristics and administrative practices.

Kundaram Village (Domakonda Mandal, Kamareddy District): Kundaram is situated in the Domakonda Mandal of Kamareddy District, located in the northern part of Telangana. Kamareddy district is known for its agricultural prominence, benefiting from fertile land and adequate water resources. Domakonda Mandal, with a rural setup, has a diverse agricultural base, and land record management is critical to support the local farming community and agrarian economy. The village of Kundaram represents typical rural land usage patterns in northern Telangana.

Lingareddipalle Village (Veldanda Mandal, Nagarkurnool District): Lingareddipalle is located in Veldanda Mandal of Nagarkurnool District, positioned in the southern region of Telangana. Nagarkurnool District, with its semi-arid climatic conditions, relies heavily on land and water resources management to support agriculture and livelihoods. Veldanda Mandal showcases a mix of both dryland farming and irrigation practices. Lingareddipalle village offers insights

into the challenges and opportunities in land record accuracy and access in the southern Telangana context, where reliable land data supports development initiatives and resource allocation.

The contrasting geographical locations and socio-economic conditions of Kundaram and Lingareddipalle provide a comprehensive basis for assessing the quality and accessibility of land records across Telangana.

1.6 STUDY METHODOLOGY

According to the DoLR MoRD's Terms of Reference, the study primarily focuses on two main tasks for the assessment:

1. Evaluating the computerization of Land Records (CLR) in terms of advancements made in the areas of textual record digitization, spatial record digitization, and registration process computerization, as well as the integration of these three elements, training and capacity building, and Web Enabled Land Records. According to Questionnaire Part I, which is already accessible with NIC/State Government (as stated in the ToR), the study team gathered the necessary secondary data.
2. Inspecting the Real Time Mirror (RTM) situation in a few chosen villages in order to evaluate the effectiveness of the registration procedure and real-time integrated updating of textual and geographical records. According to ToR Questionnaire Part-II, the study team surveyed all of the land parcels in each of the two villages that were chosen from two distinct districts of Telangana. We also created a report for Telangana State.

Methods of Data Collection:

Data gathering techniques: There will be four phases to the exercise:

a) Gathering the necessary secondary data from the relevant state and district offices
b) The pre-survey phase, which includes interviewer selection, interviewer training, and questionnaire finalization.
c) A group of independent researchers may equally adopt the field survey in order to conduct surveys.
d) Following the survey, such as creating analytical frameworks and writing the report.

Early conversations with Telangana survey and land records department officials (Nodal Agency): The study team met with all relevant officials and representatives from the state and field levels of the Telangana survey and land records department.

Questionnaire I (Module I–V) was utilized for the necessary secondary data gathering. We used the already constructed questionnaires from DoLR and MoRD, as stated in the ToR for the beneficiary survey interviews.

The beneficiary survey interviews were conducted using an electronic data collecting technique, meaning that both questionnaires were put into the Epicollect5 data collection program, and smartphones were used to collect all of the data. Using Epicollect5 to collect data will increase openness and ensure that all information is captured accurately, including the respondents' photo, the location where the interview was conducted, and other facts.

Questionnaire Design

- DoLR's pre-made questions were utilized in the study to assess the quality of land records
- Data gathered using Epicollect5.

Sampling

According to the Telangana state's ToR, the Evaluation of Quality of Land Records chose two districts—Kamareddy (Kundaram villagr) and Nagar Kurnool (Lingareddipalle villagr)—for research.

- ✓ State-only analysis is the study level.
- ✓ The suggested study included -a total of two state districts that were chosen.
- ✓ Using a random sample technique, one village was chosen from each district.
- ✓ All available RoR and Sub parcels have been covered from each chosen "village."
- ✓ Overall, 1079 recipients were questioned at the state level. From Lingareddipalle 408 beneficiaries and Kundaram 671 beneficiaries in total.

SI.No	Selected District	Selected Village	Total covered RoRs
1	Kamareddy	Kundaram	671
2	Nagar Kurnool	Lingareddipalle	408
Total			1079

Quality Control

The NIRDPR study team will supervise a trained enumerator/survey team that will conduct the surveys at the designated offices and their jurisdictions as quality controls. A thorough training program will be conducted prior to the survey's actual deployment, which will include mock call exercises, pilot field trips, and a briefing on the data collection tools. Through spot checks, back checks, and on-site examination of the data collecting tools, the NIRDPR study team will closely supervise the real field survey that will start right after the training program.

1.7 KEY DELIVERABLES

- This comprehensive assessment report examines the extent to which the Survey & Land Records department of Telangana has implemented the Digital India Land Records Modernization Programme (DILRMP) of DoLR, MoRD, GoI by taking into account and gathering field-based, real-time experiences of all stakeholders regarding the quality of land records services provided.
- A review report that makes suitable recommendations for improving the Digital India Land Records Modernization Programme (DILRMP) of the DoLR, MoRD, and GoI.
- Getting feedback from each individual beneficiary regarding the process, usage, outcomes, leaks, success, and scope of improved land record services (e.g., Land Parcels / RORs (complete village on quality services of land records) etc.)

2. FINDINGS OF ASSESSING COMPUTERIZATION OF LAND RECORDS

CHAPTER 2: ASSESSING COMPUTERIZATION OF LAND RECORDS

The study team gathered and examined the data from Telangana in accordance with the ToR (Part I, Module I–V). As stated in the ToR, the majority of the data was gathered using Questionnaire Part I, which is also accessible at the state level through the Telangana Government, DOLR, and NIC. The data that has been gathered is provided at the state, Tehsil, and SRO levels. An examination of the advancements made in the areas of textual record digitization, spatial record digitization, registration process computerization, integration of these three elements, training and capacity building, and Web Enabled Land Records (CLR) is provided below.

2.1 RECORD OF RIGHT (RoRs): MODULE-I

Sustainable development, property rights protection, and efficient land administration all depend on the calibre of land records. A key document in land administration, the Record of Rights (RoRs) offers comprehensive facts regarding land ownership, boundaries, and other pertinent information. The following are the main conclusions of Telangana's RoRs:

Key Statistics

1. Total Number of RoRs in the state : 86,22,982
2. Total number of RoRs computerized : 86,22,982

The state has successfully completed the computerisation of land records that are owned by the government. Often known as the digitisation of Records of Rights (RoR), this project seeks to improve land management's accessibility, effectiveness, and transparency. There is now a dedicated web platform where any citizen can view the Records of Rights (RoR) for state-owned land.

Benefits of computerised RoR in Telangana:

- Increased Efficiency
- Enhanced Data Accuracy
- Improved Security

One of the most significant developments in the state's land administration systems is the availability of digitally signed Records of Rights (RoR) for download by any resident.

Benefits to Citizens:

- Reduction of Disputes and Assurance of Legality
- Facilitation of Financial Transactions
- Availability in real time and affordability

The state has added a feature that enables the verification of digitally signed Records of Rights (RoR) using a QR code or a unique ID (in passbook, a QR code or UID is available) as part of an ongoing effort to improve transparency, security, and convenience in land record management. How records are kept and accessible has changed significantly as a result of technological advancements. The move from manual to digital record-keeping has been one of the most significant changes. Transparency and efficiency in land management have advanced significantly with the release of Record of Rights (RoRs) for entire villages to all citizens. State has total of 86,22,982 RoRs. Each Record of Rights (RoR) typically has one landholder. The difficulties experienced by land administration agencies in maintaining current land records are shown by the approximately 8078 pending applications for adding names to RoRs. Pendency is due to claiming Private Pattas over Government lands or dispute among private parties or dispute among the legal heirs etc which requires thorough verification. There are 85,58,732 single lander RoRs in the state overall. Since each land parcel is alotted to a single person/pattadar by assigning khata number hence the situation where more than one landholder is mentioned in RoR does not arise.

At this moment RoR are seeded with Aadhaar numbers and mobile numbers of land holders. In Dharini Portal, pattadar has to perform e-KYC to seed their aadhar number for processing their application and it has been made mandatory. And during the process of registration and mutation mobile number are captured.

If there are any changes to the RoR or mutation, an alert message is sent to the registered mobile number. Additionally, citizens have the option to apply online to have their Record of Rights corrected. There were 22709 RoRs fixed in total during the most recent fiscal year (April 23–March 2024). The types of corrections made are generally rectifications in Name, Extent,

inclusion of missing survey numbers, nature of land, classification of land etc. Though RoR database is not yet linked with cadastral maps.

For mortgage information, the banks are currently connected to the RoR database. Bankers have access to the Dharini portal loan charge module, which allows them to create or discharge charges on land after verifying the land records on the Dharini portal. Total of 41 banks has been linked with 5949 branches. Mortgage is not mentioned or red flagged in RoR but the entries are certainly reflected in the Encumbrance certificate in the Dharini portal. Mortgage release is updated in RoR, loan charge is closed by bank maker and checker.

An online transliteration facility is not yet available for RoRs. If available this facility will support users in accessing and understanding RoR data in these languages, which can be particularly beneficial for regions where these languages are widely spoken. The RoR uses acres and guntas as the unit of land measurement. Gender of landholder is also captured in RoR along with pattadar name, father/husband name, aadhar no/CIN no/passport no, caste category, survey no/subdivision no, extent etc.

Both urban and peri-urban land records have been effectively digitised and are updated on a regular basis. The system presently maintains 11,39,444 urban Record of Rights (RoRs) in total.

2.2 CADASTRAL MAPS: MODULE- II

Administrative boundaries, land use, geography, and land records were all included in the state's last official survey, which was carried out in 1949. It is crucial to make sure that these maps are current and appropriately depict the state of the land, even if the 8"=1mile and 16"=1mile scale offers a high degree of detail. The state is covered with a significant number of cadastral maps, totalling 10480, which show different land units, property lines, and land use classifications. The accomplishment of scanning 10480 maps successfully represents a major step forward in the accessibility and digitalization of land records. The majority of scanned maps have been vectorised and converted to digital format.

State have successfully geo-referenced 8999 cadastral maps. 40lakhs land parcels in all have been georeferenced. This accomplishment makes it possible to incorporate these parcels into GIS for thorough spatial analysis and efficient land management. Land parcels have been given

LPM number comprising District Mandal village survey number as distinct identification numbers. The present state of affairs concerning the availability of an online platform for landowners to request surveys for subdivision is provided through Meeseva. There are 1719 outstanding online requests for land parcel subdivision as of right now. As a practice, subdivisions have been implemented and updated on the cadastral map. There are 5.6 landholders per RoR compared to the survey figure

2.3 REGISTRATION: MODULE- III

Throughout all, there are 142 Sub-Registrar Offices (SROs) and 601 joint SROs throughout the state. To make services accessible to residents, these offices are positioned thoughtfully around the state. All 144 Sub-Registrar Offices (SROs) in the state are currently completely computerized. January 1999 saw the state's first Sub-Registrar Office get computerized. This signalled the start of a new era in property registration and land record management. In 2020, the state's last Sub-Registrar Office was automated.

Throughout the state, 18,41,324 land properties were registered in the fiscal year 2023–2024. In the state's endeavours to update its land administration system, the integration of 144 Sub-Registrar Offices with the Revenue Offices and the Land Record database is a noteworthy accomplishment. There is online facility for booking appointment slot for registration (meeseva). The online appointment scheduling feature enables people to plan a time for their property registration whenever it is most convenient for them.

This system may be accessed via the official government portal and is integrated with the Sub-Registrar Offices (SROs) of the state. The system makes sure that the registration procedure is quick, easy, and safe by collecting thorough information about the property, the claimant, the executant, and the witnesses. Important details like Property details, boundary details, personal details (buyer & seller), family details (buyer & seller), consenting party details, details of payment consideration payment details are captured during online slot booking appointment. It is vital to make sure the property is appropriately and lawfully recorded. The state does not allow registration anywhere.

Government lands are place under prohibited properties list in Dharini portal under separate notional khatas which are blocked for any transactions. Stamp duty and registration costs are influenced by property valuation rates, which are important in real estate transactions. These rates include Circle Rates, Ready Reckoner Rates, Guideline Values, and Collector Rates. The public can access these rates on the Telangana Revenue Department's website (https://www.telangana.gov.in/ departments/revenue/) and the Directorate of Survey and Land Records' Dharini Portal. Circle Rates/ Ready Reckoner Rates/ Guidelines Values/ Collector rates for lands are available to citizen in the registration software.

An improvement in the property registration procedure is the availability of online e-stamp facilities for application fees, such as stamp duty and registration fees. The state has increased the ease, effectiveness, and openness of fee transactions by allowing digital payments. One such tool that allows citizens to easily calculate stamp duty and other registration fees is the e-Calculator, also called the Online Stamp Duty Calculator. Verifying party/owner names and area information against the Land Records (Record of Rights, or RoR) is a crucial stage in the property registration process. The sub-registrars examine RoR before registering through the Dharini portal as part of this verification process. According to the IGR Instructions, updating subdivisions on cadastral maps is not just a practice but an obligation.
In order to preserve the accuracy of land records and guarantee seamless and lawfully sound real estate transactions, the SRO follows this standard method. To confirm the property's encumbrance and examine the seller's ownership document based on historical records, an SR login is available. For efficient verification, communication, and compliance, it is crucial to record the PAN, Aadhaar, and mobile numbers of all parties participating in registration procedures. The online PAN verification mechanism is currently completely integrated for registrations that require additional fees. When parties are admitted, there is also the option to confirm e-KYC for Aadhaar and PAN. Currently, every registration automatically triggers a corresponding digital mutation in the Records of Rights (RoR). Home visit module is not available for SRO for agriculture land registration whereas for urban areas registration home visit module is available. SRO's can complete the registration online and identification documents upload facility is also available In urban locations for registration, a digital pen and pad is used to capture the party's signature; in rural areas, no such facility is provided. A Scheduled property which is under litigation transaction could not be performed.

In the event of a network outage, Sub-Registrar Offices (SRO) already have a specific mechanism to automatically push pending mutation data. Sub-Registrar Offices (SRO) currently have the ability to look up litigations for properties that are slated for registration online. During significant moments in the document registration process, SROs ought to send out automated SMS notifications and offer suggestions. Citizens who use eKYC for the first sale, lease, and licensing agreements do not currently have access to an online registration system. It has been established that the property registration procedure can make use of dynamic deed templates.

An AI Nibhrit solution is available to create fingerprint impressions, Aadhaar numbers, and PANs on registered PDF deeds. The state has had access to the digitized Index records since 1983. There is an online grievance redressal system for Sub-Registrar Offices where concerns about property registration can be filed. 378 online complaints about property registration were received or resolved in 2023–2024. A thorough and user-friendly platform for looking up property-related documents using a variety of parameters, including name, survey number, deed number, and other property details, is offered via the E-Services portal. For services pertaining to land registration, the Dharini mobile app was created.

2.4 MUTATION: MODULE IV

The relevant authorities received 30,220 applications for mutation in 2023–2024. 14380 applications for mutations were processed in the (same) year 2023–2024. This number is the total number of applications that were formally updated in the property records after being handled and reviewed. There are 16972 pending mutation applications as of the end of 2023–2024. Currently online facility is available for requesting mutation. In Dharini portal instantaneous mutation happens for every registration.

Process flow followed in the state for mutation process is that in Dharini instantaneous mutation is happening. For pending mutations that are registered before Dharini in SRO for such cases, citizen has to apply for pending mutation based on the registered document. The final approving authority is District Collector and on approval, Tahsildar will perform mutation process and do digital sign.

2.5 REVENUE COURT MANAGEMENT SYSTEM: MODULE V

No specific revenue courts are named in the Telangana Rights in Land and Pattadar Pass Books Act, 2020. Instead, the government developed the DHARANI digital platform to administer the Record of Rights (ROR). This software facilitates information accessibility and streamlines land records. The ROR registry is really maintained at the Tahsildar office in each village to guarantee localised maintenance of land records and rights.

3. FINDINGS OF ASSESSING STATUS OF REAL TIME MIRROR

CHAPTER 3: FINDINGS OF ASSESSING STATUS OF REAL TIME MIRROR

FINDINGS FROM A SAMPLE STUDY DONE IN TELANGANA:

In Telangana, a small sample study was carried out to comprehend the current state of land record quality. Two districts were chosen for the collection of field data on the orders of the DoLR, Govt. of India. A district called Kamareddy and another district called Nagar Kurnool were chosen with the goal of state coverage. One revenue village was chosen from each district for the second stage. Consequently, the villages of Kundaram and Lingareddipalle were chosen from Kamareddy District and Nagar Kurnool District, respectively. In order to account for universal coverage, all households and landowners with Survey Numbers and subdivision land parcels were covered. The research team worked hard to include as many land parcel owners as possible from each sample location. Both owners of agricultural and residential land were included in the study. It included 1079 land parcel owners, 408 of them were from the Nagar Kurnool district and 671 from the Kamareddy area. The landowners were surveyed using a structured questionnaire, and information was gathered through in-person interviews. People were also asked informally about how satisfied they were with the way the land and survey department staff and the department of registration handled transactions involving land. In addition, the study team leader engaged with representatives from the revenue, land survey, and registration departments to obtain the necessary information regarding the administrative setups for the digitization of land records and the systems put in place to facilitate public access to land-related matters. For a real-time mirror of land ownership, RoR title, spatial records, and cadastral map, the comprehensive analysis of field data is provided in the tables that follow.

SECTION – I Personal Particulars of Respondents

Table 1: Status of Respondent with whom Interview was held

Sample Districts	**Lingareddipalle**	**Kundaram**	**Total**
Family member	3 (0.7)	37 (5.5)	40 (3.7)
Land Owner	405 (99.2)	634 (94.5)	1039 (96.3)
Total	**408** **(100.0)**	**671** **(100.0)**	**1079** **(100.0)**

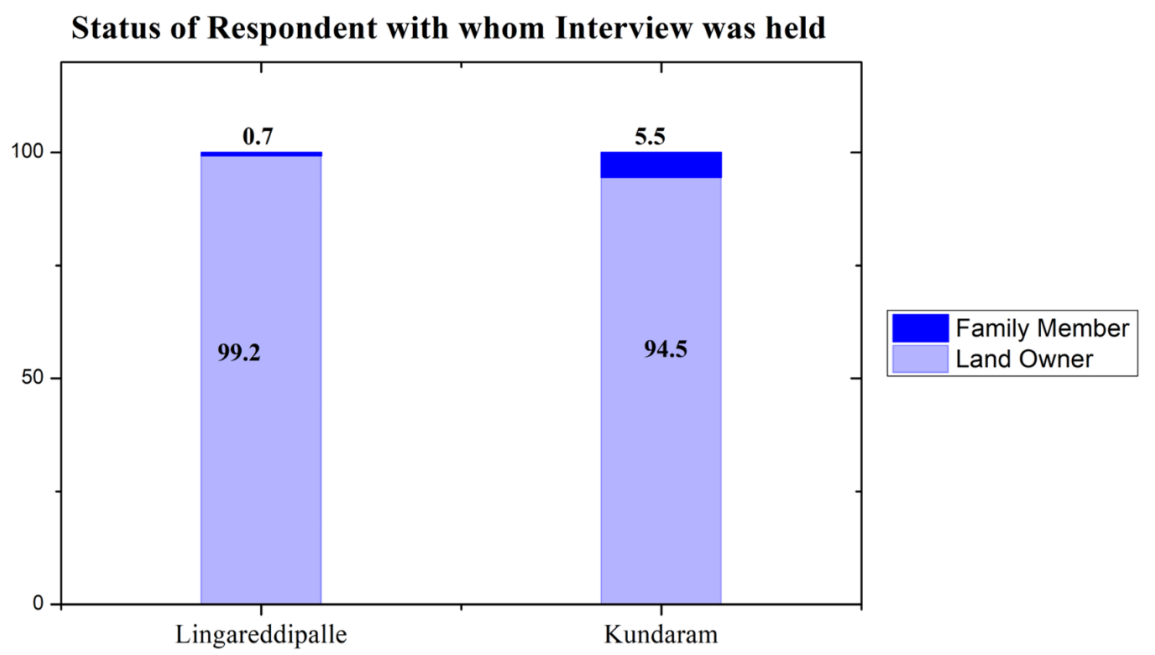


Figure 1: Status of Respondents with whom Interview was held

The information displayed relates to how respondents to the Land Modernization Program were distributed throughout the districts of Kundaram and Lingareddipalle. The respondents were divided into two groups: relatives and landowners. One of the family members was contacted to gather information if the landowner was unavailable during the interview. Nearly (99.2%) of the respondents in Lingareddipalle were landowners, according to data from Table 1. However, in the case of Kundaram, 634 respondents (94.5%) out of a total of 671 respondents are landowners, and 37 respondents (5.5%) are landowners' relatives. Based on the data, the majority of owners were contacted in both regions.

Table 2: Distribution of Respondents by Age group

Age Classification	**Lingareddipalle**	**Kundaram**	**Total**
<=25	17 (4.2)	16 (2.4)	33 (3.1)
26-35	67 (16.4)	68 (10.1)	135 (12.5)
36-45	98 (24.0)	149 (22.2)	247 (22.9)
46-55	129 (31.6)	155 (23.1)	284 (26.3)
>=56	97 (23.8)	283 (42.2)	380 (35.2)
Total	**408 (100.0)**	**671 (100.0)**	**1079 (100.0)**

Data Source: Collected from Field, Data in the bracket are percentages

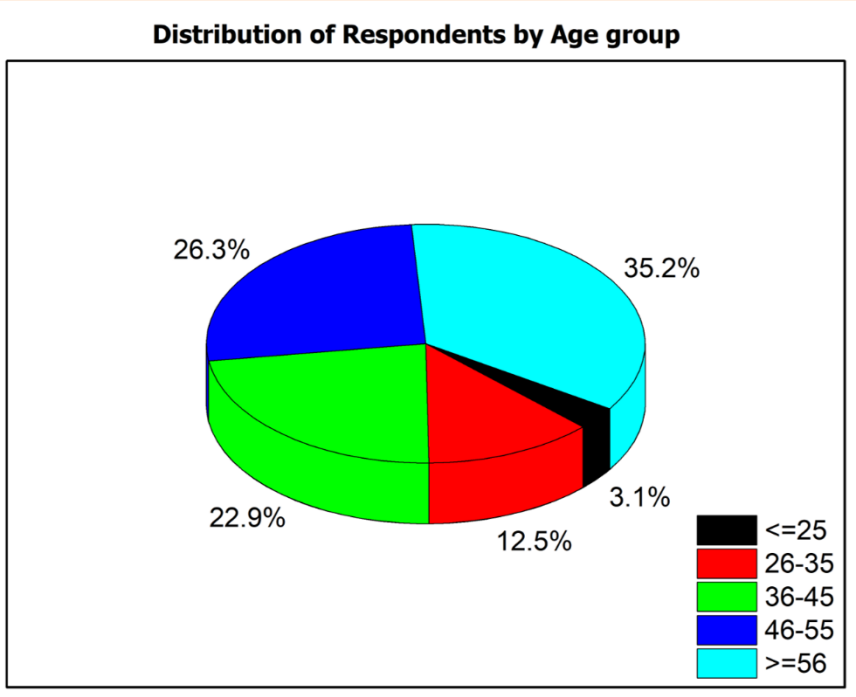


Figure 2: Distribution of respondents by Age group

The distribution of respondents' ages by sample district is shown in the Table 2. The age groups of the respondents are broken down into five categories: <=25, 26-35, 36-45, 46-55, and >=56. 35.2% of the sample's respondents are 56 years of age or older, making up the majority of respondents overall. This is particularly noticeable in Kundaram, where the proportion of respondents in this age range is 42.2%, suggesting a somewhat older respondent base. With 31.6% of responses, the largest age group in Lingareddipalle is 46–55. This indicates that the proportion of middle-aged people who were 35 years or younger in the sample was only 15% (3.1% of those who were under 25 and 12.5% of those who were between 26 and 35). This suggests that younger people did not participate or were not involved in the survey. This pattern holds true for both districts.

Table 3: Gender wise Distribution of Respondents

Gender	**Lingareddipalle**	**Kundaram**	**Total**
Female	78 (19.1)	211 (31.4)	289 (26.8)
Male	330 (80.9)	460 (68.6)	790 (73.2)
Total	**408** **(100.0)**	**671** **(100.0)**	**1079** **(100.0)**

Data Source: Collected from Field, Data in the bracket are percentages

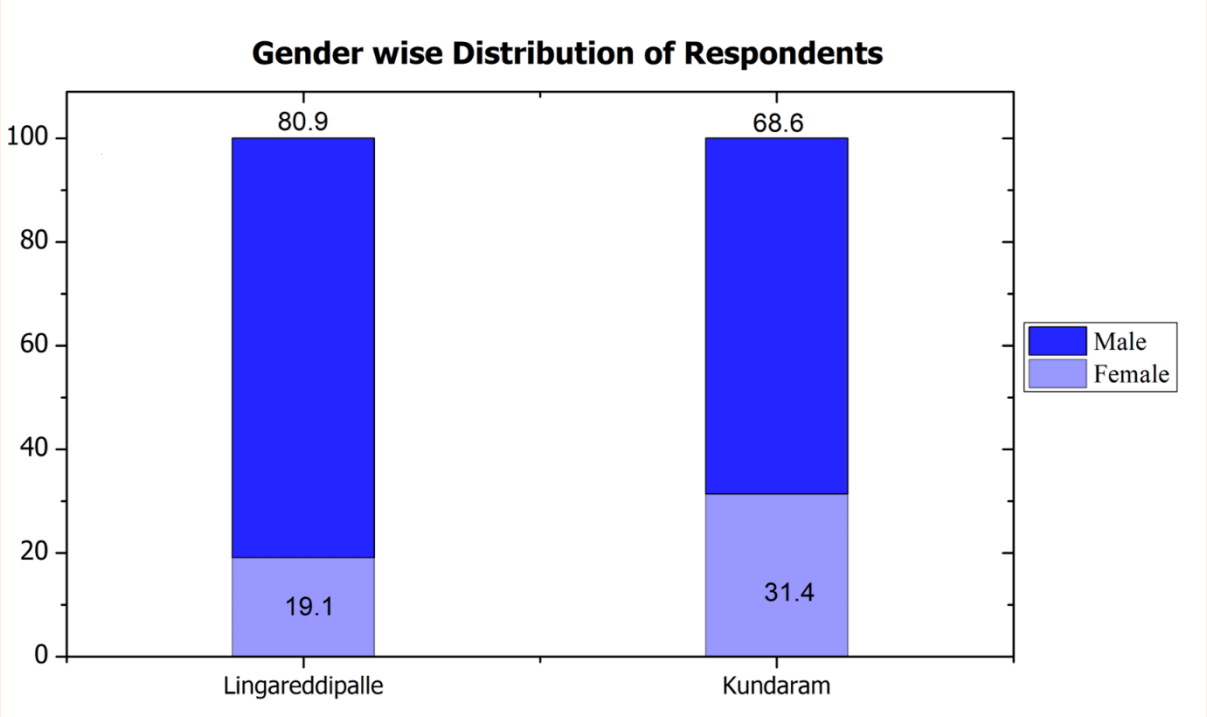


Figure 3: Gender wise distribution of respondents

Data on the respondents' gender distribution from the study districts are shown in table 3. Male respondents make up 73.2% of the sample as a whole, according to the aggregate data, while female respondents make up only 26.8%. Compared to Lingareddipalle (19.1%), Kumdaram has a higher percentage of females (31.4%). Men are substantially overrepresented in the respondent base, especially in Lingareddipalle, according to the data, which shows a gender gap in the population. Gender roles in land ownership, decision-making in agricultural methods, or involvement in land transactions are examples of wider social or cultural variables that could be reflected in this mismatch. Even if it is noteworthy in Kundaram, overall female involvement is still low.

Table 4: Educational Qualification of the Respondents

Education	**Lingareddipalle**	**Kundaram**	**Total**
Educated	99 (24.3)	368 (54.8)	467 (43.3)
Illiterates	309 (75.7)	303 (46.2)	612 (56.7)
Total	**408** **(100.0)**	**671** **(100.0)**	**1079** **(100.0)**

Data Source: Collected from Field, Data in the bracket are percentages

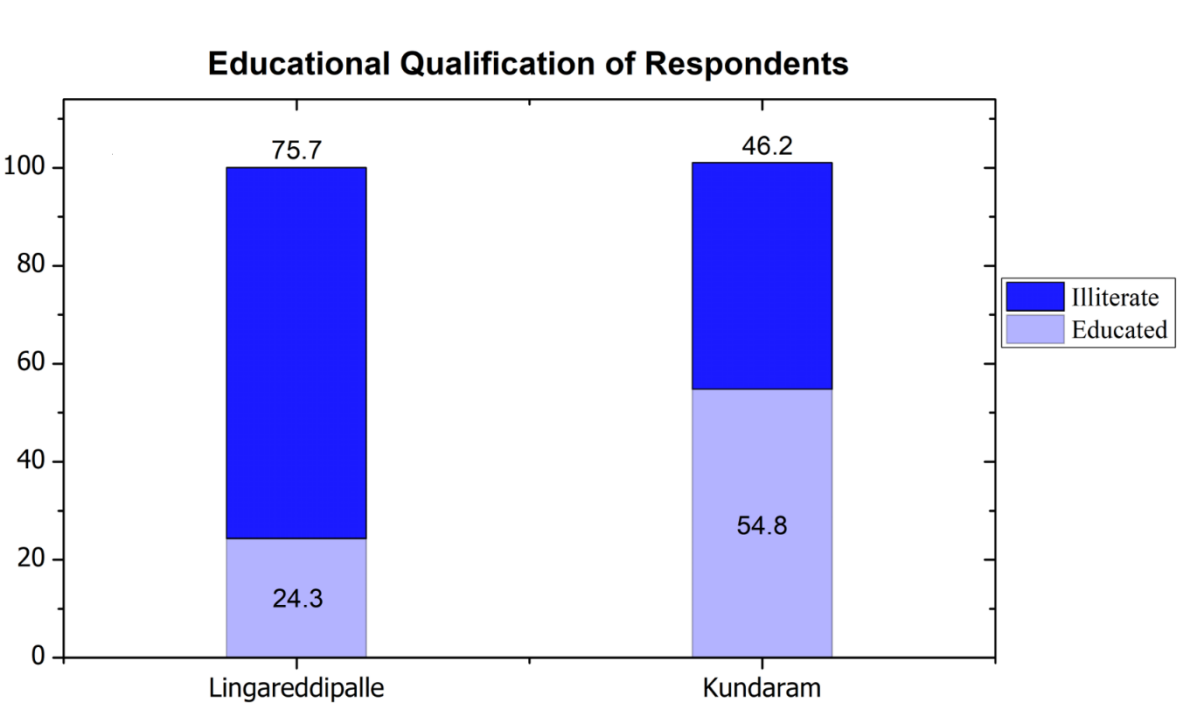


Figure 4: Educational Qualification of respondents

The level of education of the sample respondents is shown in table 4. In comparison to Kundaram (46.2%), Lingareddipalle (75.72%) has a significantly greater rate of illiteracy. This implies that basic education is a bigger problem for Lingareddipalle, which may have an impact on the region's overall socioeconomic development. The Educated category presented in table 4 comprises postgraduate, degree, and primary education.

Table 5: Distribution of Respondents based on their Social Category

Social Category	Lingareddipalle	Kundaram	Total
Scheduled Caste	25 (6.1)	8 (1.1)	33 (3.1)
Scheduled Tribe	14 (3.4)	1 (0.1)	15 (1.4)
Minority	204 (50.0)	25 (3.7)	229 (21.2)
Other Backward Caste	138 (33.8)	637 (94.8)	775 (71.8)
General Category	27 (6.6)	0 (0)	27 (2.5)
Total	**408 (100.0)**	**671 (100.0)**	**1079 (100.0)**

Data Source: Collected from Field, Data in the bracket are percentages

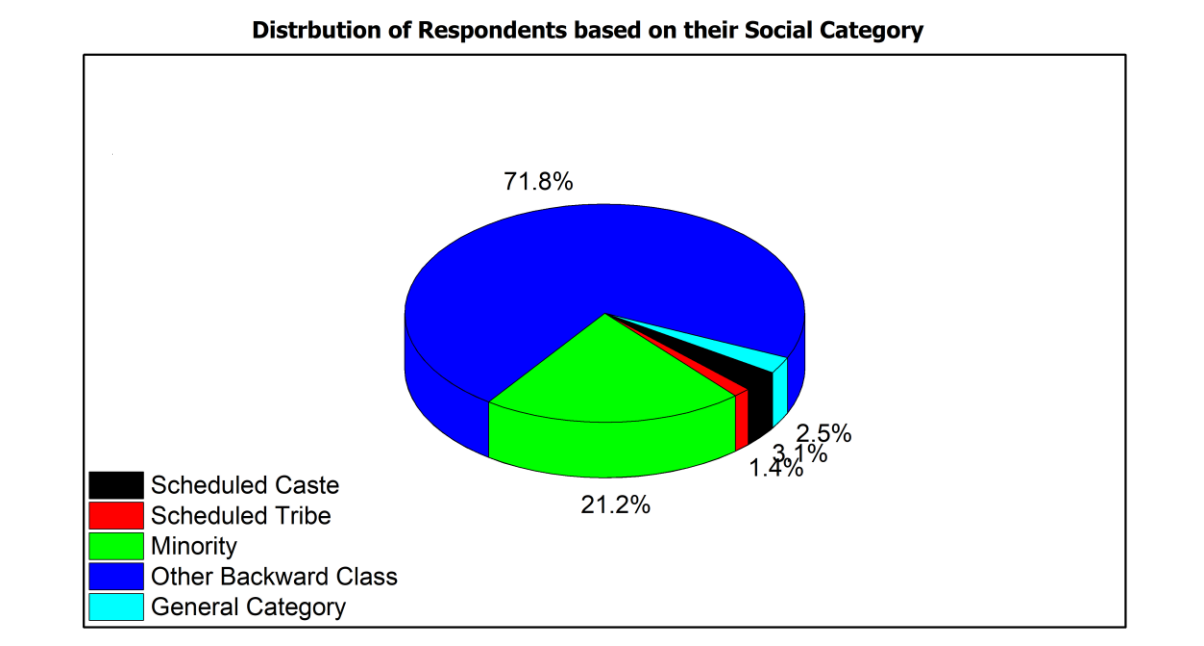


Figure 5: Distribution of Respondents based on their Social Category

The distribution of respondents in the study districts across several social groups, including General Category, Other Backward Castes (OBC), Scheduled Castes (SC), Scheduled Tribes (ST), and Minority, is shown in Table 5 data. The OBC group is by far the most prevalent in Kundaram, as evidenced by the substantial majority of responders (94.8%) who fall into this category. This may be an indication of the opportunities and socioeconomic dynamics that OBC people in Kundaram have access to. It is noteworthy that the General group has a (0) representation, and the Scheduled Caste and Scheduled Tribe have (1.1%) and (0.1%) representation, respectively. General category (6.6%) and minority respondent percentage (50%) are displayed by Lingareddipalle. The ST representation (3.4%) and SC representation (6.1%). In Kundaram, the OBC group makes up a substantial majority (94.8%) while in Lingareddipalle Minority category is significant (50%).

SECTION – II Differences between spatial records and the textual records

The main areas of distinction between textual and spatial records are the kinds of information they contain and how they are organized. Geographic data is the main emphasis of spatial records, which are crucial for applications like mapping, urban planning, and environmental monitoring because they convey information about locations, shapes, and spatial connections using coordinates and geometrical forms. On the other hand, textual records are composed of

written material, such reports, articles, and narratives, which are arranged into phrases and paragraphs to provide descriptive or analytical information. Textual records are qualitative; they offer context, insights, and communication in a variety of sectors, whereas spatial records are frequently visual and quantitative, aiding in the understanding of actual environments. As a result, the functions and applications of these two kinds of records are different.

Table 6: Whether extent of area is same in textual records and spatial records

Responses	Lingareddipalle	Kundaram	Total
Yes	258 (63.2)	665 (99.1)	923 (85.5)
No	150 (36.8)	6 (0.9)	156 (14.5)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

Data Source: Collected from Field, Data in the bracket are percentages

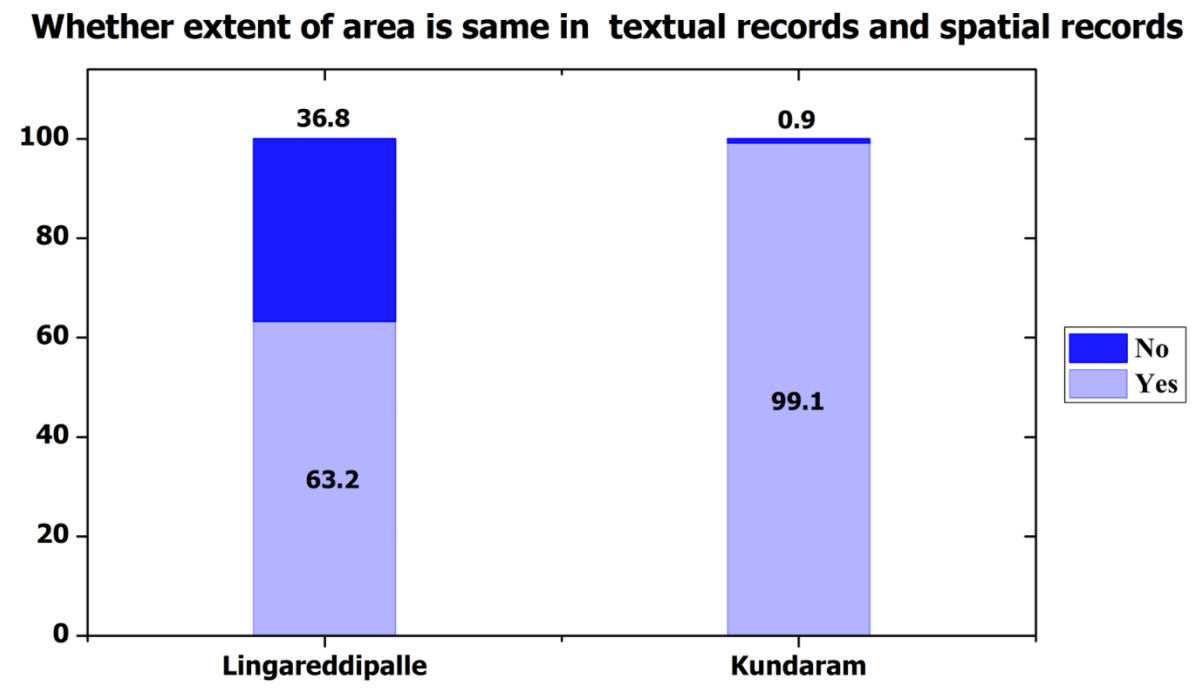


Figure 6: Whether extent of area is same in textual records and spatial records

Table 6 compares the region and determines if textual and spatial information correspond to the same extent. Telangana has relatively good data procedures, as seen by the large majority (85.5%) of records in both districts that match between the two formats. To understand the causes of these anomalies, additional research is necessary, as the 14.5% variance raises concerns. In Kundaram, the great majority of area records—99.1%—are consistent in both text

and spatial formats. This suggests that land records are probably accurately reflected in both forms and are kept up to date, as it shows a good alignment in data management methods within this district. The rate in Lingareddipalle is 63.2%, and 36.8% of the records reveal differences between the spatial and textual representations. This implies that there might be problems with maintaining records, possible errors, or revisions that haven't been reflected in Lingareddipalle's two sorts of records.

Table 7: Status of updation of partition and demarcation actions for textual records and spatial records

Responses	Lingareddipalle	Kundaram	Total
Both RoR and Spatial records	0 (0.0)	0 (0.0)	0 (0.0)
None of the Records	0 (0.0)	0 (0.0)	0 (0.0)
Only in ROR	408 (100.0)	671 (100.0)	1079 (100.0)
Only in Spatial Record	0 (0.0)	0 (0.0)	0 (0.0)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

Data Source: Collected from Field, Data in the bracket are percentages

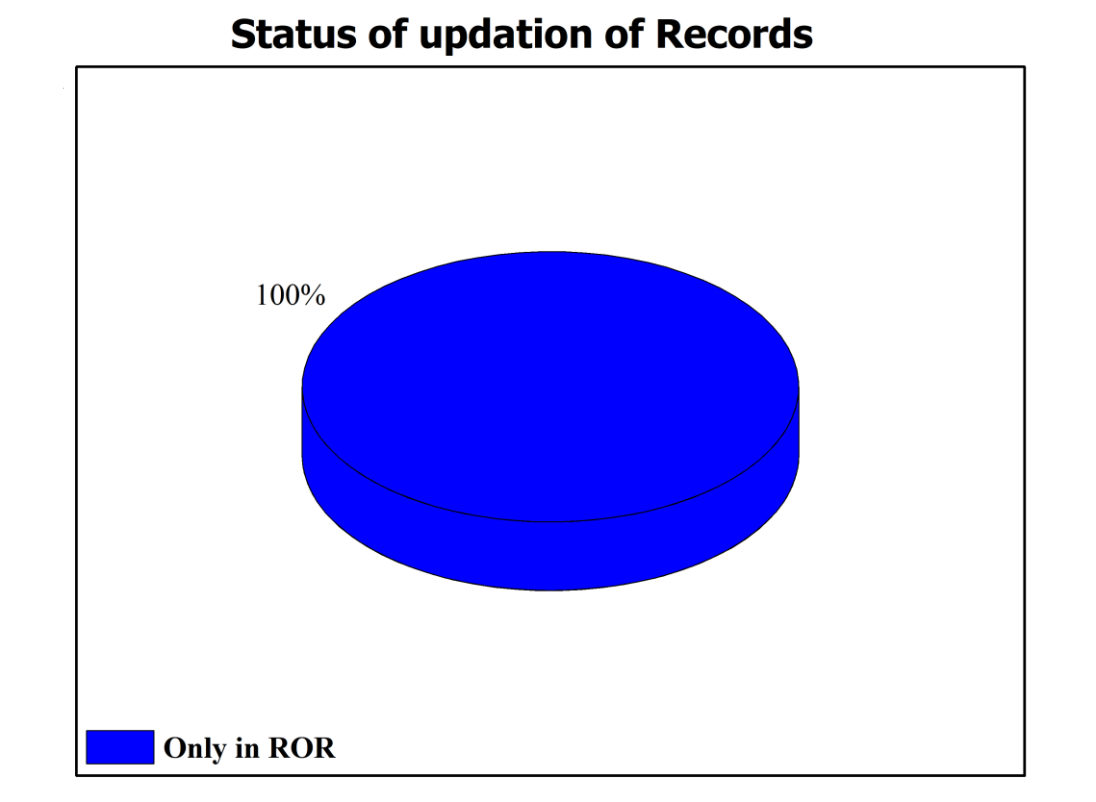


Figure 7: Status of updation of Records

The information regarding the partition and demarcation action status updates for both textual and geographical records in the study districts is shown in Table 7. The whole field survey reveals that only in RoR is 100% present in both communities.

Table 8: Is the RoR format able to capture non-agricultural land uses in detail (e.g. in- built up areas, ownership of flats or individual floors)?

	Lingareddipalle	Kundaram	Total
Yes	96 (23.5)	3 (0.4)	99 (9.2)
No	312 (76.5)	668 (99.6)	980 (90.8)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

Data Source: Collected from Field, Data in the bracket are percentages

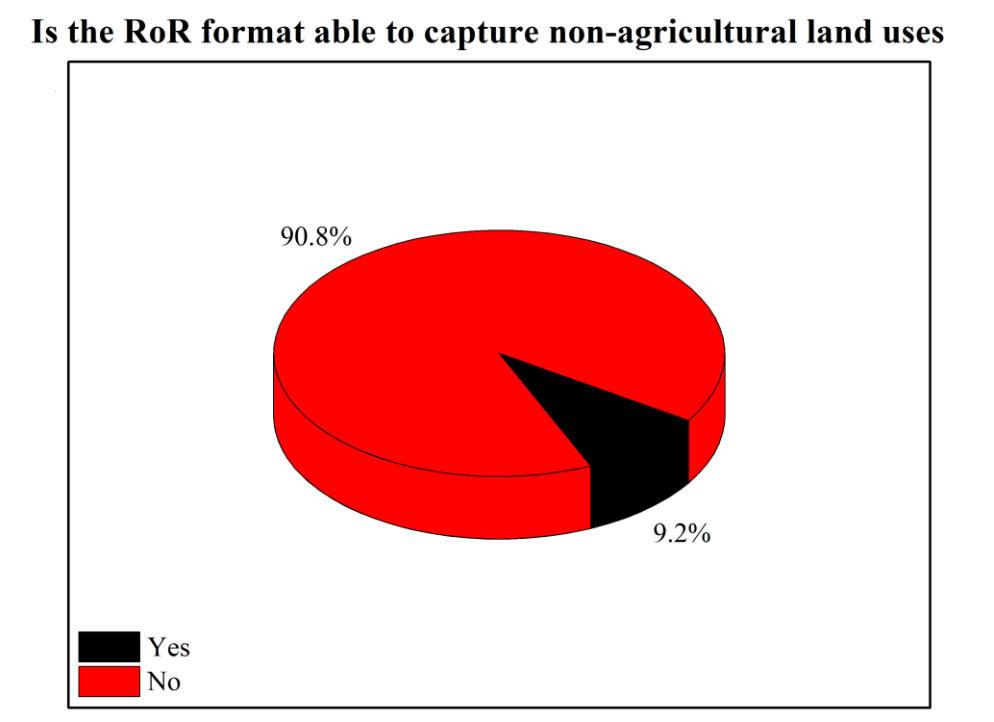


Figure 8: Is the RoR format able to capture non-agricultural land uses

The replies to the question of how well the Record of Rights (RoR) format captured the land uses in Kundaram and Lingareddipalle are displayed in table 8. The large number of "NO" replies(90.8%) shows that a sizable majority of respondents do not think the RoR format adequately covers pertinent land uses, indicating a lack of confidence in the RoR format's ability to include information about land uses other than agriculture. The "Yes" replies, accounting for 9.2% of the total, indicate that some respondents believe the RoR format adequately captures some aspects of land usage.

Table 9: Does the on-ground ownership details, including any built-up area on the land parcel, coincide with the details in land record, especially in context of shared ownership. Or multiple owners?

	Lingareddipalle	Kundaram	Total
Yes	234 (57.4)	1 (0.1)	235 (21.8)
No	174 (42.6)	670 (99.9)	844 (78.2)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

Data Source: Collected from Field, Data in the bracket are percentages

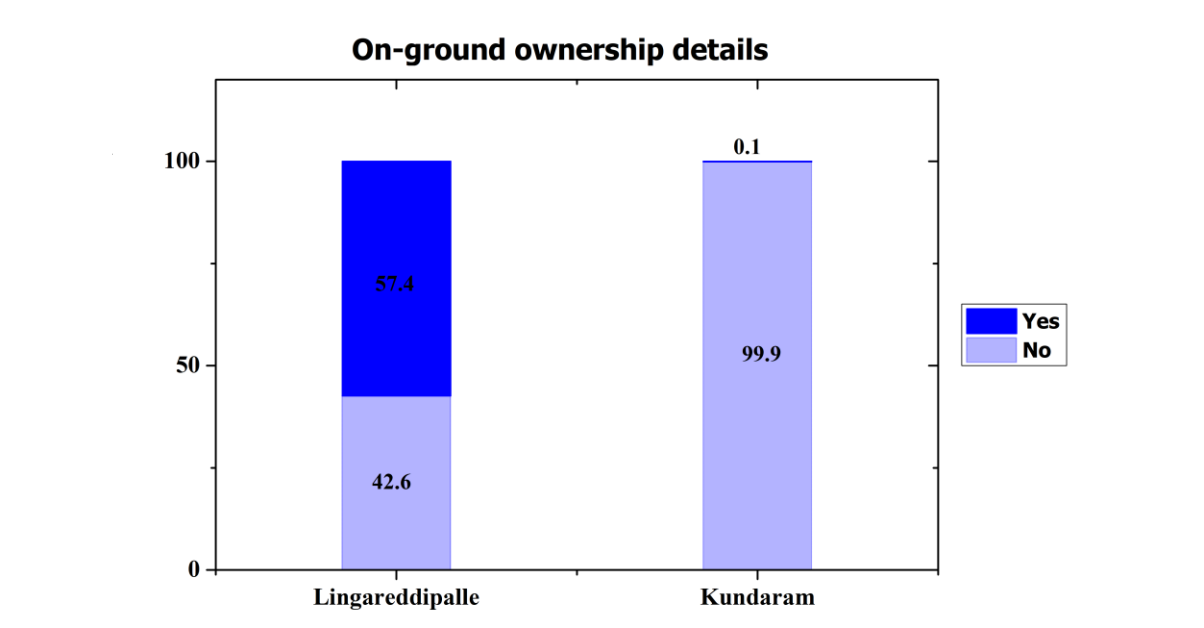


Figure 9: On-ground ownership details

Insights into whether on-the-ground ownership facts, such as built-up areas on land parcels, match up with the information recorded in land records, especially in the context of shared or multiple ownership, are offered by the data in Table 9. The majority of respondents (78.2% in total) think that the land documentation's records and the on-ground ownership facts differ. With a 99.9% disagreement rate, Kundaram has an extraordinarily low level of respondents' confidence in the accuracy of land records. The high agreement percentage of 57.4% in Lingaredipalle, however, indicates that respondents have significant confidence in the accuracy of land records, meaning that discrepancies are less common there.

Table 10: Is there a difference between the on-ground use of land, and the one stated in ROR?

	Lingareddipalle	Kundaram	Total
Yes	88 (21.6)	0 (0.0)	88 (8.2)
No	320 (78.4)	671 (100.0)	991 (91.8)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

Data Source: Collected from Field, Data in the bracket are percentages

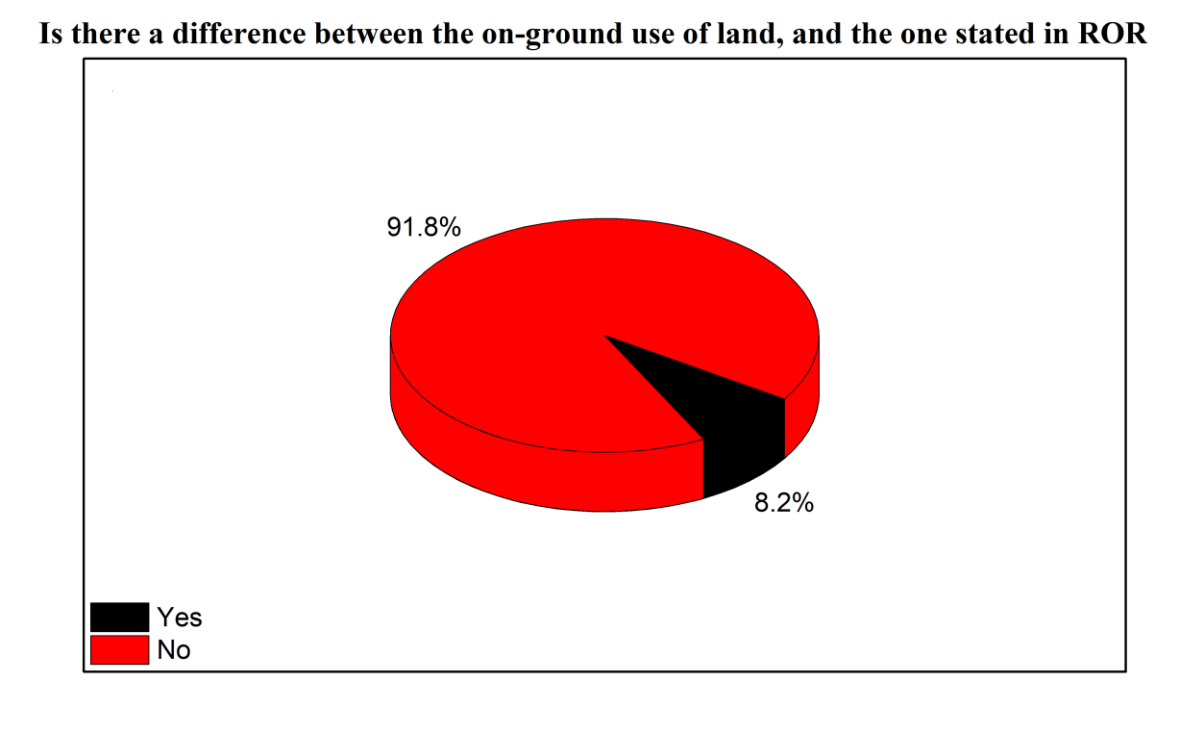


Figure 10: Is there a difference between the on-ground use of land, and the one stated in ROR

The information displayed focuses on answers to questions about whether there is a difference between the land's actual use on the ground and the facts of that use as stated in the Record of Rights. A substantial majority of respondents in Linareddipalle District (78.4%) and Kundaram (100%) stated that the land's on-ground use corresponds with the RoR, indicating a high level of confidence in the region's land records' correctness. 8.2% of respondents overall in both regions said that there is a discrepancy between the land use on the ground and what is specified in the RoR.

Table 11: Is the ROR format able to capture non-agricultural land uses in detail?

	Lingareddipalle	Kundaram	Total
Yes	72 (17.6)	0 (0.0)	72 (6.7)
No	336 (82.4)	671 (100.0)	1007 (93.3)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

Data Source: Collected from Field, Data in the bracket are percentages.

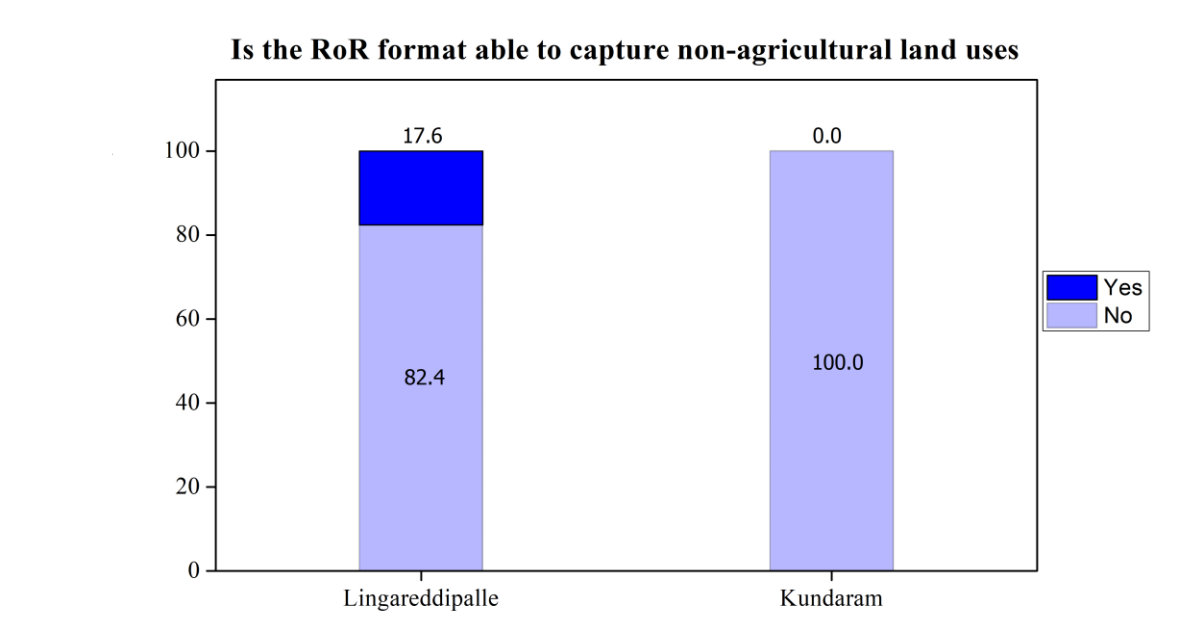


Figure 11: Is the ROR format able to capture non-agricultural land uses

The information provided discusses the extent to which non-agricultural land uses can be precisely captured by the Record of Rights (ROR) format. With the opportunity to record land use for both residential and agricultural purposes, 1007 respondents (93.3%) in both regions disagreed that the ROR format does not capture land use in depth, whereas 72 respondents (6.7%) agreed. The majority in the regions of Kundaram and Lingareddipalle disagree that non-agricultural land use cannot be captured by the ROR format. This implies that the majority of responders think the format is unworthy**.**

Table 12: Is there any difference on ground location and that marked in the revenue map

	Lingareddipalle	Kundaram	Total
Yes	114 (27.9)	0 (0.0)	114 (10.6)
No	294 (72.1)	671 (100.0)	965 (89.4)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

Data Source: Collected from Field, Data in the bracket are percentages.

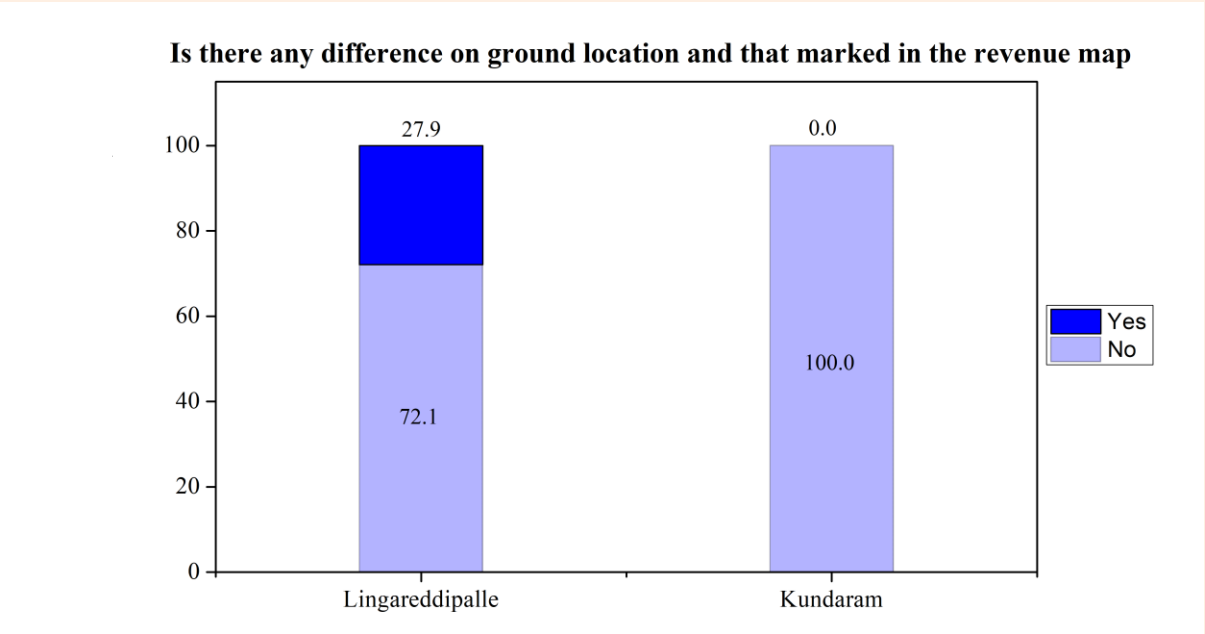


Figure 12: Is there any difference on ground location and that marked in the revenue map

If there is a discrepancy between the position on the ground and what is indicated on the revenue map, the data from Table 13 reflects this. 965 cases (89.4%) in both pilot communities said there was no change. Between the revenue map and the ground locations, Kundaram has a very high degree of precision. Lingareddipalle exhibits disparities as well, with 27.9% of cases citing variations between the revenue map and the ground location. 89.4% of the places combined, across both locations, match the revenue map. The last modification to the Telangana revenue maps was made in 2020. For the most recent information, it is recommended to check with the Telangana government's revenue department or their official website, as particular updates may happen on a frequent basis.

Table 13: Is there difference in area between on-ground situation, spatial records on paper, and Records of Rights?

	Lingareddipalle	Kundaram	Total
Yes	56 (13.7)	0 (0.0)	56 (5.2)
No	352 (86.3)	671 (100.0)	1023 (94.8)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

Data Source: Collected from Field, Data in the bracket are percentages.

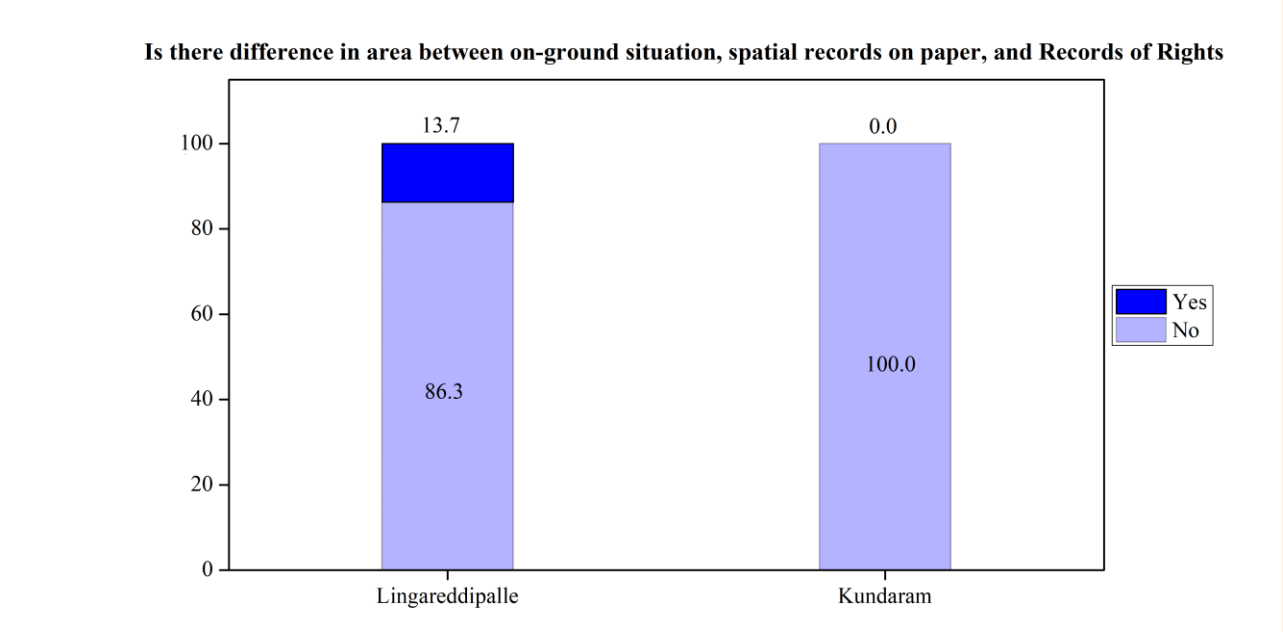


Figure 13: Is there difference in area between on-ground situation, spatial records on paper, and Records of Rights

The answers to the study regions' question, "Is there a difference in area between the on-ground situation, spatial records on paper, and Records of Rights?" are represented by the data in table 14. There is consistency between what is written down and what is actually happening in Lingareddipallet, as evidenced by the majority's (86.3%) belief that there is no difference in area between the situation on the ground and the records. In Kundaram as well, every respondent (100%) said there was no difference between the records and the situation on the ground. Approximately 5.2% of respondents in both regions think there is a difference between the situation on the ground and the records, while the majority (94.8%) think there is none at all.

Table 14: Is on-ground partition and demarcation proceedings been incorporated in textual and spatial records?

	Lingareddipalle	Kundaram	Total
Yes	271 (66.4)	0 (0.0)	271 (25.1)
No	137 (33.6)	671 (100.0)	808 (74.9)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

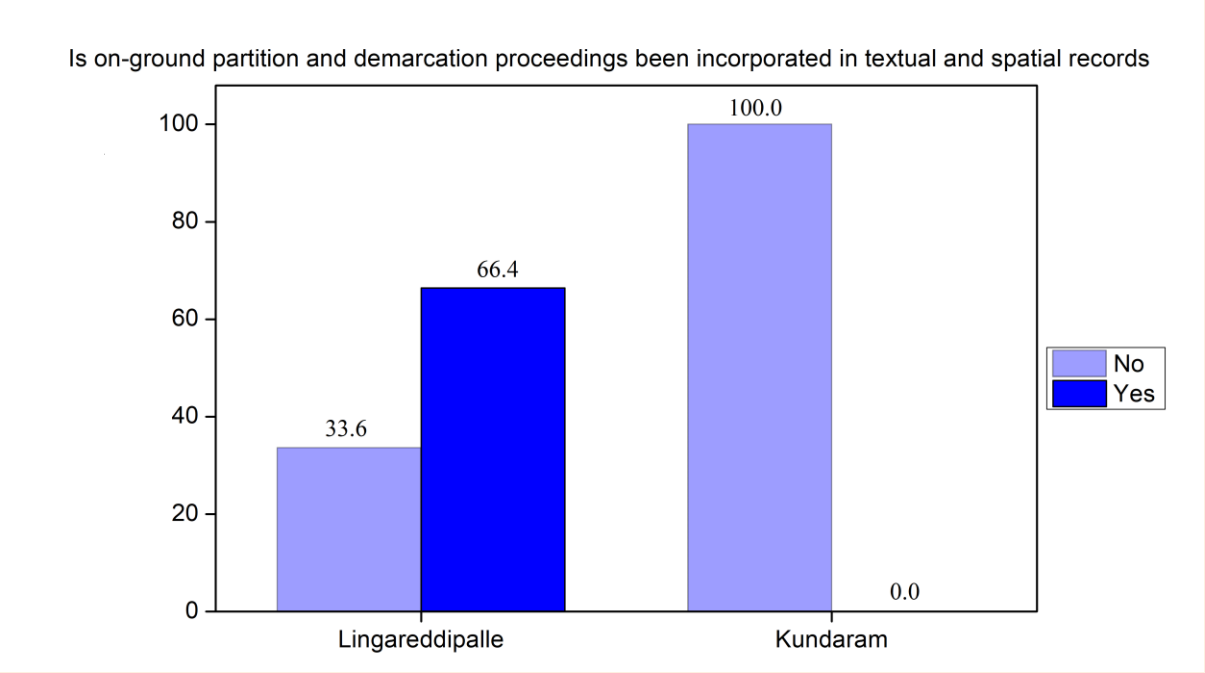


Figure 14: Is on-ground partition and demarcation proceedings been incorporated in textual and spatial records

Regarding whether on-ground partition and demarcation proceedings have been included into textual and geographical records, the information in Table 15 relates to answers. There appears to be a substantial degree of mismatch between recorded and physical data, since a considerable majority of respondents (74.9%) in both research areas dispute that on-ground partition and demarcation proceedings have been included into textual and spatial records. Conversely, 33.6% of respondents in Lingareddipalle disagree that the textual and spatial records accurately reflect the partition and demarcation proceedings that occurred on the ground. Of the respondents, 66.4% claimed that this was the case.

Table 15: Is there any differences between on-ground status and land records status, in terms of Encumbrances on parcel?

Responses	Name of the districts		Total
	Lingareddipalle	Kundaram	
Yes	3 (0.7)	0 (0.0)	3 (0.3)
No	405 (99.3)	671 (100.0)	1076 (99.7)
Total	408 (100.0)	671 (100.0)	1079 (100.0)

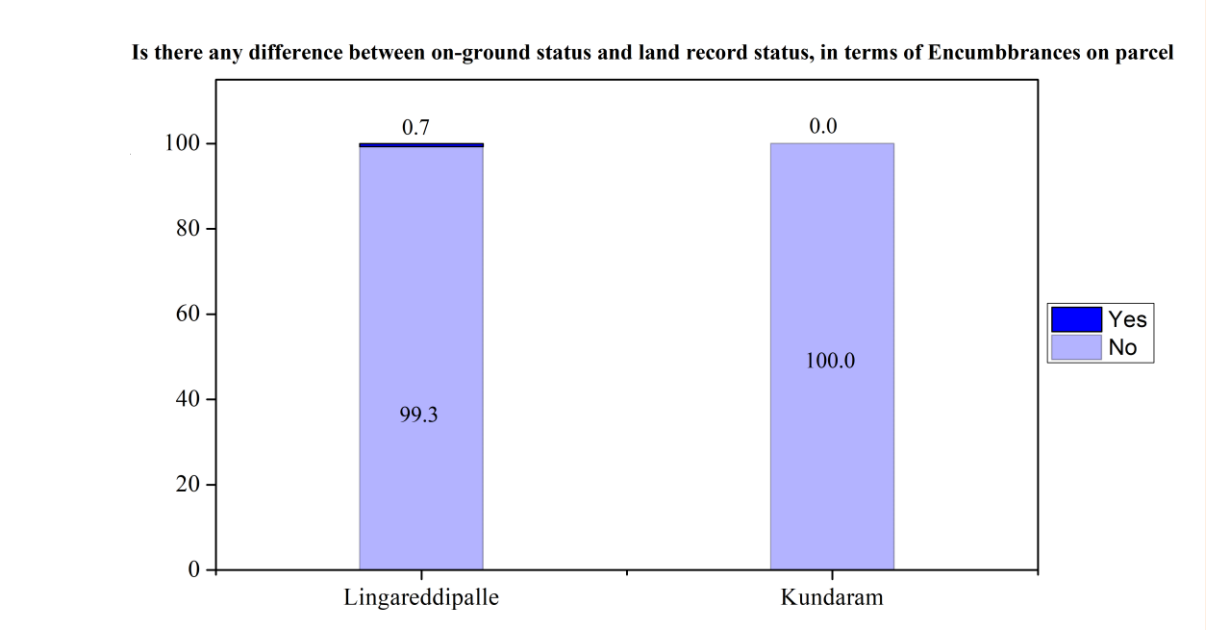


Figure 15: Is there any differences between on-ground status and land records status, in terms of Encumbrances on parcel

Regarding encumbrances on a land parcel, the data supplied answers the question of whether there are any inconsistencies between the status on the ground and the status in land records. It has been noted that there is no difference in the parcel's encumbrances between the ground status and land record status. 99.7% of respondents in both villages agreed that there are no variations between land records and the on-ground status with regard to encumbrances on individual pieces of land. Just 0.3% of respondents think there are distinctions between the two locations. This implies that although the majority of people in both regions believe that the encumbrances listed are accurate.

What are the various encumbrances (e.g. loans, liens, mortgages, litigations, court orders, acquisition proceedings) on the land parcels, and how many of these are mentioned on the RoR.

Many persons have been seen to be reluctant to disclose information regarding their debts, liens, mortgages, lawsuits, court orders, and acquisition procedures during field visits. As a result, out of the 1079 respondents, only 3 responded, and the remaining respondents did not provide a response. So, it becomes challenging to map the numbers due to data unavailability.

SECTION – III A Snapshot of Real Time Mirror (RTM) in Telangana

Component	Objective	Reported Status	Assessment of Efficacy
Real-Time Textual Record Updates	Real-time updates on encumbrances, ownership, possession, and classification	Some progress reported in experimental villages where land transactions prompt automatic updates	There are still considerable delays in real-time updates because of insufficient integration in various areas and verification procedures.
Real-Time Spatial Record Updates (Cadastral Maps)	Real-time updating of geographical information and land boundaries	In a few localities, cadastral maps have been digitized with some degree of textual and spatial record integration.	restricted success in upgrading spatial databases. Boundary disputes are still challenging to resolve, and manual verification continues to bring about delays.
Integrated Mutation and Registration	smooth post-registration modification to account for record modifications.	The pilot initiatives have substantially integrated; registration data enters the mutation procedures, but delays are still present because of manual verification.	Complete automation is still expected. Checks persist to be carried out on mutations, which causes updates to be delayed and ownership reflection to be absent.

Encumbrance and Classification Updates	instantaneous land classification updates or encumbrance updates.	Online updates for encumbrance certificates and categorization data are available in certain regions of the state, but not elsewhere.	lapses in the encumbrances' real-time updating. Regulatory bottlenecks continue to impede classification adjustments.
Public Access and Transparency	enable citizens real-time accessibility to updated land records.	Through Dharani Prtal, the public can access records online, however real-time updates are frequently slowed down.	Although the updates are made in real time, technical and procedural delays make them less accessible to the general public.

4. CONCLUSIONS & RECOMMENDATIONS

CHAPTER 4: CONCLUSIONS & RECOMMENDATIONS

Under the Ministry of Rural Development, the Department of Land Resources serves as the primary government body responsible for the overall strategy, planning, and implementation of the "Digital India Land Records Modernization Programme (DILRMP)." The DoLR started the Digital India Land Records Modernization Programme (DILRMP) in 2008 with central funding, and with full center support, it was converted into a Central Sector program in 2016. Additionaly the program was extended through 2025-2026

ILIMS, or the Integrated Land Information Management System, is one such creative project. The basic components of computerizing land records, including the integration of SROs with land records, registration, maps, and record of rights (RoR), have advanced significantly. In addition, DILRMP has been used to initiate numerous innovative initiatives.

4.1 CONCLUSIONS COMPUTERIZATION OF LAND RECORDS (CLR)

The following explains the analysis and conclusions of the Computerization of Land Records (CLR) with regard to advancements in the areas of textual record digitization, spatial record digitization, registration process computerization, integration of these three elements, training and capacity building, and Web-enabled Land Records.

a) Record of Rights (RoRs):

- There are 2,29,28,429 sy. nos. in total, and the state has 86,22,982 RoRs registered. The computerisation of all 86,22,982 RoRs has been completed successfully.
- The state's land records that are owned by the government have been successfully computerised. This project, also known as the digitisation of Records of Rights (RoR), improves land management's accessibility, effectiveness, and transparency. All state residents can now access the Records of Rights (RoR) for government-owned land on a dedicated web page.
- The availability of digitally signed Records of Rights (RoR) for download by any citizen is one of the state's significant advancements in land administration systems.
- The state has implemented a feature that enables the verification of digitally signed Records of Rights (RoR) using a QR code or unique ID as part of its ongoing efforts to improve openness, security, and convenience in land record management. The way that records are kept and accessed has changed significantly as a result of technology. The

transition from manual to digital record keeping has been one of the biggest transformations. An important step towards efficiency and transparency in land management has been taken with the release of Record of Rights (RoRs) for entire villages to all citizens.

- There are no multiple landholders mentioned in RoR since each land parcel is alotted to a single person/pattadar by assigning khata no.
- At present, RoRs are linked with Aadhar numbers and mobile numbers of land holders.
- Currently, there is provision for citizens to apply online for correction in there RoRs.
- RoR database is not yet linked with cadastral maps.
- RoR database is linked with banks for mortgage. In Dharini portal loan charge module is enabled for bankers wherein they can create or release charges on land based on the verification of land records from Dharini portal.

b) Cadastral Maps

- The last survey was conducted in 1936-1949 at scale of 8"=1mile ; 16"=1mile
- A significant amount of the state is covered by the 10480 cadastral maps in total, and all 10480 maps were successfully scanned.
- In all, 10253 of the 10480 scanned maps have been transformed into digital format (vectorised).
- A total of 8999 cadastral maps have been georeferenced.
- There are 8999 georeferenced cadastral maps in all, and 40 lakhs of land parcels have been georeferenced thus far.
- Online facility is available through MEESEVA for land owners to request survey of their land parcel for subdivision.
- As on date the number of online requests pending are 1719.
- Subdivisions are updated in the Cadastral map as a practice.
- Ratio of Survey numbers and RoRs land holders as per RoR is 5.6.

c) Registration:

- There are 601 Tehsil Offices (Joint Sub-Registrar) and 142 Sub-Registrar Offices (SROs) in the state. These offices are positioned thoughtfully around the state to offer easily accessible services to the public. The state currently has 142 Sub-Registrar

Offices (SROs) that are completely automated. In 1999, the state's first Sub-Registrar Office was automated. Additionally, the state's most recent SRO was automated in 2020.

- Throughout the state 8,41,324 land properties were registered in the fiscal year 2023–2024.
- Online Slot booking facility is available for registration for citizens.
- In property transactions, property valuation rates—such as Circle Rates, Ready Reckoner Rates, Guideline Values, and Collector Rates—have a significant impact on registration costs and stamp duty. Public access to these tariffs is provided via **Telangana Registration and Stamp Department's website (https://registration.telangana.gov.in/).**
- It is necessary to record the PAN, Aadhaar, and mobile numbers of all individuals participating in registration procedures.
- Property attributes (survey number, door number, plot number, khasra, khatouni number etc) are captured in online system.
- Online payment facility for application fee-Stamp duty, registration fee etc is available for citizens and e-calculator (online stamp duty calculator) also made availaible to compute fees.
- SRO's has the facility to generate encumbrance certificate and e-search and SRO's cal also access legacy data as ready reference.
- The IGR Instructions demand that the subdivisions in the cadastral maps be updated; this is not just a practice.
- It is not yet common practice to take party signatures with a digital pen and pad.
- A matching digital mutation in the Records of Rights (RoR) is immediately triggered by each registration.
- SRO has the ability to look up litigations for properties that are set to be registered online.
- Currently, residents using eKYC for the first sale, lease, and licensing agreements do not have access to an online registration system.
- AI Nibhrit solution is available for masking personal information about PAN, Aadhaar number and fingerprint impressions on registered pdf deeds
- From the year 1983 digitised legacy data is availaible for Telangana state.

- There is an online grievance redressal method for submitting complaints about property registration at Sub-Registrar Offices. 378 claims were resolved in FY 2023–2024
- The mobile app developed for land registration services in Telangana is called "Dharani." It was launched to facilitate the process of land registration and management in the state.

d) Mutation

- Telangana provides an online mutation facility for land records.
- In Dharini portal, citizens can apply for mutations, check the status of their applications, and access related services. This online system aims to simplify the process and enhance transparency in land transactions.
- Total of 30,220 application were received in FY 2-23-24 for mutation among which 14,380 were disposed.
- Presently in Dharini instantaneous mutation is happening. For pending mutation which are registered before Dharini in SRO for such cases citizen has to apply for pending mutation based on registered document. Final approving authority is District Collector and on approval, Tahsildar will perform mutation and do digital sign.
- After completion of registration SMS will be sent to seller & Buyer on the transacted extent.

e) Revenue Court Management System

The 2020 Telangana Rights in Land and Pattadar Pass Books Act does not specifically designate any revenue courts. As an alternative, the government created the DHARANI digital platform to manage the ROR. Land records are streamlined and information accessibility is facilitated by this program. To ensure localised upkeep of land records and rights, the ROR registry is actually kept in the Tahsildar office in every village.

4.2 CONCLUSIONS OF REAL TIME MIRROR (RTM)

Through interviews with landowners, tenants, and any other institutions involved, the study team evaluated the RTM Status with field validation and ascertained whether spatial and textual records are updated in real time during transactions, succession,

and/or subdivision at the land parcel level. They covered the following essential components: updating and real-time status of textual and spatial records on the ground. The following are the main conclusions drawn from Real Time Mirror (RTM) of six crucial elements.

a. Difference between Spatial Records and Textual Record

- More than three quaters (85.5%) of respondents indicated that there was no difference between the extent of land parcels and land records with regard to updating partition and demarcation operations.
- Regarding the distinctions between textual and spatial records, specifically with relation to the updating of demarcation and partition operations. According to the entire field survey, RoR is only 100% existent in both villages.

b. Difference between on-ground status and land records status in terms of ownership

- In the state as a whole, the majority of respondents (90.8) stated that they did not think the RoR format could adequately capture non-agricultural land uses (such as in-built-up areas, ownership of apartments or individual floors), and only 9.2% said that it did. Regarding the variations in ownership between the situation on the ground and the status in the land records
- According to 21.8% of respondents, they discovered that, particularly when it comes to shared ownership, the information in the land record and the on-ground ownership details—including any built-up area on the land parcel—concur. However, 78.2% of respondents said that the information in the land record and the information on the ground, including any built-up area on the parcel, did not match, particularly when it came to shared ownership.

c. Difference between the on ground use of the land and the one stated in RoR?

- A total of 91.8% of the respondents stated that there is no difference between the Record of Rights (RoR) and On-Ground Land Use, while the remaining 8.2% stated that there are some anomalies present.

- In reference to the efficacy of the ROR format in obtaining detailed information about non-agricultural land uses, only approximately 6.7% of respondents said that RoR is catching these land uses, while the remaining 93.3% said that RoR is not.

d. Differences between the on ground location and that marked in revenue maps

- Overall, 89.4% of those surveyed said they could not discover any differences between revenue map markings and on-ground locations while 10.6% differ.
- Similarly, 94.8% of respondents said they could not discover any disparities in area between the Records of Rights (RoR), Spatial Records on Paper, and On-Ground Situation.

e. Difference between on ground status and land records status, in terms of Encumbrances on parcel

- Regarding parcel encumbrances, nearly all respondents (99.7%) stated that they could not detect any discrepancies between the status on the ground and the status in the property records.

f. What are the various encumbrances on the land parcels and how many of these mentioned in the RoR.

- On field visits, many people have been observed to be reluctant to divulge details about their lawsuits, court orders, liens, mortgages, debts, and acquisition processes. This resulted in only 3 of the 1079 responders answering, with the rest not responding at all. Because of the lack of data, mapping the figures becomes difficult.

4.3 RECOMMENDATIONS:

According to the examination of secondary data, field observations, and input from all parties involved in the execution of the centrally funded project that DoLR launched, the Digital India Land Records Modernization Programme (DILRMP), the computerization of land records (CLR) has been evaluated. Textual and spatial records are being digitized, the registration process is being computerized, Web Enabled Land Records are being integrated with these three components, and the status of Real Time Mirrors (RTM) in a few chosen villages is being

evaluated in order to determine their effectiveness in accordance with the standards established by the DoLR in Telangana. The following are some more suggestions for the enhancement and successful outreach of the program based on the study's findings.

- The majority of sub-registries have been totally automated, and the current system is deemed user-friendly.
- Since 1949 no survey has took place to update the records, needs to be addressed immediately.
- FMBs (spatial data) and Land Records (textual data) related to Telangna are connected one-to-one and are entirely digital. It is necessary to georefence the remaining land parcels as soon as possible.
- Almost all the cadastral maps are scanned and vectorised.
- RoR database could be linked with cadastral maps.
- All 144 of the state's Sub-Registrar Offices (SROs) are computerized and communicate with the Revenue Offices. In the state's endeavors to update its land administration system, the Land Record database is a noteworthy accomplishment. The online appointment scheduling feature enables people to plan a time for their property registration whenever it is most convenient for them.
- The Real Time Mirror (RTM) findings with field (few respondents) validation varied in the case of the extent of land parcel differences between land cords and land parcels with regard to updating of partition and demarcation actions.
- Additionally, it has been discovered often that the land extent is updated in government records, but the citizen passbook is out of date, causing a rift between the two groups and contributing to the discontent of the citizens.
- Modern survey technology must be used promptly to base the projected survey/resurvey activity and the Survey of India (MoU signed). As a result, the current land records will become a geo-referenced land records platform with GIS capabilities. This will turn the current land records into a geo-referenced land records platform that is enabled by GIS. This platform will serve as the foundation for integrating textual and spatial data from other line departments, including registration, town and country planning, local bodies, electricity, PWD, banks, and civil courts, among others.

- Real-time notification of mutations relevant to inheritance if can made possible by integrating birth and death registrations with the Records of Rights (RoR).
- Campaigns to educate the public can be launched to enable people to use digital land records efficiently
- Online registration system is not yet availaible for citizens availaible through eKYC for first sale, Leave and License Agreemnts to facilitate presence less registration anywhere anytime.
- A GPS enabled demarcation app could be developed for landowners in which they can demarcate the area extent which could later be then verified with the RoRs.
- Conduct periodic can surveys to ensure records reflect real time changes. Automated tech driven surveys(drones, satellite imageries) can speedup the process and improve accuracy.

4.4 MAJOR FINDINGS / OBSERVATIONS

1. Current Status of Computerization of Land Records at the Tehsil Level in, the computerization of land records at the Taluk level is now making considerable progress, but full adoption would need resolving several persistent issues. Telangana has initiated steps to digitize land records and modernize land administration procedures throughout all of its Tehsils under the Digital India Land Records Modernization Programme (DILRMP).

- **Digitization of Textual Records**: The digitization of textual land records at the Tehsil level in Telangana has largely been completed. This process involved digitizing textual land records, including ownership, land classification, and crop details, through the state's e-services portal. The systematic approach adopted in this initiative has enhanced the accuracy and accessibility of land ownership data, significantly reducing the risks of loss and deterioration associated with physical records.
- **Digitization of Spatial Records (Cadastral Mapping):** Cadastral mapping efforts are ongoing, with substantial progress in the digitization of spatial records. This includes the creation and updating of cadastral maps that delineate land parcels and their respective boundaries. While many Tehsils in Telangana have successfully integrated spatial data into digital formats, challenges remain in ensuring that these maps

accurately reflect the current on-ground realities due to historical inaccuracies and changes in land use.

- **Computerization of the Registration Process**: The computerization of the land registration process has been a critical component of Telangana's land record management reform. This system allows for online registration of property transactions, thereby streamlining the process and reducing the time required for completion. The integration of digital tools in registration offices has improved operational efficiency and enhanced user experience.
- **Integration Between Textual, Spatial, and Registration Records:** Efforts to integrate textual, spatial, and registration records are underway by Telangana, creating a cohesive database that facilitates comprehensive land management. This integration aims to ensure that changes in ownership and land characteristics are reflected uniformly across all records, thus improving the reliability of land information systems.
- **Web-Enabled Land Records Access:** The state has established web-enabled platforms, such as the Dharani Portal, to provide citizens with easy access to land records. This online access allows landowners to view their records, check ownership details, and obtain relevant certificates without the need for physical visits to government offices. The implementation of this portal has significantly enhanced transparency and accessibility for the public.
- **Ongoing Efforts and Future Goals:** Telangana is putting effort to address existing challenges, such as the need for improved infrastructure in rural areas and the enhancement of real-time update mechanisms. Future goals include expanding the coverage of digitized records, enhancing the accuracy of cadastral maps, and further integrating various data systems to support effective land governance. Additionally, initiatives aimed at increasing public awareness and training for officials will be essential to ensure the sustained success of land record computerization in Telangana.

2. **Record updating status and RMT status based on an independent evaluation of a sample size of RoR entries:**

The Records of Rights (RoR) in Telangana encompass essential documentation that provides comprehensive details regarding land ownership, usage, and pertinent information

related to individual land parcels. These records serve as a critical foundation for land administration and governance within the state

- **The most recent status of record updates**: Significant transactions are followed by a thorough update of land records, but backlogs persist in some areas, mostly because of inadequacies and procedural delays. Misclassification of land, obsolete ownership records, and border descriptions are among the many areas where inaccuracies have been reported. Significant mismatches are found by comparative investigations, especially in metropolitan settings. Land records are now more easily accessible online, although there are still issues with low internet availability and low digital literacy in rural areas. Furthermore, the integrity of the land management system as a whole may be compromised by underreporting of discrepancies brought about by a lack of public awareness of these records.
- **Status of Real-Time Mirror (RTM) Implementation:** Pilot testing of the Real-Time Mirror (RTM) idea has been conducted in a few districts, showing promising results in the instantaneous updating of textual records after land registration. Nevertheless, since many Taluks still rely on manual verification procedures, integration issues still exist. Further impeding the effectiveness of the real-time updating process are problems with data consistency across different regions and insufficient technical Infrastructure in rural areas

3. Process Improvements for Enhanced Revenue Utilization, Records Status, and Citizen Access

This study proposes process modifications aimed at improving revenue utilization, the status of records, and citizen access, informed by an independent assessment of a representative sample of Records of Rights (RoR) entries.

- A number of process modifications can be put in place in Telangana to improve the state of land records, citizen access, and income usage. These include the creation of a centralized digital platform for land-related revenue collection, the adoption of automated fee calculation and payment systems to streamline revenue collection procedures, and the regular audits and monitoring measures that are put in place. Important actions include connecting land records to financial institutions to enable loans against land holdings and using data analytics to estimate revenue. All of these

projects work to increase the accessibility and accuracy of land-related information for the general public.

- Automating the mutation process, putting in place reliable workflow management systems, standardizing data entry procedures, and putting automated validation mechanisms in place are all necessary to improve the state of land records. Furthermore, it is crucial to perform routine cadastral surveys and update mapping data using contemporary technology like drones and Geographic Information Systems (GIS). In addition, encouraging community participation in the confirmation of land borders and ownership information during surveys can improve data quality and lower the likelihood of disagreements.
- To increase citizen engagement, it is essential to upgrade the current e-services portal, create mobile applications for better accessibility, and run public awareness efforts. Important steps also include setting up citizen feedback channels, holding frequent public forums for direct engagement with land administration authorities, and planning workshops tailored to the needs of rural residents. The overall goal of these programs is to increase public knowledge of and accessibility to land records and associated services.

FIELD PHOTOS:

ANNEXURE-I: PART-I

S.No.	Parameter and Indicators	
MODULE I: RECORDS OF RIGHTS (RoRs)		
1.	Total number of Survey no's	It includes all survey available in Dharini. Total Survey-2,29,28,429 Extent(Ac, Gts)- 2,50,02,290
2.	Total number of RoRs in the State	86,22,982
3.	No. of RoRs computerized	86,22,982
4.	What are the other documents/ registers maintained by the Revenue authorities in the State related to RoR such as Jamabandi Register etc.	As per ROR Act 2020, all the land records are made available online and no manual records are maintained
5.	A brief process flow of who maintains, what and when entries are made in these documents/ registers to be provided	System generated log register is being maintained at Tahsildar & Jt Sub registrar office after completion of every registration.
6.	Is RoR of Govt. held land computerized in the State	Yes
7.	Is RoR available on web portal for view/ download by any citizen	Yes
8.	Is digitally signed RoR available for download by any citizen	Yes i.e., PPB signed copy is made available to view and download by citizen
9.	Is digitally signed RoR a legally valid document in the State	Yes
10.	Is digitally signed RoR verifiable through a QR code/ unique ID	Yes in passbook QR Code/Unique ID is available

11.	Have manual records been discontinued so that digital records are the sole legal record?	Yes
12.	Is list of all RoRs of entire village available for view/ download by any citizen	No, only search option enabled to citizen based on Sy/Sub division No and Passbook no
13.	Total Khata numbers in the State	86,22,982
14.	Average number of land holders in each RoR	One
15.	Number of single land holder RoRs	Total no of private khata (Ind, Org, NRI) in state. Private Khata - 85,58,732
16.	Number of pending applications for including names in RoRs	As asked by Department, Count of TM33 MSN Pending Applications (at Tahsildar, RDO, Adnl Col, Collector, CCLA) Pending Applications- 8078
17.	Where more than one land holder is mentioned in RoR, is share of each holder mentioned in RoR?	Does not arise. Since each land parcel is allotted to a single person/ Pattadar by assigning Khata no
18.	Details regarding in what format and in which column share of each holder is mentioned to be elaborated	Does not arise
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)	Does not arise
20.	Is RoR seeded with Aadhaar	Yes
21.	If yes, number of RoRs seeded with Aadhaar	Khata Count seeded with Aadhaar with at least one active Survey no / sub-division no, Survey count seeded with Aadhaar and extent also Khata– 78,01,659 Survey –2,02,44,073 Extent (Ac. Gts.) –1,59,62,809

22.	Is RoR seeded with mobile number of land holder	Yes
23.	If yes, number of RoRs seeded with mobile	Khata Count seeded with Mobile and have at least one active survey no / sub-division no, Survey count seeded with Mobile and extent also Khata– 72,08,466 Survey –1,89,73,107 Extent (Ac. Gts.) – 1,47,38,565
24.	On what occasion phone number and Aadhaar are seeded?	1. In Dharani portal, pattadar has to perform e-KYC to seed their Aadhar no for processing of their application and it is made mandatory 2. During the process of Registration & Mutation mobile numbers are captured.
25.	Is an alert message sent to the registered mobile number in case of any change in that RoR / mutation?	Yes
26.	Is there a provision for citizen to apply online for correction of their RoR	Yes
27.	Total number of RoRs corrected in the last financial year (April 2023-March 2024)	22709
28.	Is RoR database linked with Cadastral maps	No
29.	If yes, Number of RoRs linked with Cadastral maps	Does not arise
30.	Is RoR database linked with Banks for mortgage	Yes, in Dharani portal Loan charge module is enabled to Bankers wherein they can create or release charge on land based on verification of land records from Dharani portal.
31.	If yes, number of districts where it is linked	32 Districts
32.	Also, number of banks and bank branches which are linked	No of active branches

		No of Banks- 41 No of Branches - 5,949
33.	Number of banks and bank branches which are not linked	NA
34.	Is mortgage mentioned/ red-flagged in the RoR	No, but the entries will be reflected in Encumbrance certificate in Dharani Portal
35.	Process flow followed for mention/ red-flag in RoR to be provided	Does not arise. When user does Registration, an alert comes but system allows to process application.
36.	Number of RoRs with mention/ red-flag of mortgage (as on date)	Does not arise.
37.	Is mortgage release updated in the RoR	Yes
38.	Process flow followed for mention of release of mortgage in RoR to be provided	Yes Loan charge is closed by Bank maker & checker
39.	Is online transliteration facility available for RoRs	No
40.	Number of columns in RoRs; what details are prescribed to be captured in RoRs; What details are actually captured and not captured in practice?	20 columns are shown in village pahani out of them the following fields are captured at the time of Registration: 1. Pattadar Name 2. Father's / Husband's Name 3. Aadhaar no / CIN No / Passport no 4. Gender 5. Caste category 6. Survey no / Sub-division no Extent
41.	Is gender of land holder captured in RoR? If yes, how many females are land holders?	Khata, Survey & Extent for males & females Male Khata– 53,15,908 Survey – 1,47,72,450 Extent (Ac. Gts.) - 1,13,59,464 Female Khata – 26,44,138

		Survey – 57,62,961 Extent (Ac. Gts.) – 48,24,750
42.	What is the unit of land measurement used in RoR? What is its conversion in acres?	Acres guntas
43.	Is land record of urban and peri-urban areas also digitized and updated?	Yes
44.	If yes, how many urban RoRs are there and which entity maintains it?	Khata– 11,39,444 Survey – 33,15,485 Extent (Ac. Gts.) – 25,84,511
45.	Describe terms used in RORs and Maps along with English /Hindi standard terms in tabular form.	ROR- Khata, SyNo, Extent, Pattadar name, Gender, Caste, Aadhar, Land nature, Land classification, Manner in which land acquired Maps-Tippon, Grama naksha
MODULE II: CADASTRAL MAPS		
1.	Year when Survey was last done in the State	1936-1949 F
2.	Scale of available cadastral maps	8'' =1 mile 16'' – 1 mile
3.	Total no. of Cadastral Maps	10480
4.	Total number of maps scanned	10480
5.	Total scanned maps converted into digital format (vectorized)	10253
6.	Total no. of cadastral maps Geo-referenced	8999
7.	Number of Land Parcels Geo-referenced	40 lakhs
8.	Number of Land Parcels assigned ULPIN	2 villages on pilot
9.	Whether any other unique ID assigned (Is unique ID a random number or does the ID has some logical basis? If logical, details of the same	Lpm number comprising District Mandal village survey number
10.	Is online facility available for land owners to request survey of their land parcel for sub division	Yes Through meeseva

11.	Brief description of process flow from receipt of request to updation of sub-division including time taken (average days)	Application in meeseva centre
12.	Number of online requests pending for sub division (as on date)	1719
13.	Is subdivisions updated in the cadastral map, as a practice?	Yes
14.	Ratio of Survey number and RORs land holders per ROR	5.6
Module III Registration (Urban)		
1.	Total no. of SROs in the State	142 SROs + 601 Tehsil Offices(Joint Sub - Registrar
2.	Number of SROs computerized	142
3.	Month and Year of Computerisation of 1st SRO in the State	1999
4.	Month and Year of computerisation of latest SRO in the State	2020
5.	Number of land properties registered in FY 2023-24	18, 41, 324
6.	Number of SROs integrated with Revenue Offices and Land Record database	144
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	Citizen details (Buyer & Seller) Property details

9.	What Property attributes (survey number, door number, plot number, khasra, khewat, khatouni number, etc.) are captured in online system	District/mandal/Village, Khata no, Pattadar name, father/Husband Name, Sy no, Extent
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. Govt. lands are placed under prohibited properties list in Dharini under separate notional khatas which are blocked for any transactions.
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. Is the copy of RoR downloaded as proof of checking? If not, what process is followed as proof for checking?	Yes
16.	Is this mandated in in Rules, SOP, Manual or just a practice?	Yes (mandated)
17.	In practice, how many year's registration deeds are searched by SRO before registration?	Made availaible from 1983
18.	Do SRO check seller's ownership document by past record.	Yes
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	Yes

21	Is facility available to verify eKYC of Aadhaar/ PAN during admission of parties	Yes
22.	Whether party signature is captured using digital pen and pad	Yes in Urban areas. No in rural areas
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	No
26	Whether SRO has facility to generate encumbrance certificate and e-search	Yes
27.	Whether SRO can access legacy data as a ready reference	Yes
28	Does every registration trigger a Corresponding digital mutation in the RoR	Yes, instantaneous mutation happens for every registration
29	Whether SRO can push pending data of mutation in case of any network failure	Real time mutation happens with registration
30	Whether SRO can check litigations online for a property scheduled for registration	Yes. A scheduled property which is under litigation (court stay) transaction cannot br performed
31	Whether SRO is able to trigger SMS for important events during document registration	No
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	Yes

34	Whether (AI Nibhrit) solution is available for masking personal information of PAN, Aadhaar number and fingerprint impressions on registered pdf deeds	Yes
35.	From which year is digitised legacy data available	1983
36	Whether an Online grievance redressal system is available for filing complaints related to property registration at Sub Registrar Office	Yes
37.	If yes, number of online grievances received and settled during FY 2023-24	378
38	Whether a document can be searched based on Name, Property details like survey number, deed number, etc.	Yes
39	Whether there is a mobile app developed for land registration related services (Yes/No)	No

MODULE-IV: MUTATION:

S no	Parameter and Indicators	Information
1.	Number of applications received for mutation in FY 2023-24	30,220
2.	Number of applications disposed in FY 2023-24	14,380
3.	Number of applications pending for mutation	16,972
4.	Is online facility available for requesting mutation	Yes
5.	Is auto-trigger mutation facility available in the State	In Dharani instantaneous Mutation happens for every registration
6.	What type of transactions are eligible for auto-trigger mutation?	Does not arise
7.	How many such transactions occurred in FY 2023-24 which were eligible for auto-mutation?	Does not arise

8.	Of these, how many mutations were actually completed through auto-trigger	Does not arise
9.	Number of mutations related to sub-division	Does not arise
10.	Out of total mutation cases received through Registration how many are for mutation of land with entire Khasra	Does not arise
11.	What is the process flow followed in the State for mutation process	Presently in Dharani instantaneous mutation is happening. For pending mutation which are registered before Dharani in SRO for such cases citizen has to apply for pending mutation based on registered document. Final approving authority is District Collector and on approval, Tahsildar will perform mutation and do digital sign.
12.	What is the process followed for receiving objections from public?	No
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	No SLA fixed for transactions happening in Dharani
16.	Is SMS alert sent to applicant at each stage for his information	No, only after completion of registration SMS will be sent to seller & Buyer on the transacted extent
17.	Does Patwari submit his report online	No, As per Telangana Pattadar Passbook Act, 2020 there is no role for patwari
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?	Does not arise

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? If so, the details of process and cycle followed for updation	Yes
22.	In what type of mutation request it is carried out without inviting objection?	Presently in Dharani portal Registration with instantaneous mutation happening. In case of pending mutation is processed based on the registered document i.e., prior to Dharani.
MODULE V : REVENUE COURT MANAGEMENT SYSTEM		
1.	Total number of Revenue Courts in the State	
2.	Number of Revenue Courts computerised	
3.	Number of revenue court cases handled in the computerized system in the last financial year	
4.	Number of revenue court cases handled in the manual system in the last financial year	
5.	Does State have online system for public to enter case details? What details are captured at data entry stage?	
6.	Is online appointment date and time notified to applicant through email/ whatsapp/ website?	
7.	Is the court order typed on the RCMS system directly or is separate pdf of the court order uploaded?	
8.	Is court order sent to litigants on email/ whatsapp/ posted on website	
9.	Are court hearings held online/VC or only in physical mode or hybrid	
10	How the court cases documents are stored in the court (electronically/ physically)	

11.	Is Land Records database linked to RCMS system and can RoR be viewed/ downloaded by Revenue Courts	
12.	Is Registration software linked to RCMS software enabling pushing of land registration to auto-mutation?	
13.	Is the fact of a pending revenue court case red-flagged in RoR? What is the system followed in the State for red-flagging and what exact remarks are mentioned on the RoR and in which column?	
14.	Number of revenue court cases red-flagged in the RoR (as on date)	
15.	Is Land Records database linked to eCourts system of Civil courts?	
16.	If yes, how many eCourts are linked with LR database?	
17.	Is Land Records database linked to eCourts system and can RoR be viewed/ downloaded by Civil Courts	
18.	Is the fact of a pending civil court case red-flagged in RoR? What is the system followed in the State for red-flagging and what exact remarks are mentioned on the RoR and in which column?	
19.	Number of civil court cases red-flagged in the RoR (as on date)	

About NIRDPR:

One of the leading national centers of excellence in rural development and panchayati raj is the National Institute of Rural Development and Panchayati Raj (NIRDPR), an independent organization within the Union Ministry of Rural Development (MoRD), Government of India. Acknowledged globally as one of the UN-ESCAP Centers of Excellence, it enhances the capabilities of PRI elected officials, bankers, NGOs, and other stakeholders through interconnected training, research, and consulting initiatives.

Centre for Geoinformatics Application in Rural Development

National Institute of Rural Development& Panchayati Raj (NIRD&PR)

Ministry of Rural Development (MoRD)

Government of India (GoI), RAjemdranagar, Hyderabad 500030