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INDIAN INSTITUTE FOR HUMAN SETTLEMENTS

EVALUATION OF QUALITY OF LAND RECORDS

Gujarat

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Summary: Critical Findings

A. **Gujarat has made significant advancements in the land information system. Land records of 100% of the villages are computerized and are made available online. The implementation of real-time updates is a highlight, i.e., whenever there is a change in the VF 7 form (ownership of land) these updates are immediately reflected on the online portal.**

B. **Joint ownership is prevalent - on an average, there are about four landowners per RoR in the state. However, the RoR does not mention shares of each of the joint owners.**

C. **The practice of maintaining a separate Record of Rights (RoR) for each land parcel is followed. When a land parcel is partitioned, each resulting section obtains its own RoR.**

D. **Between 2010 and 2018, resurvey was finalized in 64% of villages, resulting in GIS-based maps that are typically more accurate than un-promulgated villages.**

For villages with newly promulgated records, RoR includes a map of the land parcel.

E. The Gujarat Revenue and Village Information (GARVI) system allows SROs to generate encumbrance certificates and citizens to conduct e-searches for property records, ensuring access to information. Legacy data is available since 2007, and others are under digitisation.

F. The GARVI system does not pull direct ownership details from the Record of Rights during registration, due to a 2016 High Court order. This information gap could expose buyers to post-transaction legal challenges, and highlights the mismatch between the technological progress in the sphere of land record management, and the legal position under the Indian Registration Act, 1908, which has remained unchanged for past several decades.

G. Urban properties in Gujarat are managed under the City Survey Information System (CSIS). For changes in non-agricultural land use post-2021, property cards are issued and data is available in CSIS, whereas data for changes before 2018 is available on the e-Dhara portal.

H. In rural areas, e-Dhara system is completely integrated with GARVI, enabling automatic triggering of mutation applications immediately following registration. In 2023-24, 55 percent of total mutation applications were triggered through the GARVI system.

I. **16 lakh mutation applications were filed and processed in 2023-24, and around 2 lakh mutation applications were pending as of August 2024. The iORA portal allows for tracking of land records related citizen services, and ensures that service delivery timelines are regularly met.**

J. **The auto-trigger does not apply to non-agricultural land in rural or urban areas, managed by the City Survey Information System (CSIS), potentially causing updation delays and information mismatch in property cards. It is estimated that transactions on non-agricultural lands may be around 50 percent of all registered transaction deeds.**

K. **100% villages have been digitized and georeferenced, with 64% being GIS-based and remaining using older maps. Subdivisions may take upto 30 days to be reflected in the online spatial records.**

L. **BhuNaksha is integrated with E-Dhara, and the live VF-7 data integration ensures up-to-date information.**

State has plans to introduce BhuNaksha 2.0 which will allow subdivisioning of land parcels, and thus make

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1. Introduction

Gujarat, located on the western coast of India having the longest coastline spread across 1600km, is known for its rich cultural heritage, robust economic growth, and progressive governance. Formed on May 1, 1960, following the bifurcation of the erstwhile Bombay State into Gujarat and Maharashtra, the state was established to unify Gujarati-speaking regions. Gujarat's topography can be broadly classified into four major regions: the Rann of Kutch, the Kathiawar Peninsula (Saurashtra), the mainland plains, and the hilly regions in the east and southeast.

With a population of 6 crores (Census of India, 2011) accounting for around 5 percent of the total population of the country, Gujarat is the ninth most populous state in India. Its land area of 196,244 square kilometres makes it the fifth largest in terms of geographic size. Thus, making its density to be 308 persons per square kilometres. The sex ratio is 919 women per 1000 men and slightly above average literacy rates around 78.03 percent. Urbanization has been a major driver of growth in the state, with 42.6% of its population living in urban areas and the rest 57.4% of the population is considered rural, reflecting the state's increasing focus on industrialization and service sector development. Ahmedabad serves as the state's largest city, while Gandhinagar is the capital city. Gujarat has 33 districts which have 252 talukas and 18,225 villages (Census of India, 2011).

Gujarat's land revenue administration has evolved through a complex history influenced by both pre-colonial and colonial systems. During the British period, Gujarat was part of the Bombay Presidency, and its land administration was shaped by the Ryotwari system, which emphasized direct settlement with cultivators. This legacy, coupled with post-independence reforms, has influenced the current framework of land records management. The land records system of Gujarat comes under the aegis of the Gujarat Land Revenue Code (GLRC), 1879, a modified version of the Bombay Land Revenue Code, 1879.

The land records system in Gujarat has undergone significant modernization over the past few decades. The state has made substantial progress in digitizing land records and integrating various processes through the E-Dhara system, which facilitates the online management of land records and transactions. The AnyRoR@Anywhere platform was introduced to make land records accessible to landowners and stakeholders online. These initiatives were taken to reduce the reliance on manual processes, minimize errors, and improve transparency in land transactions. For property registration, Gujarat launched the GARVI (Gujarat Integrated Online Registration System) portal, which offers features like e-stamping, online appointments, and tracking of registration processes. For streamlining the property transactions and

reducing the scope for fraudulent practices, GARVI is linked to eDhara, thus automatically triggering mutations.

Methodology

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

The primary survey aimed to assess the real-time integration of textual and spatial records and the registration process in selected villages within Gujarat. For this purpose, two villages were selected in consultation with the Revenue Department, Land Records, NIC, and the registration department. One of the important criteria for selecting the regions was to choose districts that provide a comprehensive representation of the state. Consequently, Gir Somnath district and Navsari district were selected. The selected villages are Vadodra Dodia in Gir Somnath, and Onchi village in Navsari district.

Gir Somnath district is part of the peninsular Saurashtra and is primarily rural in terms of demography and economy. The total area of Gir Somanth district is 3,775 sq km with 345 villages spread across 6 talukas. The district has a population of 9,46,790 people (Census of India, 2011) making its density lower than the density of Gujarat with 250 people living per sq.km. The district was carved out of Junagarh district in 2013 and its headquarter was established in Veraval. In 2011 approximately 33 percent of the population lived in urban areas and the rest 67 were formed the rural population. Gir Somnath is primarily an agricultural district and about 71 % of land holdings are with small and marginal farmers; the average size of the holdings is 2.0Ha (PLP 2016-17 NARBAD, Gir Somnath District). The case village of this district was located 15km north from Veraval named Vadodara Dodiya; having the population of 4,304 (Census of India, 2011) and area of around 140 sq km. The village had 685 households in the year 2011.

Navsari district, on the other hand, is located in the close proximity of Surat. Navsari district had a total population of 13.3 lakhs (Census of India, 2011) with total area comprising to be 2,196 sq km making its density to be 592 people per sq km, which is considerably higher than the average state population density. The district has 6 talukas and 368 gram panchayats distributed among them. In the year 2011, around 31 percent of the population lived in urban areas and the rest 69 percent lived in rural areas. Navsari is primarily an agricultural district in terms of number of workers. About 47% of land holdings are with small and marginal farmers and the average size of the holdings is 0.55 ha (PLP 2016-17 NARBAD, Navsari District). However, there is significant industrial activity as well in the district, and the Navsari town aptly represents the picture of rapidly growing cities of Gujarat. The village undertaken for the study from this district is Onchi village. Situated 5 kms east of district headquarter Navsari, the village had a population of 1250 in the year 2011 with 268 households. The total area of this village is around 176 Ha.

A major factor for selection of these districts and villages was to see the records in both promulgated and non-promulgated villages, as discussed later in the report. In further consultation with District Revenue Officers (DROs) in both districts, specific villages were selected based on the minimal impact of urbanisation and the prominence of agricultural land use. Detailed surveys of the selected land parcels were conducted to collect primary data on land records, ownership details, mutation status, spatial updation, loan, encumbrance, and any discrepancies. Additionally, the integration of textual and spatial records and the registration process were evaluated to understand the effectiveness and challenges of DILRMP implementation. In these selected villages, a sample of fifty land parcels was taken from each village. The collected data from both components—information collection and primary survey—have been systematically analyzed to identify trends, discrepancies, and areas requiring improvement.

2. Record of Rights (RoR)

The Record of Rights (RoR) is a fundamental component of land administration in Gujarat, playing a critical role in documenting ownership, interests, and various rights associated with land parcels. Over the years, the state has made significant strides in modernizing its land records system, incorporating digital technologies to enhance transparency, efficiency, and accessibility. The state has a computerized RoR database and automatic update process (mutation) through e-Dhara software system; accessible online through AnyRoR@Anywhere portal.

The following sections provide an exhaustive examination of the various aspects of the RoR system in Gujarat, delving into legal processes, digital initiatives, land ownership statistics, and the integration of modern technologies.

Table / : Terminologies related to ROR in Gujarat

Textual Records	Spatial Records
● **VF 7**: Record of Rights (RoR) with ownership details. ● **VF 12:** Crop details. ● **VF 7/12**: A combination of forms 7 and 12; earlier used as a record to capture ownership and cultivation details. ● **VF 6**: Mutation entries. Certified entries are to be given effect in Forms 7 and 8A. ● **VF 8A**: Details of particular (group of) landowners. ● **135-D notice**: Notice inviting objections to a proposed mutation. ● **Property Card**: A PC is an RoR in urban areas (city survey areas). It contains details on a land parcel's area, ownership, taxes, and encumbrances.	● **Tippans**: Field measurement books (FMBs), noting the dimensions of each land parcel separately. ● **Gunakar books:** Calculation of area of each land parcel, using the dimensions mentioned in *tippans*. ● **Village maps:** Created by mosaicking the sketches from *tippans*; to be updated only by pencil. ● **Kami Jasti Patrak** (KJP): Describes new spatial details of a survey number, after mutation.

Source: Goswami, A., Jha, D., Mitra, S., Sasidharan, S., Lushington, K., & Yadav, M. (2021). Land records modernisation: Gujarat. Indian Institute for Human Settlements.

Average of four landowners per RoR

Gujarat's land ownership statistics provide valuable insights into the distribution and fragmentation of land across the state. As of the latest data, there are approximately **71 lakh khata (account) numbers** registered in the state's land records. However, it is important to note that this figure does not directly correspond to the number of individual landowners, which is 4.88 crores. A single landowner may hold multiple khata

numbers, especially if they own several land parcels in different locations. Also, a single khata number may have more than one land owner.

On average, there are about **four landowners per RoR**, reflecting the widespread practice of joint ownership in the state. This pattern of ownership often leads to informal fragmentation of land, making it cumbersome to manage and transfer land titles. Among the total of **4.88 crore landholders** in Gujarat, around **34.26 lakh RoRs** are held by single landowners. This indicates that the majority of land parcels in the state are owned by more than one individual, often within the same family or business group.

One RoR per land parcel

Gujarat does not follow the practice of clubbing together multiple land parcels or survey numbers in a single RoR, which is generally followed in some states in northern India, particularly in Punjab region. In Gujarat, each land parcel has a separate RoR. In case a land parcel undergoes partition and is sub-divided into two parts, each of the new parts will have a separate RoR, with the older RoR being archived.

Joint ownership without mentioning shares

The practice of defining shares among multiple landowners in an RoR is optional and is rarely carried out in practice. The exact shares of ownership are usually considered an internal matter among the co-owners, especially in cases where the land is inherited or jointly owned by family members. This omission often leads to ambiguity from the perspective of a prospective buyer. The specific ratio of landholding between multiple owners typically comes to light only when they apply for a formal partition of the land, leading to the issuance of separate RoRs for each part.

> *Single ownership constitutes 44 percent of the surveyed parcels in the two villages while Joint ownership arrangements covered remaining 56 percent. Of the jointly owner land parcels, 23 percent reported that they have some form of mutual understanding on spatial subdivision within the parcel.*

The survey indicated that while family members may mutually understand and respect the boundaries of usage, the lack of precise subdivisions in official records presents challenges. This practice leaves potential for disputes, particularly when one co-owner wishes to sell or further divide the land. The absence of clear shares also complicates interactions with government services, particularly when any form of mutation or inheritance processing is required.

Joint ownership is prevalent - on an average, there are about four landowners per RoR in the state. However, the RoR does not mention shares of each of the joint owners.

Resurvey carried out in 64% villages

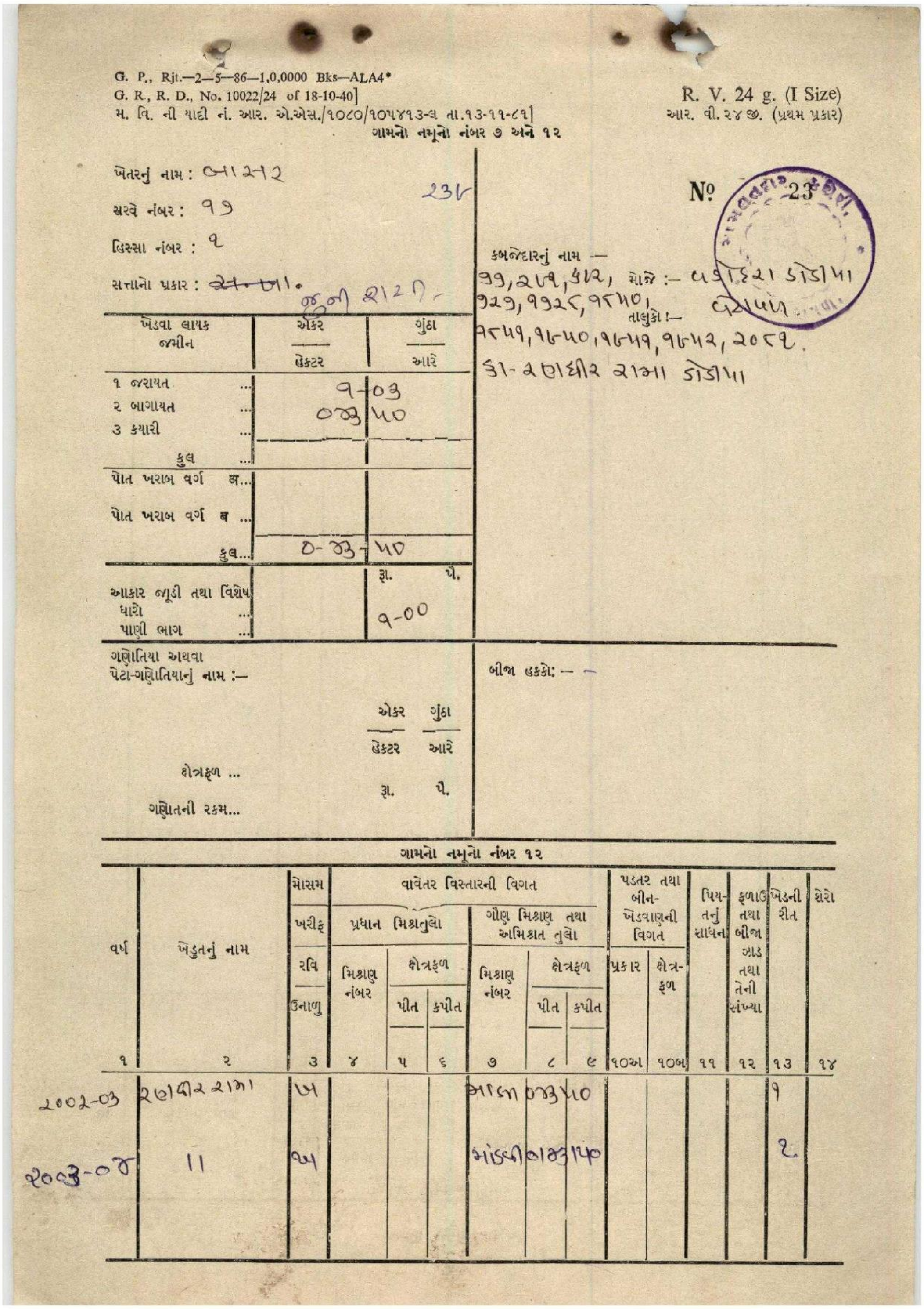
Between 2010 and 2018, Gujarat carried out a survey exercise under Digital India Land Records Modernization Program (DILRMP) across the entire state. As part of the resurvey, each land parcel was measured using satellite imagery, and ETS-DGPS, and new land records (RoR) were created. The new set of land records were published as a draft, inviting objections from land owners. These objections were then resolved, to the extent possible, and then the new records were promulgated i.e. they replaced the older set of records.

The resurvey was finalised i.e. promulgated in 64 percent of villages, and as a result the maps of these villages are GIS based and are perceived to be relatively more accurate than un-promulgated villages, which continue to use older set of cadastral maps. The promulgated villages use a different form of VF 7, which includes a map of the land parcel as well. Some sample RoRs are presented in the following three figures.

Between 2010 and 2018, resurvey was finalized in 64% of villages, resulting in GIS-based maps that are typically more accurate than un-promulgated villages.

For villages with newly promulgated records,
RoR includes a map of the land parcel.

Figure 1: Traditional form of the RoR (VF 7/12), prior to computerisation



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ગામનો નમૂનો નંબર ૭ અને ૧૨

No 23

ખેતરનું નામ : બારાર
સરવે નંબર : ૧૭
હિસ્સા નંબર : ૨
સત્તાનો પ્રકાર : જુની શરત

કબજેદારનું નામ —
૧૭,૨૫૧,૬૫૨, મોજે :— વડોદરા ડોડીયા
૧૨૭,૧૧૨૮,૧૮૫૦, તાલુકો :— ધોરાજી
૧૮૫૧,૧૯૫૦,૧૯૫૧,૧૯૫૨,૨૦૮૨.
૬૧-રણધીર રામા ડોડીયા

ખેડવા લાયક જમીન	એકર / હેક્ટર	ગુંઠા / આરે
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ગણોતિયા અથવા
પેટા-ગણોતિયાનું નામ :—

બીજા હક્કો: — —

એકર / હેક્ટર — ગુંઠા / આરે
ક્ષેત્રફળ ...
રૂ. પૈ.
ગણોતની રકમ...

ગામનો નમૂનો નંબર ૧૨

વર્ષ	ખેડુતનું નામ	મોસમ (ખરીફ / રવિ / ઉનાળુ)	વાવેતર વિસ્તારની વિગત: પ્રધાન મિશ્રતુલો: મિશ્રણ નંબર	ક્ષેત્રફળ: પીત	ક્ષેત્રફળ: કપીત	ગૌણ મિશ્રણ તથા અમિશ્રાત તુલો: મિશ્રણ નંબર	ક્ષેત્રફળ: પીત	ક્ષેત્રફળ: કપીત	પડતર તથા બીન-ખેડવાણની વિગત: પ્રકાર	ક્ષેત્ર-ફળ	પિયતનું સાધન	ફળાઉ તથા બીજા ઝાડ તથા તેની સંખ્યા	ખેડની રીત	શેરો
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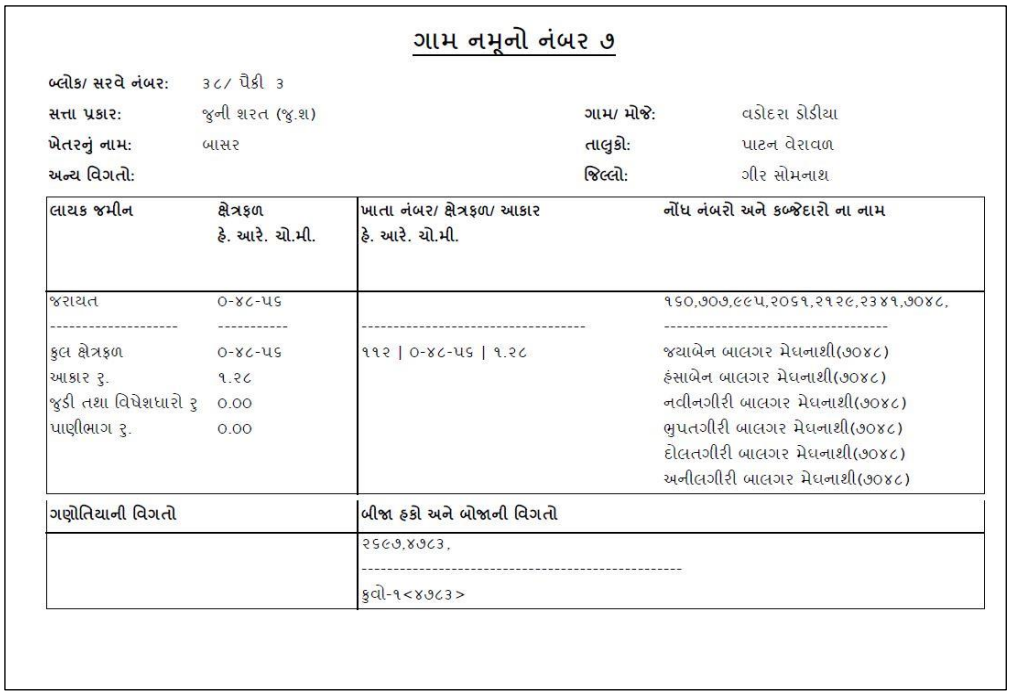
Source: anyRoR.gujarat.gov.in

Figure 2: RoR of Non- Promulgated village



ગામ નમૂનો નંબર ૭

બ્લોક/ સરવે નંબર: ૩૮/ પૈકી ૩
સત્તા પ્રકાર: જુની શરત (જુ.શ)
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ખેતરનું નામ: બાસર
તાલુકો: પાટન વેરાવળ
અન્ય વિગતો:
જિલ્લો: ગીર સોમનાથ

લાયક જમીન	ક્ષેત્રફળ હે. આરે. ચો.મી.	ખાતા નંબર/ ક્ષેત્રફળ/ આકાર હે. આરે. ચો.મી.	નોંધ નંબરો અને કબ્જેદારો ના નામ
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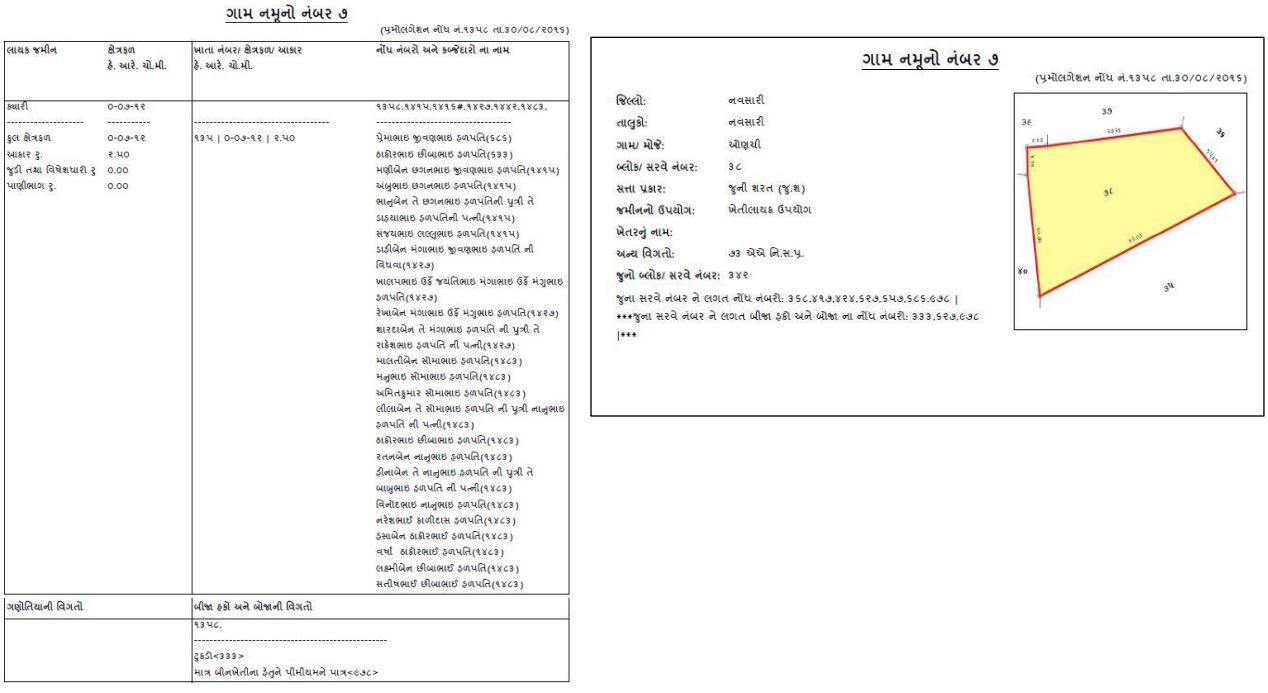
Source: anyRoR.gujarat.gov.in

Figure 3: RoR from a promulgated village, showing the digitized boundary of the land parcel



ગામ નમૂનો નંબર ૭

(પ્રમોલગેશન નોંધ નં.૧૩૫૮ તા.૩૦/૦૮/૨૦૧૬)

લાયક જમીન	ક્ષેત્રફળ હે. આરે. ચો.મી.	ખાતા નંબર/ ક્ષેત્રફળ/ આકાર હે. આરે. ચો.મી.	નોંધ નંબરો અને કબ્જેદારો ના નામ
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			શારદાબેન તે મંગાભાઇ ઠળપતિ ની પુત્રી તે
			રાકેશભાઇ ઠળપતિ ની પત્ની(૧૪૨૭)
			માલતીબેન સોમાભાઇ ઠળપતિ(૧૪૮૩)
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			અમિતકુમાર સોમાભાઇ ઠળપતિ(૧૪૮૩)
			લીલાબેન તે સોમાભાઇ ઠળપતિ ની પુત્રી માનુભાઇ
			ઠળપતિ ની પત્ની(૧૪૮૩)
			ઠાકોરભાઇ છીબાભાઇ ઠળપતિ(૧૪૮૩)
			રતનબેન માનુભાઇ ઠળપતિ(૧૪૮૩)
			ડીનાબેન તે માનુભાઇ ઠળપતિ ની પુત્રી તે
			બાબુભાઇ ઠળપતિ ની પત્ની(૧૪૮૩)
			વિનોદભાઇ માનુભાઇ ઠળપતિ(૧૪૮૩)
			નરેશભાઇ કાળીદાસ ઠળપતિ(૧૪૮૩)
			ઇસાબેન ઠાકોરભાઇ ઠળપતિ(૧૪૮૩)
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			લક્ષ્મીબેન છીબાભાઇ ઠળપતિ(૧૪૮૩)
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ગામ નમૂનો નંબર ૭

(પ્રમોલગેશન નોંધ નં.૧૩૫૮ તા.૩૦/૦૮/૨૦૧૬)

જિલ્લો: નવસારી
તાલુકો: નવસારી
ગામ/ મોજે: ઓણગી
બ્લોક/ સરવે નંબર: ૩૮
સત્તા પ્રકાર: જુની શરત (જુ.શ)
જમીનનો ઉપયોગ: ખેતીલાયક ઉપયોગ
ખેતરનું નામ:
અન્ય વિગતો: ૩૩ એચ એ નિ.સ.પ્ર.
જુનો બ્લોક/ સરવે નંબર: ૩૪૧

જુના સરવે નંબર ને લગત નોંધ નંબરો: ૩૬૮,૪૧૬,૪૧૪,૬૨૭,૬૫૭,૬૮૬,૬૭૮ |
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100% computerised RoRs; Digitally signed copies issued

RoRs of all villages in Gujarat have been computerised and are accessible live on the AnyRoR website. In response to the increasing need for secure and accessible land records, Gujarat has introduced **digitally signed RoRs** starting from the fiscal year 2020-21. This move was a significant step towards modernizing the land record system in the state. It has also discontinued manual records so that digital records are the sole legal record. The digitally signed RoRs are authenticated using an **e-seal** or digital signature, which is provided by the concerned authority. This not only ensures the authenticity of the document but also reduces the likelihood of forgery or tampering.

The transition to digitally signed RoRs is part of a strategic initiative to phase out manual issuance processes, although manual copies are still issued by officials in certain cases. The availability of RoRs through digital means has empowered citizens to access their land records more conveniently, thereby reducing their dependency on government offices. Citizens can obtain their digitally signed RoRs from three primary sources:

- **Online via the AnyRoR Portal**: This web-based platform provides an easy and convenient way for landowners to access their RoRs from anywhere, without needing to visit government offices.
- **Taluka-level Offices (Mamlatdar Offices)**: These local offices continue to serve as a point of access for individuals who may not have the resources or technical knowledge to use the online portal.
- **E-Gram Centres**: Situated in rural areas, these centers bridge the digital divide, providing citizens with access to land records and other government services.

Despite the variety of access points, the format of the RoR remains standardized across all platforms. Each RoR document includes crucial details from the **Village Form 7**—which provides information on the ownership status of land—along with a **QR code** and an **e-seal**. This standardization ensures that the legal and informational integrity of the RoR is maintained regardless of how the document is accessed. QR code enables any concerned entity to verify whether the document presented is true or not.

Real-Time Updates and Judicial Acceptance

One of the significant advancements in Gujarat's land record system is the implementation of real-time updates. Whenever there is a change in the VF 7 **form** or the **Hak-Patra**[1] (ownership record), these updates

[1] Hak Patra refers as the legal document that states an individual's right on an inheritance of a property

are immediately reflected on the AnyRoR portal. This real-time updating process is crucial in ensuring that all stakeholders, including landowners, buyers, and government agencies, have access to the most current land records. It also helps in reducing the likelihood of disputes arising from outdated or incorrect information.

> *Total 17 percent of land parcels had some form on non-agricultural land use, including self-occupied houses, housing societies or industrial land use. Among these, in 13 percent of the cases, the RoR noted the non-agricultural land use. The high incidence of non-agricultural land use being captured in the RoR highlights the prevalence of the non-agriculture permission process, and the robustness of its link with the eDhara records.*

Importantly, the state judiciary has also embraced the digital transformation of land records. Courts in Gujarat now accept **digitally signed RoRs** as legitimate and legally binding documents in land-related cases. This acceptance marks a significant shift in the legal landscape, where traditional paper-based records are gradually being replaced by their digital counterparts, thus enhancing the efficiency and reliability of legal proceedings related to land ownership and disputes.

Land records of 100% of the villages are computerized and are made available online. Whenever there is a change in the VF 7 form (RoR) these updates are immediately reflected on the online portal.

Aadhaar and Mobile Number Integration pending

While Gujarat has made significant strides in digitizing its land records, challenges remain in the accurate collection and verification of landowners' contact information. Currently, the system collects **mobile numbers** from landowners during the registration process, but these numbers are not officially verified to ensure they are active or correctly linked to the landowner. Similarly, the **Aadhaar numbers** of landowners are not yet integrated with the RoR system, leaving a gap in the linkage between personal identification and land ownership records.

To address these challenges, the state plans to rely on **Ministry of Agriculture and Farmer Welfare** led **Agri Stack** project, which includes the creation of a **Farmer ID registry**. Under this initiative, farmers will be required to register their Aadhaar numbers and verified mobile numbers, which will then be integrated into the RoR system. Once fully implemented, this integration will enable the RoR system to automatically fetch and synchronize verified data, enhancing the accuracy and reliability of land records.

Robust Error Correction mechanism through iORA Portal

Maintaining accurate land records is essential for reducing disputes and ensuring transparency in land ownership. Gujarat has implemented the **iORA (Integrated Online Revenue Applications)** portal to facilitate the correction of errors in land records. In the financial year 2023-2024, a total of **17,291 errors** were identified and corrected in form VF7, which records the final status of land after the mutation process. The iORA portal has proven to be an effective tool in addressing discrepancies and ensuring that land records are continuously updated and accurate.

The correction of errors in land records is a crucial aspect of land administration, as inaccuracies can lead to disputes, delays in transactions, and loss of trust in the system. By enabling landowners to report and correct errors through the iORA portal, the state has empowered its citizens to take an active role in maintaining the integrity of their land records.

No separate database of Government Land

RoR of all land, including government land, has been computerised. According to interviewed officers, there is no particular database for government land. The categorization is available in RoR but not separately in a database.

Online Transliteration and Gender Data is available

The **online transliteration** facility is available for RoRs, allowing for easier access and interpretation of land records in different languages. Moreover, although the **gender of the landholder** is captured as part of the RoR, it is not mandatory. As of recent data, **15 lakhs females** are recorded as landholders.

The iORA portal allows for tracking of land records related citizen services, and ensures that service delivery timelines are regularly met.

Urban Land Records and the City Survey Information System (CSIS)

While rural land records are captured through the 7/12 forms, urban properties in Gujarat are managed under the **City Survey Information System (CSIS)**. This system records property cards for urban areas, ensuring that mutation processes for urban properties are conducted smoothly. For changes in non-agricultural land use post-2021, property cards are issued and data is available in CSIS, whereas data for changes before 2018 is available on the e-Dhara portal.

Urban properties in Gujarat are managed under the City Survey Information System (CSIS). For changes in non-agricultural land use post-2021, property cards are issued and data is available in CSIS, whereas data for changes before 2018 is available on the e-Dhara portal.

3. Registration

The registration of property transactions in Gujarat is critical for maintaining transparency and clear ownership records. The state has made significant advancements by fully computerizing its 294 Sub-Registrar Offices (SROs) as of 2007. In the fiscal year 2023-24, a total of 18,40,522 properties were registered across Gujarat's SROs.

The Gujarat Revenue and Village Information (GARVI) system has enhanced the efficiency of land registration and management in the state, equipping the Sub-Registrar Offices (SROs) with essential tools to streamline the registration process. The GARVI system enables online registration, making the process more accessible for the public and ensuring that land transactions are recorded promptly and accurately. The SROs also have a home visit module available, which facilitates on-site support for citizens during registration. Furthermore, SROs can generate encumbrance certificates and conduct e-searches for property records, allowing stakeholders to verify any existing claims or encumbrances on a property, thus contributing to transaction integrity.

In terms of historical data, the GARVI system provides SROs with ready access to legacy information, which is crucial for maintaining continuity and transparency across property records. Additionally, the GARVI system automatically triggers a mutation in the Record of Rights (RoR) with each registration, ensuring that ownership records are updated without delay. The system also offers a resilience mechanism

by allowing pending mutation data to be pushed through in case of network failures, preventing potential disruptions.

Table 2: Process followed for registration of property

Process	Description
Document Preparation	Seller and buyer prepare necessary documents, including identity proofs, property ownership documents, tax receipts, and encumbrance certificates.
Initiation of Online Registration via GARVI	Registration process is initiated through the **GARVI system**, allowing online submission of required documents. Home visit by SRO officials is available if needed.
Verification of Encumbrance and Legacy Data	The SRO uses GARVI to conduct an **e-search** and generate **encumbrance certificates** to check for claims or encumbrances. Legacy data access allows verification of historical records.
Application and Payment of Fees	Registration fees and stamp duty are calculated based on property valuation. Payment can be made online via GARVI or at the Sub-Registrar Office.
Physical Verification (if Required)	In some cases, the SRO or a third party may conduct a **physical verification** of the property to confirm boundaries and characteristics.
Litigation Record Check	SRO cannot directly access litigation records due to a **court order** and relies on a separate module designed for litigation, limiting complete verification of the property's status.
Document Finalization and Approval	After verification, the SRO finalizes and approves the documents for registration, ensuring all steps comply with state requirements.
Digital Mutation Entry	With each registration, GARVI triggers an **automatic digital mutation** in the Record of Rights (RoR), updating ownership records in real time.
Issuance of Registered Document	Once registration is complete, the registered document is issued to the buyer. If enabled, SMS or email notifications would inform parties of the completion.

Online payments are possible

Since the digitization drive began in Gujarat in 1994, the state has established a systematic digital documentation process for property transactions. Currently, 100% of registration fees are paid online, and the system requires an online appointment booking for all document registrations, ensuring an orderly and user-friendly interface. Stamp duty can also be paid online. Circle rates, or government-assessed land values, are also accessible online to increase transparency.

Notably, the system includes an *e-Calculator* for citizens to calculate stamp duty and registration fees before registration. This transparency measure, combined with online payment capabilities, simplifies the process for citizens and reduces the need for physical paperwork.

SRO cannot verify land records due to court orders

The GARVI system does not automatically pull ownership details directly from the Record of Rights (RoR) during the registration process. This is a significant limitation in the SRO's operational scope.

The state had earlier instructed SROs to verify that seller was the owner of the said property[2], but the concerned notification was struck down by the High Court in 2016, based on the legal position as per the Indian Registration Act, 1908. The SRO also does not check previous registration records of the said property. This restriction results in an information gap, potentially exposing buyers and other parties to post-transaction legal challenges. It also highlights the mismatch between the technological progress in the sphere of land record management, and the legal position under the Indian Registration Act, 1908, which has remained unchanged for past several decades.

An amendment is proposed to enable this automated linkage in the future, aiming to minimize errors and prevent unauthorized transactions.

[2] According to interviewed officers, biometrics of concerned parties were to be compulsorily submitted for registration process, and these biometrics were to be used for verification of subsequent transactions

GARVI system does not pull direct ownership details from the Record of Rights during registration, due to a 2016 High Court order. This information gap could expose buyers to post-transaction legal challenges.

This highlights the mismatch between the technological progress in the sphere of land record management, and the legal position under the Indian Registration Act, 1908, which has remained unchanged for past several decades.

e-Search available

An e-search facility is available for previously registered documents. The search can be based on party name, survey number, deed number, etc. This empowers the citizens to verify previously registered transaction deeds for a given property, and inform themselves inline with the concept of *buyer* beware. Citizens can also download copies of previously registered deeds.

GARVI allows SROs to generate encumbrance certificates and citizens to conduct e-searches for property records, ensuring access to information. Legacy data is available since 2007, and others are under digitisation.

100% Integration with e-Dhara for auto-triggered mutation

In rural areas, Gujarat's e-Dhara system is completely integrated with the RoR, enabling automatic updates for all land transactions immediately following registration. This integration guarantees that rural land records remain up-to-date, reducing manual entry errors and ensuring accuracy in ownership records.

However, for urban (non-agricultural) land parcels, the integration is in a pilot stage, with testing currently underway in the Gandhinagar municipal corporation. Successful implementation would facilitate seamless data sharing between rural and urban records and enhance the overall data accuracy across the state.

PAN and Aadhar details captured but not verified yet

PAN or Aadhaar numbers are collected for the parties. PAN card verification process was previously available and it will resume shortly. An eKYC module for verification of Aadhar or PAN is under development. AI (Nibhrit) solution is available on a trial basis for masking personal information of PAN, Aadhaar number and fingerprint impressions on registered pdf deeds

Mortgage is linked to RoR

Gujarat manages encumbrance data via the e-Dhara system, where once the loan document has been registered, banks can record the properties used as collateral for the loan. In the survey data, 48 percent of landholders indicated they had taken loans against their properties, with each encumbrance recorded in the RoR. To improve timeliness, future plans include automating real-time updates for encumbrances to ensure up-to-date records of property liabilities.

Access to Legacy Data and Public Transparency

A state-funded initiative is underway to digitize Gujarat's historical land records, including sale deeds and gift deeds for agricultural and non-agricultural lands. Currently, legacy data are accessible from 2007 onward, and this project will expand access to historical transaction data for easier reference and improved public transparency. The aim is to create a structured digital repository of historical data, allowing for searchable transaction histories that enhance the accessibility of land records for citizens.

Online Grievance Redressal System is functional

The GARVI system in Gujarat includes an **online grievance redressal mechanism** allowing citizens to file complaints related to property registration issues at the Sub-Registrar Office. This feature enables users to address and resolve concerns efficiently without needing to visit the office in person. During the financial year 2023-24, approximately **1,000 grievances** were received and addressed through this system, indicating active use of the platform and its role in improving accessibility and accountability in property registration services.

Other Features

The SRO system in Gujarat currently lacks an SMS notification feature, which would provide real-time updates to applicants on key events throughout the registration process.

Dynamic deed templates are not available in the state. But draft model documents are available for download in both English and Gujarati. SRO cannot digitally check litigations for a property scheduled for registration. Separate Module is being designed now for litigations

According to interviewed officers, an E-registration module will be developed soon, which will make online registration system possible for citizens. Anywhere registration is not allowed in the state; Sale of government land is not red flagged.

4. Mutation

At the heart of Gujarat's land record management is the mutation process, which is formalized through the issuance of form VF6. Mutation refers to the process by which the title of a property is transferred from one person to another due to sale, inheritance, gift, or any other reason.

Inheritance as most common form of mutation

In Gujarat, the mutation process encompasses **43 types of mutations**, though most are infrequently used. The two primary types, **Vaarsai** and **Hayati Ma Hakk Dakhal**, are the most commonly utilized. Vaarsai pertains to inheritance, updating ownership records upon the landowner's death, while Hayati Ma Hakk Dakhal allows for the transfer of rights to heirs while the landowner is still alive. Specifically, Hayati Ma Hakk Dakhal addresses mutations carried out in the presence of the original landholder, reflecting rights transfers to successors before the owner’s death.

16 lakh mutation applications disposed in a year

During the financial year 2023-24, **16,36,849 mutation applications** were received, and **16,64,361 applications** were disposed, indicating a proactive approach in addressing mutation requests. As of August 2024, **2,10,652 mutation applications** are pending, primarily involving changes in ownership names to reflect the transfer of property to successors. This backlog highlights both the demand for mutation services and the administrative workload involved in keeping land records updated.

> *Very few of the respondents in the village surveys were able to recall the time taken for mutation – 4 percent reported that the mutation was carried out in a month, while 8 percent and 9 percent reported waiting for two months and three months respectively for the mutation. Another 4 percent waited for upto a year for mutation. This shows that while the state on an average has a high rate of sanctioning of mutations over a year, individual cases of mutation application may take two to three months for a sanctioning.*

55% of mutations were auto-triggered

Gujarat has implemented significant advancements in the automation of the mutation process. An **auto-mutation trigger** is available for specific transactions, including agricultural sales, Vaarsai, Hayati Ma

Hakk Dakhal, orders, mortgage entries, and mortgage removals. In the financial year 2023-24, **9,12,685 mutations** were completed through this auto-trigger system, which forms 55 percent of the total mutations applications in the year. This highlights the significance and efficiency of automated processes. The auto trigger facility is available for transactions on agricultural lands, records for which are maintained through E-Dhara portal.

In rural areas, e-Dhara system is completely integrated with GARVI, enabling automatic triggering of mutation applications immediately following registration. In 2023-24, 55 percent of total mutation applications were triggered through the GARVI system.

16 lakh mutation applications were filed and processed in 2023-24, and around 2 lakh mutation applications were pending as of August 2024

No auto-triggered mutation for urban lands or non-agricultural lands

The auto-trigger does not apply to non-agricultural (NA) land in rural areas or urban areas, records for which are managed by the City Survey Information System (CSIS). Consequently, NA land may still appear in the Record of Rights (RoRs) without immediate updates if not triggered by E-Dhara or CSIS systems.

According to interviewed officers, around 18 lakh property related registrations took place in 2023-24, while the number of automatically triggered mutations in the same year is around 9 lakhs. This means that around 50 percent of registrations may be on urban land/property or non-agricultural land/property, which is a large gap.

The auto-trigger does not apply to non-agricultural land in rural or urban areas, managed by the City Survey Information System (CSIS), potentially causing updation delays and information mismatch in property cards.

It is estimated that transactions on non-agricultural lands may be around 50 percent of all registered transaction deeds.

135D Legal Notice and the Mutation Process (VF6)

As soon as the mutation process is initiated, the E-Dhara system automatically generates a **135D legal notice**. This notice is a critical component of the land mutation process as it formally notifies all stakeholders involved in the transaction, ensuring that they are aware of the impending changes to the land record.

The 135D notice serves as an official warning, providing a **30-day period** for any concerned party to raise objections. The 135D notice is publicly communicated via Panchayat notice boards in villages and by the Talati (Patwari), facilitating transparency and allowing other stakeholders to contest the sale. This legal safeguard ensures that the mutation process does not proceed without the consent of all interested parties, thereby minimizing disputes and protecting the rights of landowners. Objections can be submitted in person to the revenue officers; there is no provision of online objections. If no objections are raised within this period, the mutation process is completed, and the Record of Rights (RoR) is immediately updated to reflect the new ownership. The automation of the 135D notice generation is part of Gujarat's broader efforts to streamline the mutation process and reduce the time and complexity traditionally associated with land transactions.

The Sub-Registrar Office (SRO) in Gujarat does not verify title deeds or seek permissions from all co-owners during registration. For instance, if one of multiple landowners wishes to sell their share, registration can proceed without requiring consent from other co-owners. This makes the 135D notice all the more important, to ensure that land records reflect only the correct legal picture.

10 or 30 days timeline for mutation

The state-prescribed timeframe for issuing mutation orders is generally **10 days when banks are the ordering authority** and **30 days for other entities/types of mutations**. However, in practice, an additional buffer of 10-15 days is often required due to administrative processes, extending the overall timeframe. The E-Dhara system has integrated an **SMS alert feature** that notifies applicants at each stage of the mutation process, ensuring they are updated in real-time.

Encumbrance and Mortgage Management in the Mutation Process

Encumbrances related to land loans add further complexity to the mutation process. If a parcel with multiple owners is used as collateral, all landowners must provide consent. The loan, referred to as **bojha dakhal**, is recorded against the entire parcel, necessitating cooperation among owners. Disputes typically arise when business associates, as opposed to family members, share ownership, requiring a partition and creation of separate RoRs. If one party defaults on loan repayment, all co-owners are liable, which underscores the

importance of clear title management. The digital link with banks is available in all 33 districts, and covers 150 banks and approximately 10,600 branches.

Banks are required to physically visit the registration office for **mortgage deed registration**. Following registration, banks may initiate the mutation of the property. As of August 2024, around **60.4 lakhs RoRs** have a mortgage record or red-flag, indicating properties with outstanding loans or encumbrances. The release of a mortgage, known as **reconveyance**, also involves physical registration, ensuring that mortgage statuses are accurately reflected in official records. This dual-step process—registration and reconveyance—emphasizes the rigorous procedures involved in managing land encumbrances and maintaining accurate land records.

> *The village surveys highlight that encumbrances—particularly mortgages—are relatively common, with 47 percent of respondents confirming active mortgage records associated with their land parcels. For majority of these land parcels, the loan details are mentioned in the RoR. In only four percent of these cases the loan details are either not mentioned (local cooperative banks or grameen bank) or some details of the loan are missing.*

5. Spatial Records

In Gujarat the BhuNaksha, developed by the National Informatics Centre (NIC) under the Digital India Land Records Modernization Programme (DILRMP) software

100% maps are digitised and georeferenced; 64% are completely GIS based

There are a total of 18,664 villages in Gujarat. Cadastral maps of each of these, including 26,040 map sheets, have been digitized and georeferenced. Of these eighteen thousand, 11,998 (~64 percent) villages are GIS-based as they have undergone resurvey promulgation, while 6,466 villages, which have not yet been promulgated, use georeferenced maps derived from older digitized records. The integration of live VF-7 data from the e-Dhara portal with map data has been implemented to ensure up-to-date information.

BhuNaksha System in Gujarat

The BhuNaksha software in Gujarat serves as a core component in the state's digitization of cadastral maps, allowing for efficient management of spatial land records. The system, led by the office of Settlement

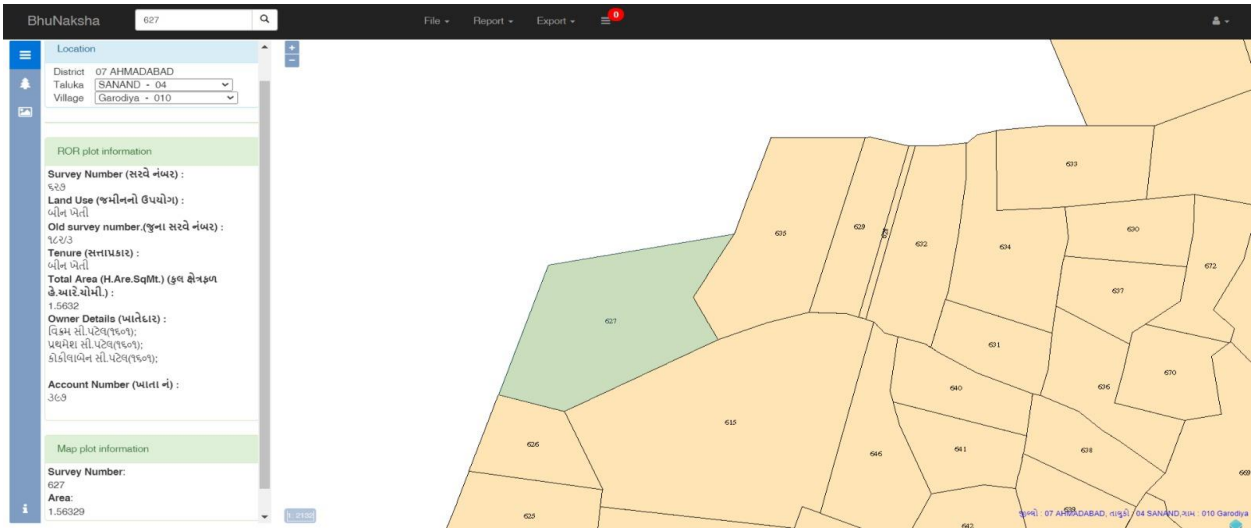
Commissioner and Director of Land Records, integrates detailed geospatial data and supports accurate, real-time mapping updates.

100% villages have been digitized and georeferenced, with 64% being GIS-based and remaining using older maps. BhuNaksha is integrated with E-Dhara, and the live VF-7 data integration ensures up-to-date information.

Integration with E-Dhara and Real-Time Updates

BhuNaksha is integrated with **E-Dhara**, the state's agricultural land record management system, allowing for a unified approach to land records. Live data from E-Dhara, particularly from Village Form-7 (VF-7), is connected with map data, ensuring that cadastral maps accurately reflect current land ownership and rights. This integration enables real-time updates to land parcel information, enhancing transparency and accessibility in land record management.

Figure 4: Bhunaksha 2.0 screenshot showing live e-Dhara data on the left panel



Source: SC&DLR department, 2024

Mapping Features and Google Map Integration

BhuNaksha is equipped with additional mapping features, including **Google Map integration** for improved visualization and location accuracy. This integration provides a familiar and accessible map interface for

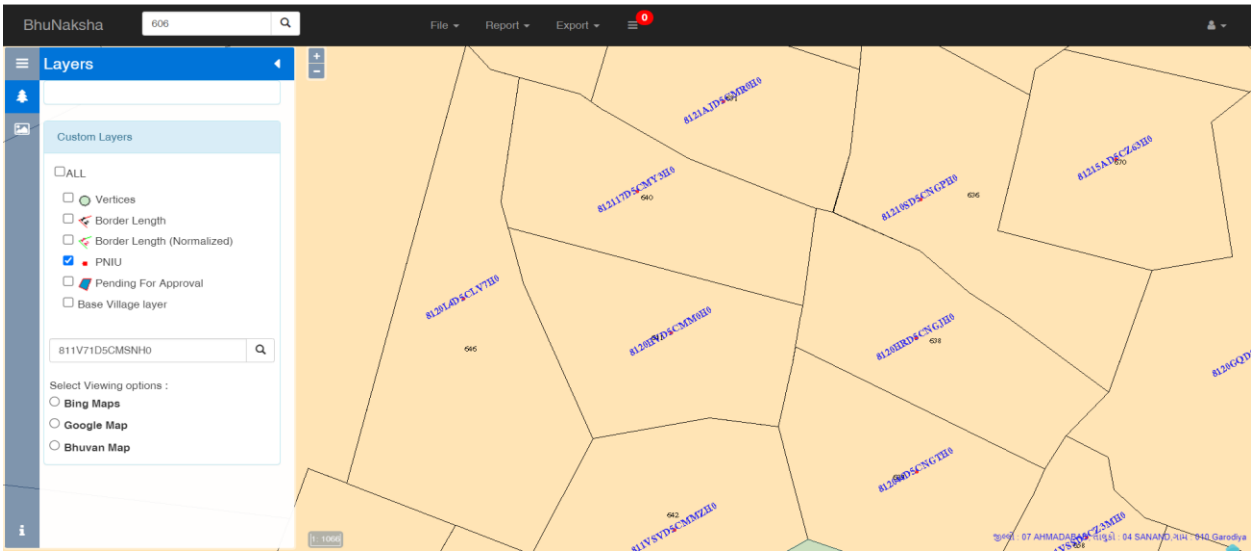
users, aiding in the verification and navigation of land parcels. It also enhances usability, making the BhuNaksha system an effective tool for both administrative and public users.

Use of Unique IDs

There are total 94,36,861 land parcels in the state, and all of them have been georeferenced. Unique property Identification Numbers have been generated for each of these land parcels, and it is also mentioned on the RoR. However, it is yet to be used widely as a unique identifier among government departments.

The state has also allotted ULPIN (Unique Land Parcel Identification Number), a 14-digit Alpha–Numeric Unique ID, based on the longitude and latitude coordinates, to each land parcel.

Figure 5: ULPINs allotted to land parcels in Gujarat

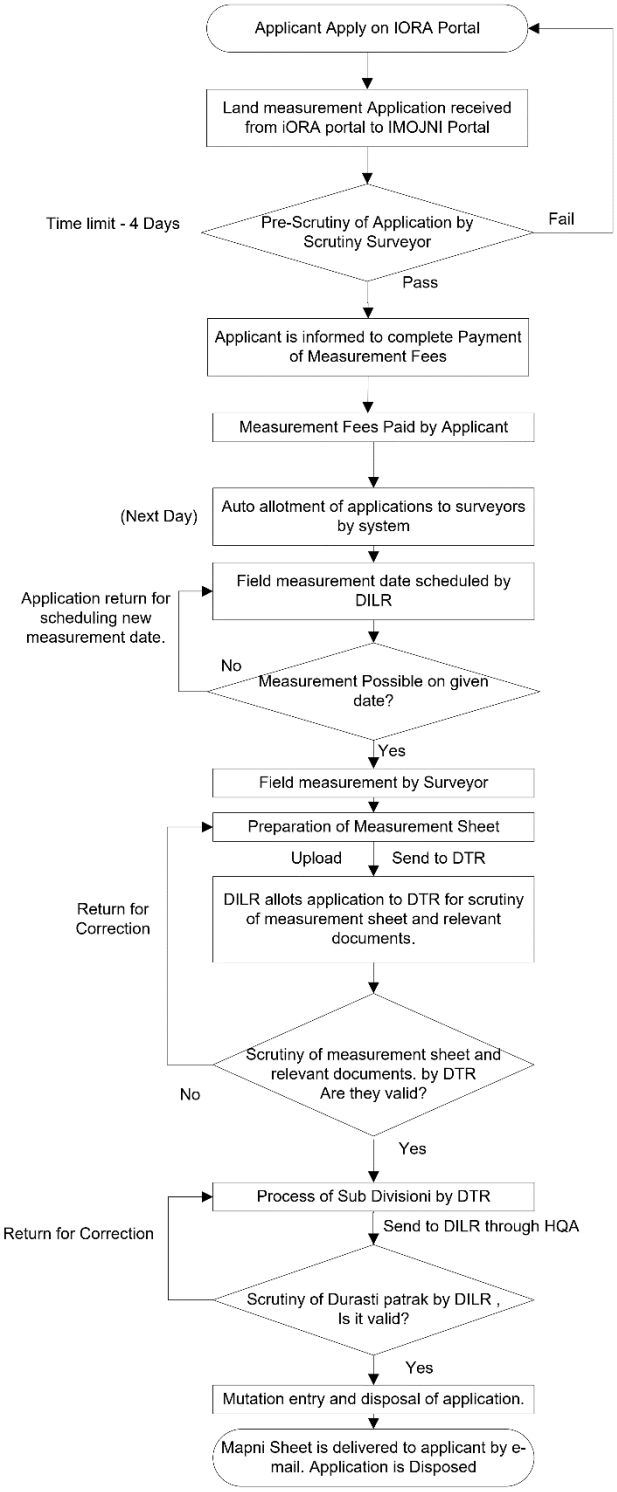


Source: SC&DLR department, 2024

Subdivision and Partition Process

Subdivision or partition is an important process in Gujarat, because of the absence of shares in the RoR. For subdivisions or partitions of land, applicants submit requests through the **e-Dhara Kendra** or the District Inspector of Land Records (DILR) office. Upon verification, a unique mutation number is generated, such as a KJP (*Kami jasti patrak)* entry, which reflects the partition in both the VF-7 and BhuNaksha records. This automated integration ensures that each land division is accurately recorded and updated in both textual and spatial formats, streamlining the mutation process.

Figure 6: IoRA workflow for Sub division process in Gujarat



Source: Gujarat SC&DLR department, 2024

Three types of mapping services, including urgent applications

For surveying/mapping related citizen services, the iORA portal allows for three types of applications: **Hadd Mapani** (Boundary Measurement), **Pegi Mapani** (mutual subdivision), and **Hissa Mapani** (Spatial Subdivision). These applications can be filed online by citizens, and are processed through a backend system known as iMojni.

- **Hadd Mapani** involves measuring the entire survey number, including boundaries, area, possession, and encroachment. This measurement does not appear in the RoR or other legal documents but is provided to the applicant as a map.
- **Pegi Mapani** focuses on measuring the division among landowners, which is done either mutually among owners or based on their demarcations.
- **Hissa Mapani**, the spatial partitioning, reflects in legal records and requires the consent of all landowners of the parcel, unlike the other two types which can be conducted by a single owner.

The iMojni system automatically assigns surveyors to handle these applications. The urgency of the application determines the fee structure: ₹1,800 per hectare or per survey number for urgent applications requiring completion within 30 days, and ₹600 for standard applications that typically take up to 60 days.

As of August 2024, 874 applications for survey requests were pending in the state.

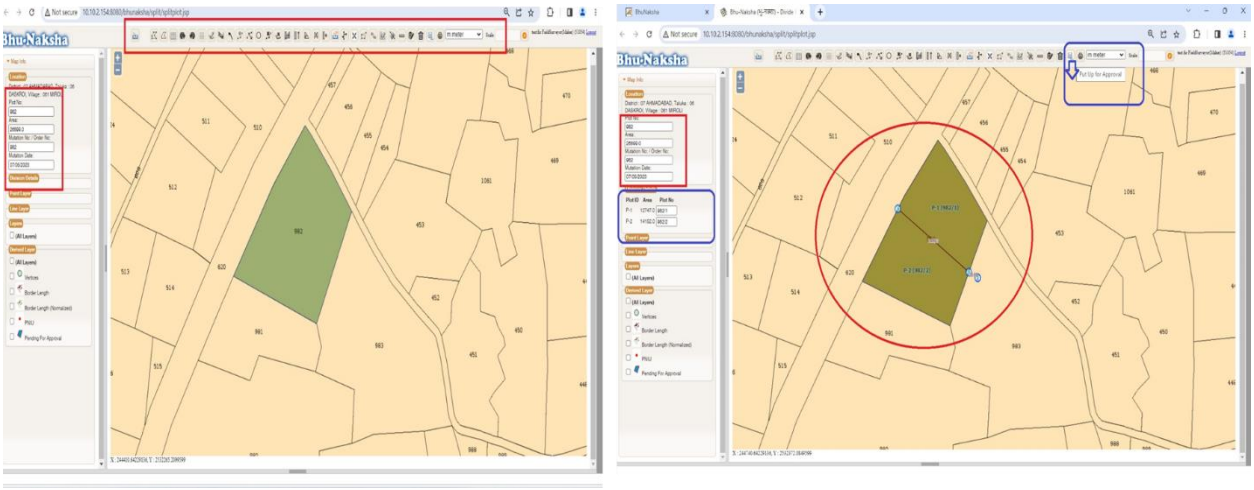
Digitisation of subdivisions is ongoing

The maps generated from the Hadd Mapani and Pegi Mapani processes are not permanent; they are discarded after a five-year cycle since they do not impact landholder rights directly. However, **Hissa Mapani** maps are incorporated into legal records and maintained for future reference. Currently, physical maps are stored and maintained in CAD files, and efforts are underway to translate these into the BhuNaksha portal, with a typical transition period of about 30 days, though there is no fixed timeline.

The state is in the process of creating BhuNaksha 2.0, which will have a real-time map updation module. This enhancement aims to maintain the accuracy and relevance of land records even when they undergo partition. The final approval for partition and map updates is granted by the survey and settlement office, in coordination with the revenue department which subsequently initiates mutation and updates the legal records.

State has plans to introduce BhuNaksha 2.0 which will allow subdivisioning of land parcels. Currently, subdivisions take upto 30 days to be reflected in the online spatial records.

Figure 7: Bhunaksha 2.0 screenshots with provision of spatial subdivision



Source: SC&DLR department, 2024

Capacity augmentation through licensed private surveyors

Surveyors are not always government employees but are trained and licensed professionals with degrees or diplomas in civil engineering. In villages where resurvey has not been completed, older textual records are still used, meaning digital CAD records for these areas remain outdated. The SC&DLR department has been working on updating these records to align with BhuNaksha over the past six months.

The Svamitva scheme has been incorporated as a city survey exercise in Gujarat. The real-time map updating module developed within BhuNaksha allows the Department of Land Records to keep maps current with every transaction, supporting a dynamic, up-to-date land management process.

Entire village map not accessible or downloadable online

It must be noted that Gujarat does not have a provision for citizens to view or download a copy of entire village cadastral map. For such maps, a person must visit the local revenue office. Unlike some other states, Bhunaksha appears to be currently a backend software in Gujarat and not accessible to public.

In promulgated villages, citizens can access map of each land parcel separately. In non-promulgated villages, citizens can approach the survey department to get a copy of the map.

6. Revenue Courts

Gujarat's revenue court system is an intricate network of offices and processes designed to handle a wide range of revenue-related matters, including land records, stamp duties, and various disputes.

700 revenue courts with 1.4 lakh annual cases

The state is served by a total of 700 revenue courts distributed across different administrative levels such as tehsil and district offices. A total of **1,38,286** revenue court cases were handled in 2023-24 in the computerized system. Among these, the Gujarat Revenue Tribunal (GRT) and the Special Secretary Revenue Department (SSRD) stand out due to their extensive jurisdiction and significant case load. These offices manage multiple boxes or categories to handle the diverse range of cases they encounter.

All revenue court cases are processed through iRCMS

The digitization of revenue court operations has been a major advancement in recent years. All revenue courts in Gujarat are now computerized, significantly enhancing the efficiency and accuracy of case management. The Integrated Revenue Case Management System (iRCMS), introduced in 2018, represents a key component in this digital transformation. Last year, the computerized system processed 1,38,286 revenue court cases, reflecting its critical role in the management of land-related disputes. The initial implementation of the Revenue Case Management System (RCMS) faced challenges, including inconsistent module usage. However, persistent administrative efforts have led to significant improvements and mandated uniform use across the state, thereby boosting overall system performance.

Stamp duty related cases can be filed online

Cases related to stamp duty can be filed online by citizens. For such purpose, full case details such as Applicant details, Opponent details, and Land details like survey number / City Survey number are required. Document upload facility is available in these instance.

Applicants notified of appointment date; Court hearings mostly in physical mode

Revenue court appointment date & time notified to the applicant by email, SMS, and through the RCMS website. Information about court orders is also sent through SMS, and the order itself is posted on the website.

Court hearings are held in physical mode in all courts except SSRD, which uses a hybrid mode (physical and video conference) for court hearings.

Efficient Document Management through digital interlinkages

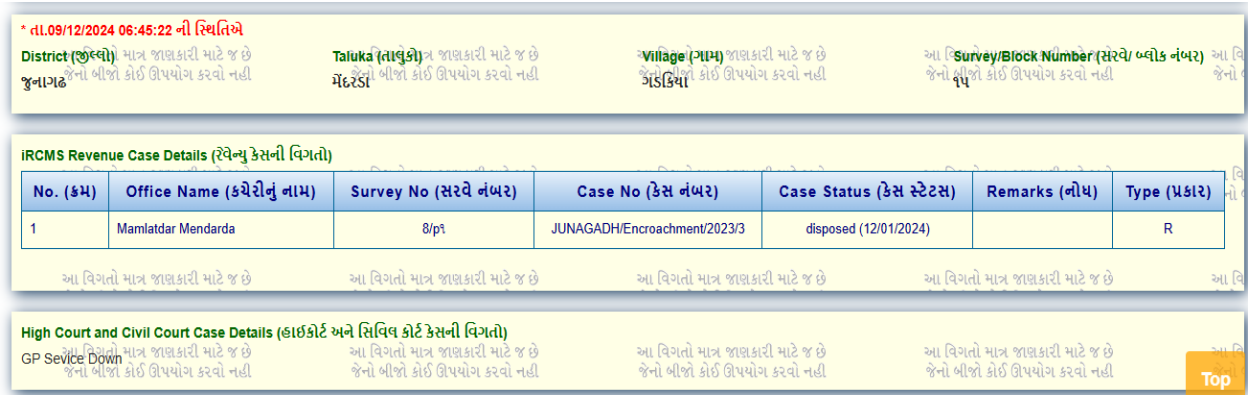
Document management has also evolved with this digital shift. While most documents related to revenue cases are still handled physically, cases involving stamp duties are managed electronically. The RCMS systems allow for the uploading of court orders as separate PDF files. All revenue offices are linked with the RCMS portal, enabling integrated management of land records and case information. The e-Dhara database plays a crucial role in this integration, providing access to case-related data such as survey numbers and stamp information. This linkage minimizes human error by allowing officials to select data directly from the e-Dhara database rather than relying on manual entry.

Pending court cases not mentioned in RoR, but searchable enabled on website

For citizens, the AnyRoR portal is a primary resource for accessing land records. The RoR itself does not provide detailed information on ongoing cases regarding a specific land parcel. For comprehensive case details, users must access a separate link provided by AnyRoR.

All revenue cases are processed online, and a search link is provided on the Any@ror website. High court and civil courts database through eCourts is linked (partially) using survey numbers.

Figure 8: Court case search link on AnyRoR website, showing a closed case



Source: https://anyror.gujarat.gov.in/Information_pages/InfoRcase.aspx

Link to High courts and Civil Courts through survey numbers

The eCourts system further integrates with land records databases to manage property-related civil cases, mandating the use of survey and city survey numbers for processing trials. This requirement ensures accuracy and consistency in case management and aligns with the Supreme Court committee's oversight of eCourts.

Mutation related court orders given effect in RoR

The mutation process, which involves updating land records to reflect changes in ownership, is a critical function of the revenue court system. When objections to a mutation are raised, the process begins with physical filing. The objection is sent to the Sub-Divisional Magistrate (SDM), who makes a decision and issues a receipt, which is then reflected online once the process is completed. Disputed mutations generally take up to 90 days to resolve, while non-disputed mutations are typically completed within 30 days. Once the court releases an order in a case, the mutation process starts in iRCMS and is finalized in e-Dhara.

The integration of digital systems with traditional processes marks a significant advancement in Gujarat's revenue administration. By improving the efficiency and transparency of land record management and dispute resolution, these technological innovations reflect the state's commitment to modernizing its revenue court system. The ongoing efforts to enhance procedural efficiency and reduce errors underscore Gujarat's dedication to providing reliable and effective services to its citizens.

7. Village Level survey findings

Land Ownership Patterns

The Gujarat village survey data reveals a mixed pattern of land ownership types, reflecting both traditional and more individualized ownership structures among surveyed parcels. Of the total land parcels surveyed:

- Single Ownership: Single ownership constitutes 44 percent of the surveyed parcels in the two villages. This group reflects straightforward ownership and enables direct access to land-related services without complications arising from co-ownership. For these parcels, updating records, transferring ownership, or engaging in land transactions is relatively uncomplicated and likely contributes to a more efficient system at the local level.
- Joint Ownership: Joint ownership arrangements cover 56 percent of the surveyed parcels. Joint ownership appears predominantly in family-based structures, including those jointly owned by husband-wife pairs or inherited without specific share delineations among family members. This arrangement, while cooperative, results in records that lack clarity regarding individual ownership stakes. Out of these, 23 percent reported that they have some form of mutual understanding on spatial subdivision within the parcel.

Overall, this pattern indicates that, while many landholders can navigate Gujarat's land record system individually, a substantial portion of co-owners may face issues in accessing and updating records. Joint and multiple ownership configurations, especially where shares are undefined, create challenges for clear and accurate documentation, and may require additional attention from the revenue department to prevent future ownership conflicts.

Accuracy and Updation Status of RoRs

- In nineteen percent land parcels, the ownership on ground did not match the ownership noted in land records. Of these, in fourteen percent cases inheritance had taken place on ground, but subsequent updation in land record had not taken place. Some of the respondent mentioned that mutation was a tedious process and hence they had not applied for inheritance mutation.
- In another five percent land parcels, there was some form of error, either in the form of errors in name, or extra names being present in RoR. These were found in both promulgated and non-promulgated villages. There was one instance in which the property card on CSIS showed the name of the new owner, whereas AnyRoR continued to show name of the older owners, highlighting that

there is some ambiguity as to what happens to the e-Dhara record once a land parcel moves to the CSIS.

- Effectively, according to state government processes, 95 percent of land parcels had correct textual records.

- In 61 percent cases, land owners reported having undertaken the mutation process at some point in their lifetime. Very few of them were able to recall the time taken for mutation – 4 percent reported that the mutation was carried out in a month, while 8 percent and 9 percent reported waiting for two months and three months respectively for the mutation. Another 4 percent waited for upto a year for mutation. This shows that while the state on an average has a high rate of sanctioning of mutations over a year, individual cases of mutation application may take two to three months for a sanctioning. Majority (42 percent) among these mutation cases were for inheritance related mutation while the others (19 percent) were from sale-purchase.

Updation and Accuracy of Spatial Records

- The prevalence of share-based ownership also reflects cultural practices of land inheritance in Gujarat. However, such practices often result in fragmented land parcels, and without formal partitioning, the specific shares remain unmarked in the spatial records. Around 23 percent among the 56 percent jointly owned parcels are informally divided among joint owners, creating complexities in clearly demarcating boundaries. This informal arrangement, while understood within families, can pose challenges in verifying ownership during external assessments or legal disputes.

- This also reflects that 33 percent of land parcels are jointly held and jointly cultivated, showing the strong familial nature of cultivation in the state.

Use of Land

- Total 17 percent of land parcels had some form on non-agricultural land use, including self-occupied houses, housing societies or industrial land use. Among these, in 13 percent of the cases, the RoR noted the non-agricultural land use.

- The high incidence of non-agricultural land use being captured in the RoR highlights the prevalence of the non-agriculture permission process, and the robustness of its link with the eDhara records.

Mortgages

- The survey of the two Gujarat villages highlights that encumbrances—particularly mortgages—are relatively common, with 47 percent of respondents confirming active mortgage records associated with their land parcels.
- For majority of these land parcels, the loan details are mentioned in the RoR. In only four percent of these cases the loan details are either not mentioned (local cooperative banks or grameen bank) or some details of the loan are missing.

Encumbrances

- Court cases were reported for only two percent of the land parcels. All of these cases were now closed.

8. Gaps and Good Practices

Section/Theme	Good Practices	Gap
RECORD OF RIGHTS		
Computerisation status	• RoRs of all villages in Gujarat have been computerised and are accessible live on the AnyRoR website • Digitally Signed copies issued through AnyRoR Portal, also available at Taluka-level Offices, E-Gram Centres. These are verifiable through QR codes. • It has also discontinued manual records so that digital records are the sole legal record.	

Section/Theme	Good Practices	Gap
Accuracy of textual records	• Real time updates: the entire system is online and there is no time gap between a mutation order and its online updation.	
Joint ownership of land parcels	• One RoR per land parcel .	• Joint ownership without mentioning shares. **Le**ads to ambiguity from the perspective of a prospective buyer
Aadhar seeding	• Agri Stack project helps create Farmer ID registry.	• Aadhaar numbers of landowners are not yet integrated with the RoR system
Citizen Service	• Tracking of Citizen Service delivery through iORA (Integrated Online Revenue Applications) Portal, to ensure timelines are met	• Dashboard information on not available on public domain; prevents citizens from applying pressure for improved services in specific locations.
Other information	• RoR of all land, including government land, has been computerised • Online Transliteration and Gender Data is available	• No separate database of Government Land
Bank Integration	• Mortgage is linked to RoR. The digital link with banks is available in all 33 districts, and covers 150 banks and approximately 10,600 branches.	• Banks are required to physically visit the registration office for mortgage deed registration
REGISTRATION		
Registration related services	• Fully computerized 294 Sub-Registrar Offices (SROs)	• Dynamic deed templates are not available in the state

Section/Theme	Good Practices	Gap
	• 100% of registration fees are paid online; stamp duty can also be paid online • e-search facility is available for previously registered documents • Online Grievance Redressal System is functional • Home visit module available, which facilitates on-site support for citizens	
Integration with Land Records	• Separate litigation module under development	• The GARVI system does not automatically pull ownership details directly from the Record of Rights (RoR) during the registration process • SRO cannot verify land records due to legal complexity
Svamitva property cards	• Gujarat Successfully implemented SVAMITVA scheme. Property cards distributed under this scheme have legal validity.	
MUTATION		
Auto-mutation	• GARVI system automatically triggers a mutation in the Record of Rights (RoR) with each registration. 9 lakh such mutations triggered in 2023-24. • The E-Dhara system has integrated an SMS alert feature	• No auto-triggered mutation for urban lands or non-agricultural lands. These may form upto 50 percent of all registrations. • PAN and Aadhar details captured but not verified yet

Section/Theme	Good Practices	Gap
Mutation pendency and timeline	• 10 or 30 days timeline for mutation. 16 lakh mutation applications filed in 2023-24, and 16 lakh applications processed.	• 2 lakh pending mutation applications as of August 2024.
SPATIAL RECORDS		
Digitisation and Updation	• 100% maps are digitised and georeferenced; 64% are completely GIS based. • BhuNaksha is integrated with E-Dhara, enables real-time updates to land parcel information.	• Maps generated from the Hadd Mapani and Pegi Mapani processes are not integrated with BhuNaksha.
Spatial and Textual record mismatch	• Integrated system ensures that each land division is accurately recorded and updated in both textual and spatial formats.	• It may take upto 30 days for a partition to get reflected in online spatial records.
Citizen services	• Each land parcel has Unique property Identification Numbers. State has also allotted ULPIN (Unique Land Parcel Identification Number).	• Entire village map not accessible or downloadable online. Can be accessed only through revenue offices.
RCCMS		
	• All revenue court cases are processed through iRCMS (Integrated Revenue Case Management System) • The state judiciary has embraced the digital transformation of land records • eCourts system Link to High courts and Civil Courts through survey numbers	• Court hearings mostly in physical mode, except SSRD

9. Recommendations

Gujarat has used technology to a great effect, to streamline its land records management system. Some recommendations to further improve its land records systems follow.

- The state must focus on its urban land/property record system CSIS, and ensure that technological progress in rural records such as auto-triggering of mutations and tracking of citizen service delivery through iORA is extended to urban/non-agricultural land parcels as well. Transactions on urban and non-agricultural properties may form upto 50 percent of all registrations in a year.

- State should minimise overlap as well as discrepancies between records of E-Dhara and CSIS. Use of GIS systems should enable this.

- State should expedite implementation of BhuNaksha 2.0 so that it can bring down the time gap between partition proceedings on ground and relevant updation in online spatial records.

- For villages where new resurvey records could not be promulgated, the state should consider coming up with an incremental strategy to improve their spatial land records to make them at par with the promulgated villages, over time.

- Since shares are not mentioned in the RoR, partition or measurement proceedings are important for transparency for property buyers, to have clarity on the exact land parcel that they intend to purchase. Gujarat can consider implementing a pre-mutation sketch concept and integrated mutation-phodi as used in Karnataka, which will bring greater clarity in spatial subdivisions.

- Gujarat has allotted unique property IDs to all land parcels. The state should now harness the full potential of the unique ID, and use it as a common identifier across multiple other databases, including municipal records, town planning records, electricity connections etc.

- State can consider developing mobile applications to improve access to user friendly information, especially using GIS. Sarathi app from Maharashtra, Dishaank app from Karnataka and Digital Land Record from Haryana[3] are good examples.

[3] Refer https://hsac.org.in/eodb/

- Gujarat revenue department should consider making iORA and other dashboards available in public domain. This will help citizens to assess revenue related services in their district or taluk, and build pressure for improved services from relevant officers. It will also help make inter-state comparison easier, and highlight Gujarat's achievements.