

# The NCAER Land Records and Services Index

---

*NCAER Land Policy Initiative Project Brief*

*Review and discussion of NCAER Land Records  
and Services Index at the State level.  
Bihar, Goa, Himachal Pradesh and Karnataka*

National Council of Applied Economic Research

Supported by



OMIDYAR NETWORK INDIA

# **The NCAER Land Records and Services Index**

*NCAER Land Policy Initiative Project Brief*

***Review and discussion of NCAER Land Records and Services Index at the State level: Bihar, Goa, Himachal Pradesh and Karnataka***

November 2021



NCAER is grateful to the Omidyar India Network for generous financial support for setting up the NCAER Land Policy Initiative (NLPI).

This Land Policy Initiative project brief is the product of the research staff of NCAER. The findings, interpretations, and conclusions expressed herein do not necessarily represent the views of the Governing Body or Management of NCAER.



**NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH**  
NCAER India Centre, 11 Indraprastha Estate, New Delhi 110 002, India.



# THE NLPI TEAM

---

## **PROJECT LEAD**

Deepak Sanan, Devendra B. Gupta, and Shashanka Bhide

## **SENIOR ADVISOR**

Somnath Sen

## **RESEARCH TEAM**

Charu Jain  
Aswani K. Munnangi  
Prerna Prabhakar  
Anika Kapoor

## **SUPPORT RESEARCH TEAM**

Apoorva, Arundhati Sharma, Chandni Mishra,  
Disha Saxena, Falak Naz, Rupal Taneja, and Vijay Singh Bangari

**PROGRAM MANAGER:** Anika Kapoor

**EDITOR:** Anupma Mehta

**TEAM SUPPORT:** Sadhna Singh

**IT SUPPORT:** Praveen Sachdeva

**PUBLICATION COORDINATOR:** Jagbir Singh Punia

# Contents

<i>THE NLPI TEAM</i> .....	<i>iii</i>
Background .....	1
1. Bihar .....	2
2. Goa .....	8
3. Himachal Pradesh.....	14
4. Karnataka .....	20

# Background

---

The NCAER Land Records and Services Index (N-LRSI) has been prepared to measure the actual extent of digitisation of land records and the registration process against the achievement reflected on the website of the Department of Land Resources, Government of India. The N-LRSI also seeks to gauge the improvements in basic land record-related services and in the creation of a more up-to-date and accurate record, which have accompanied this digitisation.

The first round was conducted during 2019-20 to assess the extent of digitisation and to assess the quality of some services related to land records. This index groups weighted indicators in the ratio of 60:40 to measure: i) the extent of computerisation of land records and the registration process, and improvement in the delivery of frequently accessed services and ii) the extent to which the record possesses features that are likely to reflect an improved quality of land records, such as timely updating of ownership, reduced extent of joint ownership, actual land use, area, and a record of encumbrances.

The second edition of the Index, based on the data from 2020-21, was released on 4 March 2021. The N-LRSI's 2020-21 edition has adopted exactly the same components and weights as the first edition. This has facilitated a measurement of the progress made by the various States/UTs on the parameters that formed the basis of N-LRSI 2019-20. N-LRSI 2 also presents a new Index on the accessibility of records computed on the basis of a set of indicators provided in the Guidelines for Indian Government Websites 2.0 (GIGW 2.0), prepared by the Ministry of Electronics and Information Technology (MeitY).

This N-LRSI has helped in drawing attention to the nature of steps that States and Union Territories (UTs) can easily use in the creation of a more comprehensive, accurate record of the on-the-ground situation, which is updated in real time. The States and UTs can undertake various steps to improve their rankings. Based on the performance of each State/UT on various parameters covered under the N-LRSI study, the first report had listed both short-term and longer-term policy actions that could help them in improving their rankings on the N-LRSI.

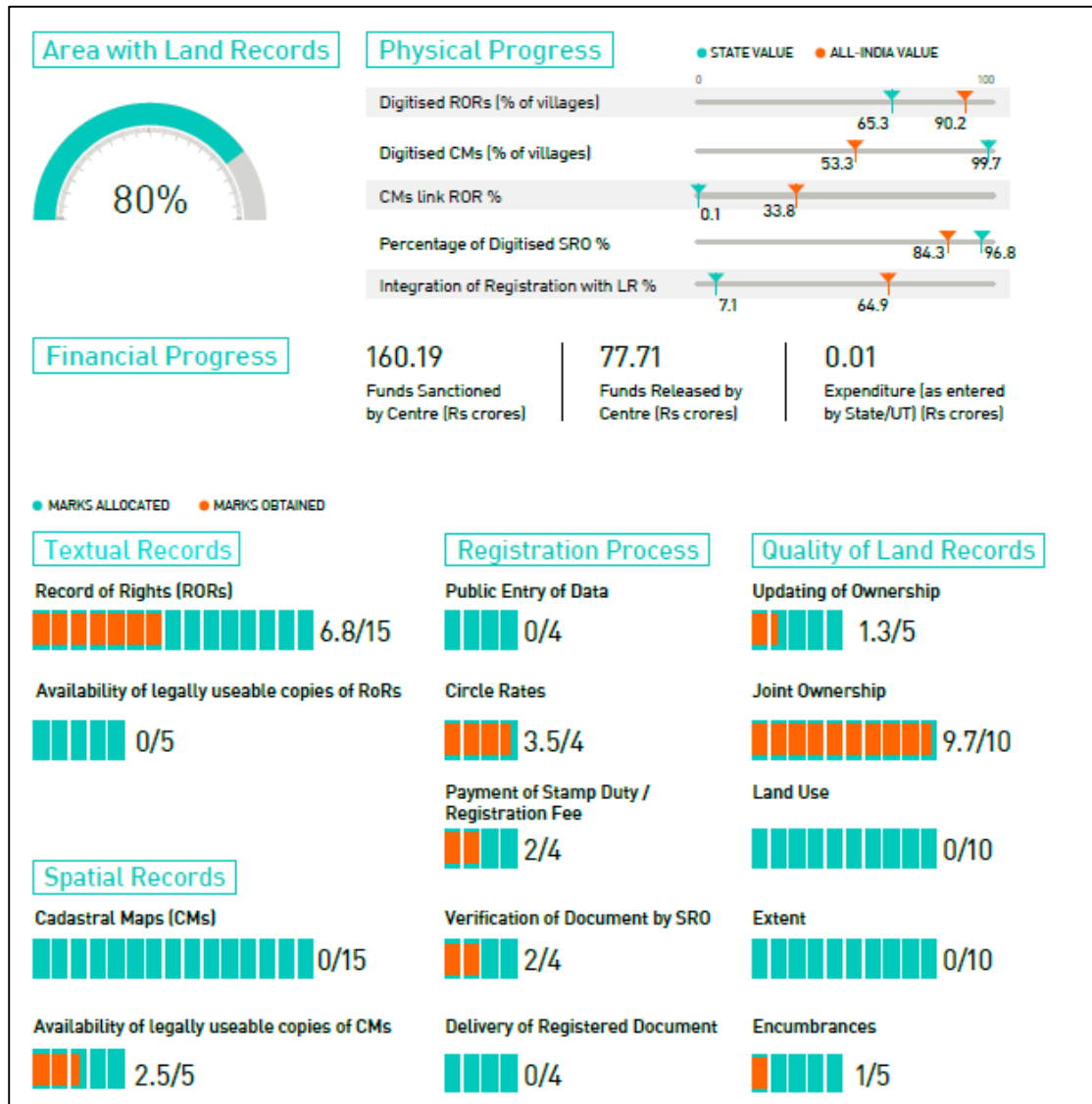
Interaction with the revenue departments of various States led to some States coming forward to discuss the steps taken by them in the area of land records and administration and implications in the context of N-LRSI. Accordingly, virtual round-table discussions were held during the months of July-October 2020 with four States: Bihar, Goa, Himachal Pradesh, and Karnataka. These discussions enhanced understanding on the progress of the initiatives undertaken by these States in recent months and about their future action plans. They also led to further suggestions on ways to improve their land records and services. The views of the States were also sought on changes in the Index that would capture some of the State specific initiatives and constraints. This report summarises the key points in the discussions with these States. It presents their performance on the Index in both the rounds, the extent of improvements on various components of the Index, quick wins on policy actions, achievements, and the future course of action.

# 1. Bihar

## 1.1 The State's Performance in N-LRSI 2019-20

In N-LRSI 2019-20, Bihar was placed at the 23<sup>rd</sup> position out of 32 States/UTs, with a score of 28.8 out of a maximum of 100 points. The individual component-wise scores for Bihar are given in Figure 1.1.

**Figure 1.1: Bihar's Performance on N-LRSI 2019-20**



Source: N-LRSI 2019-20.

As per the N-LRSI 2019-20 report, the key priority areas of improvement for Bihar were: making available digitised copies of both the textual and spatial records for all villages; providing an online portal for carrying out the registration process; providing facilities for the online delivery of registered documents; and introducing a provision for instant mutation in the record on registration of the sale deed.

## 1.2 Action Plan Suggested in Compendium 2019-20

Based on the State's performance on various parameters covered under the N-LRSI 2019-20 study, various short- and medium-term policy actions were provided to help the State in improving its ranking on the N-LRSI. These policy actions were given individually on all the 14 parameters covered under the four broad dimensions of the N-LRSI, thereby clearly pointing out not just the areas but also the possible ways of improvement in performance. The sub-component-wise actions suggested to Bihar in N-LRSI 2019-20 are delineated in the following table.

### Textual Records

S. No.	Areas of Improvement	Action Plans
1.	The Record is digitally available on a web portal but there are accessibility issues.	Decisions are required on hardware upgrade and software improvement.
2.	Legally useable copies of Record of Rights (RoRs) are not available on web.	Appropriate decisions are required to make this operational based on action already taken in the other States/UTs.

### Spatial Records

S. No.	Areas of Improvement	Action Plans
1.	Digitised Cadastral Maps (CMs) are not yet available: For areas where CMs are not available or not in a useable format.	<ul style="list-style-type: none"> <li>a. Survey to be conducted in these areas.</li> <li>b. This requires decisions about mode of conduct of the survey and procuring the relevant services.</li> <li>c. High-resolution Satellite Imagery (HRSI) may prove suitable for rural areas.</li> <li>d. More accurate modes like drones or Light Detection and Ranging (LIDAR)-based surveys may be necessary in all densely built-up areas.</li> </ul>
2.	If CMs are available in hard copy format and not yet digitised.	Expediting the process of digitisation where this is partially complete.
3.	If CMs are digitised but not made available on a publicly accessible portal.	This may require decisions on systems to update the record.
4.	Legally useable copies. Not clear how CMs are made available through e-service centres while RoRs are not.	To make available digitally signed copies of CMs online.

## The Registration Process

S. No.	Areas of Improvement	Action Plans
1.	No provision for online entry of data relating to the registration.	Provide a web portal link for the same.
2.	Online availability of circle rates but there are accessibility issues.	Ensuring complete online availability of circle rates by cross-checking that all revenue villages are actually reflected in the uploaded information.
3.	Payment of stamp duty/registration fee (e-stamp payment available but not online payment)	Immediately introduce an online payment system like the Online Government Receipts Accounting System (e-GRAS).
4.	Verification of document by the Sub-Registrar's Office (SRO) (no compulsory provision)	Compulsory provision for digital signature by the competent authority at the time of registration
5.	Delivery of registered document (neither compulsory nor optional).	Immediately adopt a holistic registration software like the National Generic Document Registration System (NGDRS) enable this feature.

## Quality of Land Records

S. No.	Areas of Improvement	Action Plans
1.	Linkage between revenue and registration departments	a. Upgrade to at least a note in the RoR b. Consider introducing same-day mutation.
2.	Inheritance-related changes to be noted in real time.	Consider linking the databases of births and deaths with RoRs.
3.	Incidence of joint ownership	The performance of Bihar is very good. Only marginal improvement is required.
4.	Provision for recording possession exists but actual records do not appear to be accurate.	Consider recording contracts of different kinds, especially rents of built-up property.
5.	Enabling regular update of land use with complete details. (Availability of digitised CMs required for test checks.)	<ul style="list-style-type: none"> <li>➤ Rewriting instructions to relevant department officials to update the use of modern technology and to monitor through online checks.</li> <li>➤ Linkages need to be established between the databases of map/real estate project approval/completion certificates and RoRs.</li> </ul>
6.	Extent: Enabling assessment of accuracy of the recorded area. (Availability of digitised CMs required for test checks.)	<ul style="list-style-type: none"> <li>➤ Rewrite provisions that give precedence to RoR entry in all cases in order to provide that where CMs reflect the ground reality and there is no moral hazard of encouraging encroachment of public or common lands, the map area may be given legal precedence.</li> </ul>
7.	Encumbrances	<ul style="list-style-type: none"> <li>➤ All mortgages should ideally be registered with a nominal fee and automatically noted in the RoR.</li> <li>➤ Instructions and software integration to link relevant databases to the RoR for recording various categories of encumbrances.</li> </ul>



### **1.3 Summary of the Round-table Discussion with Bihar**

In order to discuss the State's performance on the Index, the areas of improvements and various initiatives taken by the State during the span of one year between two rounds of the N-LRSI, a round-table discussion was held with the Secretary, Revenue Department, and the Government of Bihar's team on 20 October 2020. The key points are briefly discussed below.

- The State authorities have made a tremendous effort to update and digitise 3.7 lakhs *Jamabandi*, which is considered a key record for citizen services in Bihar, and includes all the parameters, as given in the RoR, but the score can be improved if government orders can be issued to make these copies legally useable.
- In the case of CMs, the State has reported 100 per cent digitisation, but obtaining copies of the record still necessitates visits to the Revenue office because plotters are available only in the revenue record rooms.
- As regards the registration process, the following points were highlighted: a) Plans to make available the online provision for public data entry portal functional shortly; attempts to remove all the gaps arising out of mismatches in the village names used in *Jamabandi* and in circle rate records; adoption of the e-GRAS system by the State for making online payment of stamp duty and registration fees; and attempts required to introduce systems that allow digital attestation of registration by SROs.
- For improvement in quality records, it was pointed out that since Cadastral Maps are available in mosaic form, they can be used for the land use test checks; and it was suggested that the column on encumbrances should be introduced in *Jamabandi*.

### **1.4 Performance and Achievements in N-LRSI 2020-21**

As per the latest exercise on N-LRSI 2020-21, Bihar has made tremendous progress, scoring 64.8 points out of the maximum score of 100, signifying an improvement of 36 points, which has enabled it to move up to the 8<sup>th</sup> rank among 32 States/UTs. The State has reported the maximum change in score amongst all the 32 States/UTs for which the Index has been computed. As compared to the N-LRSI 2019-20, the improvement in Bihar has been achieved across the board in all the four sub-components of textual records, spatial records, the registration process, and the quality of land records. For details refer to Table 1.1.

**Table 1.1: Bihar's Performance in N-LRSI 2019-20 and 2020-21**

S. No.	Record/Process	Maximum Points	N-LRSI 2019-20		N-LRSI 2020-21	
			Bihar's Score	Gap	Bihar's Score	Gap
1.	<b>Textual Record</b>	20	6.8	13.2	14.6	5.4
	a. Digitisation of RoRs	15	6.8	8.2	14.6	0.4
	b. Availability of legally useable copies of RoRs	5	0	5	0	5
2.	<b>Spatial Record</b>	20	2.5	17.5	13.5	6.5
	a. Digitisation of CMs	15	0	15	13.5	1.5
	b. Availability of legally useable copies of CMs	5	2.5	2.5	0	5
3.	<b>Registration</b>	20	7.5	12.5	15.6	4.4
	a. Public entry of data	4	0	4	4	0
	b. Circle rates	4	3.5	0.5	3.6	0.4
	c. Payment of stamp duty/registration fee	4	2	2	4	0
	d. Verification of the document by the SRO	4	2	2	2	2
	e. Delivery of the registered document	4	0	4	2	2
4.	<b>Quality of Land Records</b>	40	12	28	21.1	18.9
	a. Updating of ownership	5	1.3	3.7	3.8	1.2
	b. Joint ownership	10	9.7	0.3	9.7	0.3
	c. Land use	10	0	10	6.9	3.1
	d. Extent	10	0	10	0.6	9.4
	e. Encumbrances	5	1	4	0	5

Source: N-LRSI 2019-20 and 2020-21.

In the case of textual records, the *Jamabandi* (which is effectively the RoR) has been fully digitised, leading to an increase in the overall score to 14.6 out of 20 in comparison to 6.8 points achieved on this indicator last year. To ensure timely updating of the record, mutation is now carried out within three days. The States have also introduced a system for obtaining the Land Possession Certificate (LPC) through online applications. In addition, all the land laws have been made available online in Bihar after appropriate translation to ensure ease of understanding for the public.

In the present round, Bihar has joined the list of States which enable online viewing of the cadastral maps. The maps are available in mosaic form. Consequently, digitisation of maps and their availability in mosaic form has led to an increase in the scores of spatial records and quality of land by 11 and 9.1 points, respectively.

During various stages of the registration process, Bihar now offers the provision of an online portal for initiating registration and making an online payment of the stamp duties/registration fees. The State has also introduced a provision for the online delivery of the registered document (though this is optional). All these initiatives have resulted in an overall surge in the registration score of the State by over 8 points.

As far as the quality of land records is concerned, the major initiatives include upgrading of the integration between their textual records and the registration process to enable automatic generation of a note in the RoR when a transaction is registered, and maintaining consistency in the land use pattern as reported in land records when compared with Google Earth images.

### **1.5 Future Action Plan**

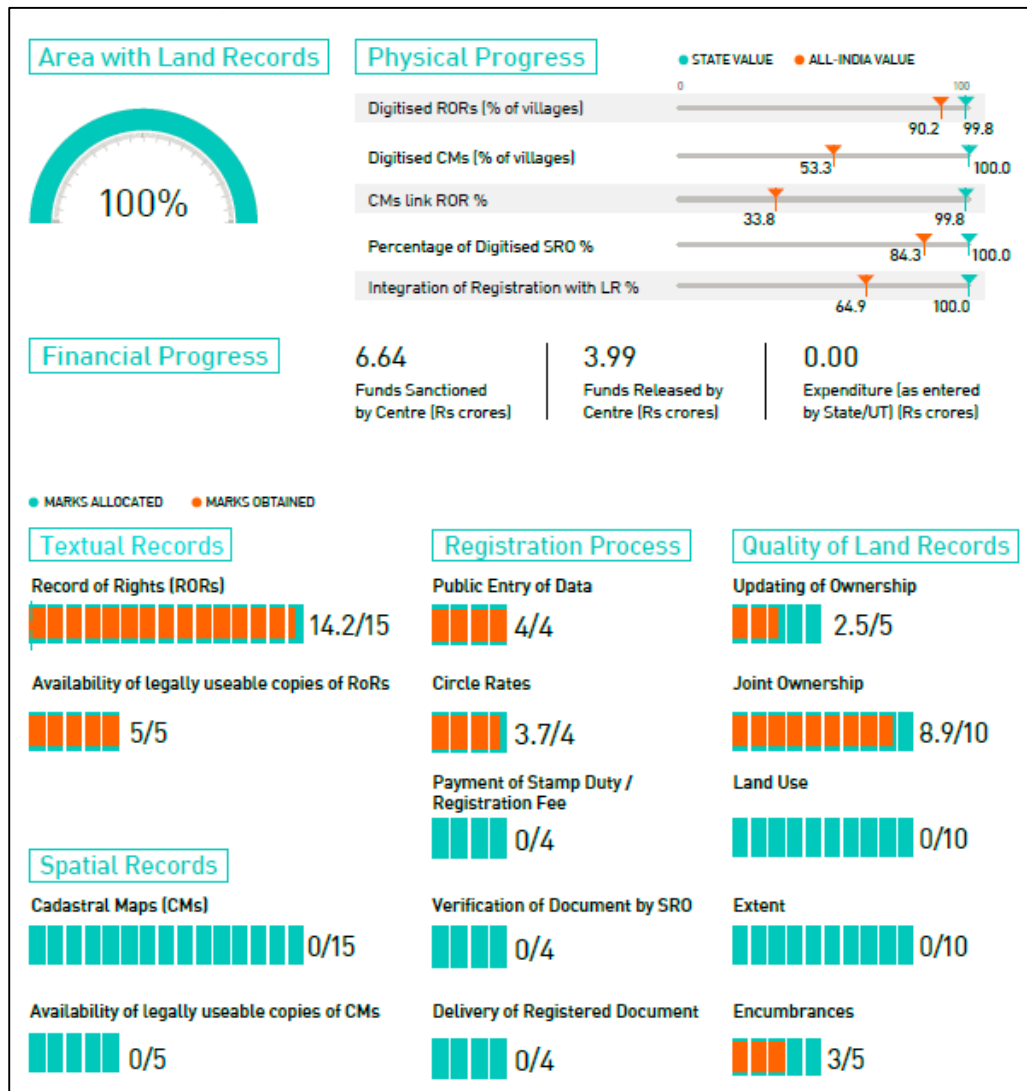
The State authorities have made remarkable efforts to improve the digitisation and quality of land records. However, on the quality front, there is still scope for improvement in the following areas that can enhance the scores on the index: i) making the recorded land area consistent in textual and spatial records: at present, in 96 per cent of the plots, the variations between the two is above 10 per cent, ii) recording encumbrances in the records, and iii) real-time attestation of mutations for property-related transactions. Another area of improvement could be to make legally useable copies of both the textual and spatial records available online for citizens.

## 2. Goa

### 2.1 The State's Performance in N-LRSI 2019-20

In N-LRSI 2019-20, Goa was placed at the 14<sup>th</sup> position among 32 States/UTs, scoring 41.3 scores out of a maximum of 100 points. The individual component-wise scores for Goa are given in Figure 2.1.

**Figure 2.1: Goa's Performance on N-LRSI 2019-20**



Source: N-LRSI 2019-20.

As per the N-LRSI 2019-20 report, the key priority areas of improvement for Goa were as follows: making digitised copies of spatial records available online for all villages; providing online facilities for the payment of registration fees/stamp duties; providing a facility for the online attestation and delivery of the registered document and introducing a provision for instant mutation in the record on registration of the sale deed.



## 2.2 Action Plan Suggested in Compendium 2019-20

Based on the State's performance on various parameters covered under the N-LRSI 2019-20 study, various short- and medium-term policy actions were suggested to help the State improve its ranking on the N-LRSI. These policy actions have been listed individually on all the 14 parameters covered under the four broad dimensions of the N-LRSI, clearly highlighting not just the areas but also the possible ways of improvement in performance. The action plan suggested to Goa in N-LRSI 2019-20 is delineated in the following table.

### Textual Records

S. No.	Areas of Improvement	Action Plans
1.	Online availability of RoRs	Ensuring complete online availability of records by upgrading the hardware and improving the software based on action already taken in the other States/UTs.

### Spatial Records

S. No.	Areas of Improvement	Action Plans
1.	For areas where CMs are not available or not in useable format.	Survey to be conducted in these areas, which necessitates decisions about the mode of conduct of the survey and procuring of relevant services.
2.	If CMs are available in hard copy format and not yet digitised.	Expediting the process of digitisation where this is partially complete.
3.	If CMs are digitised but not made available on a publicly accessible portal.	This may require decisions on systems to update the record.

### The Registration Process

S. No.	Areas of Improvement	Action Plans
1.	Online availability of circle rates	Ensuring complete online availability of circle rates by upgrading the hardware and improving the software based on action already taken in the other States/UTs.
2.	Payment of stamp duty/ registration fee	<ul style="list-style-type: none"> <li>a. Immediately introduce an online payment system like e-GRAS.</li> <li>b. Introduce e-stamps immediately if online payments are likely to take time.</li> </ul>
3.	Verification of document by the SRO	Immediately adopt a holistic registration software like the NGDRS to enable this feature.
4.	Delivery of the registered document	Immediately adopt a holistic registration software like the NGDRS to enable this feature.

## Quality of Land Records

S. No.	Areas of Improvement	Action Plans
1.	Linkage between revenue and registration departments	a. Upgrade to at least a note in the RoR b. Consider introducing same-day mutation.
2.	Inheritance-related changes to be noted in real time	Consider linking the databases of births and deaths with RoRs either through Aadhaar numbers or through genealogical tables, where relevant.
3.	Incidence of joint ownership	a. Legal changes of the kind introduced in Telangana. b. Incentivise voluntary partition by owners. c. Simplify processes for effecting partition where voluntary partition is difficult.
4	Recording possession	Consider recording contracts of different kinds, especially rents of built-up property, and lower registration rates for this purpose of creating appropriate incentives.
5	Updating of land use	a. Rewriting of instructions to the relevant department officials is needed to enable this to become a responsibility which can be monitored through modern technology. b. Linkages are required to be established between databases of map/real estate project approval/completion certificates and RoRs so that these details can be viewed automatically.
6	Encumbrances	a. Provision for entering institution of civil court cases and statutory restrictions on land use in the RoR. b. Software linkages to link the relevant databases to the RoR for recording various categories of encumbrances.

### 2.3 Summary of the Round-table Discussion with Goa

In order to discuss the State's performance on the Index, the areas of improvements and various initiatives taken by the State during the span of one year between two rounds of the N-LRSI, a round-table discussion was held with the Secretary and State officials, Revenue Department, Government of Goa, on 8 July 2020. The key points emerging at the round-table are briefly discussed below.

- For improving the ranking of the State, there is a need to digitise the spatial records and make them available for public use. Although the cadastre records of Goa were digitised and were made online at one stage, the record was taken offline due to some issues. It was also pointed out that efforts are underway to sort out these issues and to make cadastre maps available online again shortly.

- Presently, there has been a division between the land record maintenance and deed-based registration systems due to which the responsibility of registration has been entrusted to the Law Department. Efforts are thus underway to improve coordination between the two to ease the overall process of registration in the State.
- Although there are difficulties in incorporating real-time instant mutations in the land records due to political issues, bringing in a note in the RoR in real time on the occurrence of a registration is certainly an achievable goal.
- Goa has adopted the NGDRS for the registration process. Registered documents are thus made available on the same day.
- Goa's tradition of stamp vendors as a venerable profession, who are entitled to commissions of 2 per cent, was a major stumbling block in moving towards the online payment of stamp duty. Therefore, the State is considering shifting to e-stamps that could involve stamp vendors. This problem can be resolved by shifting to an online system, which would still allow for commissions to be paid to stamp vendors as a compensation on a declining scale over time, much like the way States have to be compensated for GST-related shortfalls against the earlier State tax collections.
- The State is in favour of identifying ways of improving convergence between land records and registration. These include: online availability of legacy records of registration; improvements in built-up property records; capturing statutory improvements in improving comprehensiveness of the record; and private sector entry for maintaining databases of documents that do not need to be compulsorily registered under Section 18 of the Registration Act.

#### **2.4 Performance and Achievements in N-LRSI 2020-21**

As per the latest exercise of N-LRSI 2020-21, Goa has shown an improvement in the overall scores for the N-LRSI by scoring 49.4 marks out of a maximum of 100 points, as compared to its previous score of 41.3 points scores in 2019-20. However, in terms of ranking, it now placed at the 16<sup>th</sup> position since some States/UTs have performed even better on various components of the Index as compared to Goa.

As far as the broad sub-components of the Index for Goa are concerned, the State has made improvements in the scores of three components, that is, textual records, registration, and quality, whereas the situation with regard to its scores on spatial records is still the same as in the last round. For details refer to Table 2.1.

**Table 2.1: Goa's Performance in the N-LRSI 2019-20 and 2020-21**

S. No.	Record/Process	Maximum Points	N-LRSI 2019-20		N-LRSI 2020-21	
			Goa's Score	Gap	Goa's Score	Gap
<b>1.</b>	<b>Textual Record</b>	20	19.2	0.8	19.6	0.4
	a. Digitisation of RoRs	15	14.2	0.8	14.6	0.4
	b. Availability of legally useable copies of RoRs	5	5	0	5	0
<b>2.</b>	<b>Spatial Record</b>	20	0	20	0	20
	a. Digitisation of CMs	15	0	15	0	15
	b. Availability of legally useable copies of CMs	5	0	5	0	5
<b>3.</b>	<b>Registration</b>	20	7.7	12.3	7.9	12.1
	a. Public entry of data	4	4	0	4	0
	b. Circle rates	4	3.7	0.3	3.9	0.1
	c. Payment of stamp duty/registration fee	4	0	4	0	4
	d. Verification of the document by the SRO	4	0	4	0	4
	e. Delivery of the Registered Document	4	0	4	0	4
<b>4.</b>	<b>Quality of Land Records</b>	40	14.4	25.6	21.9	18.1
	a. Updating of ownership	5	2.5	2.5	2.5	2.5
	b. Joint ownership	10	8.9	1.1	8.4	1.6
	c. Land use	10	0	10	8	2
	d. Extent	10	0	10	0	10
	e. Encumbrances	5	3	2	3	2

Source: N-LRSI 2019-20 and 2020-21.

In the case of textual records, the State recorded only a marginal improvement in the present round. This is because the State was already performing at a near-optimum level for this indicator. As far as spatial records are concerned, the state could score any point on this indicator since the digitised copies of the cadastral maps are still not available online for public use.

As regards the stages of the registration process, again there has been a marginal improvement due to the increased availability of online circle rates. The overall score on this component is more or less the same as that recorded in 2019-20.

As far as the quality of land records is concerned, the State has shown an improvement in the scores, mainly on account of land use test checks that were conducted in the present round. Although the digitised CMs are still not available in the public domain, since the State was able to share the mosaics for sample villages separately, test checks were possible, and the State scored 8 points on this indicator out of a maximum of 10 points, indicating consistency in the land use patterns, as reflected in the record and those on Google Earth images. Due to this, there was an improvement in the overall scores on quality this time.



## **2.5 Future Action Plan**

As regards the four sub-components of the N-LRSI, the performance of Goa in 2020-21 is similar to that in the last round for both textual records and the registration process, and no significant improvement was witnessed in these components. However, the quality component showed an improvement with land use checks becoming possible and showing a high level of consistency.

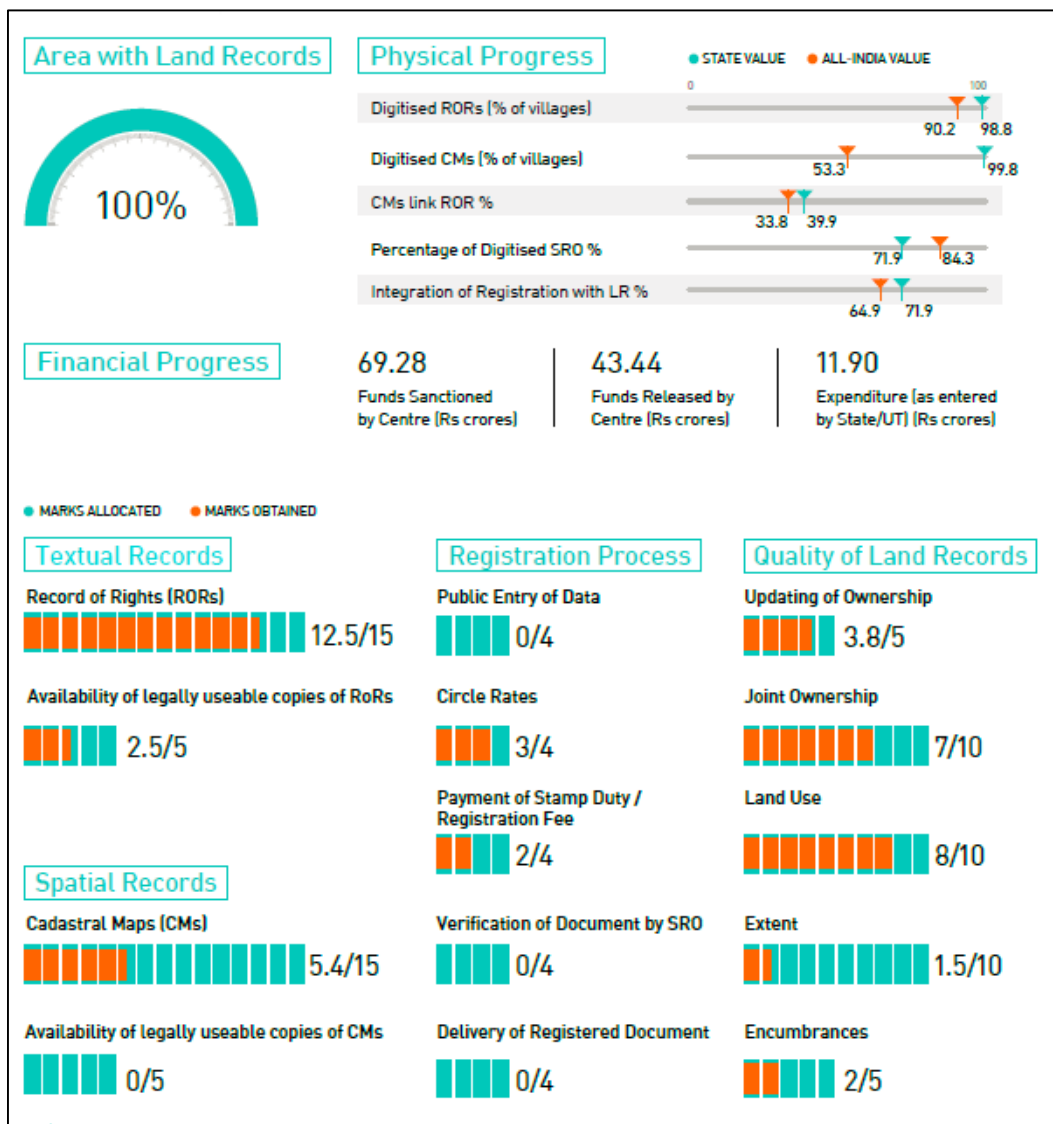
The present round of the Index points to a significant scope for further improvement in Goa on the various components of the Index. Some of the possible areas of improvement for the State are: i) making the digitised copies of cadastral maps available on the web for public use along with their digitally signed legally useable copies; ii) providing the cadastral maps in both mosaic form and with line lengths; iii) providing real-time attestation of mutations for property-related transactions; iv) online availability of payments of registration fees/stamp duties; and v) provision of an online facility for the attestation and delivery of the registered documents.

# 3. Himachal Pradesh

## 3.1 The State's Performance in N-LRSI 2019-20

Himachal Pradesh was placed at the 13<sup>th</sup> position out of 32 States/UTs in the N-LRSI 2019-20, with a score of 47.6 out of a maximum of 100 points. The individual component-wise scores for Himachal Pradesh are given in Figure 3.1.

**Figure 3.1: Himachal Pradesh's Performance on the N-LRSI 2019-20**



Source: N-LRSI 2019-20.

As per the N-LRSI 2019-20 report, the key priority areas of improvement for Himachal Pradesh were: making available digitised copies of spatial maps for all the villages; providing an online portal for carrying out the registration process; providing a facility for the online attestation and delivery of the registered document; and making the land area as recorded in the textual and spatial records more consistent with each other.

### 3.2 Action Plan Suggested in Compendium 2019-20

Based on the State's performance on various parameters covered under the N-LRSI 2019-20 study, various short- and medium-term policy actions were suggested to help the State improve its ranking on the N-LRSI. These policy actions have been mentioned individually on all the 14 parameters covered under the four broad dimensions of the N-LRSI, clearly highlighting just the areas but also the possible ways of improvement in performance. The sub-component-wise action plan suggested to Himachal Pradesh in N-LRSI 2019-20 is delineated in the following table.

#### Textual Records

S. No.	Areas of Improvement	Action Plans
1.	The record is digitally available on a web portal but there are accessibility issues.	<ul style="list-style-type: none"> <li>a. Decisions are required on upgrading of hardware and improvement of software.</li> <li>b. Appropriate cross-checks need to be carried out to ensure that the information is accurately entered on the Department of Land Resources (DoLR) portal and on the State websites under the correct <i>tehsil</i> names.</li> </ul>
2.	Legally useable copies of RoRs are not available on the web.	a. RoR copies are said to be digitally signed but not considered to be legally useable as yet.

#### Spatial Records

S. No.	Areas of Improvement	Action Plans
1.	CMs are stated to be digitally available on a web portal but there are accessibility issues and a very large number are not visible in the test checks.	This necessitates appropriate action to cross-check the actual extent of uploading of the digitised spatial records and systems to improve access.
2.	If CMs are available in hard copy format and not yet digitised.	Expediting the process of digitisation where this has not been partially completed as yet.
3.	For areas where CMs are not available or are not in a useable format.	<ul style="list-style-type: none"> <li>a. Surveys to be conducted in these areas.</li> <li>b. This requires decisions about the mode of conduct of the survey and procurement of the relevant services.</li> <li>c. The HRSI may prove suitable for rural areas.</li> <li>d. More accurate modes like drones or Light Detection and Ranging (LIDAR)-based surveys may be necessary in all the densely built-up areas.</li> </ul>
4.	Legally useable copies	To make available digitally signed copies of CMs online.

## The Registration Process

S. No.	Areas of Improvement	Action Plans
1.	No provision for online entry of data relating to the registration.	Provide a web portal link for the same.
2.	Online availability of circle rates but there are accessibility issues.	Ensuring complete online availability of circle rates by cross-checking that all the revenue villages are actually reflected in the uploaded information.
3.	Payment of stamp duty/registration fee (e-stamp payment available).	Immediately introduce an online payment system like e-GRAS.
4.	Verification of the document by the SRO (no compulsory provision).	Immediately adopt a holistic registration software like the NGDRS to enable this feature.
5.	Delivery of the registered document (this is neither compulsory nor optional).	Immediately adopt a holistic registration software like the NGDRS to enable this feature.

## Quality of Land Records

S. No.	Areas of Improvement	Action Plans
1.	Linkage between the revenue and registration departments	Consider introducing same-day mutation once again.
2.	Inheritance-related changes to be noted in real time.	Consider linking the databases of births and deaths with RoRs.
3.	Excessive Incidence of joint ownership	<ol style="list-style-type: none"> <li>a. Consider legal changes of the kind introduced in other States;</li> <li>b. If not practical then incentivise voluntary partition by owners;</li> <li>c. Simplify processes for effecting partition.</li> </ol>
4.	Provision for recording the possession exists but actual records do not appear to be accurate.	Consider recording contracts of different kinds, especially rents of built-up property.
5.	Enabling regular update of land use with complete details.	<ol style="list-style-type: none"> <li>a. Rewriting instructions to the relevant department officials to update the use of modern technology and monitoring through online checks.</li> <li>b. Linkages are required to be established between databases of maps/real estate project approval/completion certificates and RoRs.</li> </ol>
6.	Extent: Enabling assessment of accuracy of recorded area (high variation recorded).	Rewrite provisions that give precedence to the RoR entry in all cases in order to provide that where CMs reflect the ground reality and there is no moral hazard of encouraging encroachment of public or common lands, the map area may be given legal precedence.
7.	Encumbrances	<ol style="list-style-type: none"> <li>a. All mortgages should ideally be registered with a nominal fee and automatically noted in the RoR.</li> <li>b. There should be a provision for entering the institution of civil and revenue court cases, land acquisition proceedings, and statutory restrictions on land use in the RoR.</li> <li>c. Software linkages to link the relevant databases to the RoR for recording various categories of encumbrances.</li> </ol>



### **3.3 Summary of the Round-table Discussion with Himachal Pradesh**

In order to discuss the State's performance on the Index, the areas of improvements and various initiatives taken by the State during the span of one year between two rounds of the N-LRSI, a round-table discussion was held with the Chief Secretary and State officials from the Revenue and Disaster Management Department, Government of Himachal Pradesh, on 26 October 2020. The key points emerging at the round-table discussion are as follows:

- The State should take initiatives in aligning the land records data as given on the State website with that reported by the State on the DoLR website.
- Digitally signed copies of the RoR should be made available on the State website. Copies of the CMs should also be made available from the digital records.
- There is a possibility of drone surveys for the *abadi deh* areas under the Svamitva Scheme. It was suggested that it would be appropriate for the Revenue Department to prepare RoRs for these areas, rather than to depend on the Panchayati Raj Department for this task.
- The circle rates of only 75 per cent of the villages are available online on the State website, as per the N-LRSI 2019-20. The revenue department has to cross-check this to ensure better performance.
- The other areas that the State needs to work on include addressing the issues of multiple joint ownership, variations between the area in the RoR and that given in the CM, which is most likely to reflect the ground situation, and the need to enter various encumbrances in the record, where there is a possibility of integrating the relevant databases to enable this to happen in real-time.
- The State should consider linkages between the birth and death registers and RoRs (*shajra nasab* portion) to enable real-time noting of the requirement for updating the RoRs on the death of owners.

### **3.4 Performance and Achievements in N-LRSI 2020-21**

As per the latest exercise of N-LRSI 2020-21, Himachal Pradesh has improved its overall N-LRSI scores from 47.6 in 2019-20 to 59.1 out of a maximum score of 100 in 2020-21, thereby moving up from the 13<sup>th</sup> position among the 32 States/UTs in the earlier Index to the 12<sup>th</sup> position in the current one. As compared to the N-LRSI 2019-20, in the present round, there was an improvement in three sub-components of the Index, that is, spatial records, the registration process, and the quality of land records, whereas the scores on textual records remained almost the same as in 2019-20. For details refer to Table 3.1.

**Table 3.1: Himachal Pradesh's Performance in the N-LRSI 2019-20 and 2020-21**

S. No.	Record/Process	Maximum Points	N-LRSI 2019-20		N-LRSI 2020-21	
			Himachal Pradesh's Score	Gap	Himachal Pradesh's Score	Gap
<b>1.</b>	<b>Textual Record</b>	20	15	5	14.9	5.1
	a. Digitisation of RoRs	15	12.5	2.5	12.4	2.6
	b. Availability of legally useable copies of RoRs	5	2.5	2.5	2.5	2.5
<b>2.</b>	<b>Spatial Record</b>	20	5.4	14.6	10.5	9.5
	a. Digitisation of CMs	15	5.4	9.6	8	7
	b. Availability of legally useable copies of CMs	5	0	5	2.5	2.5
<b>3.</b>	<b>Registration Process</b>	20	5	15	7.4	12.6
	a. Public entry of data	4	0	4	0	4
	b. Circle rates	4	3	1	3.4	0.6
	c. Payment of stamp duty/ registration fee	4	2	2	4	0
	d. Verification of the document by the SRO	4	0	4	0	4
	e. Delivery of the registered document	4	0	4	0	4
<b>4.</b>	<b>Quality of Land Records</b>	40	22.2	17.8	26.3	13.7
	a. Updating of ownership	5	3.8	1.2	3.8	1.2
	b. Joint ownership	10	7	3	7.84	2.16
	c. Land use	10	8	2	9.29	0.71
	d. Extent	10	1.5	8.5	3.46	6.54
	e. Encumbrances	5	2	3	2	3

Source: N-LRSI 2019-20 and 2020-21.

In the case of textual records, the scores in the present round are almost the same as in 2019-20.

In the present round, Himachal Pradesh has joined the list of States which have been making available digitally signed, legally useable copies of CMs at the citizen service centres. Some level of improvement has also been seen in the availability of digital maps online. Consequently, the overall score for spatial records has almost doubled in the present round.

In terms of the digitising stages of the registration process, a major initiative taken by the State has been that of introducing online facilities for the payment of registration fees/stamp duties, resulting in an increase in the State's score from 5 to 7.4 out of a maximum of 20 points.

As far as the quality of land records is concerned, a limited change has been achieved. Only marginal improvement has been seen on indicators like land use, land extent, and joint ownership. Despite this, it must be noted that Himachal Pradesh is the only one among all the States/UTs to report an improvement in scores for land area congruence in 2020-21 over 2019-20.

### **3.5 Future Action Plan**

While the State authorities have made efforts to improve the digitisation and quality of land records, the State still needs to cover some ground. Among all the components, some improvements have been witnessed on the quality front, spatial records, and the registration process. However, as far as textual records are concerned, more efforts are needed to make the digitised copies for all villages available online. Similar initiatives are also required with regard to spatial records. In both cases, legally useable copies need to be provided online.

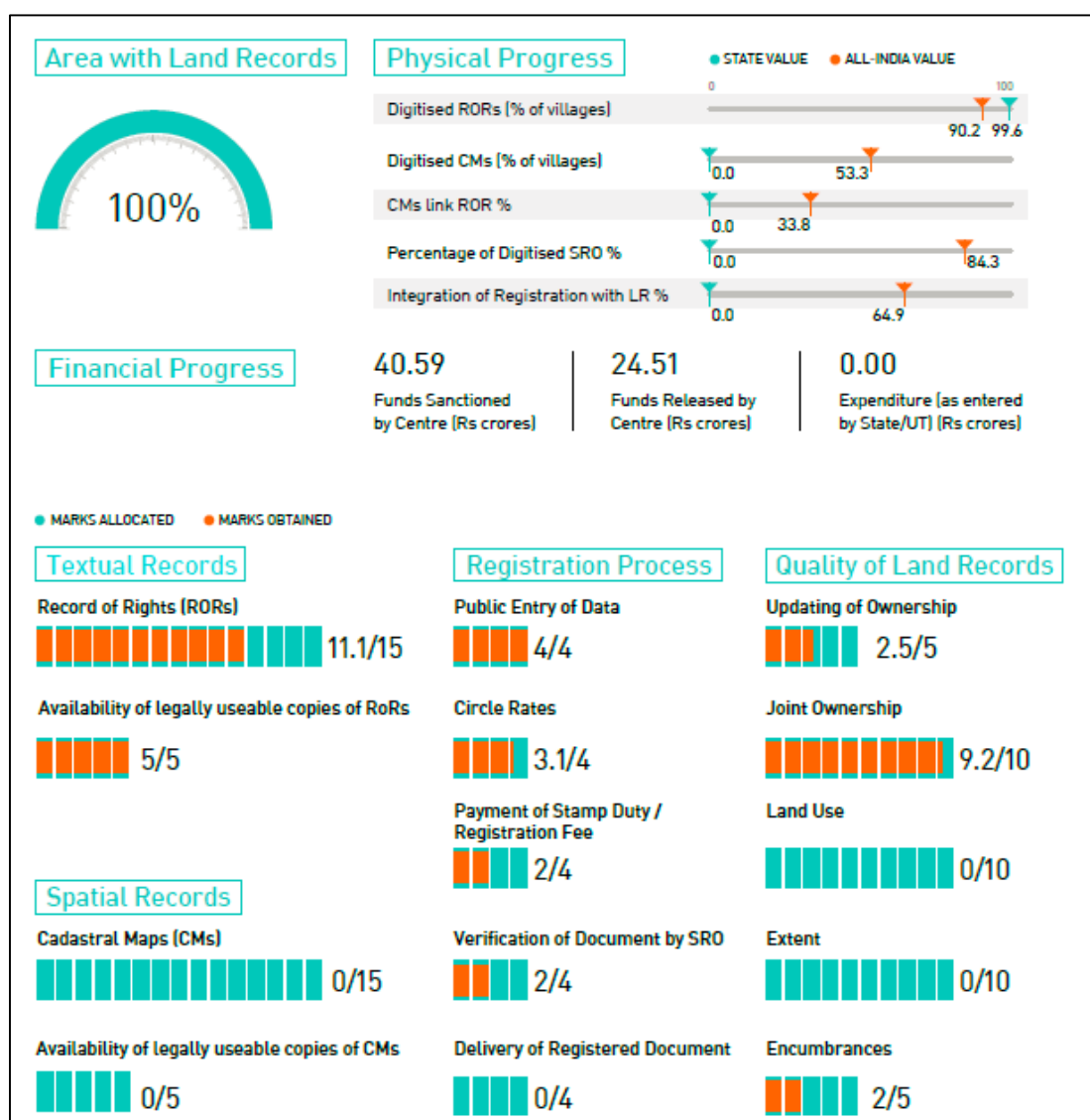
The other areas of improvement which can help in increasing the score on the Index are: i) providing an online portal for citizens to initiate registration; ii) provision for online attestation and delivery of the registered document; iii) making the recorded land area consistent in textual and spatial records, as at present in 72 per cent of the plots, the variation between the two is above 10 per cent, iv) recording various encumbrances in the records; and v) need to achieve real-time attestation of mutations for property-related transactions.

# 4. Karnataka

## 4.1 The State's Performance in N-LRSI 2019-20

Karnataka scored the 15<sup>th</sup> position among the 32 States/UTs in N-LRSI 2019-20, with a score of 40.9 out of a maximum score of 100. The individual component-wise scores for Karnataka are given in Figure 4.1.

**Figure 4.1: Karnataka's Performance on N-LRSI 2019-20**



Source: N-LRSI 2019-20.

As per the N-LRSI 2019-20 report, the key priority areas of improvement for Karnataka were: need to make available digitised copies of spatial records for all villages in both mosaic and vectorised form to enable the State to perform test checks for land use and extent; providing a facility for the online delivery of registered documents; and introducing a provision for instant mutation in the record on the registration of sale deeds.

## 4.2 Action Plan Suggested in Compendium 2019-20

Based on the State's performance on various parameters covered under the N-LRSI 2019-20 study, various short- and medium-term policy actions were suggested to help the State improve its ranking on the N-LRSI. These policy actions have been mentioned individually on all the 14 parameters covered under the four broad dimensions of the N-LRSI, clearly pointing out not just the areas but also the possible ways of improvement in performance. The sub-component-wise action plan suggested to Karnataka in the N-LRSI 2019-20 is delineated in the following table.

### Textual Records

S. No.	Areas of Improvement	Action Plans
1.	Online availability of RoRs/ Property record	a. An FAQ facility may be provided on the State portal for users. b. Linking RoRs with CMs.

### Spatial Records

S. No.	Areas of Improvement	Action Plans
1.	Online availability of CMs with legal sanctity.	a. Decisions required on vectorising the record. b. Linking CMs with RORs. c. Available only in the local language (no translation available) d. Available in the PDF version.
2.	Availability of legally useable copies of CMs on the web.	To make available digitally signed copies of the CMs online.

### Registration Process

S. No.	Areas of Improvement	Action Plans
1.	Online availability of circle rates: Available on the web but there is scope for improvement.	Identify reasons for gaps in making available rates for all areas.
2.	Payment of stamp duty/registration fee	Introducing online payment systems like e-GRAS.
3.	Optional provision for digital signature by a competent authority at the time of registration.	Compulsory provision for digital signature by a competent authority at the time of registration.
4.	Delivery of soft copy of the registered document.	Adopting a holistic registration software like the NGDRS to enable this feature.

## Quality of Land Records

S. No.	Areas of Improvement	Action Plans
1.	Linkage between the revenue and registration departments.	Upgrade to at least a note in the RoR and consider introducing same-day mutation.
2.	Inheritance-related changes to be noted in real time.	Consider linking the databases of births and deaths with the RoRs.
3.	Incidence of joint ownership	Limited gap to be filled by identifying the reasons for the same and addressing them.
4.	Recording possession	Consider recording contracts of different kinds, especially rents of built-up property.
5.	Extent: Enabling assessment of accuracy of the recorded area	a. Ensure availability of vectorised spatial maps. b. Rewrite provisions that give precedence to the entry of RoRs in all cases in order to ensure that where CMs reflect the ground reality and there is no moral hazard of encouraging encroachment of public or common lands, the map area may be given legal precedence.
6.	Encumbrances	a. Mortgages should ideally be registered with a nominal fee and automatically noted in the RoR. b. Provision for entering the institution of civil court cases and statutory restrictions on land use in the RoR. c. Software linkages to link the relevant databases to the RoR for recording various categories of encumbrances.

### 4.3 Summary of the Round-table Discussion with Karnataka

In order to discuss the State's performance on the Index, the areas of possible improvement, and various initiatives taken by the State during the span of one year between two rounds of the N-LRSI, a round-table discussion was held with the Principal Secretary, Revenue Department, and State officials, Government of Karnataka, on 10 September 2020. The key points emerging from the Round-table have been briefly summarised below.

- Karnataka has reported considerable progress on offering web-based access to various components of the N-LRSI. During the first round, though 100 per cent of the CMs were digitised, they were only available on the mobile App. Now they are available on both the mobile App (Dishank and Bhoomi) as well as the web portal and also in mosaic form, which are downloadable.
- Test checks on the land use and extent are not possible in Karnataka since the villages in the State are digitised as a shape file, and the vectors for each land parcel have not been noted. However, it is claimed that the State will certainly



look into the possibility of integrating Bhoomi and Kaveri to generate a note on a transaction being registered.

- It was suggested that the database of digitised birth and death registers should be used in order to generate a note in the RoR just as proposed in the link with the registration software. It was also mentioned that the system of recording and updating family trees is already in place but it is to be seen how far this can be used to ensure that mutations are entered in time for attestation by the revenue officer.
- As regards encumbrances, mortgages are recorded in real time by banks. Revenue court cases in relation to all properties are also recorded in the RTC. Similarly, linking the gazette notification of land acquisition proceedings with the RoR has also been started.
- In recording agricultural land use in terms of the crops sown, the agricultural department has brought in a system of creating a real-time record of crops sown on every plot with a geo-tagged photo (Bele Samikshe App). The integration of the Bhoomi and Bele Samikshe Apps has already been done.
- As regards the extent of digitisation of legacy records in registration, the State has just instituted a pilot and will wait for two more years.
- Similarly, in the case of virtual registration, it may be appropriate to examine the judicial perceptions on the issue of the physical presence of parties.
- On the issue of bringing in checks of records for the inhabited areas of the villages, it was reported that since the Svamitva Scheme is being started, the results would start becoming visible only after a period of two years.

#### **4.4 Performance and Achievements in N-LRSI 2020-21**

As per the latest exercise on the N-LRSI 2020-21, Karnataka has made a commendable improvement by achieving the 7<sup>th</sup> rank among 32 States/UTs, moving up from its erstwhile 15<sup>th</sup> rank in 2019-20. It scored 65 points out of a maximum of 100 points in the present round as compared to 40.9 points scored during the last round. Also, as compared to N-LRSI 2019-20, the State showed an improvement in all the four sub-components of the Index, that is, textual records, spatial records, the registration process, and the quality of land records in the present round as compared to the previous round. For details refer to Table 4.1.

Although, the State has reported only a slight improvement in the case of textual records in 2020-21, it has noted a significant change in the scores of spatial records. This is because in the 2020-21 study, Karnataka has joined the list of States that have made available digitised copies of all their CMs on the web for use by citizens. This has enabled it to improve the scores for this indicator from nil earlier to 13 points now.

With regard to the registration process, again a marginal improvement has been recorded mainly on account of the increased availability of online circle rates for sample villages. The State's overall score on this component has increased by just 0.6 in 2020-21.

As far as the quality of land records is concerned, the State's scores have increased as land use test checks have become possible in the present round due to the availability of digitised maps in mosaic form. Karnataka is the only State to score full marks on this indicator, resulting in a significant improvement in its score by 10 points. However, the land extent indicator of the Index could not be checked due to the non-availability of line lengths for the digitised maps.

**Table 4.1: Karnataka's Performance in the N-LRSI 2019-20 and 2020-21**

S. No.	Record/ Process	Maximum Points	N-LRSI 2019-20		N-LRSI 2020-21	
			Karnataka's Score	Gap	Karnataka's Score	Gap
<b>1.</b>	<b>Textual Record</b>	20	16.1	3.9	16.5	3.5
	a. Digitisation of RoRs	15	11.1	3.9	11.5	3.5
	b. Availability of legally useable copies of RoRs	5	5	0	5	0
<b>2.</b>	<b>Spatial Record</b>	20	0	20	13	7
	a. Digitisation of CMs	15	0	15	13	2
	b. Availability of legally useable copies of CMs	5	0	5	0	5
<b>3.</b>	<b>Registration</b>	20	11.1	8.9	11.7	8.3
	a. Public entry of data	4	4	0	4	0
	b. Circle rates	4	3.1	0.9	3.7	0.3
	c. Payment of stamp duty/registration fee	4	2	2	2	2
	d. Verification of the document by the SRO	4	2	2	2	2
	e. Delivery of the registered document	4	0	4	0	4
<b>4</b>	<b>Quality of Land Records</b>	40	13.7	26.3	23.7	16.3
	a. Updating of ownership	5	2.5	2.5	2.5	2.5
	b. Joint ownership	10	9.2	0.8	9.2	0.8
	c. Land use	10	0	10	10	0
	d. Extent	10	0	10	0	10
	e. Encumbrances	5	2	3	2	3

Source: N-LRSI 2019-20 and 2020-21.

#### 4.5 Future Action Plan

The present round of the Index shows that though Karnataka has made considerable improvement in the N-LRSI scores in 2020-21 over 2019-20, mainly on account of spatial records and the quality component, there is still a significant scope for improvement. Some of these possible areas of improvement are: i) making legally

useable digital copies of CMs available on the web; ii) providing the line length details for CMs; iii) making available online facilities for the payment of registration fees/stamp duties; iv) providing online facilities for the delivery of registered documents; v) providing real-time attestation of mutations for property-related transactions; and vi) recording balance encumbrances in the land records.



**NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH**

NCAER India Centre, 11 Indraprastha Estate, New Delhi 110002. INDIA.  
Tel: +91-11-2345 2698, 6120 2698 Email: [info@ncaer.org](mailto:info@ncaer.org) [www.ncaer.org](http://www.ncaer.org)

**NCAER | Quality . Relevance . Impact**