

States Need to Expedite Action Plans for Improving the Quality of Land Records and Services

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Background

Nearly three-fourths of the Indian household assets consist of real estate (RBI Report, 2017). For rural India, in particular, land is not just an asset but a major source of livelihood. However, accessing details of land titles and related information is not easy for the landowners. Even where digitised land records are available, they may reflect certain inconsistencies such as that the records do not accurately reflect the ground reality or show differences in information provided by different types of land records (NCAER, IGIDR and NIPFP, 2017). One reason for this could be that different types of land records are maintained by different departments that generally lack coordination and therefore, data across departments is not updated properly (Mishra and Suhag, 2017). The other reasons could be as follows: i) the surveys have not been conducted or completed to update land records, or; ii) maps have not been used to establish actual property boundaries on the ground, due to which the records do not match the on-the-ground position. Although maintaining accurate details in the land records that reflect the ‘on-the-ground’ situation is a difficult and time-consuming process, if not done, it

can adversely impact future property transactions and lead to land-related conflicts and litigation. It has been estimated that two-thirds of all civil cases in India are related to land/property disputes (Daksh, 2017). To some extent, the lack of comprehensive and up-to-date land records is responsible for the problems. The best solution to these issues could be a move towards conclusive titling, wherein the government provides guaranteed titles and compensation in case of any ownership disputes.

Making land records available to all and preventing property frauds were the major objectives of the land records computerisation programmes launched by the Government of India in the late 1980s.² As a part of the ongoing process, along with the digitisation of land records, establishing a system of conclusive land titling also became one of the major goals of the National Land Records Modernisation Programme (NLRMP) of 2008 and its successor, the Digital India Land Records Modernisation Programme (DILRMP). In order to achieve these objectives, in addition to ensuring computerisation of all land records and enhancing transparency in their maintenance, it is

¹ Jain is an Associate Fellow; Sanan and Sen are Senior Advisors (Land Policy Initiative), NCAER.

² These include programme on: (i) Strengthening of Revenue Administration and Updating of Land Records (SRA and ULR), and (ii) Computerisation of Land Records (CLR), which were started in 1987-88 and 1988-89, respectively.

critical to improve the quality³ of the land records. For enabling government, industry, and citizens to use this asset effectively and to minimise disputes, it is important to offer them access to reliable and updated land and property records. In this regard, NCAER's recent studies on the Land Records and Services Index (N-LRSI 2020 and 2021) clearly shows that while there has been considerable progress in the digitisation of land records and the registration process, the process of improving the quality of the land records has often lagged behind. This is because the digitisation of existing land records does not by itself create a substantially improved record but definitely lays the foundation for the creation of a more accurate, transparent, and comprehensive property record which, with appropriate database linkages, can be updated in real time.

The N-LRSI has focused on both assessing the extent of digitisation as well as understanding the quality of the digitised land records in its two editions. It was found that undertaking the physical verification of all sample land records with regard to the on-the-ground situation in every State/Union Territory (UT) was not feasible.⁴ Therefore, proxy indicators related to the core qualities of an inherently good land/property record that could be verified digitally or virtually were considered for this exercise. The findings from this analysis can help States/UTs in understanding where they stand in terms of providing better quality of land records and services to

their citizens and can also help in formulating action plans to attain the goal of creating accurate and comprehensive land records that mirror the on-the-ground situation. This policy brief focuses on the issue of quality of land records as brought out by the N-LRSI reports, highlighting both the gaps and the possible actions that can help improve the position.

N-LRSI: Coverage and Scope

The NCAER Land Records and Services Index (N-LRSI) evaluates the status of all the States/UTs on two aspects of the land records—the extent of digitisation of land records (textual/spatial) and the registration process (which is accorded a 60 per cent weightage); and effecting improvements in the quality of land records and services (which is accorded the balance 40 per cent weightage) brought about by this digitisation process. The *first edition* of the Index (2020) helped to draw attention to the steps that could easily be implemented by the States and UTs in the process of creating a more comprehensive, accurate record of the on-the-ground situation which can be updated in real time. The *second edition* of the Index (2021), on the other hand, enabled measurement of the progress made by the various States/UTs in the span of one year, which was, in effect, an assessment of the extent to which the recommendations made to various States/UTs in N-LRSI 2020 were considered or not. In order to enable a comparison between both the rounds,

³ The 'quality' concept here signifies the availability of clear, updated land records providing accurate and comprehensive information that matches the on-the-ground situation in real time.

⁴ The approach of physical verification is limited due to the following reasons: i) difficulties in accessibility to a relevant database as it is not available in the public domain; ii) need for access to a secure network that is only available to specified personnel

working in the Registration Department of the respective State/UT. Considering these limitations, an alternative approach has been adopted to find out the extent to which the online system is available for prospective transactions and where relevant, devising a sampling strategy for the test-checks.

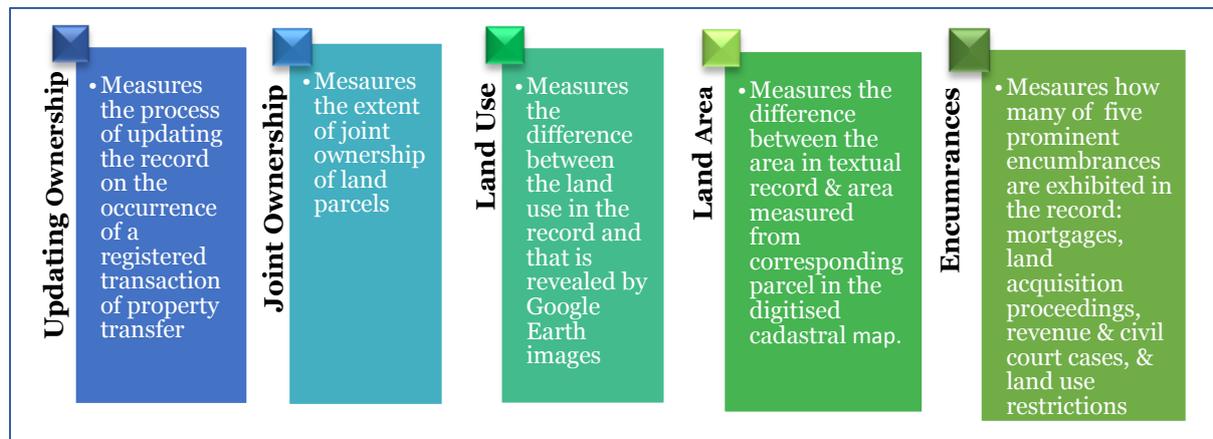
the components and weights in the scoring pattern were kept the same.

Quality Parameters in N-LRSI

The second component of N-LRSI, that is, the quality of land records and services, measures the extent to which the record is congruent with the on-the-ground situation with regard to five parameters required to create a comprehensive record. The quality parameters are: a) updating ownership,

b) extent of joint ownership, c) land use, d) land area, and e) recording encumbrances related to land parcels. A brief description of these parameters/indicators is given in Figure 1 (for sampling design and coverage, refer to Annexure 1). All these elements bear a relationship with the incidence of the dispute and the ease with which transactions in land can be effected.

Figure 1: Coverage and Description of Quality Parameters



Source: N-LRSI 2020 and 2021, NCAER

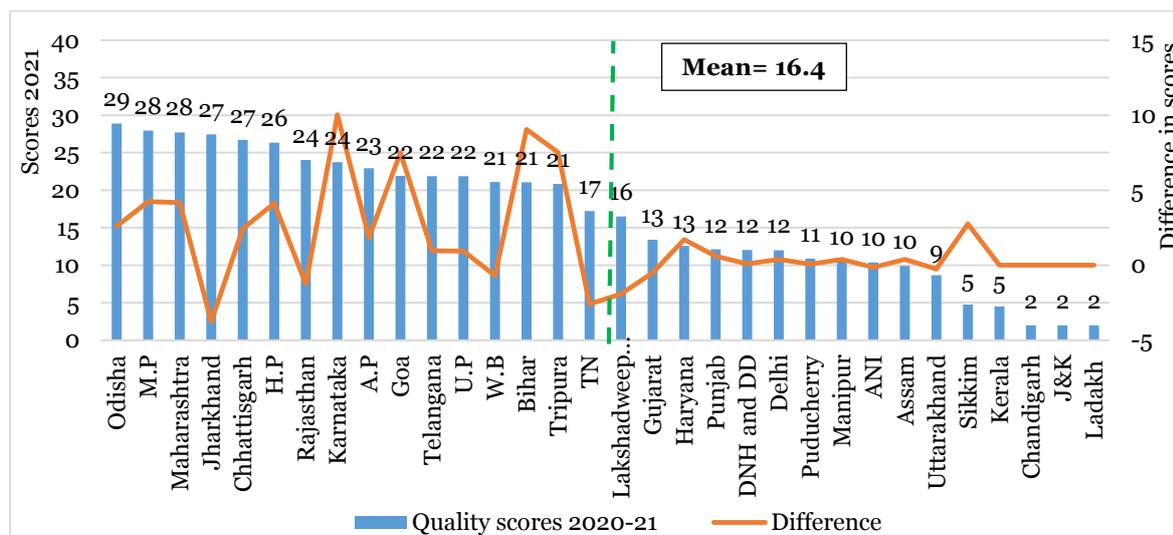
Major Findings

The latest round of the N-LRSI study in 2021 indicates an improvement in State performance, as 28 States/UTs (out of 32) have shown positive change in their scores in 2020-21. The average N-LRSI score at the all-India level increased by 16.6 per cent in 2020-21 over 2020-21. As regards the two major components of the Index, the improvement has been most visible in the measurement of the first component, that is, the extent of digitisation of the records and registration process, which showed an increase of 25 per cent in the average scores in 2020-21. The relatively more difficult area of improving the quality of records, which forms the second component of the Index, has also seen progress, though at a slower pace as

compared with the progress on digitisation. The average score for the quality of land records increased by 10.5 per cent from 15.1 points in N-LRSI 2019-20 to 16.4 points in N-LRSI 2020-21 out of a maximum score of 40 (Figure 2).

The top five States reported a much higher average score of 27.7 points (Figure 3). Out of 32 States and UTs for which the quality scores were computed, 24 States/UTs have improved or retained their position in the present round as compared to N-LRSI 2019-20, while the remaining States/UTs have shown a decline. The improvements in this category are mainly contributed by the addition of States/UTs making available digitised cadastral maps in mosaic or vectorised form.

Figure 2: State/UTs Performance on Quality of Land Records and Services: Scores 2021 (out of a maximum of 40) and Difference between the 2021 and 2020 rounds



Source: N-LRSI 2020 and 2021, NCAER.

Figure 3: States/UTs in the Top 5 and Most Improved Category for the Quality of Land Records



Source: N-LRSI 2021, NCAER.

Quality of Land Records: Performance of States/UTs

Two proxy indicators showed a relatively greater positive change in the second round of the N-LRSI while there was a marginal change in one and a decline in two. This section elaborates the indicator-wise performance of the States/UTs during both the rounds.

- Updating Ownership:** There is still no State/UT with a provision for same-day mutation to reflect the change in ownership following the registration of a transaction. In the latest round, 3 States, viz., Bihar, Odisha and Sikkim, have been

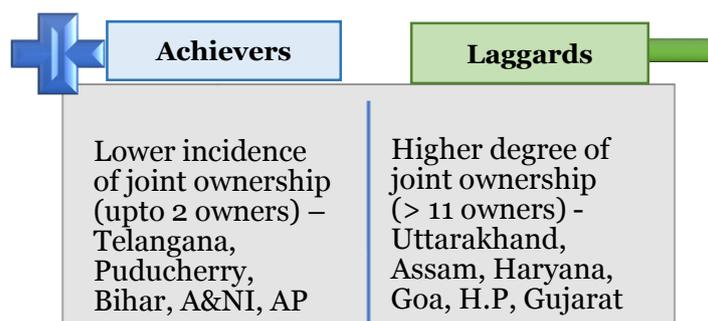
upgraded to the category where a note automatically appears in the Record of Rights (RoR) upon registration, thereby constituting a total of 10 States/UTs in this group as compared to 7 States/UTs in 2019-20.⁵

- Extent of Joint Ownership:** This indicator shows a marginal improvement of 1.6 per cent in the average scores in N-LRSI 2020-21 over N-LRSI 2019-20. Out of 27 States/UTs for which the assessment has been carried out, 17 States/UTs have improved or retained their positions, whereas another 10 States/UTs reported a marginal decline (Figure 4).

⁵ The 7 common States/UTs providing the provision of automated note in copy of ROR upon registration during both the rounds are:

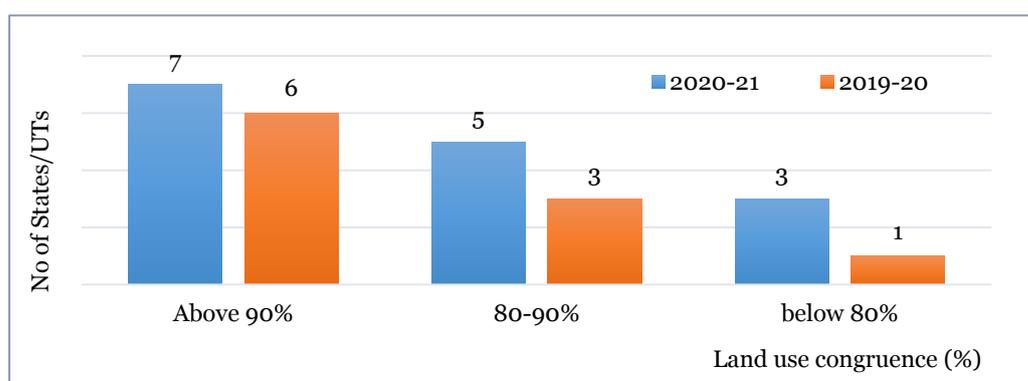
Haryana, Himachal Pradesh, Jharkhand, Maharashtra, Rajasthan, Tamil Nadu, and Uttar Pradesh.

Figure 4: States/UTs with Lower and Higher Incidence of Joint Ownership: 2020-21



Source: N-LRSI 2021, NCAER.

Figure 5: Land Use Congruence (Per cent)



Source: N-LRSI 2020 and 2021, NCAER.

- Land Use:** The consistency checks between the record and on-the-ground situation, based on the assessment of 15 States (including an addition of 5 States, that is, Andhra Pradesh, Bihar, Karnataka, Goa, and Tripura in the second round due to the availability of digital mosaic maps) showed that the average consistency increased to 87.9 per cent in 2020-21 as compared to 76 per cent in N-LRSI 2019-20. In 12 States/UTs, the consistency in land use⁶ between the RoR and Google Earth pro-map images of the sample plots was above 80 per cent (Figure 5). Out of the 10 States covered in 2019-20, 7

States/UTs have improved their position in 2020-21, with the maximum improvement being recorded by the 3 States of Madhya Pradesh, Chhattisgarh, and West Bengal. The top performers in 2020-21 are Karnataka, Odisha, and Chhattisgarh.

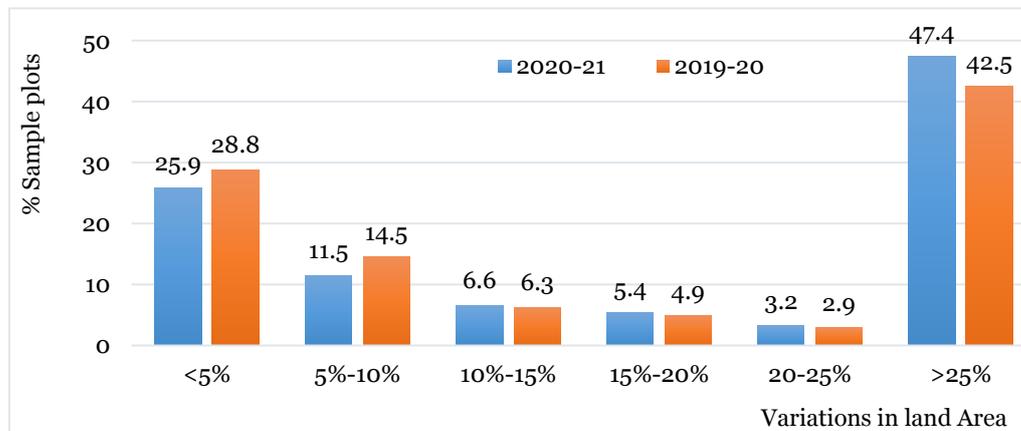
- Land Area:** The accuracy was tested for 11 States/UTs (with the addition of 2 new States, viz., Bihar and Maharashtra, due to the availability of digital vectorised maps. This indicator shows a decline of 42 per cent in the average score from 5.70 (2019-20) to 4.02 (2020-21). In 62.6 per cent of the sample plots, the inconsistency in

⁶ The consistency check aimed at distinguishing between agricultural and non-agricultural land use.

land areas recorded in the textual and spatial records was more than 10 per cent, which is much higher than that recorded in 2019-20 (Figure 6). As compared to 2019-

20, only two States, viz., Himachal Pradesh and Madhya Pradesh have improved or retained their positions in 2020-21.

Figure 6: Variations (Per cent) in Land Area between the RoR and the CM



Source: N-LRSI 2020 and 2021, NCAER.

- **Encumbrances:** Recording of encumbrances in the records shows a decline in the N-LRSI 2020-21 as compared to N-LRSI 2019-20. This possibly indicates that more accurate reporting was achieved in 2020-21. The maximum number of encumbrances recorded by any State/UT (only 6 States/UTs showing such encumbrances) in their land records is still three out of five, nearly the same as in the previous round, whereas for the other States, the number of recorded encumbrances is even less than that.

Policy Lessons

The parameters related to the quality of the records clearly show that there is still some distance to be traversed before the target of a more up-to-date, comprehensive, and accurate record is achieved. In summary, the following findings may be noted:

1. None of the States/UTs has reported conducting same-day mutation on the registration of

transactions of property transfer. Just 10 States have introduced a provision for an automated note to be generated in the textual record once the registration of a transaction to transfer property takes place.

2. The recording of possession and built-up land records is poor in most of the States/UTs. The test checks show that 15 States/UTs still do not show possession details in their RoRs.
3. Providing digitised Cadastral Maps (CMs) in a mosaic format is an important objective of the DILRMP, but not all States have uploaded these on their respective portals. This inhibits assessment of the quality of this record with regard to accuracy of the land use exhibited.
4. Building plan approvals need to be linked to land records so that the latter reflect changes in land use as well as the extent of the proposed built-up properties.
5. Similarly, not all States show vector details of digitised plot maps, which prevents comparison of the areas between the textual

and spatial records. Where this has been possible, a high degree of inconsistency is observed between the two records.

6. Among the five prominent types of encumbrances/restrictions attached to land, there is an established practice of entering only mortgages in the record in most States/UTs, with real-time entry being a relatively recent practice. The software linkage to enable real-time notation in the land record for restrictions such as ongoing land acquisition proceedings, land use restrictions, and proceedings in revenue/civil courts is still in its infancy.

The findings of two rounds of the N-LRSI on parameters related to the quality of the records suggest the need for policy measures both for the extent of territory that still needs to be covered in this regard and the examples that are worth emulating for the States/UTs lagging behind. These measures are further classified into three broad categories: technical, institutional, and legal measures, each of which are delineated in detail below.

Technical Measures:

1. The real-time attestation of mutations for property-related transactions is still to be achieved by any State/UT but a software linkage to ensure a note in the textual record can be effected quite easily by States with digitised textual records. This measure can be implemented by the State Revenue Department along with the cooperation of the Registration Department.
2. An additional linkage to cater to inheritance-related changes to be noted in the textual record in real time is possible. The databases like birth and death registers and genealogical tables (attached to the RoRs in some States/UTs) can

be linked. These linkages can be implemented with the help of the panchayat/local bodies.

3. States need to enable regular update of land use with complete details by: a) rewriting instructions to the relevant department officials to update, using modern technology and monitoring this through online checks; and b) establishing linkages between databases of map/real estate project approval/completion certificates and RoRs. The State Revenue Department, along with the *tehsil* office, can help in implementing this measure.

Institutional Measures:

4. Introducing provisions for recording contracts of possession of different kinds, for example, land tenancy or possessions of tenant/sharecropper, can improve the quality of the record. Many States have such columns (viz., RTC) in the manual records, but in the digital records they remain blank. The DILRMP guidelines prescribe the procedures for adding to add such info though. The State Revenue Department, along with the *tehsil* office, can help in implementing this measure.
5. In order to reduce the excessive incidence of joint ownership, measures can be taken to incentivise voluntary partition by owners or processes can be simplified for effecting partition where voluntary partition is difficult. The State Revenue Department, along with the *tehsil* office, can help in implementing this measure.
6. All mortgages should ideally be registered with a nominal fee and automatically noted in the RoR by the Registration Department, and can thereafter be updated to the *tehsil* office to be reflected in the record.

Legal Measures:

7. The States/UTs need to consider ways to accord legal legitimacy to the area actually recorded in the digitised CMs, where it shows greater congruence with the on-the-ground situation as compared to the area noted in the RoR. This measure can be implemented by the State Revenue Department.
8. Some States and UTs appear to have made progress in linking the institution of court cases with the textual records. These actions are worth emulating by other States/UTs at the earliest with the help of the State Revenue Department and the courts.
9. The States can adopt software integration approaches to link relevant databases to the RoRs for recording various categories of encumbrances. Databases such as the Official Gazettes that record the start of land acquisition proceedings or the introduction of town planning-related land use need to be linked to the land records database so that these restrictions can be recorded in real time. This can be implemented with the help of the State Revenue Department in conjunction with the panchayat/local bodies.

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Annexure 1. Methodology for Quality Parameters in N-LRSI

This section briefly discusses the methodological approach adopted for measuring the quality components of land records and services in N-LRSI.⁷

Sample Design: To carry out the quality assessment in N-LRSI 2019-20, all the States/UTs that had an online portal for downloading digital copies of RoRs and CMs (in mosaic/vectorised form⁸) were identified and all the districts with digitised records were considered for the analysis. Based on the three-stage stratified random sampling approach, 5 plot numbers (*khasras*) were selected from each headquarter village from the respective sample *tehsils* (5 *tehsils* per district) for the test checks. Considering that the qualitative aspects of the sample plots are unlikely to have changed over a year, the sample design for N-LRSI 2020-21 was adapted to facilitate a meaningful comparison between the two rounds while capturing the improvements/additions that might have taken place. This design included 60 per cent of the sub-sample of the headquarter villages of Round 1; 30 per cent of the remote villages (other than the headquarter villages) from the sample *tehsils* of Round 1; and 10 per cent of the headquarter villages from the new sample *tehsils* that were not covered in Round 1. In each of these categories, 5 new sample plots were selected for testing.

Scoring Pattern and Coverage: Overall, 32 States and UTs have featured in the assessment of quality. The scoring and sample coverage for each of the five quality parameters is given in Table 1 (refer to the N-LRSI 2021 report⁹ for further details).

Table 1: Scoring, Evaluation Pattern and Sample Size

Indicators	Evaluation Method	Maximum Scores	Samples 2019-20	Samples 2020-21
Joint Ownership	Online test checks based on village samples drawn from the DoLR website ¹⁰	10 points	12,405 plots / 27 States/UTs	12,315 plots / 27 States/UTs
Land Area		10 points	3,282 plots / 10 States/UTs	5,324 plots / 15 States/UTs
Land Use		10 points	2,689 plots / 9 States/UTs	3,605 plots / 11 States/UTs
Updating Ownership	Verified through knowledgeable resource persons in the State	5 points	All States/UTs	
Encumbrances		5 points		

Source: N-LRSI 2020 and 2021, NCAER.

In both the rounds, the States/UTs where land use and land area were tested were fewer in number since this requires the provision of digitised Cadastral Maps (CMs) with mosaic or vectorised features, which many States/UTs have not yet uploaded on their portals.

⁷ For the index composition and methodological framework of the first component, refer to LPI's first policy brief on 'Key Drivers of Progress in Digitisation of India's Land Records', available at the following link: https://www.ncaer.org/publication_details.php?PID=362

⁸ A mosaic map is a map made up of different images, which are displayed depending on availability and zoom level, wherein the most detailed layer is made up of 'tiles' (square sections which form the mosaic); whereas vector maps consist of objects with their own properties, such as polylines, points, or polygons that can contain information.

⁹ https://www.ncaer.org/publication_details.php?PID=346

¹⁰ Different penalties are being imposed on scores of 3 indicators tested through samples. For example, in the case of joint ownership, penalties are imposed with an increase in the number of owners beyond 2, whereas in the case of land use pattern and land area, marks are deducted where inconsistencies are reported >5 per cent.

Policy Brief Authors: Charu Jain, Deepak Sanan, and Somnath Sen

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For further information contact: Anika Kapoor, Research Program Specialist, NLPI, akapoor@ncaer.org



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This policy 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.

About NCAER's Land Policy Initiative

NCAER launched the NCAER Land Policy Initiative (N-LPI) in April 2019 with generous support from the Omidyar Network, to build on NCAER's prior analytical work on land, its 60-plus years of experience with data collection, and long-standing relationship of trust with governments. The objectives of the NLPI are to: (1) raise official and citizen awareness of the distortions in India's land markets and their cost to the economy; (2) produce and curate evidence and land data, offer solutions and State rankings that can nudge the States through competitive federalism to improve their land administration, records, and services; (3) where requested, pilot such solutions with the States and evaluate them; and (4) help build a larger research community of analysts and experts on land issues in India. The Land Policy Initiative has been set up with two broad objectives, that is, the creation of: (a) NCAER's Land Records and Services Index (N-LRSI), and (b) NCAER's Land Data Portal. While the N-LRSI is designed to capture the extent of digitisation of land records and the quality of land records in Indian States and Union Territories, the Land Data Portal will be a data warehouse for all publicly available land data in India, along with N-LRSI data.

About NCAER

Established in 1956, the National Council of Applied Economic Research (NCAER) is India's oldest and largest independent, non-profit, economic policy research institute. NCAER's work cuts across many sectors, including growth, macro, trade, infrastructure, logistics, labour, urban, agriculture and rural development, human development, poverty, and consumers. The focus of NCAER's research is on generating and analysing empirical evidence to support and inform policy choices. It is also one of a handful of think tanks globally that combine rigorous analysis and policy outreach with deep data collection capabilities, especially for household surveys. More on NCAER is available at www.ncaer.org.

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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 www.ncaer.org