

FEASIBILITY OF USING INFORMATION IN REAL ESTATE REGULATORY AUTHORITY DATABASE AS URBAN LAND DATA REPOSITORY

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ABSTRACT

The problem with the Indian real estate industry was of the lack of information and data, as well as a coherent and credible location for accessing the data. Another issue that plagued the sector until recently was that the market was unregulated, in which malpractices were rife. The Real Estate Regulation Act 2016 enacted by the government was a gamechanger in the real estate sector to address these issues. With the regulator coming into play, the consumers could access much information collated and make an informed decision. However, there are still several issues persists, such the credible and quick data access, complex coordination of records and approvals among multiple government departments and statutory bodies, and data not updated promptly. Therefore, this study aims to check the feasibility of an Urban Land Data Repository, drawn from the Real Estate Regulation Act 2016, by taking into account Indian four states of Uttar Pradesh, Madhya Pradesh, Haryana, and Maharashtra to identify potential data points for the proposed repository. The paper details the data points and the rationale for taking them, closing with an analysis of the current data availability for the proposed repository through this policy analysis paper.

Keywords: Real Estate Regulation Act; Standardization; Urban Land Use Data

1. INTRODUCTION

Indian real estate industry and its customer market has been gradually transformed over time. There are for major periods of transition of the real estate sector indicated (Joshi et al., 2019), which include initial period until 2008, period between 2008 and 2016, period between 2016 to 2020, and period post 2020 (see Figure 1). Beyond 2020 towards the future, the sector is expected to be more transparent, regulated, and consolidated. However, there are still some major barriers faced by the sector to obtain that goal, one of which is digitization of land records (Kumar, 2018). Therefore, it is necessary to digitize land records for a more effective land management as it is an essential in alleviating conflict management, supporting local governance processes, increasing property values, and reducing lender risk (Roth & McCarthy, 2014; Domeher & Abdulai, 2012).

The settlement in Indirapuram, Ghaziabad, developed with approximately 10-12 apartments in each building, showed that land records in India might observe a slight issue.

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Even though Ghaziabad Nagar Nigam, also known as Ghaziabad Municipal Corporation, has registered the properties and provided a title deed to the owners against which the property tax is collected, the Ghaziabad Development Authority has still not updated the registration, so that the water tax and the sewer tax is paid on the property as a whole.

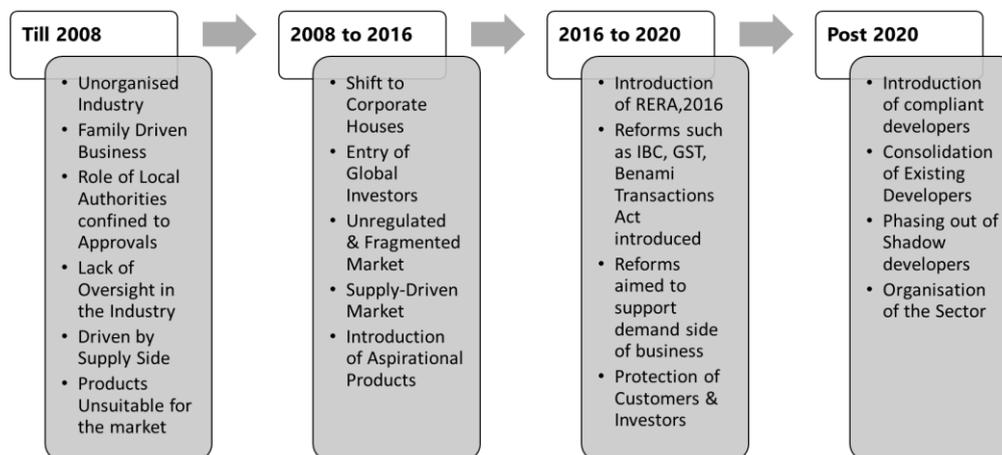


Figure 1 Tracing the History of Real Estate in India Data (Source: Joshi et al., 2019)

This fact represents a big issue in the coordination system among responsible agencies in India. Many documents are created, issued, submitted, and stored in one department when a property transaction occurs, however the other department is unaware of these documents. It creates a possible point for disputes to occur. Previous studies conducted by Gopalan (2014), Morris (2010), and World Bank (2011), also showed that data duplicity has become a critical issue in land management in India. However, with the introduction of the Real Estate Regulation Act in 2016, there is an opportunity to take a step forward to create an Urban Land Data Repository that can be used for various purposes, the details of which can be seen in Figure 2.

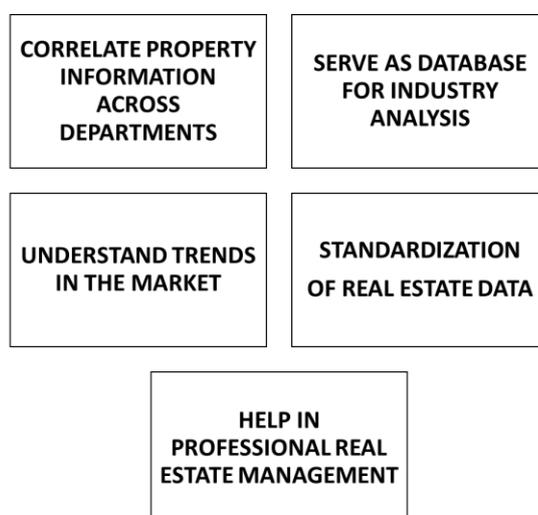


Figure 2 The Use of the Proposed Urban Land Data Repository (Source: Authors, 2021)

The study, in the form of a policy analysis, undertaken by the authors aims understand the need for an Urban Land Data Repository in the Real Estate market. It also aims to assess the feasibility of using the different data sets available with the government and other stakeholders to create a repository. The researchers also aim to identify the data required and the stakeholders in charge of the said data to assess the process of integration, and finally analyse

the concept of an Urban Land Data Repository to identify the data points required to devise an effective system as well as from the perspective of data entry.

2. INDIAN REAL ESTATE REGULATION ACT

Data access and analysis is one of the biggest problems in India. Much data is generated through different programs, but many are stored in silos where the impact of the change in one is not reflected in the other. The biggest hurdle that came across while researching for the project online was the staggered way the information is stored.

World Bank (2011) stated that the multiplicity of urban bodies is an issue in urban management. It was also acknowledged in a study by Morris (2010) showing that the sector has issues with the information provided to buyers. The core of which is the information management and the information exchange. Gopalan (2014) also stated that poor land record management is ailing the Indian sector.

There were not much available data could be found while using Real Estate Regulation Authority (RERA) database as a property data management portal. This fact highlights the necessity of the existence of such a database in the country. Furthermore, while RERA Act was created and enacted by the Union Government, the states were empowered to create regulations concerning the implementation. Therefore, each of the states has asked for a great degree of information and how it has been utilized.

This study conducted an analysis began with analyzing and comparing the information required for the registration of a project as per the Central RERA Act (Indian Ministry of Law and Justice, 2016) and the regulations enacted by the States of Uttar Pradesh (Government of Uttar Pradesh, 2017), Maharashtra (Housing Department, Government of Maharashtra, 2017), Madhya Pradesh (Government of Madhya Pradesh, 2017), and Haryana (Haryana Government, 2017). For example, PAN Card, one of the most critical documents for financial transactions, is missing as a mandatory document from the Central RERA Act but has been included by Uttar Pradesh, Madhya Pradesh, and Maharashtra in their regulations. Madhya Pradesh has also gone ahead and included AADHAR Cards (biometric document storing personal details in a government database) of the promoters that need to be submitted to register the project.

While this is one of the differences, it can also be seen that the states have drafted the regulations in many different forms, and the documents vary from state to state, which, while good from a regulation perspective, can be a logistical nightmare for a developer working across states, or a researcher looking for information to analyze.

Coming to the second point, the representation of data across these states varies as well. At the same time, Maharashtra uses a GIS-based web application to represent the projects on a map which makes locating the project more manageable. While Madhya Pradesh Real Estate Regulation Authority (MP RERA) has created its dashboard using Microsoft Power BI that is easy to use but not user-friendly, Uttar Pradesh has no dashboard. Therefore, the details of the project should be entered into the page to find a project. For the portal made by Haryana RERA, identifying the project ID to enter into the search is difficult as they have used a complicated way of allotting the numbers.

Going through the above information and the different documents perused during the study, one thing that jumps out is the lack of standardization of information, and each state or each district has its own set of documents that are a significant issue while going online.

Furthermore, collating information spread across departments is a massive task in itself since there are almost 150 types of information fed into the RERA database to register a project. This

information is usually verified so that it proves to be an influential information bank if used correctly. Besides, since the documentation is updated for new projects, slowly, the issue of outdated land records, ownership disputes, etc., can also be resolved.

While going through the RERA 2016 with the rules enacted by Maharashtra, Madhya Pradesh, Uttar Pradesh, and Haryana, a comparison of other aspects of the Act with the rules enacted by the states was also done. The comparison was made on the Insurance of the Real Estate project, Transfer of Title, Compensation by the Promoter, Rights, and Duties of the Allottees, Settlement of Disputes, and Offences and Penalties.

The concept of the Insurance of Real Estate Project is present in the RERA 2016 (Indian Ministry of Law and Justice, 2016). However, no mention of the same is present in the rules enacted by Uttar Pradesh, Madhya Pradesh, and Haryana, but the rules enacted by Maharashtra (Housing Department, Government of Maharashtra, 2017) mention it to be the same as per the Central Act.

The second aspect, RERA 2016, details aspects regarding the Transfer of Title, including what, how, and when the information transferred from the developer to the allottee or the association, as the case may be. While the rules specified by Uttar Pradesh, Madhya Pradesh, and Haryana are silent on this, Maharashtra mentions it to be the same as the Central Act but differs in the period in which the transfer is to happen. While the Central Act specifies the transfer within three months from the issue of occupancy certificate issue, the MahaRERA rules (Housing Department, Government of Maharashtra, 2017) specify it to be three months from the date on which fifty-one percent. Of the total number of allottees in such a building or a wing have booked their apartment.

The third aspect under contention is Compensation by Promoter. If the promoter/developer is unable to complete or hand over unit possession as per the terms of the contract, the Act specifies the compensation that an allottee is entitled to if they either wish to withdraw or not. Comparing it with the rules by the respective states, it is the same as per the Central Act.

RERA was enacted to empower customers; therefore, the part lists out the Rights and Duties of Allottees is quite critical. The Central Act details the various rights and duties of the allottees of a Real Estate project, while the State rules in the investigated four states do not specifically address the concept. However, since all of them reference the Act in the description, therefore, the one in the Central Act should apply to all state rules.

The last point compared during the review concept is one of Offenses and Penalties. Under Chapter VIII, Sections 59 through 72, the Act specifies the offenses under the Act, its penalties, and the compounding of offenses under various heads. Regarding the state rules, the ones enacted by Uttar Pradesh, Madhya Pradesh, and Haryana specify how the offenses are compounded; the rules enacted by Maharashtra are silent on this.

3. METHODS

This study is a policy analysis work that aims to understand if the established data in the field of Real Estate through various Acts and Rules enacted by the government can be used to populate an Urban Land Data Repository. The study started with identifying the data points from data entry, issue, and user point of view in RERA bodies, Urban Local Bodies, and other bodies, where applicable for land records of Uttar Pradesh, Madhya Pradesh, Maharashtra, and Haryana. It was then followed by checking the status of digitization of the records and their access in the public domain, followed by the comparison of the same and identification of best practices and gaps, and identification of data points which can be used in the proposed Urban

Land Database along with the source and type of information. However, as the study is primarily a policy analysis, it does not have any qualitative or quantitative analysis tools being used.

The first step in the study was to study the RERA, 2016 as enacted by the Union Government and list out all the data that can be extracted using the provided information by the promoter registering the project as well as the real estate agent registering themselves as per the provisions of the Act. It was further followed by reading the act clause by clause, focusing on the ones about the registration of projects under Chapter 2, Clause 4 of the Act, and identifying the information mandated for the registration of the project by the promoter. Along with this, each document was checked to identify any indirect information using the provided information. For example, the registration number of the architect with the CoA, which is not stated in the Act but is a part of all approved drawings. A similar activity was done with the rules enacted by the respective state governments of Maharashtra, Uttar Pradesh, Madhya Pradesh, and Haryana to identify any additional information mandated by the respective states, which could be a best practice for the proposed repository. Once the identification of the data points was complete, the next step was to take up two examples of each of the registered ongoing projects to see how the information is accessible in the public domain and whether all the listed-out information as per the Act is available on the respective websites of the authorities. Finally, once this database was populated, 35 data points were identified as possible options for the proposed database, the reasons, sources of such information, and its utility.

Based on the background study during the literature review and the gap analysis, the aims are to check the feasibility of an Urban Land Record Database that can collate the various information relating to Real Estate across departments and provide single point access to the same for different stakeholders. The data collected from the RERA 2016, and the respective state regulations of Uttar Pradesh, Maharashtra, Madhya Pradesh, and Haryana were classified into different broad areas to ease the process of data mining and selection.

The data points identified were further classified as Direct Input, which is the information that is entered directly into the RERA database and no other document needs to be referred to gather this, and Indirect Input, which is the information that can be extracted from the information that is directly entered in the RERA Database and is pertinent to the case at hand.

In the tables appended with each of the Broad Areas, the cell highlighted in green means the respective information is available in the respective Act/Rule.

Broad Area 1: Details of Promoters

Promoters are the most critical stakeholders during the project duration; therefore, a project is usually known by its name.

Under Section 4 of the RERA, 2016, a promoter needs to be registered with the respective Real Estate Regulatory Authority of the respective state, and then it is authorized to register a project.

During the study, it was found that while the Central Act mandates only seven information points as mandatory for registration of a promoter, the states have taken a step ahead and made it even more stringent by introducing additional information points. The data field as per the respective RERA Regulation. The data field as per the respective RERA Regulation was summarized in Table 1.

Table 1 Data for Details of Promoters (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Name					
Registered Address					
Type of Enterprise					
Particulars of Registration					
Photographs of Promoters					
Website					
Phone Number					
PAN					
The audited balance sheet of the promoter for the preceding financial year					
Income tax returns of the promoter for three preceding financial years					
Educational Qualification of Promoter					
Work experience					
Number of years of experience of the promoter or parent entity in real estate construction in the state					
Number of years of experience of the promoter or parent entity in real estate construction in other states or union territories					
Number of completed projects and area constructed till date;					
Registration Date					
CIN					
Residential Address of Promoters					
AADHAR Number					
Audited Profit & Loss Account for last three years					
Auditor's Report for last three years					
Annual Report for last three years					

The emphasis put on the details of developers, especially on the books, registration, CIN, etc., shows that it is one of the crucial datasets for the study.

Broad Area 2: History of Projects Launched

With the country facing a trust deficit in the real estate market due to various issues like the unsold inventory of 3.7 Lakh Crore Rupees (Economic Times, 2020) and delay in delivery of older projects, which were the reasons for the introduction of the Regulator, history of project of the developer under consideration become a critical point for a customer to make an informed decision. The same is critical for a financial institution as it can understand the history of its performance and act accordingly.

While the Act itself outlines only five sets of information to be provided, the regulations by Maharashtra RERA in this respect are pretty meticulous and help an information seeker to a great deal. Madhya Pradesh, Uttar Pradesh, and Haryana have retained the points from the Central Act, with some minor additions.

Table 2 Data for History of Projects launched (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Status (Completed/Pending)					
Delay in Completion					
Details of Cases Pending					
Details of Type of Land					
Payments Pending					
Name of Previous Projects					
Type of Project					
Land Area					
Project Address					
Number of Buildings					
Number of Apartments					
Proposed Date of Completion					
Actual Date of Completion					
RERA Registration Number					

Broad Area 3: Authenticated Documents

To substantiate claims made by a developer, the Act mandates a set of authenticated documents that need to be provided during registration. As authenticated and certified, they are the source of some potentially important information that can be critical to the proposed database.

Table 3 Data for Authenticated Documents (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Approval Certificate (Project/Phase)-Layout					
Approval Certificate (Project/Phase)-Building Plan					
Layout Plan					
Commencement Certificate					
Application Number for Commencement Certificate					
Application Date for Commencement Certificate					
Plot Number					
Legal Title to Land					
Application Number to the Municipal Authority					
Layout Approval Registration Number					
Building Plan Registration Number					
Authentication of Land title by Practicing Advocate/ Land Search Title Report (UP, Har)					
Authenticated copy of occupancy certificate/completion certificate					

The authenticated documents are essentially derived from the other government and regulatory bodies and hence, serve as a bridge between the proposed database and the data owners. Each of these documents usually has an identification number which can prove to be a backbone of the data-sharing system.

Broad Area 4: Project Information

Coming to the details of the project in focus, these sets of information are the most extensive in the Act as they talk about the present and impact the stakeholders the most. These are the projects that can be controlled and checked in real-time.

Project information also forms a critical part of the proposed data repository as it will ultimately add to the property database and help create a real-time property database in the urban areas and avoid future litigations.

While the Act provides 14 data points, the states have taken reasonable steps to detail the clause to incorporate as many details of the project as possible to be fully informed, and a proper decision can be taken.

Table 4 Data for Project Information (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Date of Issue of Commencement Certificate					
Validity of Commencement Certificate					
Comments by Authority on CC					
Sanctioned Plan					
Name of Architect					
Serial Number of Approval of Plan					
Approver of Plan from the Authority					
Specifications of the Project					
Plan of Development Works					
Geographical Location of the Project (Longitude & Latitude)					
Number of Apartments/Plots					
Type of Apartments					
Number of Garages					
Area of garage					
Project Name					
Project Status					
Proposed Date of Completion					
Litigations Related to Project					
Project Type					
Plot Number					
State					
Division					
District					
Taluka/Village/Tehsil					
Pin Code					
Total Buildings Count					
Sanctioned Buildings Count					

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Area (Square meter)					
Aggregate Area of Open Space					
Built-Up Area As per Proposed FSI					
Built-Up Area As per Approved FSI					
Total FSI					
Amenities Provided					
Defect Liability Period					
Is the Project a Green Building					
Name of Facility Management Company					
Carpet Area of Flat/Plot Size					
Exclusive Areas for the Flat					
Number of Floors					
Aggregate Area of Recreation Space					
Nature of the organization of allottees to be constituted					
Number of open Parking Areas					
Consent to Establish and Operate					
Environmental Clearance					
Fire NOC					
Permission from Water and Sewerage Department					
Height clearance from Airport Authority of India (if applicable)					
Floor plans for each tower and block, including clubhouse, amenities, and common areas					
Registration Fee					
Project Duration					
Sanctioning Competent Authority					
Project Cost					
Advertisement/Prospectus					
Name of Landowner					
Contact Details of Site Office					

Broad Area 5: Details of Consultants

While creating a database of real estate projects, one parameter that draws importance is the details of consultants engaged in a project. Each project has many people engaged in various capacities and strives to help the project develop. While the RERA Act mandates the provision of the name and address of each of the consultants, that itself is not enough for a precise search.

It was a typical case where each state presented a different aspect of this to the authors. While the architect's details can be extracted from the approved drawings along with their registration number with the CoA, the CA registration number can be extracted from the periodical updates on progress, etc.

This information is critical in creating a searchable database as it would help stakeholders pinpoint which consultants are handling how many projects and identify any issues that might crop up.

Table 5 Data for Details of Consultants (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Name of Consultants					
Address					
CoA Registration Number					
Chartered Accountant Registration Number					
Name of Firm					
Year of Establishment					
Name of Key Projects Completed					
Profile of Key Projects Completed					

Broad Area 6

It is a data point in which the RERA is of little help. The Central Act mandates that the proforma for the allotment letter, agreement for sale, and the conveyance deed proposed to be signed with the allottees are to be uploaded to the respective project portal on the authority website.

Based on the limited information on this aspect and with the proforma unavailable for the examples undertaken for Madhya Pradesh and Haryana, the data points from Uttar Pradesh and Maharashtra Examples have been taken.

While these could get embroiled in data privacy issues, to have an effective Property Management Database, it is critical that the customer information also gets captured in the system to ensure proper tracking of transactions and ownership.

Table 6 Data for Details of Customers (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Date of Allotment					
Flat Number					
The floor on which Flat Allotted					
Sale Consideration Amount					
Customer Name					
Customer Address-Correspondence					
Date of Birth/Date of Incorporation					
PAN					
AADHAR Number					
Nationality					
Passport Number					
Customer Address-Permanent					
Contact Number					
Email ID					
Mode of Booking					
Name of Financing Bank					

Broad Area 7: Financial Information

Going by the central RERA Act, the bank name and the IFSC of the bank are required to register a project, but the states have taken the initiative and added some more checks into the system.

While Maharashtra adds on three direct data points and another eight indirect data points emerge from various documents uploaded onto the database, Uttar Pradesh includes a consent letter from the bank providing the construction finance and the banks with which the project has collaborated for home loans. Madhya Pradesh and Haryana follow the central Act in this respect, but Haryana adds on the project's bank account number.

This financial information is essential to identify projects being financed by a particular branch of a particular bank as in light of events that have transpired in the last few years, even one project is enough to unravel a financial mess.

Table 7 Data for Financial Information (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Bank Name					
IFS Code					
Payment Schedule/Plan					
Land Cost					
Cost of Construction					
Estimated Cost of Real Estate Project					
The premium payable to obtain development or redevelopment rights					
Amount paid for acquisition of TDR.					
The premium for grant of FSI, including additional FSI					
Stamp Duty					
Transfer Charges					
Registration Fee					
Interest Rate					
Consent Letter from banks for construction finance					
Consent Letter from banks for Home Loans Tie-Ups					
Name of Account Holder					
Bank Address					
Bank Account Number					

Broad Area 8: Proforma of Documents

It is mandated by the Central RERA Act that the proforma of the Agreement for Sale and the Conveyance Deed be uploaded by the developer on the project page with all the relevant details to standardize and ensure fair practices by the developer, keeping in mind the rules notified by the respective authority.

This set of documents are vital as many indirect information parameters can be derived from this.

Apart from the mandatory documents, Maharashtra, Uttar Pradesh, and Haryana have also mandated the uploading of the Application form that would be used to collect customer information.

Despite being just standard formats in the RERA database, including these here is that they are a key to identifying the customer-related and project-related information.

While preparing the proposed ULDR, looking for information on the registered deeds would become more accessible, and thus the process of data mining becomes simpler.

Table 8 Data for Proforma of Documents (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Allotment Letter & Agreement for Sale					
Conveyance Deed					
Application Form					

Broad Area 9: Legal Information

Every project, while registration, has to either provide a land title in the developers or the promoters name or a collaboration agreement which eliminates the possibility of disputes arising later concerning land ownership.

Another thing that comes out of the land title document is the transaction history that has happened on the land under scrutiny, and that it would help create a log of all the transactions that happened and the relevant paperwork.

It forms a concept of an Urban Land Data Record concept, as the history concerning land is available, but the similar related to the built environment is not.

Table 9 Data for Legal Information (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
The declaration that land is free of encumbrances					
Conflicts wrt land					
History of Transactions					
Details of Ongoing Litigation in the state for past five years					

Broad Area 10: Status Updates

It is an essential factor that brings out the efficacy of the Regulator. If one has the RERA Registration number of a project, they can view the project's current progress. It helps people analyze the ongoing projects as well as understand the path their investment is taking.

Table 10 Data for Status Updates (Source: Respective RERA Websites)

Data Field	RERA Act	Maha RERA	UP RERA	MP RERA	Haryana RERA
Status of construction of each building with photographs					
Status of construction of each floor with photographs;					
Status of construction of internal infrastructure and common areas with photographs					
Approval received					
Approvals applied and expected date of receipt.					
Approvals to be applied and date planned for application					
If there are any modifications, amendments, or revisions, it is issued by the competent authority concerning any license, permit, or approval for the project.					

4. Data Fields for Proposed Urban Land Data Repository

4.1 Introduction

Based on the background research and how much information related to the built environment gets accumulated, it would be helpful if the relevant information can be extracted and collated onto a single portal that can ease the issues plaguing the Indian Built Environment sector's lack of data.

The data points identified in the previous section are currently owned and controlled by multiple agencies, and more often than not, a search for information might just lead one from pillar to post. This compartmentalization of information also leads to irregular updating of information, leading to incorrect information, which might convert into legal disputes.

This study proposes the creation of an Urban Land Data Repository (ULDR) that derives information from the RERA Authorities that they get with the registration of the following:

- Promoter/Developer
- Project
- Real Estate Agent

As outlined in the previous section, multiple data points can be used to extract information. While RERA remains the primary source of information, some identifying parameters can be picked up from the details uploaded in the RERA database and used as a bridge between various departments, hence helping the proposed ULDR be one place data related to property.

A total of 35 data fields were identified, taking the data points from the previous chapter as the base. These data fields were segregated based on the type of source they relate to and then tabulated. The identified data sources are Consultant, Customer, Developer or Promoter, Project, and Real Estate Agent. The proposed ULDR fields can be seen in Figure 3.

Proposed Urban Land Records Database			
Section 1a: Project Details		Section 1b: Customer Details	
RERA Registration Number		Date of Allotment of Unit to Customer/Date of Transaction	
Project Name		Aadhar Number of Customer	
Project Status		Financing Bank for Customer-Name	
Proposed Date of Completion		Property ID issued by Developer Authority	
Litigations Related to Project			
Project Type		Section 1c: Architect Details	
Proforma for Agreement for Sale		Council of Architecture Regn Number of Architect	
Number of Units in the Project		Name of Architect	
Type of Units in the Project		Section 2: Consultant Details	
Carpet Area of Units		Name of Consultants	Address of Consultants
Financing Bank for Developer-Name			
Financing Bank for Developer-IFSC			
Layout Approval Number			
Commencement Certificate Number			
Plot Number			
Geographical Location of the Project (Longitude & Latitude)		Section 3: Developer Details	
Land Record Number		CIN	
Regn. Number of Legal Body for Legal Entity for Common Areas		DIN	
Land Cost (Lakhs)		Photographs of Promoters	
Cost of Construction (Lakhs)		Website of Developer	
Estimated Cost of Real Estate Project (Lakhs)		Name of Developer	
Section 4: Real Estate Agent Details			
RERA Number of Real Estate Agent		Name of Real Estate Agent	PAN of Real Estate Agent
Links for Verification			
RERA Number			
CoA Number		https://www.coa.gov.in/ver_arch.php?lang=1	
CIN		http://www.mca.gov.in/mcafoportal/viewCompanyMasterData.do	

Figure 3 Sample Design of the Proposed Repository (Source: Authors, 2020)

As discussed earlier, for this study, four states were taken as a sample to understand and analyze the variations in the notified rules by each state. Two random examples from each state were taken, and a proforma of the proposed ULDR was filled to verify the status and how information has been put in the database.

While customer information for none of them could be obtained due to constraints, the table (see Table 11) summarizes the extent of information available in the four states. The data was as of April 2020 when the study was conducted.

Table 11 Availability of Information for a proposed repository under current scenario (Source: Authors, 2020)

RERA Body	Location	Project Details	Customer Details	Architect Details	Consultant Details	Developer Details	Real Estate Agent Details	Overall
HARERA	Gurugram	80.95%	0%	100%	0%	80%	0%	58.97%
HARERA	Panchkula	80.95%	0%	100%	25%	100%	0%	64.10%
MPRERA	Indore	76.19%	0%	100%	100%	60%	0%	64.10%
MPRERA	Bhopal	76.19%	0%	100%	100%	60%	0%	58.97%
MAHARERA	Mumbai	80.95%	0%	100%	100%	100%	100%	89.47%
MAHARERA	Pune	80.95%	0%	100%	100%	100%	0%	71.79%
UPRERA	Lucknow	80.95%	0%	100%	100%	100%	100%	89.19%
UPRERA	Noida	80.95%	0%	100%	100%	100%	100%	88.89%

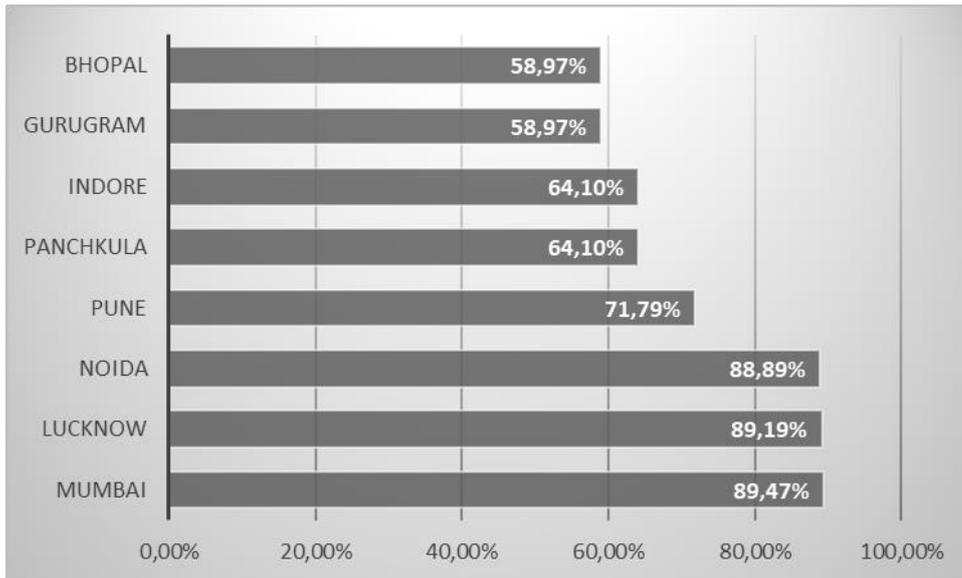


Figure 4 Ranking of Sample Projects as per availability of Information for ULDR-City wise
(Source: Authors, 2020)

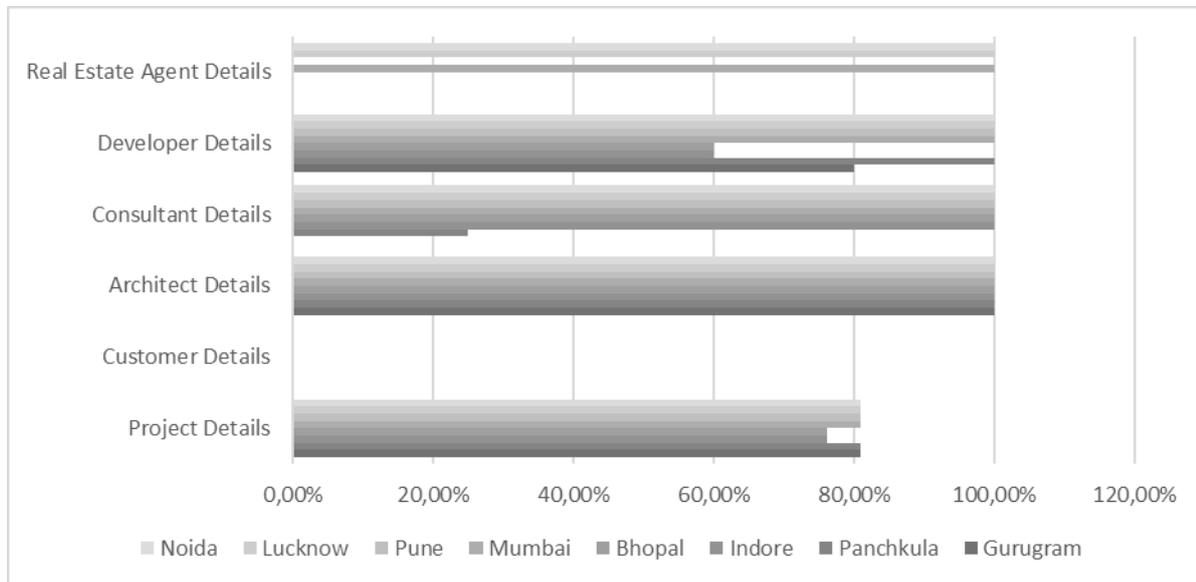


Figure 5 Ranking of Sample Projects as per availability of Information for ULDR-Section wise
(Source: Authors, 2020)

It can be seen from Figure 4 and Figure 5 that the details of the architects and the ones related to projects are readily available in the public domain, using the RERA website, MCA website, and the Council of Architects. Section-wise, all eight examples fared similarly on project details, with around 75 to 80 percent information readily available. For Details of Consultants, the HARERA projects were complex; otherwise, that was readily available in all the other six examples. Coming to the details of the developers, it was a mixed bag with Maharashtra and Uttar Pradesh having 100 percent of the information, but MP RERA took a backseat here. Coming to a surprise inference from this exercise, the details of the Real Estate Agents attached to a particular project were missing in Haryana and Madhya Pradesh examples. For the project in Pune, the information was missing, but for the one taken for Mumbai, the information was available. It goes on to show that while we have the rules in place, we need to move to a more

vital vigilance on the information that is being provided; otherwise, the purpose of the regulation in the sector gets defeated.

5. RESULTS AND DISCUSSION

The policy analysis aimed to analyze the existing framework under the RERA, 2016 and the rules enacted by the states to bring together an Urban Land Data Repository that would be an effective property information system for Urban Areas. As per the study, it is feasible to draw upon the existing rules and framework to build a possible Urban Land Data Repository to collate the information spread across various departments and agencies concerning the real estate market.

The analysis also shows that the proposed repository is a need of the hour as currently the data for Real Estate in India is quite fragmented, and the creation of such a repository would help the Industry and the Academia equally by providing verified data at a single location.

In conclusion, it can be said that an Urban Land Data Repository, based on the Real Estate Regulation Act and the various rules on it, is a feasible option for the Indian market.

There were some issues faced during the study that could hamper the creation of the Urban Land Data Repository; therefore, the following recommendations are made so that this can be streamlined:

1. Standard Format of the RERA Registration number for Projects, Developers, and Real Estate Agents.
2. Standardization of the documents required during registration of project, developers, and agents.
3. GIS onboarding of all land parcels in Urban as well as Rural areas so that an effective land database can be created.
4. Since the proposed ULDR also incorporates Customer information, it is recommended that access control be done using a registration token during the detailing so that access can be monitored.
5. The access to the proposed ULDR can be partially free and partially paid to maintain the sanctity of sensitive information.

The proposed ULDR should be notified by the Central Government and not be drawn up by individual states, leading to a mismatch in information.

The concept is basically a work in progress and open-ended. The scope is being explored that RERA can use as a property data management portal. Initially, it was not designed in this manner, but it could be a potential data management portal due to its access to such data. It is explorative research that is open-ended at this point, with a scope of further research that needs to be done in different aspects to justify the reorientation of RERA as a property data management portal.

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