FIG WORKING WEEK 2023
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Protecting Our World, Conquering New Frontiers

Critical Assessment on the implementation of LADM as per ISO 19152:2012 in Indian scenario – Existing System, Challenges and Possible Implementation Strategies

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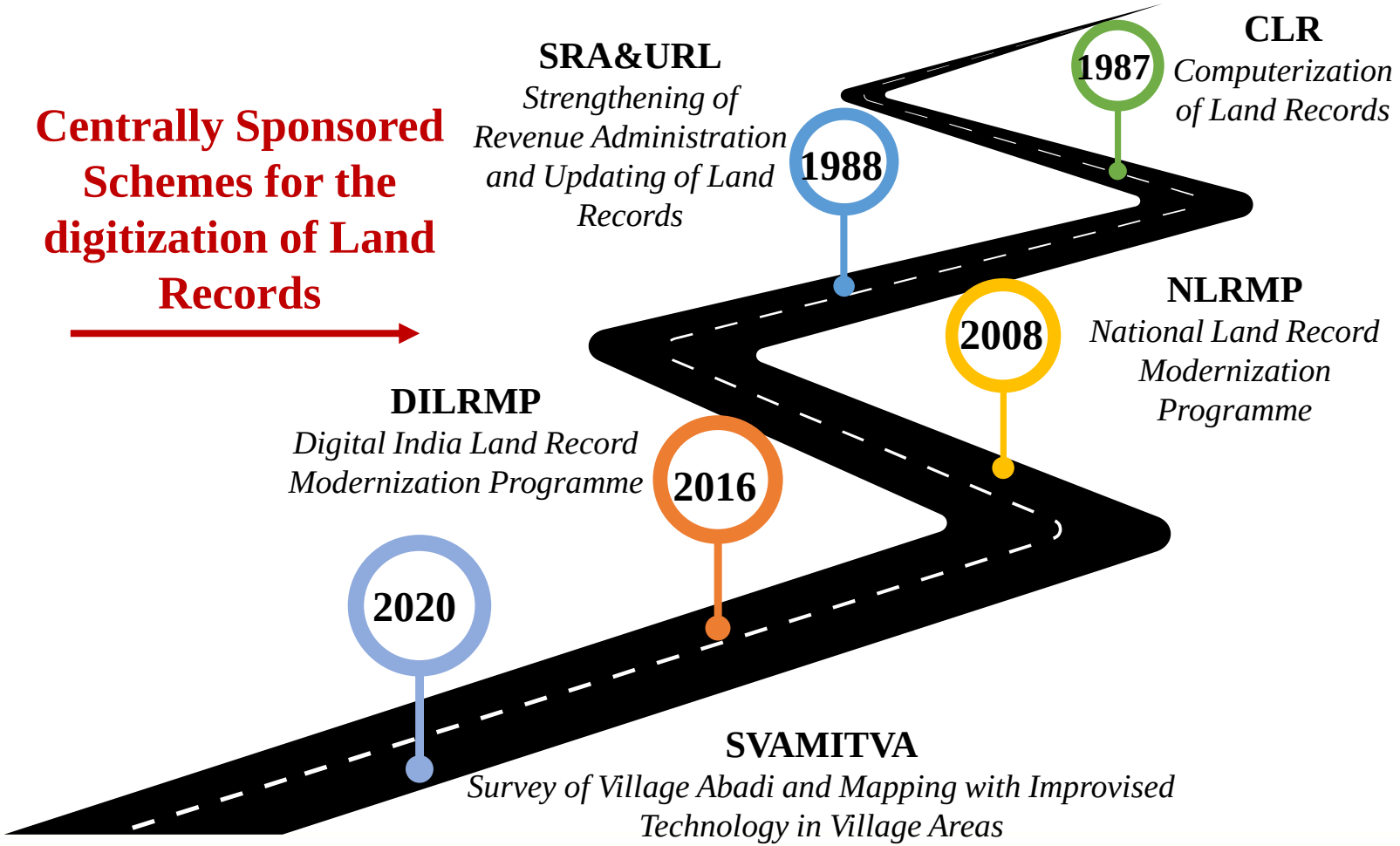
INTRODUCTION

- Easily accessible and updated geospatial data is essential for good land management, which is important for effective governance and realization of SDGs.
- India is one of the most populous and the 7th largest (by landmass) country in the world with a population density of approximately 470 people per sq. km.
- Needless to describe the utter significance of a robust digital cadastre as the foundation of efficient e-governance in a developing country like India.
- The objective of the paper is to give a critical review of the implementation of **LADM** in **India** – the **system** already in place, the **challenges** likely to be faced by the authorities, and the **possible workaround** amidst the ongoing projects.

System of Land Records in India (History in Brief)

- The system originated during the Mughal era. (16th – 19th century)
- Subsequently modified by the British (Colonial era) and later by the Government of India
- Original land survey was carried out for most parts of India using cross-staff and steel chains during the 19th and 20th centuries.

Centrally Sponsored Schemes for the digitization of Land Records



DILRMP

Digital India Land Record Modernization Programme

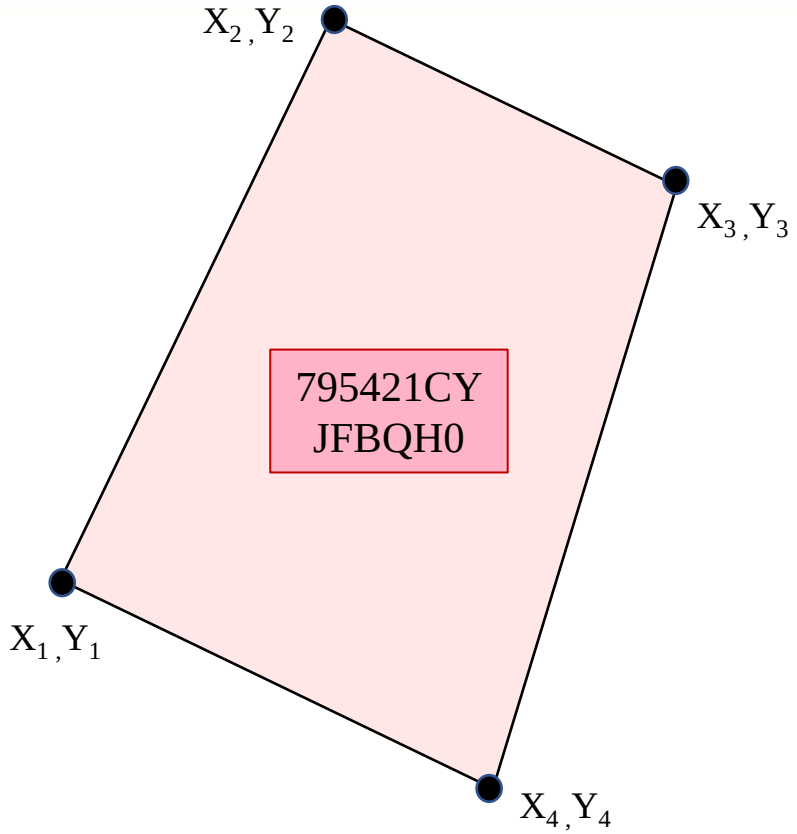
DILRMP is a revamped version of NLRMP with 100% funding from the Central Government.

OBJECTIVES

1. Computerization of Land Records
2. Computerization of Registrations
3. Survey/ Resurvey and Innovative Initiatives
4. Modern Record Rooms
5. Training & Capacity Building, IEC and Evaluation Studies
6. Project Management Unit
7. Consent-based Linkage of Aadhaar with Records of Rights
8. Computerization of Revenue

DILRMP

- ULPIN stands for Unique Land Parcel Identification Number.
- It is a 14-digit alphanumeric code for each land parcel based on the coordinates of the vertices of the parcel.
- It complies with Electronic Commerce Code Management Association (ECCMA) and Open Geospatial Consortium (OGC) standards.
- It applies to both horizontal and vertical properties.



For more details on the programme, please log into https://dilrmp.gov.in/

SVAMITVA

Survey of Village Abadi and Mapping with Improvised Technology in Village Areas

OBJECTIVES

Creation of accurate land records	Enabling the Citizens to use their property as a financial asset	Decision on Property Tax	Creation of Survey Infrastructure and GIS maps	Support Gram Panchayat Development Plan (GPDP)

- Establishment of Continuously Operating Reference Stations (CORS) is also within the scope of the scheme.
- Till February 2023, a total of 959 CORS stations are monumented all across India.
- 561 stations are established under this scheme and the rest under various other schemes.

SVAMITVA

ABADI LIMIT (A)
VILLAGE LIMIT (V)

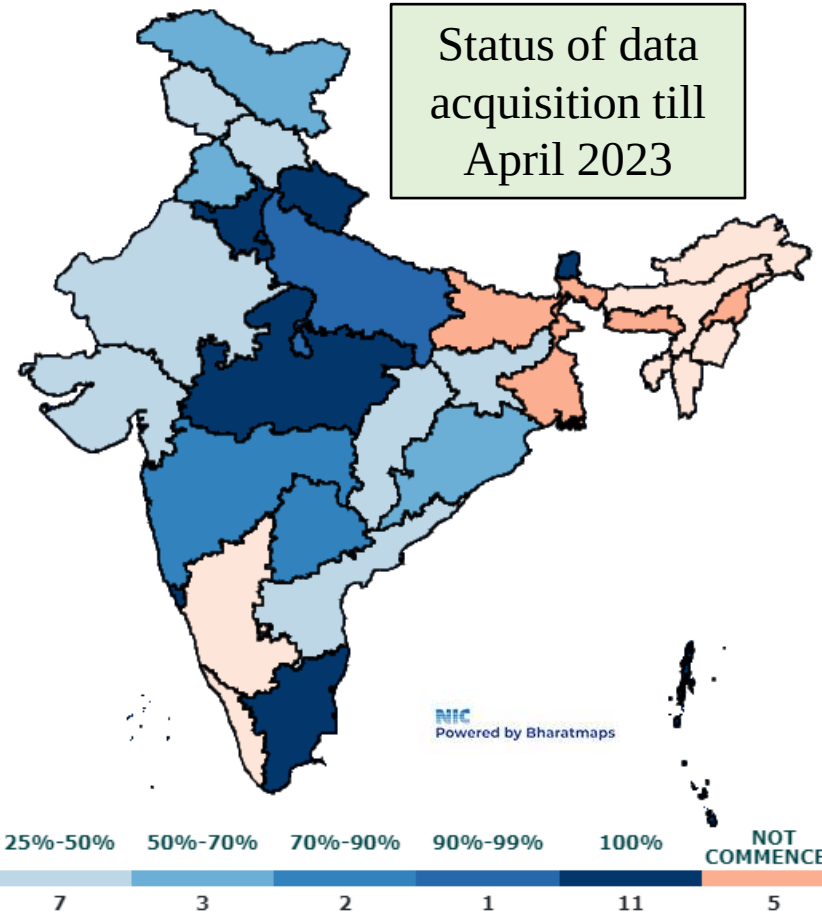
$A/V \approx 0.05$

WORKFLOW

ORI generated using survey-grade drones → Parcel boundaries are digitized with the ORI as base → Digitized features are linked with other records → Draft property cards are prepared and distributed among the owners → Owners can raise any concern/ complaint within a specified time → Post resolution of the complaints, final property cards are distributed

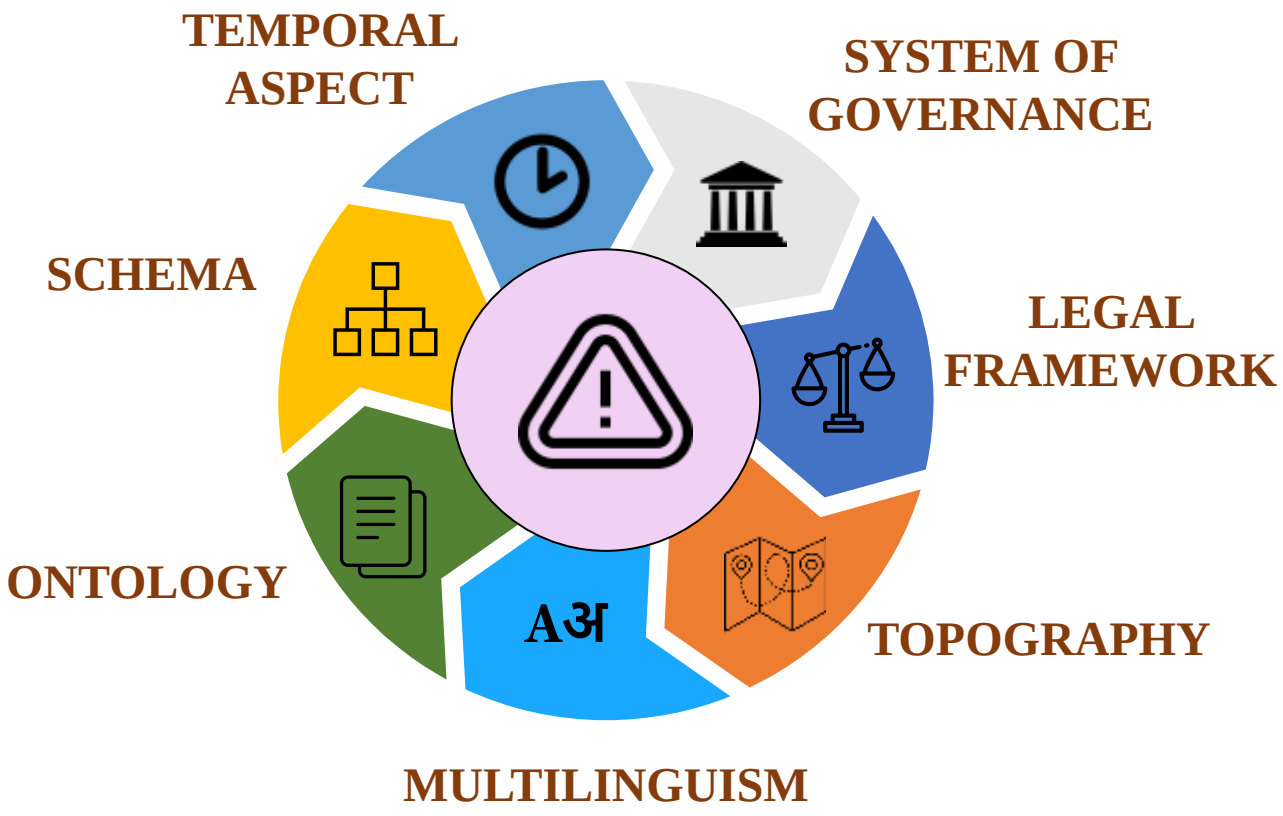
SVAMITVA

Pre-marked ground for digitization of property boundary



For more details on the scheme, please log into https://svamitva.nic.in/

POTENTIAL CHALLENGES



- India is essentially a quasi-federal country.
- State Governments are responsible for making laws with respect to land records and their maintenance thereafter.
- Legal framework, official language, and terminologies for common land administration semantics may vary from state to state.
- Variation in topography affects the land use pattern, required accuracy, and surveying techniques.
- Schema for the database also varies from one state to another.

POSSIBLE STRATEGIES

TRANSLITERATION

Adopting a model to facilitate the conversion of text from one language to another

STANDARDISATION

about the surveying techniques, accuracy requirement application schema conforming to LADM, data storage, data dissemination, etc.

INTEROPERABILITY FRAMEWORK

Legal interoperability, Organisational interoperability, Semantic interoperability & Data interoperability

VERSIONING OF DATA

State-based Modelling or Event-based Modelling as per LADM

NATIONAL GEOSPATIAL POLICY

- NGP is a citizen-centric policy published by the Government of India on December 2022, to strengthen the Geospatial Sector to support national development & economic prosperity.

Some key features relevant to the paper

Assignment of nodal department/ministry for each of 14 global fundamental geospatial data themes by UN-GGIM

Operationalization of a Unified Geospatial Interface for consumer oriented products, applications, services, and solutions

Liberalization of Geospatial data acquisition, production, and access.

Access to the national geospatial data by the stakeholders through a National Geospatial Data Registry (NGDR)

Streamlining the data supply chains from the Central and State Level Partnering agencies.

For more details on the policy, please log into https://dst.gov.in/news/national-geospatial-policy

CONCLUSION

- India already has launched a number of schemes and programmes to digitize land records for effective land administration.
- The variability and dynamism required in the unified land administration database (conforming to LADM) are yet to be devised.
- The issues pertaining to the proper mechanism of maintenance and updation with a robust and stringent interoperability framework are yet to be addressed.
- The implementation of NGP is seen as a stepping stone for the realization of the goals.

THANK YOU !!!

For any queries or suggestions, please contact:

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