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Your World, Our World: Resilient Environment and Sustainable Resource Management for All

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A MODEL TO SUPPORT CADASTRAL DATA INTEROPERABILITY AMONG LAND AGENCIES IN ACCRA , GHANA

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LINK TO PAPER

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PRESENTATION OUTLINE

- ❑INTRODUCTION AND KEY CONCEPTS
- ❑THE CADASTRAL DATA INTEROPERABILITY(CDI) CHALLENGES
- ❑METHODOLOGY AND METHODS TO DEVELOP MODEL
- ❑LAND ADMINISTRATION SERVICE ASSESSMENT
- ❑MODEL TO SUPPORT CDI
- ❑CONCLUSIONS

KEY CONCEPTS

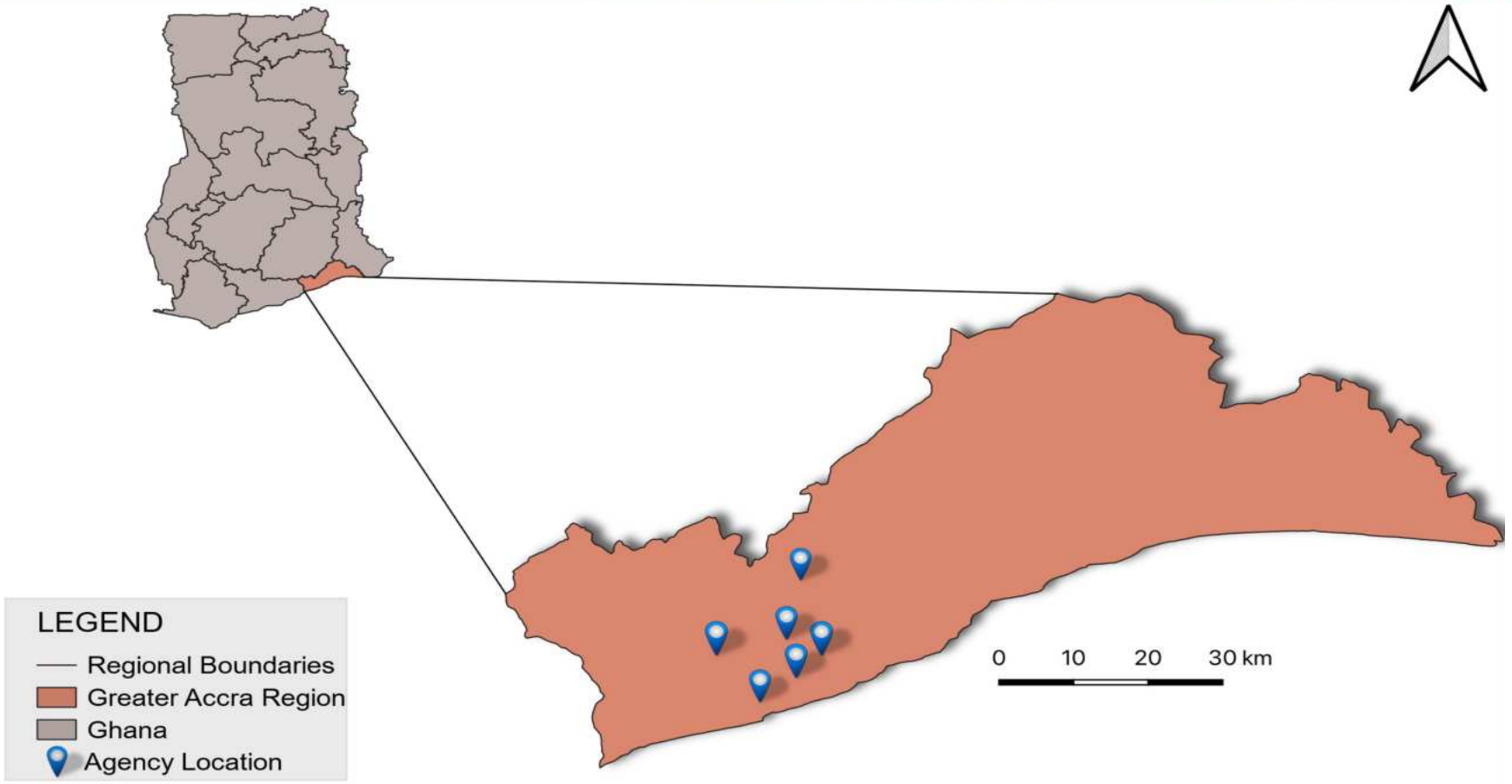
- Working definition of **services**: How the operational aspect of land administration, primarily **land information**, is provided to **beneficiaries** within a land market.

- According to GLTN (2021), land administration services is conventionally the government's responsibility at both central and local levels, where sharing geospatial data among land-related agencies is imperious

- **Interoperability:** The capability of different systems or entities to exchange information via standard formats or protocols and to maximise this shared information. (Agostinho et al. 2012)

- Thus, **CDI** the capacity of land-related agencies to to **share** cadastral data and to **use** this data for **business processes**.

STUDY AREA


LEGEND
Regional Boundaries
Greater Accra Region
Ghana
Agency Location
0
10
20
30 km

CDI CHALLENGES

- Ease of Doing Business report (2020), Ghana ranked **118** of **190** countries - **60.0** index (World Bank, 2020).
- Valuable geospatial data **gathered** and **managed** in various forms by government ministries and land agencies such as the Lands Commission, Land Use and Spatial Planning Agency, Customary Lands Secretariat, Municipal Assemblies and Ministry of Lands and Natural Resources.
- **Decentralised** land management system. "**Silo mentality**" - Autonomous and Independent business processes

[*Data Redundancy*]

[*Out-of-date Information*]

[*Heterogeneous Datasets*]

….and more which affect service provision

ASSESSMENT FRAMEWORK

ORGANISATIONAL LEVEL

- STRUCTURE/ SET-UP
- PROCESSES

DIMENSIONS

- Data accuracy and completeness
- System Integration
- Agile process (workflow efficiency)
- Use of the right tools and technology
- Security of digital service
- Stakeholder engagement and performance measurement

BENEFICIARY LEVEL

- SERVICE/ PRODUCT

DIMENSIONS

- Accessibility (location and usability of service tools)
- Cost (affordability)
- Timeliness
- Response mechanism/complaint procedures
- Scope of Information

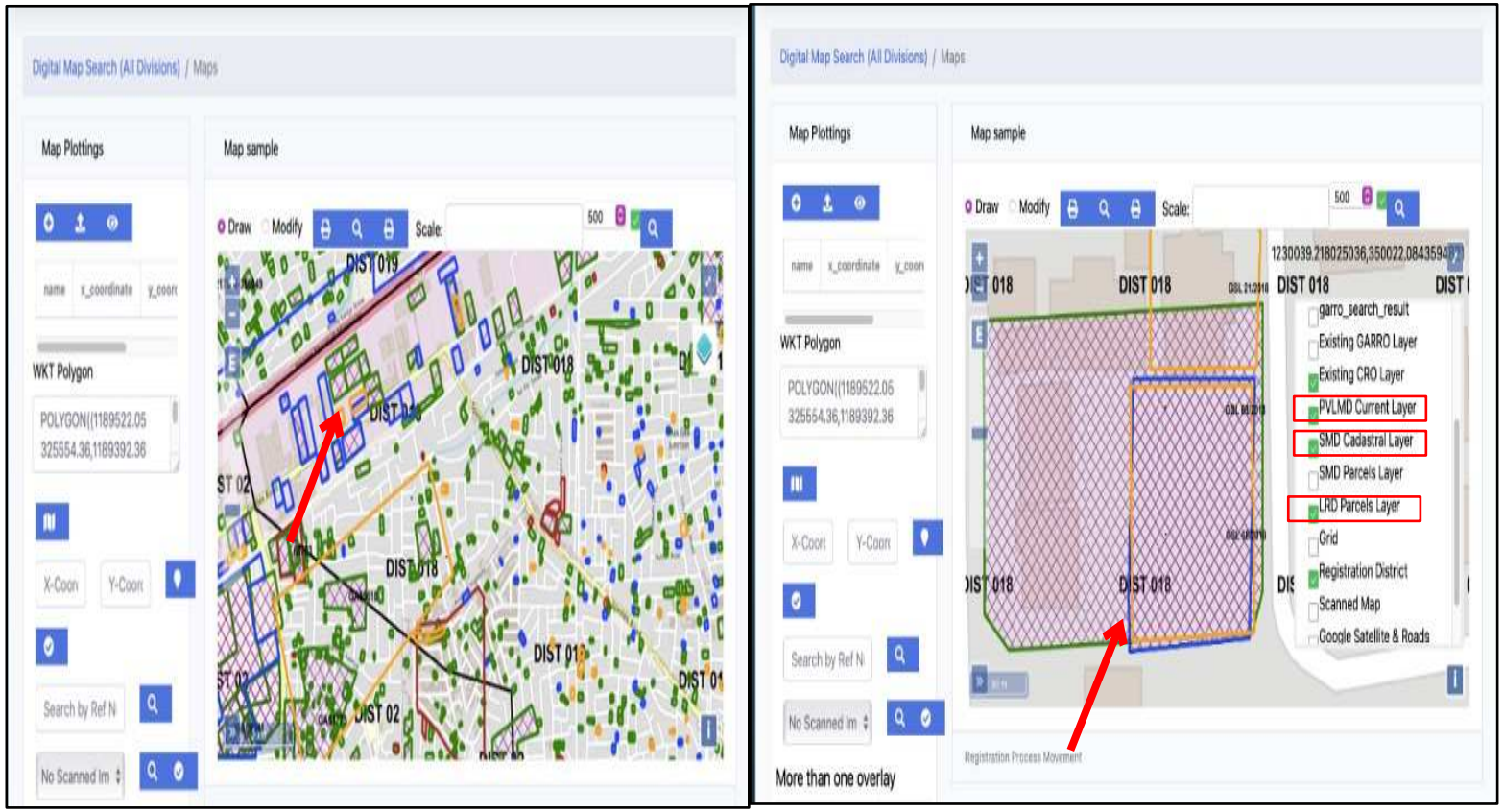
….see paper for all assessment results

ASSESSMENT RESULTS (Looking at one of the 11 dimensions)

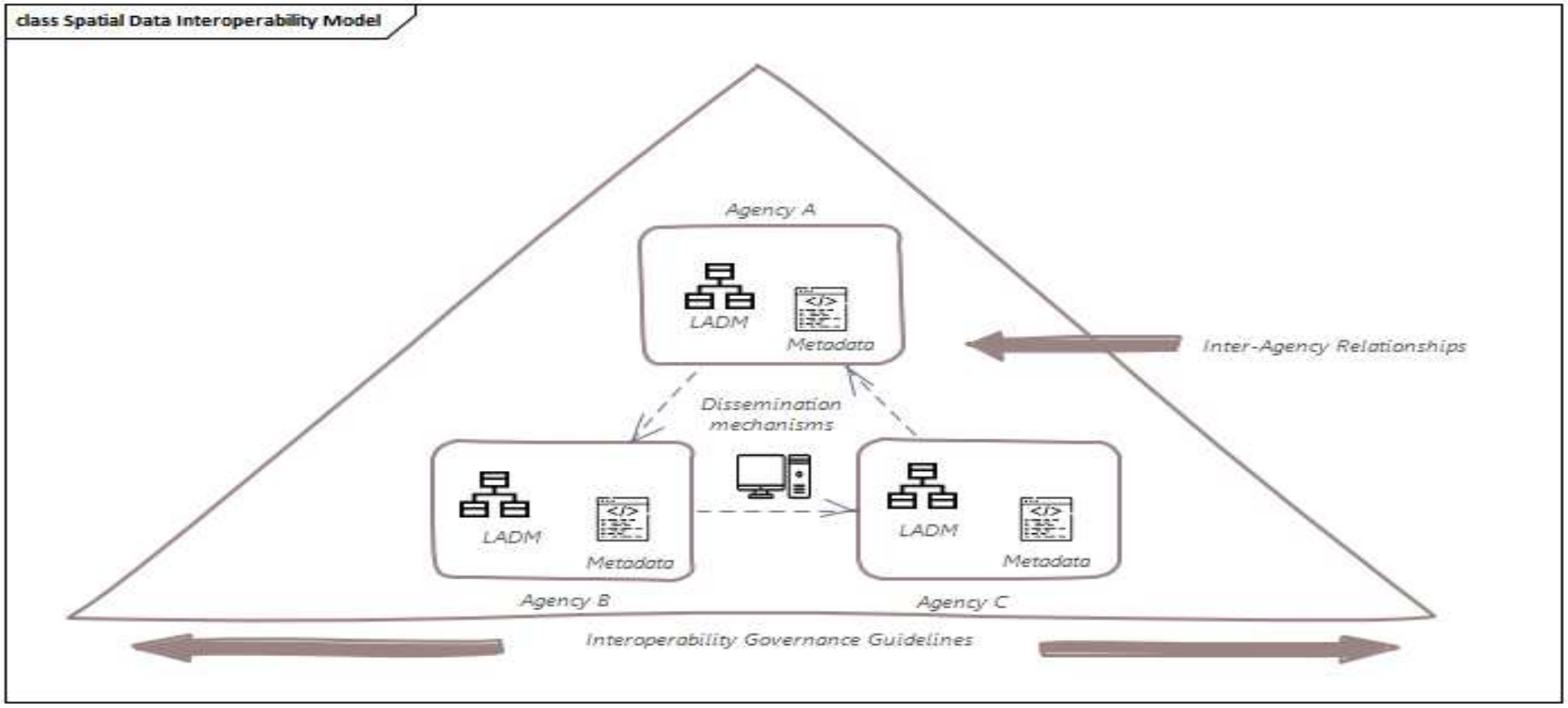
Data Accuracy and Completness

The Enterprise Land Information System (ELIS)

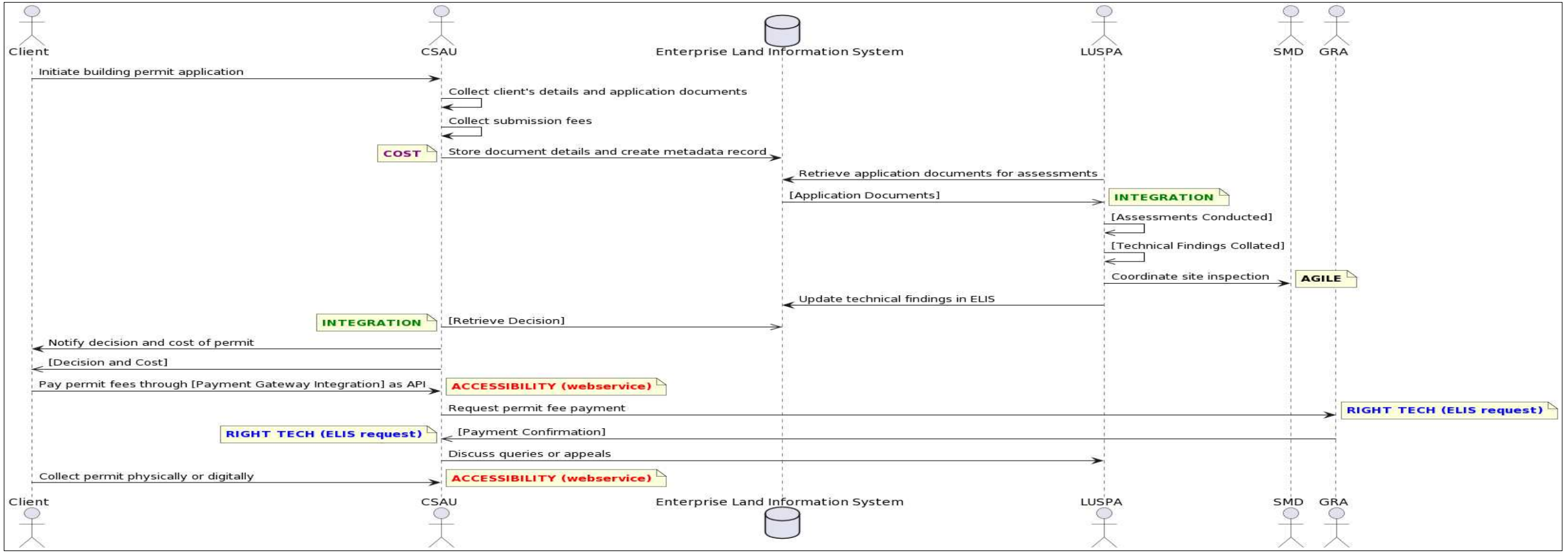
Shows **multiple overlaid cadastral plots** from all three divisions of the Lands commission (the SMD, LTRD AND PVLMD.) despite having the same attribute data and land use



MODEL TO SUPPORT CDI



The service: Acquisition of building permits with all model components



CONCLUSIONS

- A thorough exploration of the in-focus agencies' operations revealed **semantic heterogeneities of data; a lack of metadata; inconsistent use of data standards models and formats; the lack of an Integrated Web-based Platform; and a culture of resistance to data sharing**

- The model acknowledges the significance of **Interoperability Governance Guidelines, Inter-Agency Relationships, Spatial Data Standardization using LADM, Metadata Technical Specifications Guide, and Spatial Data Dissemination Mechanisms** to enhance **CDI** among in-focus land agencies.

- To adopt the proposed model, the study suggested **building consensus for change, technical training, soliciting financial support, incremental implementation of each component and continuous monitoring and evaluation** as critical mechanisms to prioritise

SUSTAINABLE DEVELOPMENT GOALS | International Federation of Surveyors supports the Sustainable Development Goals

Commission 3 & 7

Spatial Information Management & Cadastre and Land Management

Serving Society for the Benefit of People and Planet

SDG 16 aims to "build **effective**, **accountable** and **inclusive institutions** at all levels", with targets 10 and 6 emphasising **citizen-centric**, **responsive** and **inclusive public service provision** (UN, 2016).