

Extending LADM to Support eLAS Implementation Toward Sustainable Land Administration: A Case Study in Malaysia

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This study investigates the integration of the Land Administration Domain Model (LADM) with electronic Land Administration Systems (eLAS) in Malaysia, aiming to enhance sustainable land administration amidst rapid urbanization. By adopting LADM, Malaysia can standardize land administration processes, improving data interoperability, accuracy, and accessibility. The research identifies key challenges, including data quality, technical complexities, and the need for robust legal frameworks. It emphasizes a collaborative approach among stakeholders to address diverse needs and align practices with Sustainable Development Goals (SDGs). Ultimately, the paper provides valuable insights into the practical benefits and obstacles of this integration, paving the way for a more efficient land administration system.



Introduction

Context:

Malaysia faces rapid urbanization and complex land use challenges, necessitating a shift from traditional land administration practices.

Significance:

Enhancing efficiency, transparency, and accessibility in land governance is crucial for addressing land disputes and improving public trust.

Focus:

The paper examines potential benefits, challenges, and the role of collaboration in achieving sustainable land administration by Sustainable Development Goals (SDGs) guideline.

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Objective:

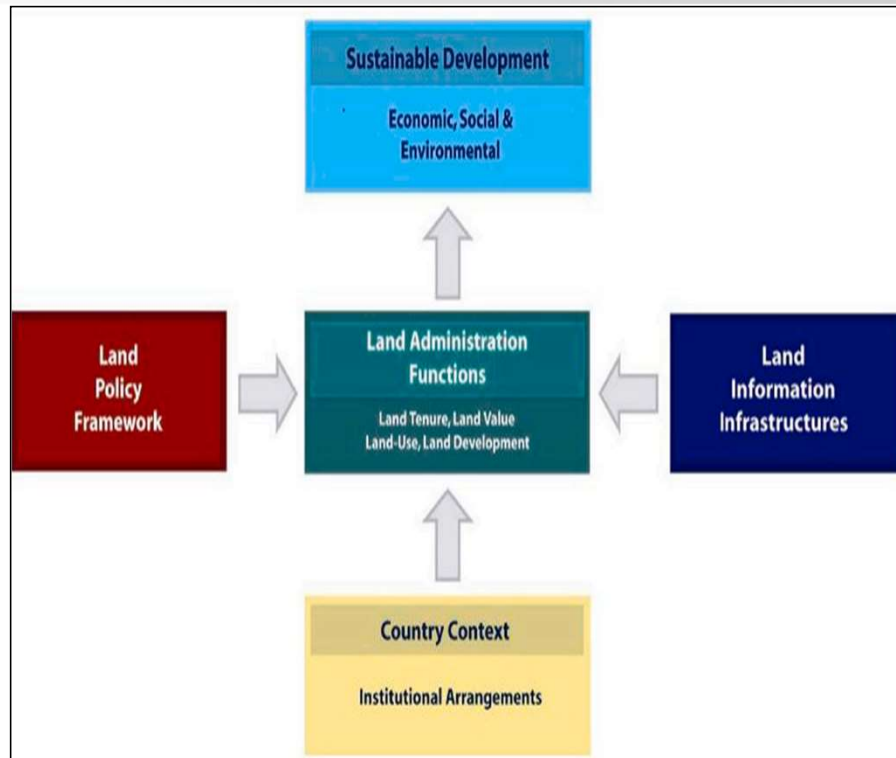
Explores the integration of the Land Administration Domain Model (LADM) with electronic Land Administration Systems (eLAS) to foster sustainable land administration.

Framework:

LADM provides a standardized approach to land information management, promoting interoperability among various stakeholders.



Introduction



Land Management Paradigm Perspective of land administration functions (Williamson, I. et al. 2010); (Adam, A. G. 2023)



The 2030 Agenda for Sustainable Development Goals (SDGs) Components (UN, 2015)

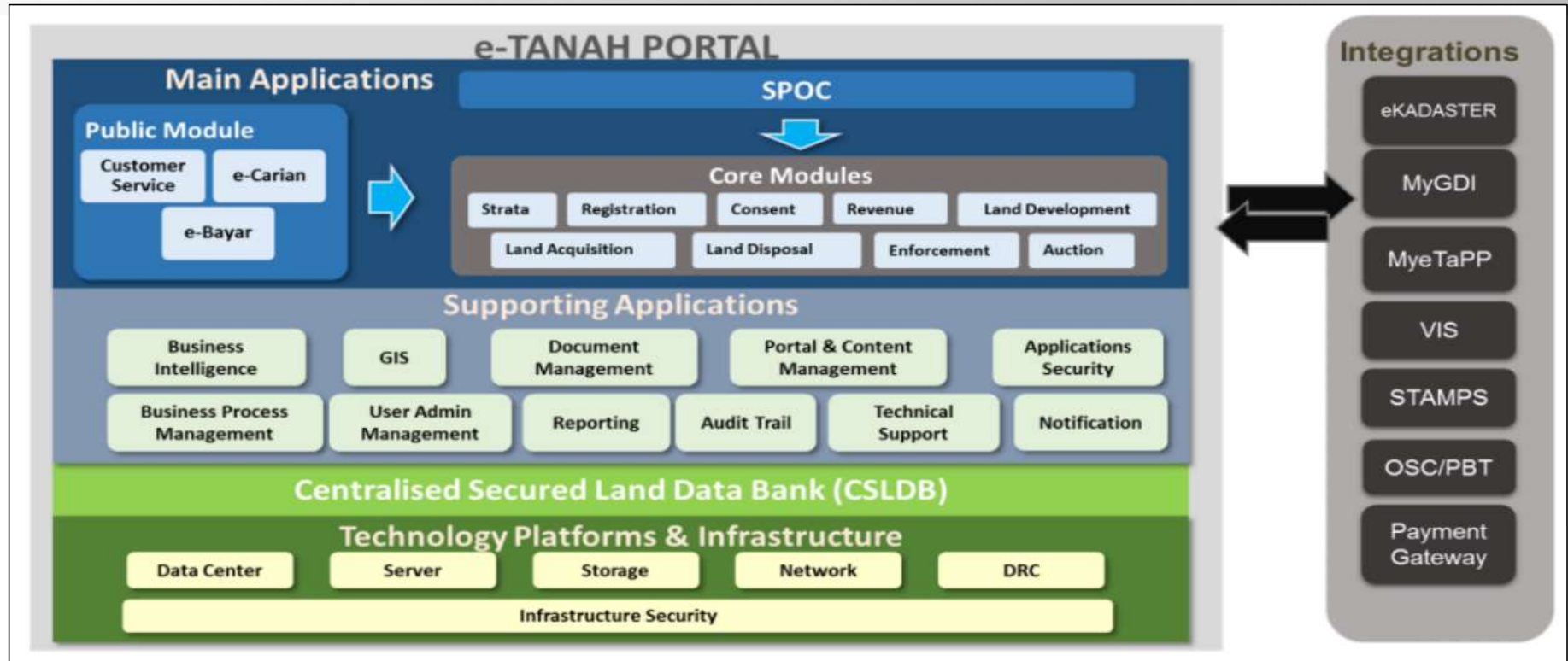


eLAS Implementation in Malaysia

- **Overview:** The electronic Land Administration System (eLAS) aims to modernize land administration processes in Malaysia, leveraging digital technology for efficiency.
- **Current System:** Malaysia's land administration is primarily based on the Torrens System, with ongoing efforts to expand the e-Tanah system across Peninsular Malaysia.
- **Key Features:**
 - Automates cadastral surveying, land registration, and land information management.
 - Reduces time and costs associated with land administration activities.
- **Challenges:**
 - Inconsistency and fragmentation of land records across states complicate standardization.
 - Ensuring data accuracy and integrity during digitization is critical.
 - Resistance to change from traditional practices necessitates effective stakeholder engagement.
- **Goals:** Achieving a transparent, efficient, and secure land administration system that supports sustainable land governance and aligns with the Sustainable Development Goals (SDGs).



eLAS Implementation in Malaysia



e-Tanah system architecture (JKPTG, 2019)



Why Extending LADM to support eLAS Implementation Toward Sustainable Land Administration?

1 Alignment with SDGs

4 Support for Policy Development

2 Improved Land Governance

5 Facilitation of Stakeholder Engagement

3 Enhanced Data Management

6 Integration of 3D Attributes

7 International Standards Compliance



Extending LADM to support eLAS Implementation Toward Sustainable Land Administration Potential Benefits

- **Standardization:** LADM provides a unified framework that standardizes land administration processes, enhancing consistency across various jurisdictions.
- **Data Interoperability:** Integration facilitates seamless data sharing and interoperability among different land administration entities, improving overall efficiency.
- **Enhanced Accuracy:** LADM's structured approach helps improve data accuracy and reliability, essential for effective land governance.
- **Support for Diverse Tenure Systems:** LADM accommodates Malaysia's varied land tenure arrangements, promoting inclusivity in land administration.
- **Sustainable Practices:** The synergy between LADM and eLAS supports sustainable land management practices, fostering transparency and accountability.
- **Socio-Economic Development:** A robust land administration framework can enhance secure land transactions and efficient resource management, contributing to socio-economic growth and the achievement of Sustainable Development Goals (SDGs).



Issues & Challenges

Technical

Data Quality Concerns: Ensuring high-quality, accurate data during the transition to eLAS is critical, as poor data can undermine the effectiveness of land administration.

Technical Complexities: Integrating LADM with existing systems involves significant technical challenges, including compatibility with legacy systems and ensuring data interoperability.

Institutional

Institutional Barriers: Fragmented land administration practices across different states and regions create inconsistencies that complicate the implementation of a standardized framework.

Legal Frameworks: The need for robust legal and institutional frameworks to support the integration of LADM and eLAS is essential but often lacking.

Socio-Economic

Stakeholder Resistance: Traditional landowners and stakeholders may resist adopting new technologies and practices, necessitating effective change management strategies.

Public Awareness: Low public awareness and understanding of digital land administration concepts can hinder acceptance and successful implementation of eLAS and LADM.

Resource Constraints: Limited financial and human resources may impede the development and maintenance of an integrated land administration system.

Discussion

- **Innovative Approach:** The integration of LADM with eLAS represents a forward-thinking strategy to modernize land administration, addressing the complexities of urbanization and land use in Malaysia.
- **Holistic Benefits:** By adopting a standardized framework, Malaysia can enhance data management, streamline processes, and improve stakeholder engagement, leading to more effective land governance.
- **Sustainability Focus:** The synergy between LADM and eLAS aligns with global sustainability goals, promoting responsible land use and management practices that support economic and social development.
- **Stakeholder Collaboration:** Successful implementation hinges on active collaboration among government agencies, local communities, and private sector actors, ensuring that diverse needs and rights are considered.
- **Capacity Building:** Emphasizing training and capacity building for stakeholders is crucial to overcoming resistance to change and fostering a culture of innovation in land administration.
- **Future Research Directions:** The paper opens avenues for further research on the practical implications of integrating LADM with eLAS, particularly in addressing technical, legal, and socio-economic challenges.
- **Global Relevance:** The findings contribute to the broader discourse on sustainable land administration practices, offering insights that can be applied in other countries facing similar challenges.



Conclusion

- **Transformative Potential:** The integration of LADM with eLAS has the potential to revolutionize land administration in Malaysia, making it more efficient, transparent, and sustainable.
- **Addressing Modern Challenges:** By adopting a standardized framework, Malaysia can effectively tackle the complexities of rapid urbanization and diverse land tenure systems.
- **Pathway to Sustainability:** This integration aligns with the Sustainable Development Goals (SDGs), promoting responsible land management and socio-economic development.
- **Collaborative Efforts Required:** Successful implementation will depend on strong collaboration among stakeholders, including government, private sector, and local communities, to ensure inclusivity and responsiveness.
- **Need for Strategic Planning:** A well-defined strategy that addresses technical, legal, and socio-economic challenges is essential for the successful adoption of eLAS supported by LADM.
- **Future Implications:** The insights gained from this study not only benefit Malaysia but also contribute to the global discourse on sustainable land administration, offering valuable lessons for other nations.
- **Call to Action:** Emphasizing the importance of continued research, investment, and stakeholder engagement to realize the full potential of integrating LADM with eLAS for a sustainable future in land administration.



THANK YOU

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