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7th FIG Regional Conference 2009

19-22 October 2009

**National Conventional Centre
Hanoi, Vietnam**



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Introduction

Land administration in Malaysia

National Land Code 1965

- ❖ Land Registration-State government jurisdiction
- ❖ Cadastral Survey and Mapping Registration–Federal jurisdiction

Malaysian legalistic cadastre system and land law are still using 2D geometric in legal and law expression (2D legislation), such as:

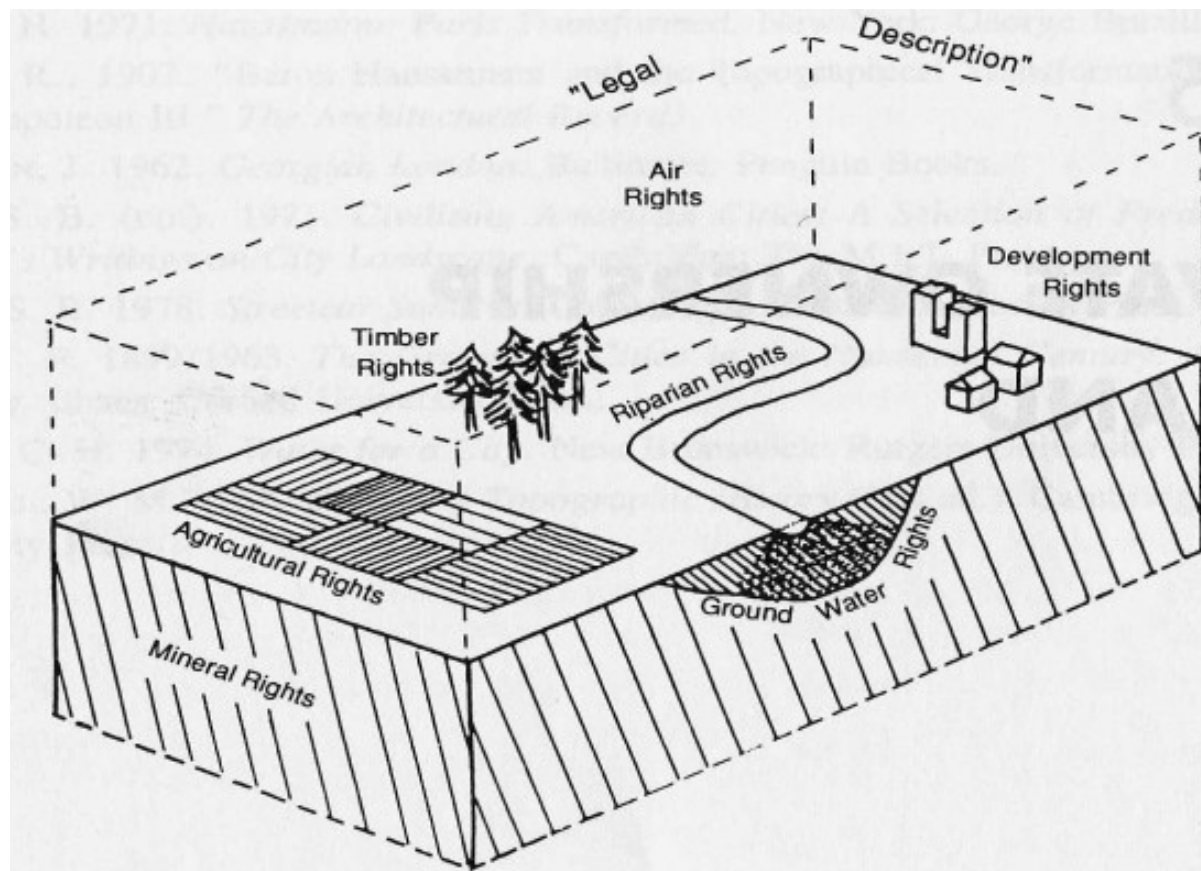
- ❖ Registry Title
- ❖ Land Office Title
- ❖ Certified Plan
- ❖ National Land Code 1965 (Act 56)
- ❖ Strata Title Act 1985 (Act 318)
- ❖ Survey Regulation (Peninsular Malaysia) 1976
- ❖ Survey and Mapping Director General Secular

Definition

Description of land

Land is most valuable resource

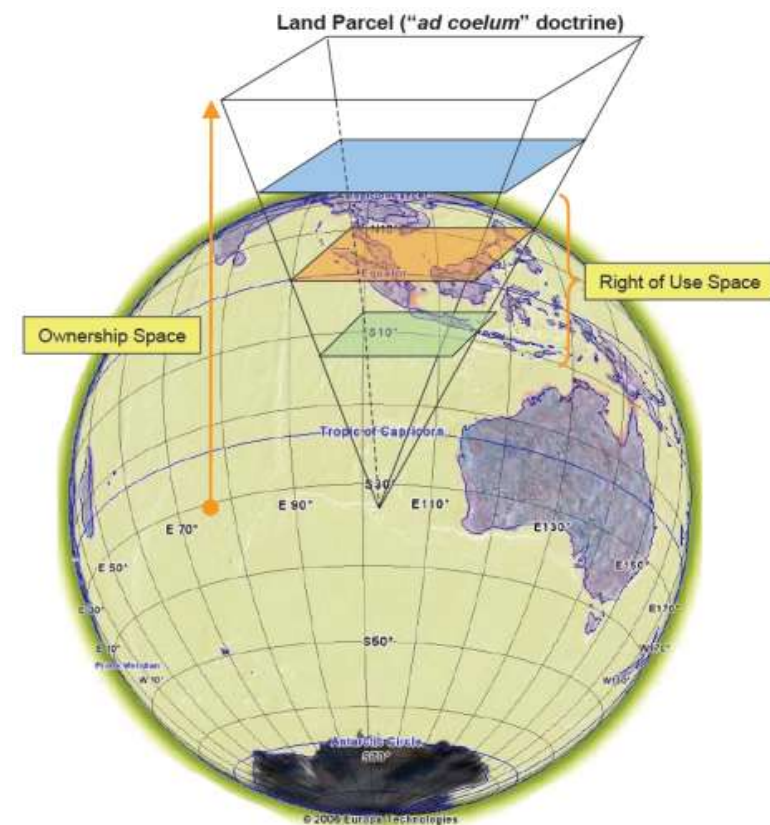
Land is both a physical commodity and an abstract concept of rights of ownership



Third dimension play a significant role in determining the legal status of such property, especially in areas with multilayer use of space.

3D cadastre

- Traditional legal doctrine represents land ownership in the form of a cone down to the centre of earth.
- 3D Cadastral systems provide information beyond the typical planar data and can be used to ensure registered rights below, on & above the surface of a property.
- In areas with and intensive use of land, there is a growing demand to utilise space above and under the surface, resulting in multilevel use of land.



3D property

Above surface constructions:

- Apartments
- Constructions on top of each other
- Overhead infrastructure and utilities
- Air space



Below surface constructions:

- Underground constructions
- Underground infrastructure and utilities
- Region of polluted area
- Geological activities





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3D property (Cases in Malaysia)





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3D property (Cases in Malaysia)





Legal document related to 3D property in Malaysia

- ❖ Registry Title
- ❖ Land Office Title
- ❖ Cadastral Map
- ❖ National Land code 1965 (Act 56)
- ❖ Strata Title Act 1985 (Act 318)
- ❖ States Land Code, Act and Rule
- ❖ Survey Regulation 1976 (Peninsular Malaysia)
- ❖ Federal Constitution 1957
- ❖ Survey and Mapping Director General Secular
- ❖ Uniform Building By-Laws 1984
- ❖ Street, Drainage and Building Act 1957
- ❖ Building and Common Property (Maintenance and Management) Act 2007
- ❖ Town and Country Planning Act 1976
- ❖ Local Government Act 1976



The importance of having 3D property legislation in Malaysia

Population of Malaysia

- ❖ 1990 (21.80 million)
- ❖ 2008 (27.73 million)
- ❖ 2020 (31 million)

An efficient 3D land use in real estate property especially for multilayer objects is directly linked to the socio-economic and environmental development in Malaysia.

The system practised in Malaysia

- ❖ Parcel bounded system and does not include the 3D object registration and 3D rights
- ❖ 2D nature (information about the lots and land parcels)



Cadastre registration system in Malaysia

Malaysian Cadastre System

- Cadastral Database Management System (CDMS)
 - Department of Survey and Mapping Malaysia (DSMM)
 - ✓ store information about land attributes, spatial objects etc.
- Computerised Land Registration System (CLRS)
 - State Land and Mines Office (PTG)
 - District Land Office (PTD)
 - ✓ store land ownerships, land tenures etc.



Issues regarding 3D property in Malaysia

Technical problems

- ❖ It does not give much coordinates information to the Cadastral Map (Strata and Stratum Plan), and Registry Title and Land Office Title.
- ❖ Cadastral Map and Registry Title does not give any volume information for strata objects while the volume information given in Cadastral Map for stratum objects have some limitations and do not represent the real stratum objects.

Legislation problems

- ❖ There are difficulties to register the ownership and other rights of real estate objects above or below the ground surface.
- ❖ In major urban areas, the law and legal applications in 2D situations are insufficient to solve all problems associated with 3D situations such as construction on top of each other.
- ❖ 3D objects generally do not correspond with the conventional legal aspect that is legally registered and defined.
- ❖ In a real world situation, issues of legal and organisational meant for 2D cadastre are insufficient and would not be able to cope with the advanced development of the country.
- ❖ The current 2D Malaysian Cadastre System is insufficient to meet the changes brought about by the booming yet complex high density developments in urban areas.



Research Questions

- ❖ What are the problems from legal and organisational aspects in order to implement Malaysian Cadastre System for 3D property and how to address them?
 - What are the new 3D property regulations and practices information needed in Strata Title Act 1985 and National Land Code 1965?

- ❖ What are the changes needed in the current cadastral and land practices in order to achieve the succession implementation of Malaysian Cadastre System for 3D property in Malaysia?
 - How could information about the new 3D property regulations and practices information be collected, structured and presented that would propose a 3D property cadastre in Malaysia?

- ❖ What are the contents in the relevant legal documents that have to be amended in order to translate the legal and organisational expression from 2D to 3D for implementation of Malaysian Cadastre System for 3D property in Malaysia?
 - What kind of framework or criteria is needed to establish and implement these new legislations and how would it affect the cadastre practices of the 3D property?



Research Objective

- ❖ To review literature associated with the execution and application for feasibly the legal status of the various 3D property real estate objects.
- ❖ To establish the fundamental principles in the field of 3D property legislation, and study such existing legislation in Sweden, Norway, Denmark and the Netherlands that was matched the need of Malaysian Land Law.
- ❖ To investigate and make recommendations for changes, if necessary of the Strata Title Act 1985 (Act 318) and National Land Code 1965 (Act 56) that would facilitate the Malaysian Cadastre System practices.



Research Methodology

Stage	Process	Related Information
1	Secondary sources	<u>Local</u> Strata Title Act 1985 (Act 318) and National Land Code 1965 (Act 56). Electronic Strata Module which consists of Strata Lodgement Module, Strata Verification Module and Electronic Strata Survey Module from the Department of Survey and Mapping Malaysia will be used as a technical reference.
		<u>Oversea</u> Land Acts, Codes, Regulations, Rules, Ordinances and Seculars from Sweden, Norway, Denmark and the Netherlands.
	Analysis	Specific contents of above legal documents will be identified and studied.
	Analysis method	Content Analysis.
2	Design an instrument	Open-ended and close-ended Questionnaires. (Quantitative approach)
	Pilot study	
	Pilot the instrument and primary data collection	Field survey. Respondents from State Lands and Mines Office, State District Land Office, Department of Survey and Mapping Malaysia, Department of Director General of Lands and Mines Office and Licensed Land Surveyors from Peninsular Malaysia.
	Data analysis	The feedback from respondents will be evaluated and compared with secondary sources by looking into the legal aspects.
	Analysis method	Frequency Analysis and Average Index Analysis.



Stage	Process	Related Information
3	Further refine the instrument and final data collection	The results and analysis from the questionnaire survey process will be used to improve the initial recommendations through an open-ended unstructured interview sessions. (Qualitative approach)
	Data analysis	The final recommendations made in the content of legal documents mentioned will be tested and checked though in-person interviewing method.
	Analysis method	Descriptive Analysis.



Scope and limitations of the research

The research will focus on two types of legal documents namely StrataTitle Act 1985 and National Land Code 1965. These legal documents are chose because they require the inclusive of 3D into the current 2D cadastre system for 3D property on and above ground surface and they are directly involved in the registration and cadastral survey of the multilayer property on and above ground surface. Besides, the Electronic Strata Module is chose because it gives the 3D technical registration, cadastral survey and processing methods.

This research would focus on 3D property legislation for multilayer objects on and above the ground surface but not below the ground surface in Malaysia because the existing law and guideline for stratum which under Part Five (A), Disposal of Underground Land, Section 92A to 92I (National Land Code, 1965) and Federal Lands and Mines Director General Secular (PKPTG/1, 2008) are already in existence. However, no new technical development will be carried out and performed since this research will be using Electronic Strata Module as the technical reference.



Research Contribution

- ❖ 3D property legislation for cadastral survey and mapping, and land registration practices in the Malaysian Cadastre System for 3D property on and above ground surface.
- ❖ 3D property legislation that would facilitate the Department of Survey and Mapping Malaysia (DSMM) technical development by complimenting the Electronic Strata Module for property on and above ground surface.
- ❖ Formal definition of 3D property legislation for multilayer objects on and above ground surface.
- ❖ Explanation and structuring the discussion about 3D property by providing basic recommendations and fundamental principles from the legislative and organisational points of view in the cadastre system.

Furthermore, the findings and contributions of this thesis are expected to be added value to the knowledge as well as being applicable and useful to decision makers from various government authorities, professionals and housing developers who are responsible for the cadastral survey and mapping for 3D property.



Conclusion

The main thing that hinders the progress

- National legal system
 - ✓ no provisions
 - ✓ lack of proper Malaysia cadastre law (3D property legislation)
 - ✓ conservative (old and traditional land registry law and legal changes generally take quite a long time to change)

Within the availability of the latest knowledge and information technology

- Malaysia is ready to develop a 3D cadastre system to solve the problems from the technical aspects taking into consideration the complexity of cadastre registration of 3D property situations.
- The changes of the land law in legal and organisational aspects probably should come first, or later, or maybe concurrently with the technical aspect development will be the main issues for further discussion.

An effective implementation of 3D cadastre inclusive of all institutional issues (legal and organisational) and technical aspect are equally important.



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