

CONCEPTUAL MODELLING OF 3D CADASTRE AND LADM

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This paper describes cadastre research initiatives in Malaysia particularly at the University of Technology Malaysia (UTM). Two major domains have been investigated, i.e. integrated 3D cadastre (both technical and legal components), and Land Administration Domain Model (LADM). One of the motivations is to establish 3D cadastre system with LADM international standard, thus provide useful tools for the authorities such as the Department of Survey and Mapping Malaysia, Land Office, and other land related agencies in the country. This paper also attempt to incorporate important customary rights within the proposed LADM model. The current legal aspect on the Right, Restrict, and Responsible (RRR) to have the 3D cadastre will be discussed. Conceptual view and model of the profile that include 3D cadastre will be fully described with case studies. In the 3D cadastre research, we focus on the aspect of property registration of complex building and overlapping properties on different land use. We also discuss the interoperability mechanism of the two separated systems between the two different agencies. The 3D cadastre registration serves as a first attempt to develop a more complete integrated 3D cadaster system in the country. Modelling tool such as UML being utilized for such registration of cadaster objects. Besides the 3D registration, this paper also discusses 3D modeling, geodatabase and 3D visualization of cadaster objects. This paper also describes the other domain, i.e. LADM country profile where various aspects land administration have been considered and proposed. This LADM profile comes together with customary rights for indigenous community in the country especially in the state of Negeri Sembilan, Malacca, Sabah and Sarawak. This paper also highlights the outlook of the cadaster research in Malaysia by developing a prototype of 3D cadastre data model based on LADM international standard.

Keywords 3D CADASTRE,MODELLING,LADM