eKadaster: A Learning Experience for Malaysia

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ABSTRACT

Malaysia has moved leap and fold from her original states of old conventional surveying to the current modern technique with state of the art equipment. Malaysia has experimented and employed various available techniques to enhance her data capturing ability and expedite the production of certified plans for final land title. eKadaster (eCadastre) is the latest venture of the Department of Surveying and Mapping Malaysia (JUPEM) in achieving the said objective. Malaysian Cadastral system is based on the Torrens System which basically consists of 2 vital components namely; land registration and cadastral survey. Since the 80's, to better support the land administration system, JUPEM has embarked on the modernization of the cadastral survey system in stages in line with the advancement of computer technology. JUPEM's modernization programs started with the initial computerization of its cadastral office and field system based on automating the manual procedures and the subsequent improvement with the introduction of Geographical Information System (GIS) technology. However, in 2007, the computerized system was deemed obsolete with the introduction of "coordinated cadastre". The earlier system developed was unable to capitalize on the advent of satellite based technology (GNSS) and hinders the practice of an absolute real time positioning cadastral survey. Thus, a complete revamp of the system is needed with the incorporation of coordinated cadastral survey concept to the newly developed eKadaster system. The system in essence means to improve JUPEM's delivery system and expedite the process of preparing and producing Final Title Plan (B1 Plan). The eKadaster coordinates system is developed based on an earth-centered datum. The least-square adjustment technique is used to replace the old Bowditch method in the distribution of survey errors as the ultimate prove of boundary mark position. At the same time, a new fully GIS-ready database is established, namely the National Digital Cadastral Database (NDCDB). The NDCDB allows B1 Plan to be issued quickly and together with the introduction of a multipurpose cadastral module would open up the system to new potential users in Malaysia. The paper looks into the cadastral system and the whole exercise of JUPEM's eKadaster and its potential for future expansion.

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