Developing Infrastructure Framework to Facilitate the Malaysian Multipurpose 3d Cadastre

Tan Liat Choon and Looi Kam Seng (Malaysia)

Key words: Cadastre; land administration, land information, multipurpose 3D cadastre, National Digital Cadastral Database

SUMMARY

In the last couple of decades, there has been an increasing demand for property development in urban areas, resulting in the division of property ownership so that different owners can own a delimited space on, above or below ground surface. When multiple uses of space above surface was started by high rise constructions and aviation, it brought forth the question whether such space could be subdivided into separate units for individual ownership. Thus a situation has emerged where the dimensions above and below the ground surface, besides those on the ground, are important considerations in property ownership. Under 3D cadastre, the 2D cadastre management of data cannot meet the real land management of the three dimension space aspect and property. Therefore, it is essential to introduce the 3D cadastre of Three-Dimensional National Digital Cadastral Database (3D-NDCDB) management model. Since the individualisation of property has traditionally been concerned with the subdivision of land using on surface boundaries in the cadastral system, it is appropriate now to consider how three-dimensional situations should be handled from the legal, technical and organisational aspects, and how other countries have addressed similar issues. This paper solely concerned with the theoretical aspects of the study, particularly land administration system and cadastre system. It covers and explains the theory and framework of the Malaysian Cadastre System, good governance involved in land administration and cadastre. The present 2D National Digital Cadastral Database stored information in 2D planimetric. In order to achieve the objective, some of these matters must take into consideration, i.e. (a) Method of data collection, (b) Adjustment and calculation of observed data, (c) The products, and (d) Changes to the format and structure of existing system. In addition, the suitable Land Administration Domain Model base on 3D-NDCDB and some recommendations for amendments to the National Land Code 1965 as well as data information integration will be proposed.It is hoped that this study will provide a better understanding of the nature of 3D-NDCDB, besides adding new information to the available literature in the field. I envisage the main contributions of this study to the present knowledge to be in the cadastral survey and mapping, and land registration practices in the Malaysian Cadastre System from the legislative and technical viewpoints.