A Multi–Criteria Performance Assessment Model for Cadastral Survey Systems Assessment

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SUMMARY

Many countries refer cadastre as the legal evidence of land boundaries. Other societies may have equivalent legal and administrative systems to handle cadastral functions. The performance of one's land boundary system (cadastral survey system) is an important indicator of the overall efficiency of its land administration system. Surveyors of different jurisdictions know too well about their own system advantages and weaknesses. However, rarely research projects are focused on the assessment of the major performance of the cadastral survey system across different jurisdictions, knowingly each cadastral system is created and functioned under individual legal and institutional systems. Nevertheless, there are several common quantitative elements that can be compared directly (e.g. survey accuracy and costs). Likewise, there are plenty of qualitative information (e.g. boundary security, survey applicability in land administration operations) cannot be appropriately compared due to the lack of satisfied criteria and agreeable qualitative scales. This project aims to form an assessment model to evaluate any land boundary system upon its major performances. The initial proposed performance assessment criteria on the land boundary system are accuracy, security, cost, time and applicability. This set of initial assessment criteria will be weighted by world-wide surveying related experts using the general methodology of analytic hierarchy process (AHP). In addition, the scale of qualitative information under different criteria will be defined by related experts from different characterized jurisdictions. Finally, each cadastral survey system can be evaluated and compared in the selected multi-criteria analysis method. This paper describes the applied methodology to formulate that performance assessment model and the expected benefits and outcomes of that formed model.