ABSTRACT

Design and Development of an Integrated Land Management Model in Guyana

Mohamed Irfaan Ali

Land management remains a concept, principle, and process yet to be fully understood and practiced worldwide. The different land tenure systems, competition for land use, different economic principles and social norms have made it difficult to have a one-cap-fits-all land management domain at international and regional levels. Even at national levels, competing national developmental goals have led to conflicts in land management principles and processes. This thesis, in an attempt to bring some structure into conflicts in land management, undertook a critical evaluation of land management in Guyana. The evaluation identified horizontal and vertical overlapping jurisdictions that are counterproductive to good of national resource management. To overcome these conflicts, the thesis designed and developed an integrated land management model to ensure that the environmental, economic and social factors in land development are simultaneously considered in a stakeholders' participatory environment. In order to give effect to this model, the thesis used an adaptation of the Spatial Analytic Hierarchy Process in a Multi-criteria Decision Analysis to undertake land use sustainability analysis for housing, agriculture, mining and forestry in Guyana. The results of these analyses demonstrated that the problem of overlapping jurisdictions and competing land use can be resolved through the integration of expert knowledge and Spatial Analytic Hierarchy Process (SAPH) technology. The thesis concluded that sustainable land management goals are attainable in the environment of stakeholders' collaboration and the development and maintenance of a national spatial data infrastructure that ensures unhindered access to current and accurate spatial data on the status and extent on national and anthropogenic resources.

Keywords: Mohamed Irfaan Ali; Guyana; Land Management; Integrated Land Management Model; Multi-Criteria Decision Analysis (MCDA); Spatial Analytic Hierarchy Process (SAHP); Geographic Information System (GIS); Land Suitability Assessment; Low Carbon Development Strategies (LCDS).