

Advantages of a Digital Cadastre Using an Unmanned Aerial Vehicle (UAV) Tool to Support Better Governance and Land Administration in Cameroon: An Exploratory Study

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Key words: Cadastre; Cartography; Digital cadastre; Informal settlements; Land management; Spatial planning

SUMMARY

Key words: Cadastre, Master Plan, Multipurpose Cadastre, Urban Development, Land Administration.

Abstract: Countries such as Cameroon have a colonial planning legacy that needs to be altered to fit the reality of urban areas. Informal settlement development is common in Yaoundé and in the study area. These informal settlements occupy almost 35% of the urbanized area and shelter more than 70% of its population. This high-density housing and population increase pressure on basic infrastructures necessitated good urban planning.

Cameroon does not have a modern cadastral system to provide data on land governance and land management, consequently, cannot provide security of property rights, appropriate land administration and sustainable development.

The technology of the Unmanned Aerial Vehicle increasingly accessible at lower cost will be used in priority compared to very high-resolution satellite images for the acquisition of geospatial data necessary for the development of plans.

The aim of this paper is to propose the development of a new type of multi-purpose municipal cadastre which employs low altitude Unmanned Aerial Vehicles (UAVs) as a geospatial data collection tool. Such a municipal cadastral approach has numerous advantages defined in this exploratory study. Traditional methods of cadastral surveying have been shown to be expensive, time consuming and unsuitable to the needs of most of the populations (Enemark et al., 2014; Nathan, 2013; Norzailawati, 2018; Mukendwa, 2015; Barnes et al., 2013; Manyoky et al., 2011; Kelm, 2014).

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The use of a Multi-purpose cadastre proposed in this exploratory study is a tool for facilitating orderly urban land use planning. This process is based on the design of land use and the development of infrastructures such as communications, transportation, and distribution networks that efficiently meet the citizen needs.

This exploratory study was conducted in Yaoundé to justify the need to reduce the development of informal settlements within the city and the resulting land conflicts. For the researcher, this study contributes to the improvement of his theoretical knowledge in the field of cadastral surveying. With the implementation of decentralization processes, each municipality could increase the establishment of land titles and secure citizen land rights. They will therefore raise funds in order to effectively improve land governance, the living conditions of its populations and ensure the economic development of the territory.

BIOGRAPHICAL NOTES

MBARGA MBARGA Tobie Camille is an Assistant Lecturer at Higher Technical Teacher's Training College of the University of Buea in Kumba, Cameroon since March 2015. He is PhD Candidate in Geoinformatics and Surveying at the University of Nigeria Nsukka, Enugu Campus. He holds a Master degree in Urban Planning and Development from the University of Yaoundé I, Cameroon. Before embarking on higher education, he taught Topography at the High Technical School at Nkolbisson in Yaoundé for 15 years. During this period, he held the position of Head of Department of Topography and Cadastre Survey in the same establishment for 9 years. Interested in urban planning issues, he obtained a Statement of Accomplishment in Urban Planning for African Cities organized by the Ecole Polytechnique Fédérale de Lausanne. He works privately with his colleagues in the Ministry of land affairs (MINDCAF) municipalities in the planning, sanitation of precarious neighborhoods, Participating at an international conference such as the Working Week 2020 that will be

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