Towards the Augmented Reality of Botswana Tribal Villages

Maphale Lopang (Botswana)

Key words: Bridge surveying; Digital cadastre; GNSS/GPS; GSDI; Land management; Laser scanning; Low cost technology; Positioning; Spatial planning; Augmented Reality; Tribal Village; Land Ownership; Physical Planning; Utilities

SUMMARY

Tribal lands of Botswana are products of British colonial native reserves and the Tribal Land Act of 1968. They are currently governed by the Land Boards which are themselves products of the Tribal Land Act of 1968. In terms of surveying, Botswana tribal areas experienced a voluntary and disjointed process based on the issuance of the tribal lease by the responsible Land Board authority. The government of Botswana through a Land Administration Procedures Capacity and Systems project is currently carrying out a land surveying exercise named National Land Registration. The LAPCAS project National Land Registration exercise is administered by the Ministry of Lands and Housing through its Department of Surveys and Mapping in collaboration with a geomatics professional body named Botswana Surveying and Mapping Association. The land surveying exercise is meant to carry out surveying of all properties found in villages across Botswana. This project came against a backdrop of several efforts which were pursued in the past but incurring their own challenges and failures. To understand how Botswana has moved to this level, the past efforts will be summarised and crystallised onto the National Land Registration project. This paper takes the position that the work involved is a break through regarding property ownership, physical planning and development in Botswana. This paper seeks to chronicle what has led to the National Land Registration exercise and how its products are going to convert Botswana settlements towards augmented reality. The augmented reality aspect can be realised through using the data as a base for making property development evaluation, carrying out of physical planning activities and reticulation of utilities such as water, electricity and telephone communications.