

# Application of Smart Technologies in Cadastral Surveying of Large Areas in Ghana

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## SUMMARY

Smart technologies are no exception in Cadastral surveying in Ghana for fast and cost effective cadastral plan production in Ghana. Cadastral plans are the basic documentation needed for land ownership in Ghana. Accurate cadastral plan of land improves the land administration system and prevents land disputes in Ghana. This study considers cadastral surveying for twenty-one thousand acres bounded by the sea at one side with mountainous terrain. The objective of the study was to produce a cadastral plan and map out farms and structures for valuation purposes in order to make way for a developmental project. Smart technologies used include the use of Google Earth, Mobile Topographer android application and Open Data Kit (ODK) android application. Local personnel were trained for data collection. The proposed area was planned and indicated on google maps. During the reconnaissance survey, the plan was plotted in Google Earth software and the coordinates of the benchmark points were generated. Using the Google Earth, these coordinates were set out and located on site. Local personnel were trained with the use of Mobile Topographer and ODK APP to aid in data collection. Mobile Topographer APP was used to map out farm boundaries to calculate farm sizes for compensation. ODK application was used to collect attribute data on farm and property ownership. The data were stored and analyzed using QGIS software. By incorporating these smart methodologies, the proposed duration of twenty- four months reduced to four months. A cadastral plan was obtained and approved. This proved effective and efficient for large areas where timely data acquisition is required for policy making.

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