

Drone Technology; a viable option to facilitate compensation processes in projects.

The use of Unmanned Aerial Vehicles (UAVs) has been found to be a viable and usable technology for capturing data needed to undertake compensation for projects. The UAVs were found to be cost effective since they use half of the cost in terms of time and resources compared to the traditional valuation processes.

This and more were some of the findings of the Research project undertaken in the College of Engineering, Design, Art and technology (CEDAT).

The study established that the use of the traditional forms of assessment was characterized by weaknesses in regard to time used, the high costs involved, the accuracy as well as providing obsolete information.

During the final dissemination workshop held at the College on Monday 30th November 2021, the Principal CEDAT and Acting Deputy Vice Chancellor, Finance and Administration Prof. Henry Alinaitwe noted that the study on the use of unmanned aerial vehicles to pick data for use in mapping was offering a lot of learning opportunity to a number of stakeholders.

‘There is intense discussion concerning the use of this technology and its effect on the implementation of the road projects’, he said while congratulating the team that was behind the study led by Dr. Lydia Mazzi Kayondo the Principal Investigator.

Prof. Alinaitwe noted that Uganda as a country was faced with a number of challenges in compensation which led to constraints in project implementation such as the failure to reduce curves in road projects. He said there were instances where the intended beneficiaries of the compensation exaggerated the rates. The study, he said, was to benefit a number of projects that include land valuation, the railway projects, as well as water and roads projects.

The Principal noted that the drone technology had been used in number of countries and he encouraged the team to do more by integrating their work with the Internet of things to allow utilization of the knowledge generated in a number of ways.

On behalf of Makerere University and the College, Prof. Alinaitwe expressed appreciation to a number of agencies that gave permission to fly the drones in the study areas given the fact that the use of drones had security implications.

Dr. Lydia Mazzi Kayondo, the Principal Investigator informed the participants both physical in the CEDAT Conference Room and online that the dissemination was the climax of a number of earlier events conducted. She said the project investigated the operational environment for using unmanned Aerial Vehicles (UAVS) in Road Infrastructure Projects in Uganda; Assessment of the Geometrical Accuracy of UAV models for Usage on Infrastructure Projects in Uganda. A comparative Analysis of the use of UAV Derived Models and Traditional Valuation Processes in Rapid Valuation for Compensation on Road Infrastructure Projects.

Dr. Lydia Mazzi Kayondo who is also chair, Department of Geomatics and Land Management at CEDAT said the work was conducted in liaison with a number of stakeholders drawn from the Ministry of Education, the Ministry of Science and Technology, the Special Forces command (SFC) and Uganda Institute of Physical Planners. Others were from Uganda National Roads Authority, Ministry of Works and Standard Gauge Railway.

During the discussions, it was indicated that the use of drone technology was 99% accurate in capturing data, however, there was still need to have people on the ground to establish the actual ownership of the property. The study also established that there was positive attitude towards the use of the drone technology noting its popularity in the entertainment industry. However, participants noted that about 60 % of the users were trained and therefore there was need to undertake trainings for the intended users of the drone technology as well as maintenance and Makerere as an academic institution was charged with the duty of ensuring that such programs start in order to address the skills gaps in space technology.

Participants noted that in some cases the law was not clear for instance in determining congested areas which could be used against the intended users of the technology.

The Project team comprised Prof. Moses Musinguzi, Mr. Moses Okumu a representative of the Chief Government Valuer, Mr. Ivan Bamweyana, the Project Coordinator and Ms. Diana Abeho, currently away to study the use of drones. It was supported by the Government of Uganda, through Makerere University Research and Innovation Fund (MakRIF).