

Drone Based Urban Planning in Nepal

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SUMMARY

The promulgation of new constitution in 2015, formation of local governments and execution of a new government system led to the emergence of 293 municipalities from 58 municipalities in 2017 in Nepal. Systematic planning was needed in a short time for which data of those local newly formed municipalities and towns are to be collected.

Urban planning and city modeling has become a buzz word especially in developing countries like Nepal where villages are transforming into towns and towns into cities. A well planned city is the ultimate answer to increasing population and limited resources. But for planning cities, appropriate methods of survey, data collection and visualization is a must and this can be achieved by rapidly changing technology of UAVs or drones having potential uses in many aspects of urban life, including in the planning profession.

This study aims to assess the potentiality of UAVs to achieve a superior low cost, adaptable and accurate data accumulating tool for planners and engineers. Presently, Gokarneshwor Municipality of Kathmandu valley is the first municipality in Nepal to formally use drones for capturing high resolution aerial images of the municipality for city planning, infrastructure development and project progress monitoring.

This article briefly describes the effective use of drones in urban planning of Gokarneshwor municipality. This municipality seeks to ameliorate random and unplanned urbanization triggered by accelerated growth of population and city, with the help of UAV Survey. The municipality plans to generate detailed GIS based maps of the municipal area which can further be used for clearly portraying detailed street network map and superintending the progress of infrastructural projects happening on the ground as it provides a unique viewing angle of ground

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details.

The city planners and engineers can remotely monitor what projects are happening where along with their status. Aerial photographs can be created from exactly the same angle and exactly the same position at regular time intervals. This helps to document changes to construct projects of any scale happening at ground.

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