

# Evolving roles of professional surveyors toward climate resilience in Nepal

Arbind Man Tuladhar (Netherlands)

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## SUMMARY

Climate change is the change in climate condition due to the emissions of anthropogenic GHG such as CO<sub>2</sub>, CH<sub>4</sub>, SF<sub>6</sub>, etc. causing rise in temperature, glacier melting, drought, floods, landslides and erosion. They have direct effects on land, forest, water and ultimately people's livelihood world-wide. The vulnerable people (e.g. children, women, old-aged and disabled people) in the community level often become landless either due to demise of family member(s), inability to prove land rights or the land being unusable for their livelihood.

Over the centuries surveying profession has provided significant roles on surveying and mapping land boundaries and land rights mainly for property taxes and country development. In digital era, there has been tremendous technological shifts from the traditional surveying to the total station, Global Positioning systems (GPS), digital photogrammetry including remote sensing (RS), Drones (or UAV), Geospatial information systems and sharing various integrated data in National spatial data Infrastructure (NSDI) at national and local levels in

digital forms. Now combining various kinds of geo-data with climate data enable us complex analysis in enhancing community resilience to climate change in adaptation and mitigation processes.

Given complex and unpredictable environmental challenges where access to land and resources are most important for communities and people for sustainable livelihood, this presentation primarily highlights a collaborative concept that integrates Geo-data and climate data, and secondly various application cases or examples (particularly from Nepal and its region) of surveyors' roles as collaborative solutions for climate resilience.

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