Geomatics: Education is Key

Our society is facing many complex challenges. Climate change is related to many issues today's governments are having to deal with. Think of food security, migration, social justice, urban planning and water supply – these are all topics that are under increasing pressure due to the effects of global warming. The growing world population is another important hazard that is pushing policymakers to the edge. The combination of these two major threats demands cost-efficient, innovative and smart solutions. The geomatics industry can deliver many of these solutions but, although there are some parties that are doing great work, the real transfer of knowledge still has to take shape. Is education plus geomatics the magic formula? Read on to find out.

According to current projections by the United Nations, the global population will reach eight billion by 2024 and will likely reach around nine billion by 2037. Various scenarios for 2050 range from a low of 7.4 billion to a high of more than 10.6 billion. The lion's share of this growth will take place in Africa and Asia, in developing countries. Migration to cities poses challenges for urban planners, who already have more than enough on their plate. And what about the agricultural sector and the food industry, with so many mouths to feed? A recent World Bank report explores the impact of climate change in Latin America and the Caribbean, the Middle East and North Africa, and Eastern Europe and Central Asia. It finds that warming of close to 1.5°C above pre-industrial times is already locked into Earth's atmospheric system by past and predicted future greenhouse gas emissions. Without concerted action to reduce emissions, our planet is heading for 2°C warming by the middle of this century and 4°C by 2100.

Climate change is affecting agriculture in multiple ways, such as changes in rainfall, fluctuations in temperatures, climate excesses (heatwaves, extreme storms and floods). In other words, a cocktail of challenges is endangering our future. But let us stay optimistic and think in terms of solutions. Technological advances can play a vital role in tackling the effects of climate change and geomatics is definitely a key tool in this mission. I am not the first person to advocate this. However, it is one thing to be aware of the power of geomatics, but how can this power be used if so many people are still unaware of it?

There are some other obstacles too: it is great that the world's brightest brains have brought us so much advanced technology, but how can it be best utilised when funds are limited and there is a shortage of well-skilled professionals? To zoom in on a geospatial case: policymakers will probably all agree about the need for an efficient and well-functioning cadastral system, but they are often hindered by a lack of knowledge and the financial means to set up a good land administration system. It would be an oversimplification to think that the industrialised Western countries, with all their know-how, can help less-developed countries move forward merely by providing them with access to the latest geospatial innovations. Technology certainly helps, but technology alone is not the whole solution. Local knowledge and the will to make things better are also fundamental. Geomatics is indeed a tool for overcoming the societal challenges of modern times, but not only in the sense of hardware and software products. It is also necessary to have knowledge of geomatics applications – preferably affordable ones. To stimulate the rise of geomatics in resolving the difficulties many countries face, the key lies in education.

So is education and geomatics the magic formula? Rather than speaking in superlatives, let's describe the situation in a more down-to-earth manner: there are still many opportunities left unutilised. *GIM International* is currently searching for methods to boost the transfer of geomatics knowledge. We will of course keep you updated. But I also welcome your suggestions on how geomatics and education can be deployed effectively. What are the biggest needs?

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