

August 2023

## Cognitive Geomatics project workshop: Sense of Place – Satellite Image Ground Truthing

**Theme: Learning from each other during the preparation of digital teaching material for blended learning at three universities – Germany, South Africa and Kenya**



'Cognitive Geomatics – Digital teaching to create awareness of intercultural differences in sense of place using Germany, South Africa and Kenya as case studies' is part of the *Baden-Württemberg-STIPENDIUM for University Students – BWS plus*, a programme of the Baden-Württemberg Stiftung. The project schedule is from March 2022 to February 2025 with a financial capital of 140,000 €.

The Cognitive Geomatics project aims to address questions about the nature of the interplay between the way we think about and perceive physical space (our mental maps) and the use of high-tech methods for measuring, analysing and visualizing our environment (in the virtual world), which can be described as cognitive geomatics. Spatial perception includes our habits of thought and reflections about the relationship between people and the environment, while awareness of space is considered to be a requirement for one's orientation in action space. This "sense of place", however, differs from one culture to another and is closely linked to locality and authenticity. In teaching and learning, the respective cultural differences are also of interest. The project is being implemented in three phases namely: "**Sense of Place – Web Mapping**" (HKA); "**Sense of Place – Crowd Mapping**" (UP) and "**Sense of Place –Satellite Image Ground Truthing**" (UoN). Ground truthing is a critical process during the remote sensing data handling spectrum whose role is to verify the correctness of features extracted from image data using image interpretation approaches. The project workshop on 'Sense of Place – Satellite Ground Truthing', the third workshop within the framework of the Cognitive Geomatics Project, took place on 15<sup>th</sup> February and 16<sup>th</sup> February 2023 at the University of Nairobi. Prof. Dr.-Ing. Gertrud Schaab from HKA joined the workshop in Nairobi whereas the partners from UP namely Prof Serena Coetzee and Prof Nerhene Davis participated virtually.

The program on the 15<sup>th</sup> February 2023 entailed two main sessions: i) setting the environment through presentations about the Department of Geospatial and Space Technology by Prof. Dr.-Ing. Faith Karanja; followed by a presentation on HKA blended learning tools development experience by Prof. Dr.-Ing. Gertrud Schaab; ii) Students Presentations. At the end of the two sessions there was an interactive session that involved questions and answers.



Prof. Dr.-Ing. Faith Karanja presenting on the Department of Geospatial and Space Technology



Prof. Dr.-Ing. Gertrud Schaab presentation on HKA blended learning tools development experience



### Student Presentations

There were three group presentations by students on satellite groundtruthing addressing different themes with respect to specific SDGs. The first group addressed urbanization of Thika Town with effects on food security (SDG 2); second group focused on urban growth effects with respect to sustainable cities and communities (SDG 11) where planning is vital to ensure safety, health and sustainability in towns using Kikuyu town as the case study. The third group aimed at using remote sensing to accurately identify and enumerate households in Thika region, as a sample location, in order to gather important socio-economic, demographic and environmental data. Several SDGs are envisaged to benefit from this study

namely Good health & wellbeing (SDG 3); Gender equality (SDG 5); Clean water and sanitation (SDG 6); Affordable, clean energy (SDG 7); Decent work and economic growth (SDG 8); Industry, innovation & infrastructure (SDG 9) and Sustainable cities and communities (SDG 11).

At the end of the presentations, Prof Schaab used the opportunity to introduce prospective final year students to the opportunity of spending a full semester at the HKA in Germany. Students were also informed about the summer school, to be held in Karlsruhe in September 2023. The funding of these exchanges is funded by this project, too.

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