

**MFS REPORT****Name****Year and term for exchange**William Ljungström ArmahSpring term 2023**Country for the project**Ghana**Mail:** [wila@kth.se](mailto:wila@kth.se)**Degree programme**Bachelor's degree Thesis, Civil Engineering and Urban Management, Geographical IT

## Sustainable Urban Futures: An Exchange Study in Ghana

### Before departure

I applied to Minor Field Studies in Ghana since I have always wanted to visit the country for a longer period. Four years ago, when I studied a technical preparatory year at KTH Flemingsberg I saw a poster announcing the Minor Field Studies Scholarship and that's when I knew I wanted to apply for Minor Field Studies. I knew that I wanted to apply for Minor Field Studies in Ghana, but I did not know yet what type of project I wanted to conduct. But during the course AG1324 Photogrammetry and Remote Sensing. I learned about Machine Learning classification research in Sub-Saharan Africa that studies scalable ways of using remote sensing for land cover monitoring. This inspired me to conduct a field study within this field. To prepare for the field study I had to apply for a visa and take some vaccinations. For instance, I took vaccination against cholera and typhoid. I also took malaria prophylaxis once every week. I also took daily lactic acid tablets to avoid getting problems with my stomach.

### Upon arrival

I landed in Accra (the capital city of Ghana) on a Friday evening. During that weekend I did some errands in the city and attended a church service. My contact institution in Ghana was The Ghana-India Kofi Annan Centre of Excellence in ICT(AITI-KACE) which is a Ghanaian governmental agency under the Ministry of Communication and Digitalization. They are the foremost research center within the field of ICT in West Africa. The center also educates students, for instance in big data analysis, python, and JavaScript.

At the beginning of the coming week, I met with the management of AITI-KACE and my liaison in their headquarters in Accra. I also got the great opportunity to introduce myself to the institution's General Director. After that I travelled to the city of Sekondi-Takoradi, which was the study area of my project. Later during my field study, I returned to the headquarters to lead a seminar about remote sensing and how it can be used to foster progress towards the UN's sustainable development goal 11 Sustainable Cities.



A picture of AITI-KACE's sign



A picture of me outside of AITI-KACE

### **Financials and Accommodation**

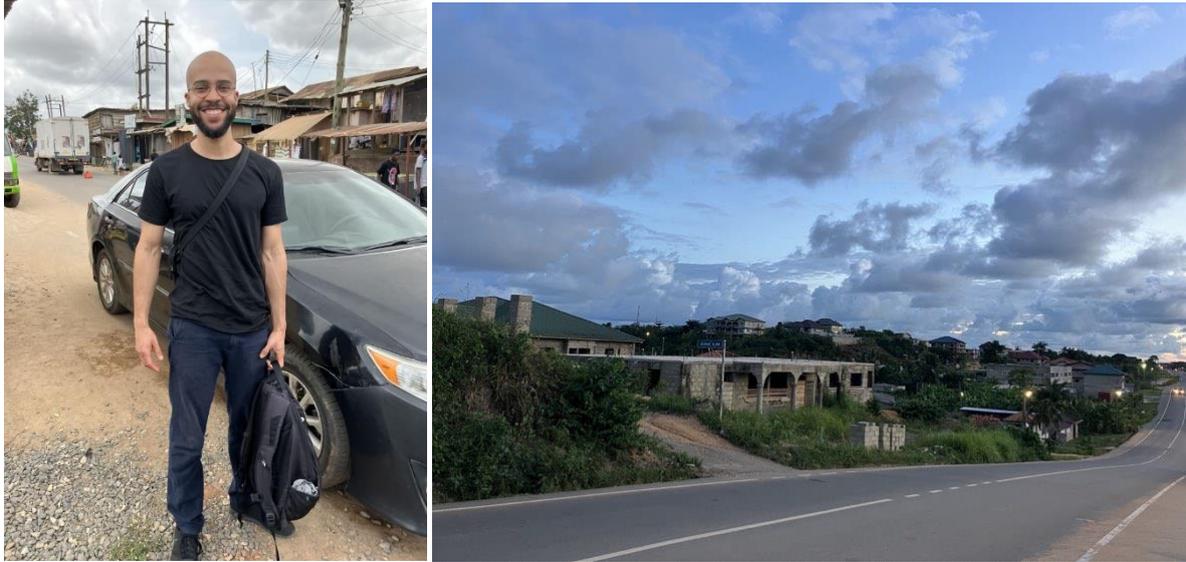
Generally, the princess was fairly like Swedish prices due to the huge increase in consumer goods in Ghana during the last year. However, buying groceries from local marketplaces is a lot cheaper than buying groceries from supermarkets. During my stay in Ghana, I lived with family-friends. This made my accommodation planning a lot simpler.

### **Project**

My project was to monitor the city expansion of the city Sekondi-Takoradi using open-access satellite imagery. The overarching goal was also to spread knowledge and awareness of urbanization in Low- and Middle- Income Countries.

Rapid and often uncontrolled, past, and ongoing, urbanization has been transforming cities globally. Fast urbanization can result in unsustainable urban practices. To adequately combat these problems there is a need for appropriate data and information about fast-growing cities. In the Global South, there is a lack of reliable and up-to-date data of this kind, making it harder to implement sustainable urban management. Urban expansion can be monitored using satellite data along with ground surveys, which can be used to support evidence-based urban policymaking.

The project intended to contribute to sustainable development by exploring a scalable way of monitoring urban growth to foster sustainable urban practices in cities.



Pictures from a field trip day around Sekondi-Takoradi with my contact person. The aim was to get familiar with the city's-built environment which helped my understanding of the results from the satellite data analysis.

### **Ghana, Leisure, and social activities**

I truly enjoyed my stay in Ghana. The country is safe, and the culture is warm and welcoming. Since I had family-friends in the country it was easily available for me to network and get in touch with local people. But I think it is possible to get in touch with local communities without already having local contacts if you are open-minded and interested in the country. In my spare time, I went to site seeing in the city, visited beach resorts, and celebrated church services. One of the highlights was to get invited to two Ghanaian weddings. It was a magical experience with lots of dancing and singing. I also took the opportunity to visit some tourist attractions. One day I visited the Kakum National Park which consists of a big virgin rainforest. It has a tree canopy walk that reaches heights of 40 meters!



A picture of me at the Kakum National Park's canopy walk.