



# Are you looking for master thesis project?

## Söker du ex-jobb projekt?

### Pharmaceutical residues in soil and crops due to wastewater irrigation

#### Contact

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**Note: 2-5 ksek stipendium is available for the student.**

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#### Problem description

Human excretion of pharmaceutical residues into urine and urine and discharge of medical wastewater from hospitals and clinics end into domestic wastewater plants in Kampala/ Uganda and thereafter discharged into Nakivubo channel. Water in Nakivubo channel is intensively used for production of sugar cane, maize, and root crop “Yam” and other products in the surrounding wetlands. While irrigation with wastewater is a great opportunity to enhance food production, food security and livelihood of farmers, the unknown concentrations and types of pharmaceutical pollution raises a concern regarding the status and fate of these residues in plant and soils irrigated with wastewater in the wetlands surrounding Nakivubo in kampala.

#### Objective

The objective of this thesis work is to assess the status of pharmaceutical pollution in Nakivubo wetlands in Kampala/ Uganda. Specifically, the project aims at determining the concentrations of different types pharmaceuticals in water, soil and plants in wetlands surrounding to Nakivubo channel and irrigated with wastewater flows from Kampala wastewater treatment plants.

#### Work description

The main focus in this thesis work is to determine the concentrations of the pharmaceuticals in different matrices (water, soil and plant) collected from Nakivubo and to write a thesis in which the result of the analysis are synthesized and presented. Solid-phase extraction followed by analytical determination using high performance liquid chromatography (HPLC) will be used. Wastewater samples, soil samples, maize, sugar cane and yam plants have been already collected from three fields surrounding in wetlands watered by Nakivubo channel. All the samples have been frozen transported to Sweden for analysis.