

Internship with The Walking School Bus (TWSB)

Position: The Walking School Bus Intern/Researcher

Location: Northern India

Dates: Flexible, complete prior to 2018 India Expedition in April

Description of the host organization:

The Walking School Bus works to empower access to education through mutually beneficial partnerships that promote the holistic, research-based approach of *Access, Nutrition and, Curriculum*. As TWSB expands operations into India, it is crucial that the model that has worked that has succeeded within the Ugandan context is researched so that it can be reworked to fit the Indian context. Learn more about our research team here: [Think Tank](#)

Potential Projects for TWSB Researchers:

1. CSA Garden Development, Implementation, Sustainability, and Monitoring & Evaluation Project

TWSB's CSA Garden initiative tries to identify crops that grow best and takes location and social norms into account in a linear programming model. This project aims to utilize the data and work with community leaders and schools to develop 1600 – 4800 square ft. gardens that serve two primary purposes: 1) To grow vegetables that improve nutritional diversity and help to lower the high rates of anemia; 2) To teach improved agricultural practices that increase crop productivity and farmer resilience.

Objectives:

- Working with community leaders in Himalayan Public School (HPS) and Himalayan Public School Chopra (HPSC), identify location for the CSA garden.
- Working with students from the HPS and HPSC, implement the garden and ensure it is protected from pests and excessive sun exposure.
- Develop composting model for garden sustainability as this is a technique that is currently not employed in HPS and HPSC, and the community leader would like to initiate the process.
- Work collaboratively with nearby TWSB chicken coop to ensure fertilization of CSA garden.
- Develop system for data collection and ways to monitor and evaluate garden performance and impact on community.

2. Rainwater Collection System for Chicken Coops and CSA Garden

TWSB rainwater collection systems are the lifeblood of the nutrition program which ensure Chicken coop and CSA garden projects can be initiated without burdening communities with the need for extra water. The rainwater collection model has proven successful and we have witnessed communities individually finance and build additional rainwater collection systems after experiencing their success. This project includes a few new components:

- a. We have developed sensors using raspberry pi micro-computers to monitor inflow and outflow and understand usage and impact. You will be required to use and implement this technology.
- b. At present, there are 2 purification processes: a) a thin wire mesh to keep out dirt and particulates and; b) a chlorine ball in 1000 L water tanks to keep the water clean. We're looking to develop a filtration system to improve water quality. There are a few options to consider, including ceramic filtration, gravity fed carbon filtration, bone char filtration and others. Your team will be responsible for developing a prototype and field testing.

Objectives:

- Implement Raspberry Pi technology to begin data collection for water inflow and outflow which will provide TWSB with impact assessment data.
- Develop water filtration prototype and begin testing.
- Analyze existing rainwater catchment systems and develop improvements to system. These may include but are not limited to: reducing cost, strengthening, and simplifying installation process.

How to apply: Send CV & Preference for projects to danielle.donnelly@mcgill.ca and aaron@thewalkingschoolbus.com

Please note these positions are **UNPAID**, and students are encouraged to find external funding. The interns are responsible for all travel and living costs associated with the internship, including visa and transportation to India. TWSB will assist with logistics for travel and field activities.