Mujegona Living Lab
Niamey, Niger

Purpose of the Lab

Within the frame of the project “Renewable energies to improve living conditions in Niger (RETODOSSO)” a Living Lab has been installed in Niamey, Niger to test the efficiency of different irrigation systems and the applicability of agri-technologies. The lab is ued by students from Abdou Moumouni University for research activities within the frame of Masters PhD theses. Additionally, the site is used by Centre Incubateur des Petites et Moyennes Entreprises du Niger (CIPMEN) for young entrepreneurs to test their agri-innovations in a field setting.

Lab components

IoT Irrigation

The experimental farm site includes an automatic irrigation system, drip irrigation lines, and a sprinkler irrigation system to test the crop outputs and water-use efficiency of different irrigation types. The IoT irrigation system is open-source and connected to a decision support system dashboard that will be further developed by students.

Cooling Greenhouse

The two installed greenhouses will be used to research the impact of temperature control on plant growth and provide a controlled lab setting for testing parameters such as fertilizer inputs. The smaller greenhouse, created from local mateirals, uses fans, water, and native plant residues to lower the temperature of the structure.

Weather station

The weather station collects local meterological parameters and together with the installed sensors provides data for informed decisions for crop water needs as well as providing data for research analysis. The weather station is open allowing students and agri-preneurs to use the data for their own projects.

UNU-VIE is closing this phase of the project in December 2025 but the Living Lab will continute to be used for research purposes and in future projects. For more information and to connect with the Mujegona Living Lab visit the RETO-DOSSO project webpage.

UNU VIE