



Soil Moisture & Water Use of Coffee in Vietnam

Project background

In the highlands of Central Vietnam, vast areas of planted coffee rely heavily on seasonal rainfall. With changing climate, rainfall becomes more unpredictable, and necessitates the investment in optimum irrigation. In cooperation with the Western Highlands Agriculture and Forestry Science Institute (WASI) the soil moisture condition in 4 year-old Robusta Coffee crop was monitored.

Monitoring and network solution

- Soil moisture probes in the surface and at 3 depths – 15, 30 and 45 cm
- Sap flow meter on 4 year old trees
- 4G Telemetry system
- ICT Dataview

Outcomes

The ICT International Moisture Probe (MP406) – designed for permanent installation/burying, connected to ICT Soil Moisture Meter (SMM1), was used to monitor the soil moisture regime from the surface to a 45cm profile depth. This allowed for the calculation of infiltration rates.

The investigation also monitored seasonal variability of tree water use which was found to be reliant not only on soil moisture availability but also on seasonal sunshine duration. Rainy seasons (between May and December) that bring more cloudy days resulted in a lower water usage of the trees. Wet season water use was 3-4 Litres per tree per day and in the Dry season it was 5-6 Litres per tree per day.

