

Proposition of internship

Building scenarios of future water demands in an irrigation scheme in Khammouane Province, Laos

Context

The Department of Agriculture of Laos has initiated a project of rehabilitation of an irrigation scheme using water from Nam Kata River in Boualapha District, Khammouane Province, Laos. This irrigation scheme is currently not functioning because the weir initially built has been destroyed by a flood some years ago. Farmers in the project area mainly produce rice for home consumption during the rain season, and a few farmers produce market crops using water pumped from nearby rivers in the dry season. The project aims first to secure production of approximately 250 ha of rice during the rain season, as sometimes insufficient rainfall lead to low yields. Second, the project aims to support the farming of approximately 60 ha of crops during the dry season, which may provide income to farmers. In order to support the discussion over the choices to be made for the rehabilitation and to prepare the future collective management of the scheme, there is a need to define and assess scenarios for the future water demand in the irrigation scheme.

Objective of the practice

The practice will analyse the water needs of crops that farmers may grow in the irrigation scheme once the rehabilitation is achieved, as well as farmers' irrigation practices, in order to build and assess several scenarios for future water demand.

Method

A first phase will focus on irrigation water needs of crops (currently farmed and some that farmers may start farming in the future), based on climate data, types of soil, cropping calendars and interviews with farmers. This will in particular help identify key moments of vulnerability of rice to water stress during the rain season. In a second phase, the student will study irrigation practices both in the project area and in irrigation schemes with a similar functioning (getting surface water from a weir) in Khammouane province. The student will in particular study how events of low rainfall are managed at individual and collective level. In a third phase, the student will design and assess, based on discussion with farmers' groups, scenarios of water demand based on types and surfaces of crops grown and water available in the Nam Kata River, in rain and dry seasons.

Organization

The practice is proposed to Master students. It will take place in 2018, either from March onwards or from September onwards, for 5 to 6 months. The student should have a background in agronomy and knowledge of methods for calculation of irrigation water needs. The practice will be hosted at Cirad.

Contact

Send a CV and a letter to Nicolas Faysse, Cirad G-Eau research unit (faysse@cirad.fr) and Jean-Philippe Venot, IRD G-Eau research unit (jean-philippe.venot@ird.fr)