

Objectives of the project

The main objective is to find ways to deal with the technical, financial, economic, organizational and institutional constraints that limit the development of small-scale irrigation in Burkina Faso. The specific objective is to establish operational and institutional support mechanisms for innovation that will place producers at the center of the innovation system for the development of solutions for irrigation adapted to different productive, economic, social and environmental contexts.



Watering onions in Burkina Faso (Jacques Lemoalle)

Background

Farmers in Burkina Faso are facing increasing climate variability, land degradation, while aiming to benefit from new agricultural markets. Farmers are increasingly settling around reservoirs, ponds, rivers and in lowland to produce irrigated crops, such as fruits and vegetables, to secure food production and generate incomes. These are often young men and women working on small plots, without efficient tools to irrigate and maintain the wells and canals. They lack financial resources and technical support.

A large number of relatively cheap techniques are now available to improve the productivity of these irrigators. Many private traders promote thermic, solar or foot pumps, as well as drip irrigation and sprinkler systems. Some entrepreneurs and NGOs also support farmers to develop tube wells and farm ponds. But the adoption rate of these techniques remains low. In some cases, the technology is not adapted to specific situations (technically or financially), and the government and NGOs also struggle to design the right approach to promote a large and rapid uptake by farmers. Moreover, support to farmers who have adopted innovations remains weak and abandonment of adopted technology is common.

The theory of change to achieve the objectives

The project aims to develop a clear, simple and cost effective platform to support small scale irrigation innovation. The platform will include technical, organisational, and financial components and will be tested hands-on with farmers in real-life situations.

To improve the adaptation and adoption of new technologies it is important to work with farmers and the various stakeholders of the innovation support system (government agents, research centers, private firms, local artisans, and NGOs involved in the development of various irrigation technology, such as small solar pumps or drip irrigation). This co construction of innovations will enable to identify the key constraints to adoption and test improved and more adapted technologies for different conditions thus favoring the upscaling of innovations. The starting point of the project is the interest of producers in dealing with the constraints they are faced with. The project will, therefore, implement an approach ensuring the sincere implication of their knowledge and expertise in the co-construction of adapted and low-cost technologists. The testing of specific technology will be subsidized by the project.

To accompany the design and implementation of the small scale irrigation innovation platform of the project, targeted research activities will be carried out. These activities will focus on investigating 1) the availability of water resources and its use around reservoirs, wells, and farm ponds; 2) the link



between water uptake, irrigation techniques and crop production; 3) the cost effectiveness and the factors affecting farmers' choices; 4) the social structures of the communities, in relation to innovation adoption, where the project will be implemented. Results will be shared with the various stakeholders within the innovation platform and used to make better decisions.

Farmers have different resources, face different constraints and may have access to a large array of new irrigation systems making the choice difficult between alternatives. Support is needed to test, select and manage these different alternatives when investing in little known and risky technologies. Simple leaflets and an on-line tool will be developed to help farmers manage their irrigation investment.

Though adaptation and adoption of such innovations occur mainly at the farm level, farmers are also part of communities which deeply influence the innovation process through collective norms and rules. The collective dimensions of the innovation process including the rules to use the water resource will be addressed in the project.

One of the main challenges is the financing of the innovation. The project will adapt and apply innovative types of financing that some of the partners have been testing in the region such as the pay as you go method.

The ultimate objective of the project is that NGOs and the government adopt the platform developed by the project for their interventions in the rest of the country. Policy makers from the ministry of agriculture, from the PARIIS project (a large irrigation project financed by the world bank implemented in six Sahelian countries) and from CILSS helped design this project. They will participate in the key meetings and help construct and test the framework to support small scale irrigation at the national level. The project will select six field sites where the teams will concentrate their efforts to work with the farmers. The security situation in Burkina Faso is tense. During a first period, the project will be located around Ouagadougou and everything will be done to reduce the risk for the partners.

In the different field sites of the project, a local innovation platform will be developed and implemented. Farmers, traders, banks, Ngo and government agents, along with project members, will conceive the most promising integrated set of technologies, the ones selected by farmers which better fit into their preferences and which can then be upscaled at a low cost.

The project will combine the following actions:

- ✓ The creation of spaces for dialogue and reflection at field site level allowing local stakeholders to be involved in the definition, test and evaluation of suitable solutions;
- ✓ The co-construction of irrigation solutions adapted to the contexts.
- ✓ Mobilization and strengthening of the knowledge management framework
- ✓ The construction of impact pathways adapted to the national context based on feedback on the changes and effects induced by the project at different levels

Main activities

During the first year the project will design action plans that will be applied in the field sites. The next three years, the team will implement the action plans with farmers and various stakeholders. The last year, the project will focus on the autonomy of the developed tools and institutional setting.

The activities include:

- ✓ Characterization of selected sites.
- ✓ Participatory diagnosis to include stakeholders' perspectives.
- ✓ Research activities on water resources, impact of climate change, organisational irrigation system, agriculture practices, water use, organizations land tenure and territory.
- ✓ Co-selection and adaptation of innovations in the field sites.
- ✓ Test of solutions for small scale irrigation at farm level (design and assessments based on performances criteria identified with stakeholders)
- ✓ Participatory analysis of induced effects and projects impacts

Organization

CIRAD is the overall coordinator. There are three main implementation domains in the project: 1. the "farm pond" domain is headed by 2iE, 2. the "small private irrigation" domain is headed by CSIC, 3. the overall adoption process is headed by APESI. There are three transversal themes: climate change, information dissemination and impact assessment

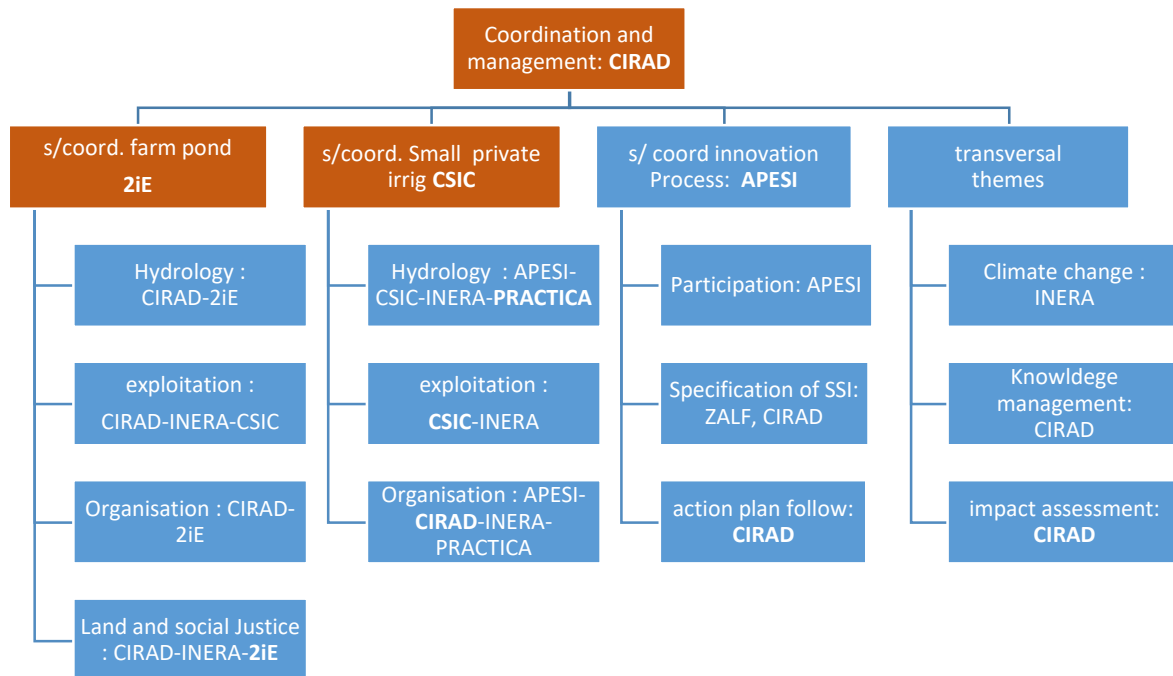


Figure 1: Organigram of the project

Implementing organizations

CIRAD <https://www.cirad.fr/>

Partners of the project

- ✓ CSIC Agencia Estatal Consejo Superior de Investigaciones Cientificas <https://www.csic.es/en/csic>
- ✓ INERA Institut National pour l'Environnement et la Recherche Agronomique <https://www.facebook.com/IneraBF/>
- ✓ PRACTICA, Stichting Practica, <https://www.practica.org/fr/?positions=the-netherlands-fr>
- ✓ 2iE Institut International d'Ingénierie de l'Eau et de l'Environnement <https://www.2ie-edu.org/>
- ✓ APESI Action pour la Promotion de l'Entrepreneuriat et des Systèmes d'Irrigation <https://www.facebook.com/APESIBurkina08/>

- ✓ ZALF Leibniz-Centre for Agricultural Landscape Research
<https://www.zalf.de/en/Pages/ZALF.aspx>

Other main stakeholders

- ✓ DGAHDI (direction générale de Direction Générale des Aménagements Hydrauliques et du Développement de l'Irrigation)
- ✓ PARIIS (Projet d'Appui Régional à l'Initiative pour l'Irrigation au Sahel), a World Bank project

Region

Burkina Faso, 30 kilometers around Ouagadougou

Funding and co-funding

EU	€ 2,399,365
co-funding (in-kind) not specified	
Total budget	€ 2,399,365

Duration

4 years, from February 2021

