Irrigation Development Support Program (PADI)

Result 2: Agricultural water management in Burkina Faso

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Objectives:

The goal of the PADI-BF102 project is to contribute to improving water management for agriculture at sub-basin level. In order, PADI-BF102 works to strengthen the capacity of national agencies in charge of agriculture in the design and implementation of water management tools. The project is present in 3 (target) regions: the Kou watershed, the Comoe watershed and the Mogtedo watershed.

Remote sensing:

Using remote sensing (change detection analysis) for irrigated area monitoring:
- Collect a set of satellite images well distributed over a given period (i.e. 2-3 decades);
- Classify each satellite image (Support Vector Machine);
- Perform a pixel trajectory analysis in order to correct unlikely trajectories for each image pixel.
- Some rules are set up based on ancillary data (surveys, interviews, etc.) about the general evolution of the land use and cover;
- Correct the classified images based on a backward and forward change detection analysis.

Decision support:

Developing (or customizing) agricultural water management tools:
- Multi-scale approach for agricultural water management (from watershed to parcel level);
- Watershed level: automated hydrometric stations (and land use maps) for water resources monitoring;
- Irrigation scheme level: using SIMIS (Scheme Irrigation Management Information System) (FAO) as a decision support system for better water allocations;
- Field level: using AquaCrop (FAO) to improve water productivity.

Capacity building:

Reinforcing capacities of National agencies in charge of agriculture and water resources management:
- Organizing training sessions for the National agencies in charge of agriculture and water resources management;
- Building an operational ‘GIS and remote sensing unit’ to respond to GIS and remote sensing needs, and to build a geodatabase to centralize national irrigation schemes spatial data.

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