

# AN INTEGRATED WATER AND LAND MANAGEMENT APPROACH

TO DEVELOP SMALL FARMER ORIENTED AGRICULTURE ON UPLAND AREAS WHILE COMBATING NATURAL RESOURCE DEGRADATION AND DOWNSTREAM IMPACTS IN UPPER CATCHMENTS.

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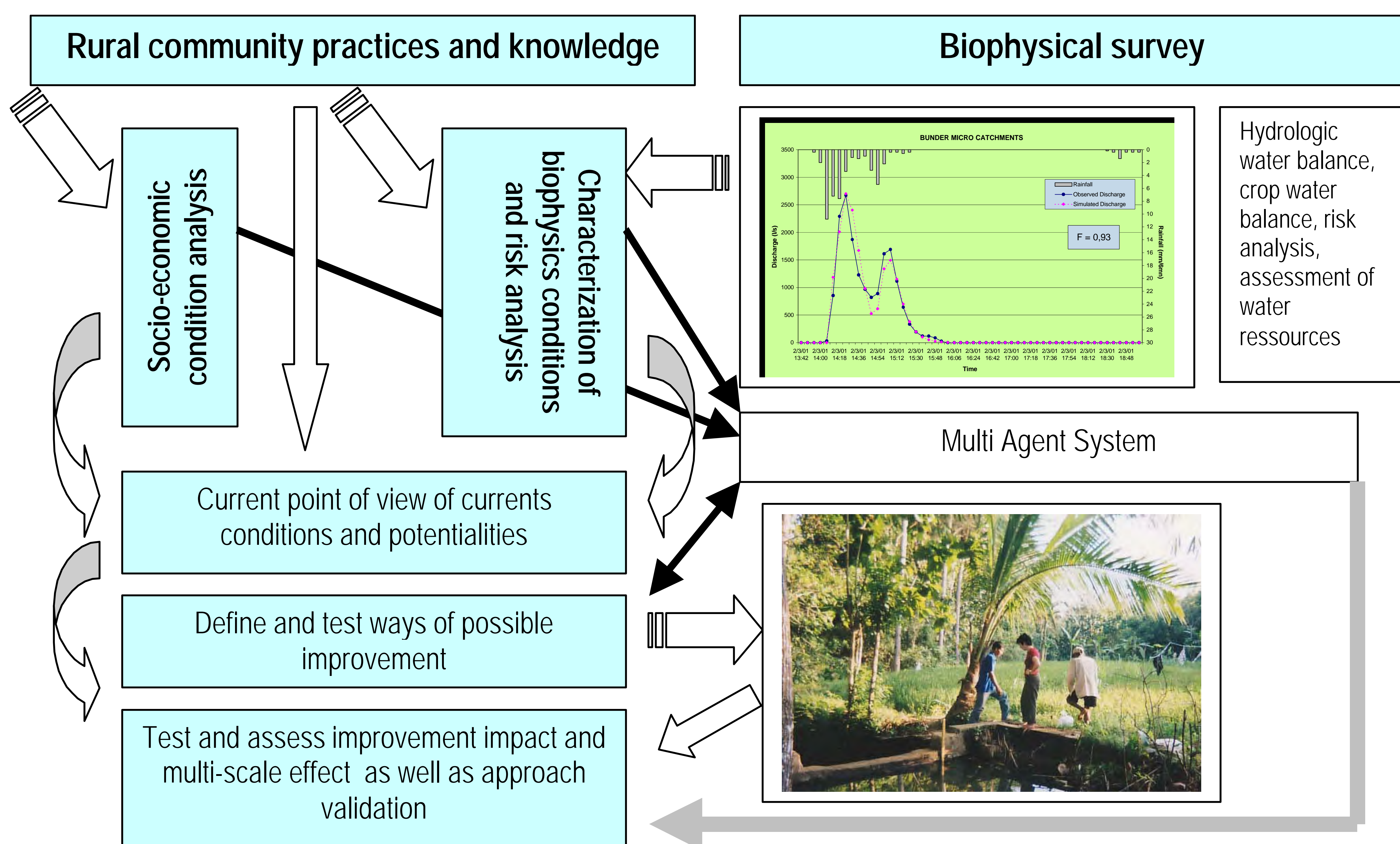
## Developing sustainable rainfed agriculture : an innovative, multi-disciplinary and multi-scale participatory approach

CIRAD has developed in Central Java, in collaboration with the Center for Soil and Agroclimate Research and Development CSARD (Bogor), an innovative, multi-disciplinary and multi-scale participatory approach aiming at developing sustainable rainfed agriculture often synonymous with marginalized rural communities, food insecurity, poverty and inappropriate land and water management practices that have resulted in a continuous and insidious decline in productivity.

Based on characterization of farmer's practices, socio-economic and biophysical conditions, potentialities and risk, this approach allows **TO DEFINE, TEST AND PROMOTE WITH STAKEHOLDERS THE ADOPTION OF INNOVATIVE MANAGEMENT STRATEGIES AND ADAPTED GOVERNANCE OF NATURAL RESOURCES ABLE TO ENHANCE LIVELIHOODS, FOOD SECURITY AND THE ENVIRONMENT.**

In order to develop participatory approach through an assessment of relationships between biophysical constraints and villagers' socio-economics conditions, a set biophysical mechanist models has been developed in order to make easier their on site calibration and their integration into a Multi Agent System.

### EXAMPLE OF CASE STUDY: CENTRAL JAVA BUNDER VILLAGE



### Bibliographic references :

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