Training Briefs

AHI brief

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Training Course on Participatory Integrated Watershed Management

Socially-optimal problem diagnosis: Focus group discussions by gender, wealth, age and landscape position

Participatory integrated watershed management is not only about soil and water conservation; the approach fosters synergies between all system components to jointly address livelihood and conservation goals and to link technological with social and policy innovations.

This course provides detailed training on research and development methodologies for participatory integrated watershed management. The approach moves beyond the conventional soil and water emphasis of watershed management programs to foster higher-level system goals, such as enhancing the productivity of diverse components (tree, crop, livestock) while maintaining system nutrient and water stocks. In line with this shift, the approach cannot be classified as either production- or conservation-oriented, but rather an integrated approach to balance short-term production goals with sustainability concerns. The importance of integrating technological innovations with multi-stakeholder negotiations, institution-building and participatory policy reforms in achieving system goals is highlighted.

Methodological and Course Overview

The course is broken down into the following sections, which correspond roughly to steps in the methodology:

Step 1: Watershed delineation and diagnosis. The first section of the course begins with a conceptual overview. Clarifications are given on the following important questions: What is a "watershed problem"?, Why would farmers want to think and plan beyond the farm level?, and What is the relevance of the watershed, as opposed to other biophysical or administrative boundaries? Other important concepts such as "participation," "integration" and "stakeholder," as applied to participatory watershed management, are also defined at this time. Approaches to watershed delineation and diagnosis are then introduced, including the use of GPS, participatory approaches for watershed mapping, and socially-optimal approaches to participatory problem diagnosis and prioritization.

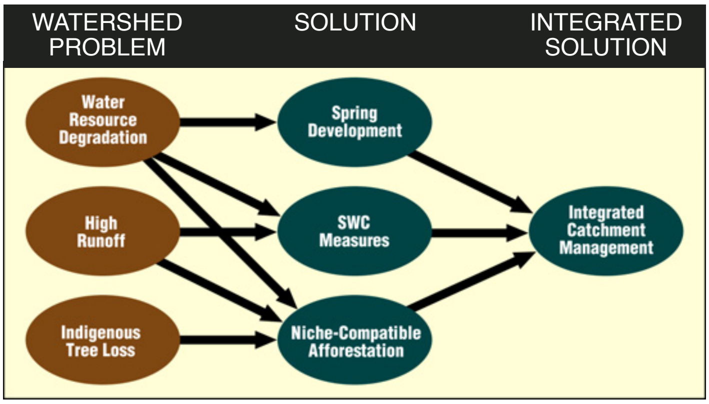
Watershed planning event with village representatives, Lushoto Benchmark Site

Step 2: Watershed planning. The second section of the course describes methods for planning at project and community levels. A methodology for clustering discrete watershed problems to derive higher-level system goals (Figure 1), and to organize research and development interventions around these goals, is presented. It is at this time that preliminary research objectives and protocols are outlined (Table 1). An approach for participatory planning is also taught to enable farmers to conceptualize and plan around identified clusters, and to identify key priorities for research. The participation concept is emphasized here in terms of how to get broader representation of watershed residents during planning. Trade-offs of diverse planning approaches are highlighted, as well as how the composition of the planning team and the specification of their roles and responsibilities can improve participation and representation.

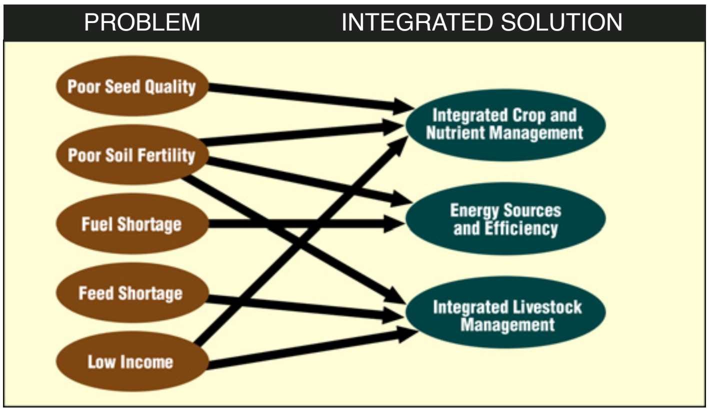
Step 3: Integration and sequencing of technological, social and policy interventions. The third section of the course gives an overview of a number of sub-methods required to implement specific watershed clusters. Depending on the particular problems being addressed, they might include multi-stakeholder negotiation processes, methods to document and build upon local knowledge on specific topics, ways to optimize resource use at farm or landscape level, and understanding social and biophysical trade-offs (i.e., what is gained and lost to different system components or resource users) of alternative management scenarios. It also illustrates the relative advantages and disadvantages of different sequences of social, policy, institutional and technological interventions.

Step 4: Managing change. The last section of the course touches on the critical importance of periodic monitoring at site team and community levels (including monitoring by sub-groups within the community), of keeping an eye on integration (given the tendency to "dis"-integrate), and the concept of adaptive management to deal with the inherent uncertainties in social and ecological systems. Methods for participatory monitoring and evaluation, process documentation and adaptive management under development in AHI are taught to participants.

Integrated Catchment Management Cluster



Integrated Production and Nutrient Management Cluster



Figures 1a and 1b. Clustering of watershed problems at Ginchi Benchmark Site. This clustering enables the identification of interactions between system components and formulation of system-level goals to guide R&D interventions (i.e., to optimally enhance the productivity of crop, tree and livestock components while protecting the system nutrients and water supply).

Application Domain

This methodology may be applied by research systems, development agencies or—most effectively—by mixed research-development teams or coalitions. It should be applied in cases where resource degradation is currently undermining agricultural productivity. In theory, it may be applied in any climatic or agroecological zone—although to date it has only been tested in the eastern African highlands.

Course Details

Teaching Methods: Formal instruction (using case studies with sample research protocols and findings); practicums (using sample databases); and field work (for select stages in the methodology).

Duration: 10 to 12 days.

DEVELOPMENT INTERVENTIONS	ACTION (PROCESS) RESEARCH QUESTIONS	EMPIRICAL (FORMAL) RESEARCH QUESTIONS
• Spring development, spring management plans (responsibilities, rules, sanctions) • SWC structures and niche-compatible afforestation to control erosion, enhance water recharge and minimize income loss (from soil, seed and fertilizer loss) • Social organization, negotiation and local policy reforms for integrated catchment management	• If a high-priority entry point (spring development) is used, will outcomes of future R&D investments be greater? • What are the necessary conditions for people to invest in a shared resource? • What are effective approaches for reaching the overall cluster objective(s)?	• What is the impact of chosen SWC measures on run-off, soil and nutrient loss, and infiltration? • What are farmers' key indicators for SWC, and how do these change over time? • Which trees are compatible with different niches? How do prioritized tree species perform in different niches?

Table 1. Research questions and development interventions of the Integrated Catchment Management cluster at Ginchi site

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TRANSFORMING LIVES AND LANDSCAPES

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Key partners in methodology development have been research specialists from AHI's NARI collaborators (EARO, DRD, KARI, NARO), government extension officers and NGOs.

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