



*Emile Ndejuru (ISAR) introducing the IWM approach to farmers in Gasharu Watershed in the mid-altitude zone. Buy-in of target communities is a fundamental step towards implementation of participatory IWM.*

**Success of the Integrated Watershed Management approach in Rwanda is likely, given the strong support by government, and the commitment demonstrated by farmers and their leaders to see real change in livelihoods while sustaining the natural resource base.**

## The Integrated Watershed Management Approach for Livelihoods and Natural Resource Management in Rwanda: Moving Beyond AHI Pilot Sites

In 2005, the *Institut des Sciences Agronomiques du Rwanda* (ISAR) embraced the integrated watershed management (IWM) approach spearheaded by AHI in benchmark sites of eastern Africa as a strategy for organizing interdisciplinary research and development interventions within ISAR. Natural resource degradation in Rwanda is a critical problem affecting farmers' livelihoods. Poor management of cultivated hillsides has led to serious erosion, siltation of cultivated marshlands and pollution of water bodies. Degradation of extensive marshland areas is making this "last frontier" of agricultural expansion in Rwanda progressively less productive. Widespread adoption of proven NRM innovations is hampered by the high labor demands of many conservation-oriented technologies and the spatial scales at which most NRM problems are manifested. The former requires that communities make collective efforts, while the latter calls for landscape-level interventions for effective NRM. Adoption of the IWM approach by ISAR is in line with government efforts to mitigate further degradation of natural resources, as highlighted by the National Agricultural Research Strategy. This strategy considers agricultural development and implementation of watershed



*Plate 1. Ms. Mukankubana, Station Manager of ISAR-Gitarama, explaining to farmers how to construct effective soil conservation structures while Dr. Jonas Mugabe, ISAR Director of Research, looks on.*

management plans two major thrusts for the next two decades. The Government considers building strong farmer organizations and the capacity of ISAR scientists in IWM crucial to the success of national IWM plans.

### IWM Approach

The approach starts with participatory diagnosis of the diverse NRM constraints, followed by prioritization of the most important ones. Gathered information is shared back with target communities and other stakeholders, and a community action plan to address priority issues developed. The participation of all groups in any given watershed is an important part of the approach, ensuring effective targeting of management options and minimizing

conflicts that might arise from NRM by different interest groups. Steps taken in implementing IWM in ISAR are summarized in Box 1.

## Achievements

- ✓ Approximately 60 ISAR researchers and development workers have been trained in the IWM approach through trainings organized by ISAR. Three scientists also attended a regional AHI training workshop on participatory IWM in Lushoto, Tanzania.
- ✓ Political support for the IWM approach is high, especially in the Eastern Province, and financial support has been promised from the local government there.
- ✓ Soil conservation work and planting of fodder species/trees has started in some watersheds (Plate 1).
- ✓ The approach has facilitated the articulation of increased demands by farmers for technologies and technical support from researchers and development workers.
- ✓ A book summarizing findings of the initial diagnostic survey has been published<sup>1</sup>.

## Challenges

The following constraints have been faced in institutionalizing the approach in ISAR:

- (i) high turn-over of staff at ISAR;

- (ii) limited number of researchers with skills in integrated approaches to NRM;
- (iii) the organizational structure of ISAR (largely based on the component-based model of doing research, with little interactions between the different units); and
- (iv) limited numbers of social scientists able to lead the social components of the approach.

## Lessons and Insights

Watershed communities in Rwanda have shown high levels of enthusiasm for the new approach. In one watershed where farmers were asked to allocate two days per week for soil and water conservation work, a decision was made to increase the number of days to four per week. According to these farmers, they have to stop soil loss immediately since most of the top soil has eroded and the infertile soil now deposited in the marshlands is affecting their livelihoods. There is an encouraging indication that the IWM approach in Rwanda will succeed given the strong support by the leadership at all levels, including the community, local and central government leaders and research managers. The IWM work is fully sponsored by the Government of Rwanda.

—**Jeremias G. Mowo, Leon N. Nabahungu and Leonidas Dusengemungu**

### Box 1. Steps in the Implementation of the IWM in Rwanda

- A country-wide tour was made by a group of ISAR scientists aimed at creating awareness of the status of natural resources and of exploring possible solutions.
- A workshop was held for all ISAR scientists and the Director General (DG) to introduce the IWM approach. In this meeting, the DG suggested that capacity building on IWM be conducted for all ISAR scientists.
- Two training workshops for ISAR scientists and partners were conducted.
- The DG agreed to sponsor three pilot watersheds. Watershed teams for each pilot site comprising all disciplines within ISAR were formed. Other development partners were included when the teams started actual field work.
- These new ways of doing research were introduced to district-level stakeholders, followed by the identification of pilot sites in collaboration with farmer representatives.
- The approach was introduced to farmers in target watersheds, followed by selection of representative farmers to work closely with the research teams in the diagnostic phase. Farmer representatives were selected from each hamlet (*Inyumba icumi*) by farmers themselves based on balanced representation by age, gender and resource endowments.
- Participatory diagnostic surveys were conducted to identify priority watershed problems, and constraints and opportunities for address them.
- Collected information was analysed and fed back to communities and other stakeholders. Participatory Community Action Plans (CAPs) were developed, followed by their implementation.
- A visit by the ISAR DG to some of the pilot watersheds. Seeing the enthusiasm of farmers and other stakeholders on the new way of doing research, the DG committed funds for four additional pilot sites.

<sup>1</sup> J.G. Mowo, M.N. Shem, N.L. Kanuya, R. Njeru, I. Nyagahungu. Integrated Watershed Management: Appropriate Approach to Natural Resource Management in Rwanda. Institut des Sciences Agronomiques du Rwanda: 2006.



**African Highlands Initiative**  
P.O. Box 26416  
Kampala, Uganda

tel:  
256-41-220602  
256-41-220607

mob:  
255-786-744305

fax:  
256-41-223242

contact for details:  
j.mowo@cgiar.org

contact for details:  
The Director  
General, ISAR  
Institut des Sciences  
Agronomiques du  
Rwanda  
47 Rue Député  
Kamuzinzi B.P. 5016  
Kigali, Rwanda

tel/fax:  
250-578768  
250-574997

email:  
markbagabe  
@yahoo.com



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