

Development of a toolkit for participatory management of rural watersheds in Kenya

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Keywords: community participatory, toolkit, watershed management, Kenya

Introduction Effective public participation is a foundation for sustainable watershed management, yet there are no demonstrated methods for or examples of its achievement in tropical semi-arid rural grassland watersheds of Kenya which support critical downstream water services. Within the Sustainable Management of Watersheds (SUMAWA) multidisciplinary international research project, a set of tools has been developed and tested to engage local communities and stakeholders in a dialogue and decision-making process to improve the development and management of the River Njoro Watershed in Kenya and reverse declining water quality and quantity problems. A toolkit manual based on the experience is under preparation for general distribution.

Materials and methods Participatory rural appraisal (PRA) data gathering (community map; benefits analysis; resource flow chart; seasonal calendar; institutional analysis), problem analysis (problem list; causes and coping strategies; trends; pair wise ranking matrix), and opportunity assessment tools (opportunity listing, assessment, and ranking; action planning) used in Kenya in development work were modified and adapted to focus on river problems in the River Njoro Watershed. Professional facilitators, accompanied by project scientists, led a series of two-hour discussions with a group of 25-40 community representatives over a two-week period in 2002-2003 in five communities residing along the river. Outcomes were documented and synthesised.

Results The discussions revealed 19 different common pool resource uses of in-river water, river bank/bed materials, and riparian buffer vegetation by local community members and other actors in the watershed (Jenkins *et al.*, 2004). Livestock-related uses were high on the list and widespread. These uses were shown to be critical for meeting very basic domestic human and livestock needs, and supplementing income for economic survival. The discussion tools also influenced stakeholders' perceptions and attitudes as they went through the process of learning and enriching each other's knowledge base. A unifying theme for action emerging from the process was the protection and rehabilitation of the riparian buffer zone which has been badly undermined by population pressure and lack of management (Table 1). The next challenge in the public participation process will be development of local rules and enforcement mechanisms to protect the riparian corridor when water, fodder, and other riparian materials are considered open-access resources.

Table 1 Common themes for community action in the River Njoro Watershed

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1. Restoring and protecting the riparian buffer reserve (zoning riparian areas)
 2. Local enforcement of laws on river pollution (e.g., community patrols)
 3. Education, awareness raising, and training on need for and rules to protect riparian buffer, trees and river water
 4. Infrastructure rehabilitation and new construction for water supply (livestock and human) and sanitation
 5. Agroforestry and riparian tree planting programs
 6. Developing a riparian management plan for the watershed
 7. Clarification and enforcement of laws governing water abstractions from the river
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Conclusion A toolkit has been developed and preliminarily tested that demonstrates achievement of community participation in the sustainable management of watersheds in Kenya. The tools provide a process for identifying local communities' perceptions and priorities for watershed management and common objectives and options on which a watershed-wide action plan can be built. The study has also demonstrated how partnerships between communities, scientists, policy-makers and other stakeholders can be built which are likely to lead to opportunities for locally-based cooperative action. The results will be used in the next stage of the SUMAWA public participation process to blend communities' indigenous knowledge with modern science and technology to identify and select specific rehabilitation and management actions for the riparian zone along the Njoro Watershed in a series of tiered watershed-wide workshops.

References

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