



SANREM CRSP

Research Brief

Sustainable Agriculture and Natural Resource Management
Collaborative Research Support Program

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Developing Social Infrastructure for Effective NRM

The five-year SANREM CRSP–West Africa research and development program introduced a methodology to reduce NRM conflict and improve natural resource management by building a new network of relationships between all SA&NRM stakeholders in the context of decentralization. The driving force behind the approach is the need to find long-term solutions to complex natural resource management problems. However, effective natural resource management (NRM) must also address methods of conflict avoidance and management. A reproducible process to address these issues is important in managing natural resources throughout the developing world.

The Process

The process developed by SANREM CRSP in Mali was successful in improving natural resource and conflict management at the commune/multi-village level. The process involved mobilizing a local NGO to support organizational development, while researchers collected data and introduced technological innovations. The steps in the process are:

- 1. Ascertain local perceptions and priority needs**—Conduct a rapid participatory appraisal by a multidisciplinary team of researchers and local stakeholders to gauge perceptions of a community’s landscape and lifescape and assess the communities’ biophysical and socioeconomic conditions.
- 2. Build commune consensus and establish local management capacity through a Natural Resource Management Advisory Committee (NRMAC)**—This committee should include all socio-professional, ethnic, and gender groups drawn from village-level representatives. These committees serve to inform and gain support of local authorities,

Capacity Building is Essential

Training in literacy, numeracy, democratic organizational procedures, financial management, lobbying, and NRM laws give committee members the skills to act autonomously, while learning conflict management skills to deal with issues of scarcity, diversity, and unequal power distribution builds confidence, local support, and leadership abilities.



Photo courtesy of Keith Moore

Herding in the Bani flood plain.

improve community relations, and mobilize community support for NRM.

3. Build institutional capacity for impact—It takes a minimum of 18 months for a NRMAC to become a functional local entity. Meanwhile human and social capital must be created through training activities, collaboration with researchers, and team building exercises.

4. Complement local knowledge with biophysical and socioeconomic modeling—Involve researchers in the analysis of locally defined problems, applying tools (such as: crop and soil simulations, the Social Accounting Matrix (SAM), computer-based remote sensing analyses, and Geographic Information System (GIS)) to provide decision-making information and discuss alternative solutions with community members.

5. Monitor and evaluate—Use local knowledge and goals to assess progress. Evaluate progress frequently and identify and correct problems as they arise. Researchers should also assess standardized indicators in order to identify and scale-up successful practices.



Photo courtesy of Keith Moore

Plowmen prepare the fields for planting.

Results and Impacts

The Natural Resource Management Advisory Committee (NRMAC) has become the primary vehicle for reducing conflict both inside villages and between villages. Baseline and follow-up surveys determined that conflicts and tensions between herders and farmers had decreased and inter-village cooperation had increased as perceived by both men and women in the Commune.

The NRMAC works across traditional boundaries as it is a multi-village organization constituted of representatives from village committees under the direction of village chiefs, yet operating at the commune as an auxiliary to the Commune Council. The committee takes into account all production systems and socio-professional categories.

Building this new network of relationships between SA&NRM stakeholders required building relationships with and providing active roles for existing institutions. This included incorporating village chiefs in transmitting messages, involving villagers in selection of NRMAC members, serving as an auxiliary to the Commune Council, establishing relationships with government service providers, and mobilizing the community in the conduct of NRM activities. Drawing on traditional and modern sources of legitimacy allows the NRMAC to serve a valued purpose in the eyes of the local population.

Major accomplishments of the NRMAC include:

- Resolving conflicts between villages, and between villagers
- Improving the climate for inter-village cooperation
- Coordinating researcher-farmer collaboration in on-farm soil fertility trials

- Organizing two villages to conduct an experiment in holistic pasture management
- Mobilizing the establishment of co-management agreements between villages
- Implementing a tree planting campaign for the Commune Council
- Serving as a mechanism for villagers to access the technical services of the State



Madiama's NRMAC works with the community to establish stable and consistent SA & NRM practices.

Conflicts and tensions between herders and farmers decreased as a result of the NRMACs.

Lessons Learned

By learning new empowered roles, the SANREM-trained local community leaders brought about behavioral changes in community relations leading to attitudinal changes in the commune population. Future successes will be built on this cohort of local leaders, and their continued mobilization of this social capital.

During NRMAC development, three similar inter-village level experiments in decentralized NRM were also evolving at the local level in Mali. In all three cases,

an NGO developed relations between the local population and government service agencies in support of co-management of natural resources. These cases confirm and reinforce the following lessons learned from the NRMAC experience in Madiama. Those lessons include:

Lesson #1: Including all stakeholders is a necessary but problematic task. Assuring participation of women, youth, pastoralists, other minorities, customary authorities, government officials, and technical service agents in activities and decision-making poses many challenges.

Lesson #2: There is no single model for building social capital and developing local management agreements. The process must be iterative, allowing for adaptive learning that takes time. Building trust between groups is a time-consuming process.

Lesson #3: Project and partner personnel need to be well trained to encourage open debate, foster consensus building and guide without leading. Respect for and recognition of local know

how is essential.

Lesson #4: Power relations and stakeholder interests need to be carefully taken into account. If any stakeholder's interests, whether socially powerful or not, are ignored, full implementation of collective endeavors will be compromised.

Lesson #5: Development agents must foster synergy between the public and private sectors. Networks of local associations, cultivating horizontal bonds across communities, need support to facilitate the mobilization of viable, locally defined initiatives. ■

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For more information, see:

Moore, Keith M. (2005). Conflict, Social Capital and Managing Natural Resources: A West African Case Study. CABI

Publishing: Oxford, UK.

