

**SANREM CRSP  
REGIONAL RESEARCH SYNTHESIS CONFERENCE,  
WEST AFRICA  
FEBRUARY 2004**

We are pleased to report that the Sustainable Agriculture and Natural Resource management (SANREM) Collaborative Research Support Program (CRSP) held a West Africa Regional Workshop (24-26 February 2004) entitled *Innovations institutionnelles et développements technologiques pour une gestion décentralisée et durable des ressources naturelles* (Institutional innovations and technological developments for decentralized and sustainable natural resource management). The workshop was held at the Palais de Congrès in Bamako, Mali.

[PowerPoint presentations](#), [abstracts](#), and a copy of the [conference program](#) are available on-line at [SANREM's web site](#). A summary of the conference is provided below.

The objective of this research workshop was to share experiences, approaches and methodologies for improved natural resource management in the Sahel. The main focus was on techniques and methods for improved decision-making in the context of democratic, decentralized governance in West Africa. The workshop provided an opportunity for SANREM CRSP researchers to share their experiences and findings with colleagues interested in similar problems affecting the region. Proceedings from the workshop will be published in French to promote wide readership throughout the region.

The three organizing themes for the workshop were:

1. Local governance and its role in the management of natural resources and related conflicts.
2. Participatory development of soil fertility and pasture management technologies.
3. New decision-making tools for agricultural and environmental policy development.

Holistic approaches to community-based management of natural resources were highlighted, and these issues were grounded in assessments of the biophysical and social environment. The core of the sessions consisted of presentations addressing community organization and social dynamics in the context of decentralization, methods for improved soil fertility and pasture management, incentives and constraints to adoption of innovations, and models for assessing or anticipating impacts. Some presentations exemplified innovative approaches while others reported on past experiences for comparative analysis and synthesis of lessons learned.

Workshop participants included researchers and development agents from the SANREM CRSP West Africa host institution (Virginia Tech); USAID (Washington DC and Mali Mission); *Institut de l'Economie Rurale* (IER) represented by researchers from the *Centres Régional de la Recherche Agronomique* (CRRA) of Mopti, Sikasso, and Sotuba; *Office de la Haute Vallée du Niger* (OHVN); *Institut de Sciences Humaines*; *Université*

*de Bamako*; Malian NGOs (GRAD and Point Sud); international NGOs (Near East Foundation); US universities (Virginia Tech, Washington State, Tufts University, University of Georgia, Michigan State); policy analysis and consulting firms (WRI and IRG); INERA, IEREA, and PSB-GTZ (Burkina Faso); USAID projects (DG Felo, Senegal and PEGRN, Guinea); International Agricultural Research Centers (ICRISAT; IFPRI; ICARDA); the International Fertilizer Development Center and other research institutions; CIRAD/Senegal; and CNRS/France.

USAID Accelerated Economic Growth Team Leader Dennis McCarthy, IER Director General Bino Témé, and a representative from the Ministry of Agriculture, Livestock, and Fisheries opened the three-day workshop. Salmana Cissé and Keith M. Moore, respectively National Coordinator and Program Manager of SANREM West Africa, delivered the initial presentations that outlined the scope of SANREM West Africa activities, and detailed the workshop program. Keith Moore opened the program by pointing to the importance of building social capital for natural resource management in the Sahel region and by elucidating how a focus on institutional capacity has always been a centerpiece of SANREM's participatory, collaborative approach. Jon Anderson (USAID/EGAT/LRM) was the keynote speaker with a presentation of case studies illustrating the newly developed framework of *Nature, Wealth and Power*, which has been distilled from case studies of improved natural resource management throughout Africa.

### **Workshop Sessions: Day 1**

The first session introduced the biophysical and social context of SANREM's research site, the Commune of Madiama, in the Cercle of Djenné. Lassana Dioni (IER/CRRA/Sotuba) described the diversity of soils types and quality in the study area. Using aerial photographs taken over a period of 50 years, Mohamed Touré (IER/CRRA/Mopti) documented the changes in vegetative cover in the Madiama commune, showing how decreases in pasture availability coincided with the exacerbation of natural resource conflict. Presentations on the biophysical environment were followed by a discussion of the social and political landscape with Bréhima Kassibo's (Institut des Sciences Humaines) analysis of the evolution and current status of decentralization of governance in Mali.

The second session addressed issues of soil fertility management, highlighting the importance of involving farmers in the development and implementation of new techniques. Sibiri Jean-Baptiste Taonda (IEREA-Burkina Faso) presented a case study on the introduction of mechanizations to alleviate labor demands that constrain the adoption of *zai* (an indigenous soil fertility management technology) by farmers in Burkina Faso. Boureima Traoré (IER/CRRA/Mopti) discussed efforts towards the revitalization of farmer-herder exchanges of manure and crop residues to ameliorate soil conditions in croplands. Using multivariate analysis, Jupiter Ndjeunga (ICRISAT-Niamey) highlighted the importance of cash returns in farmers' adoption of improved soil management technologies. Salif Kanté (IER/CRRA/Sikasso) illustrated a decision tool that can assist farmers in the application of soil fertility amendments.

## **Workshop Sessions: Day 2**

The second day began with a discussion of organizational innovations for improved local management of natural resources. Salmana Cissé (IER/CRRA/Mopti) presented the SANREM CRSP model for multi-village organization. Emphasis was placed on the legitimacy and representativity of the Comité Comunal de Gestion des Ressources Naturelles (CCGRN), the primary institutional mechanism being tested in Madiama. He also pointed to the importance of developing human capital for local leadership. Aly Bocoum (Near East Foundation/Douentza) focused his discussion on the development of local management agreements and the necessity for involving multiple social groups at various scales. Abdou Sene (DG-Felo, Senegal) presented a paper on the conflicts between new settlers and long-time residents in the Forest of Pata, illustrating how tensions were reduced through community level initiatives.

The session that followed focused on innovative analytical tools and approaches. Daniel Kaboré (INERA-Burkina Faso) illustrated the use of a Social Accounting Matrix (SAM) using data from a household-level survey in the Commune of Madiama. The analysis highlighted the importance of livestock to the overall local economy, while at the same time revealing the relatively disadvantaged economic status of herders. Economic linkages to multiply the positive impacts of technological innovations were identified. Arnoldus Maatman (IFDC-Togo) focused on the role of individual initiative in the adoption of technological innovations based on the IFDC experience of promoting soil fertility amendments as means of agricultural intensification. Boureima Drabo (PSB-GTZ, Burkina Faso) presented an example of a quantitative analysis of social capital based on a survey of 400 households in 48 villages. The analysis uses indicators such as participation in local networks and in collective works to operationalize social capital and assess community capacity for natural resource management.

A session on customary and modern models of governance was moderated by Jesse Ribot (WRI) and was opened with a presentation by Naffet Keïta (University of Bamako) who provided the historical context for natural resource management in the Niger inner delta, particularly in relation to wetland pastures (*bourgoutières*). He explored the contradictions between the legacy of multiple layers of customary tenure and the new prerogatives assigned to decentralized collectivities, pointing out how these ambiguities can contribute to reinforcing social privilege. André Bourgeot (CNRS-France) stressed the need for basic science to enrich applied or problem-oriented research in his presentation of a case study centered on the relationship between nomadic social organization, spatial movements, and pasture management in the Air Ténéré Reserve in Niger. He illustrated how multiple methodological tools were used synergistically to elicit both a fine-grained understanding of herders' adaptive strategies and generalizable principles of participatory management. Thierno Diallo (Veterinarian, Mali) elucidated the evolution of resource tenure in Mali up to the current situation of decentralized governance. He pointed to the paradox between the celebration of tradition and community in political pronouncements about decentralized natural resource management and the state's unwillingness to recognize customary tenure or release control to new collectivities in the case of potentially profitable resources.

Livestock management alternatives were the focus of the last session of the day. Adama Ballo (IER/CRRA/Mopti) described the planned grazing experiment being implemented in two villages of the Madiama Commune and inspired by Holistic Management principles. Amadou Kodio (IER/CRRA/Mopti) presented data on pasture regeneration and animal weight gain based on an experiment that seeks to assess the potential of tethered grazing as a way to improve pasture productivity and regenerative ability. Meriem El Hadj (Virginia Tech) discussed her work on the ensiling of *Cassia tora*. Her presentation provoked considerable discussion about the potential for converting an invasive weed species into productive forage.

### **Workshop Sessions: Day 3**

The third day began with a set of presentations on local agreements for natural resource management, including presentations by Malick Tessougou (OHVN, Mali) for the zone of intervention of OHVN and Souleymane Traoré (Point Sud, Mali) for the Office du Niger zone. Mamadou Diallo (PEGRN, Guinea) shifted the focus from management of common property resources to efforts to improve security of land tenure for small holders. Questions followed about the extent to which these initiatives were locally generated and involved all local resources users, including herders.

The following session exemplified methodologies for analyzing factors that shape the adoption of natural resource management technologies. Békaye Traoré (OHVN, Mali) addressed the problems associated with measuring the impacts of technology adoption, based on preliminary results from OHVN's experience in providing decision-makers with appropriate evaluation tools. Boureima Traoré (IER/CRRA/Mopti) stressed the importance of cost-benefit analysis in efforts to predict farmer adoption of production technology. Odiaba Samaké (IER/CRRA/Mopti) demonstrated a model for determining optimum fertilization levels according to soil type and nutrient levels. Oumar Senou (IER/CRRA/Sikasso) illustrated a methodology for evaluating farmers' techniques for control of Shea nut tree parasites.

The workshop closed with the recommendation that researchers should continue focusing their work toward development and assessment of community level approaches to sustainable agriculture and natural resource management. Conflicts over natural resources should be given particular consideration, including analyses of their institutional and biophysical dimensions. Two main thrusts for future research and development efforts were highlighted. First, there is a need for a clear definition of processes and mechanisms that can enable the establishment and ensure the viability of local agreements for cooperative management of natural resources. Secondly, it is imperative to identify lessons learned and success stories that can guide efforts to enhance human capacities and social infrastructure for local-level natural resource management. These two goals are closely intertwined and can only be attained through an integrated approach that aims to improve local capacities for both negotiation and leadership.

[Conference Program](#)  
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