COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT

A recent article titled "Conserving Tropical Biodiversity amid Weak Institutions," contributed to by Cornell faculty and graduates, raised questions about community-based natural resource management (CBNRM).[1] Their analysis challenged scholars and practitioners who are very optimistic about CBNRM by arguing that institutional frailty at *all* levels of management should be of more immediate concern than a process of shifting responsibility from centralized (usually state or national) institutions to decentralized ones (community, village, or local non-governmental).

This warning should not be dismissed. Tolstoy once commented that "It is amazing how complete is the delusion that beauty is goodness." A modern paraphrase, tailored to CBNRM, might be: "It is amazing how complete is the delusion that community is goodness." Or that small is beautiful. Or that indigenous is enlightened. Or that public always trumps private, or vice versa. CIIFAD faculty and students working on CBNRM have tried to be sensitive to the dangers of embracing local solutions uncritically and of overlooking institutional and other recalcitrant problems far from the seats of central power.

One of CIIFAD's three principal missions is institutional strengthening. Over the years, this mission has been pursued by working with central governments in the Dominican Republic, Madagascar and the Philippines, and at local levels in Ghana, Honduras and Indonesia. In Brazil and China the focus has been on regional institutions. Yet these characterizations are oversimplified as institutions at one level or scale generally intersect with institutional counterparts at another.

This is seen in reports from Ghana, Madagascar, Guatemala and Indonesia. Frederick Addison (City and Regional Planning) is collaborating with university, NGO, government, community and other counterparts in his CBNRM efforts in Ghana. His report (see following pages) highlights the multiplicity of partners involved in CBNRM processes and the importance of inclusion and adequate communication.

The report on CBNRM in the environs of Lake Alaotra in Madagascar might be seen as expressing a "community is beautiful" perspective, but in fact, there is no assumption that communities by themselves can manage all the conflicts that arise over natural resource use. George Rakotondrabe's work there on CIIFAD's behalf addresses the need to involve the national Forest Service and its district personnel in enforcement issues, at the same time that he stresses the importance of a learning process approach (see box pages 120-121). *(continued on page 124)*

[1] This article in *BioScience* (2001, Vol. 51, pp. 497-502) was written by Chris Barrett, associate professor of Applied Economics and Management; Katrina Brandon, Ph.D. in Rural Sociology from Cornell and now with Conservation International; Clark Bibson, assistant professor in Political Science at Indiana University; and Heidi Gjertsen, graduate student in Applied Economics and Management.

Social and Institutional Capital for Sustainable Local Resource Management in Ghana

Vegetation clearing, grazing and cropping practices, seasonal bushfires and pollution of water bodies all contribute to long-term environmental problems in rural Ghana. Because they threaten agricultural productivity, public health and living standards as well, these problems require prompt and sustained attention.

My work engages stakeholders in a participatory process of experiential learning to explore how collaboration can build social and institutional capital for sustainable local resource management. All parties help to identify and put in place processes and mechanisms that will institutionalize community-based land use planning and management (CBLUPM), first in selected districts and eventually in the whole of rural Ghana.

In June 2001, I initiated a series of activities to introduce CBLUPM in selected communities in Ghana, assisted by Frederick Sarpong, a student at the University of Science and Technology (UST) in Kumasi; Frank Donkor, a paraprofessional staff member of World Vision/Ghana (WVG); and Albert Yeboah, a WVG program officer,

NORMAN UPHOFF

Bismark Nerquaye-Tetteh, director of World Vision/Ghana (left, in hat), is introduced to the village chief (right, sitting under the tree) by the chief's linguist (far left), in a northern Ghanaian village where World Vision is extending the Ghana Rural Water Project.

This initiative builds on earlier collaboration with the Ejura-Sekyedumasi District administration, the Ejura Traditional Council (the chieftaincy authority of the area), and several village areas in the Greater Afram Plains (see *CIIFAD Annual Report 1996-97*, pages 66-67, and *1997-98*, pages 138-139). At that time we were testing and refining methodologies for implementing CBLUPM.

The communities and districts involved in the initiative were chosen to cover the central, southern and northern operational sectors of our main partner World Vision/Ghana: four villages in Ejura-Sekyedumasi District of Ashanti Region where my 1998 work was conducted; two in Dangme West District of Greater Accra; and two in the Savelugu-Nanton District of Northern Region, where World Vision is expanding its activities.

We started with a series of preparatory meetings involving major stakeholder groups in each of the selected districts: opinion leaders of possible pilot communities, key personnel from the district administrations, traditional authorities, and staff of WVG and some relevant central government agencies. External stakeholders were also consulted, including the Land and Water Management Unit of the Ministry of Agriculture, the Environmental Protection Agency, and the Faculty of Agriculture and Department of Planning of UST.

Following these meetings, fieldwork started in the Ejura-Sekyedumasi District with an assessment of work initiated in 1998. Representatives of the four communities (Ejura, Babaso, Nokwareasa and Kasei), some personnel of the district administration, and WVG personnel attended a review workshop. This brought some troubling issues to light. In spite of widespread acceptance of CBLUPM, little progress had been made in institutionalization.

There was an apparent lack of understanding of the roles that different stakeholder groups should play. Consequently, no effective mechanisms had been instituted to facilitate regular follow-up to support community activities. In 1998, there was a sense of urgency to protect water bodies that were being threatened by drought. This elicited immediate action, without gaining a thorough understanding of the concepts and role for community management. Some of the activities were also badly timed. Tree planting to revegetate the banks of water courses occurred in late October, when the dry season had already begun. In spite of these shortcomings, the stakeholder groups at the workshop, especially community representatives, were unanimous in requesting that we revisit the communities to give CBLUPM another try.

Aided with lessons drawn from this review, we organized a series of separate workshops for district administration departments and WVG staff in each of the three pilot districts. These were designed to: 1) educate and/or deepen the understanding of each stakeholder group about CBLUPM; 2) solicit ideas and strategies to operationalize CBLUPM; 3) set up collaboration among the district administration, WVG and traditional chieftaincy authorities and plan trips to pilot communities; and 4) clarify the roles of each stakeholder group. Judging from responses of participants during and after the workshops it appears that the first three objectives were achieved.

At the community level, we have facilitated a number of community-wide and sub-group meetings and workshops and also met with some individual opinion leaders. Experience has taught us not to rush but to proceed at a pace acceptable to each of the pilot communities. The initiative is now at different stages in each community.

In Ejura-Sekyedumasi and Dangme West, communities have identified local environmental problems and are currently working on how these can be resolved. Subsequent district-level workshops will seek consensus on strategy and respective roles. A similar process will be followed in Savelugu-Nanton.

The responses from communities, traditional authorities, district administrations, and even central government ministries and agencies indicate growing appreciation of the need for community-led action to tackle environmental degradation. In fact, the central government, as part of its Ghana Environmental Resources Management Plan, is implementing a Village Land Development Planning program through the Extension Services Division of the Ministry of Agriculture.

Tremendous opportunities exist for broad-based, locally initiated efforts toward sustainable management of local resources in rural Ghana. The challenge is how to structure collaboration so that this objective is achieved. The best strategy appears to be a learning-process approach that fosters cooperation and prompts a series of community-led initiatives that evolve over time to meet local aspirations.

—Frederick Amoako Addison, City and Regional Planning

CBNRM around Lake Alaotra in Madagascar

GEORGE RAKONTONDRABE

Villagers of Ambohimiarina and Belompona participate in developing plans for managing the marshes surrounding Lake Alaotra.

Conservation efforts in Madagascar have been traditionally oriented toward forest ecosystems that harbor the highest proportion of endemic species. Malagasy wetlands, such as found in the Lake Alaotra area, have received little attention despite their high number of endemic taxa. The lake (22,000 ha) and surrounding marshes (20,000 ha) plus rice fields (70,000 ha) constitute one of the largest wetland ecosystems in Madagascar. The area produces about one-third of the national rice crop.

The Lake Alaotra basin is surrounded by denuded hills. Serious erosion is exacerbated by incessant brush and reed fires, which consume the vegetation that could protect the soil from hard rains and flooding. Over-fishing is also common. These pressures jeopardize the ability of the marshes to fulfill their important ecological and economic roles. The lake has been shrinking over the past 20 years and is in danger of vanishing.

Aware of the problems, several communities have expressed willingness to manage these natural resources on which their lives depend. They are assisted by the Landscape Development Interventions project financed by USAID.

In Madagascar, a *Gestion Contractualisée de Forêt* (GCF) process, designed for decentralized forest management, has been adapted for use around lake ecosystems. It involves three entities: the community, the local authorities, and the Water and Forest Service (*Eaux et Forêts*), and has four key program elements:

- management planning at community level focusing on better resource use;
- traditional regulations (*dinas*) being formulated and accepted by the community;

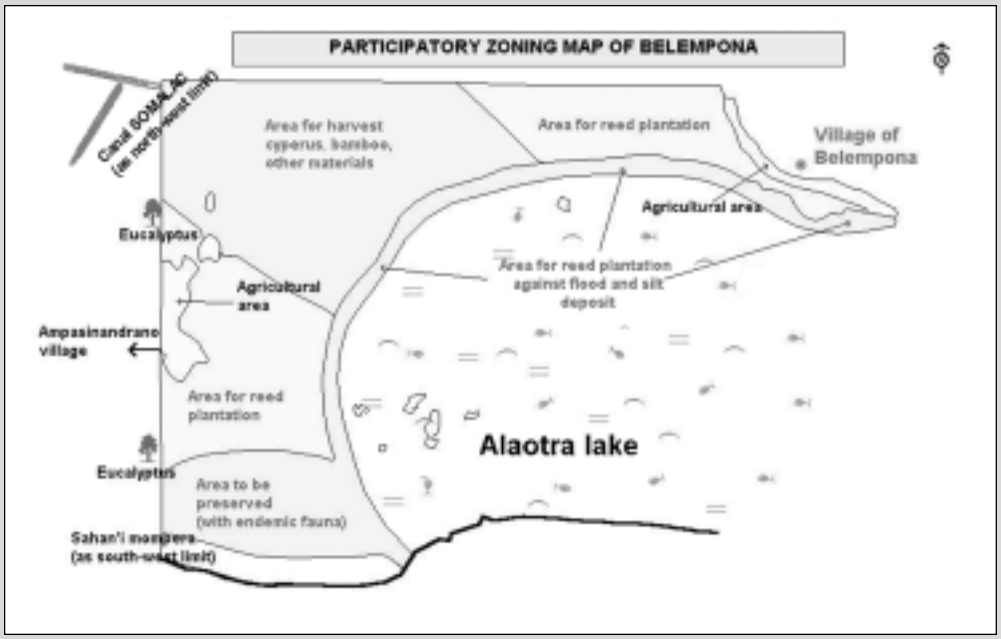
- a specifications book (*cahier de charge*) regulating resource use; and
- a contract between the Water and Forest Service and the community transferring responsibility for resource management to the latter.

Two villages on the western shore of the lake, Ambohimiarina and Belompona, with populations of 50 and 41 households, were the first to submit proposals for local resource management under GCF. Their contracts to protect the marsh ecosystem cover 70 and 150 hectares, respectively. Three other communities have expressed interest in managing their territories similarly to benefit the population and the natural environment.

The local government plays a key role in this process, promoting public awareness campaigns among community members and neighboring populations. These campaigns discuss the goals of GCF as well as community duties. Local authorities are expected to deal with and manage conflicts beyond what the community can handle. They monitor the implementation of the *dinas,* which specify acceptable resource uses, and they refer any infractions to the Forest Service for enforcement.

The district office of the Water and Forest Service represents the central government. It monitors the management transfer contract, provides technical assistance to communities for carrying out the contracts, and submits regular reports to central government agencies.

—George Rakotondrabe, CIIFAD/LDI



Belompona residents developed this map to show their vision of the land use in their area.

Community Action to Restore Degraded Forest Areas

For the last two summers, I have worked with CARE's Integrated Forest Management Project in the highlands of San Marcos, Guatemala, with CIIFAD support. In 2001, I carried out a participatory evaluation in two neighboring municipalities of trends in the management of communal and municipal forest and grazing areas.

The reduction of communal land areas with deforestation and expansion of the agricultural frontier in Guatemala is a historical trend dating back to the colonial period. Privatization of communal areas increased sharply in the last century with the expropriation of indigenous lands for export agriculture. Most remaining forest in the highlands is concentrated in municipal and communal woodlots. Efforts to rehabilitate degraded forest and pasture areas have met with relatively little success.

Inequitable land distribution and growing population, along with increasing land conflicts, have led to the recent fragmentation of even more communal lands in San Marcos. While many of these areas have been converted to individual agricultural use, several cases of community restoration of communal pasture for multiple uses under communal tenure are promising examples for the future.

The canton San Pedrito has access to a communal grazing area of about 100 hectares. This area was completely deforested and closed to grazing 10 years ago

Communities in San Pedrito are reclaiming eroded communal lands to produce food, fodder and firewood by planting native fast-growing multipupose trees and soil-conserving shrubs. Above is a system in its second year, and to the right is a four-year-old system.

by municipal authorities due to severe erosion. Several reforestation projects, designed to support long-term timber exploitation, failed. However, a recent community initiative to install multi-use agroforestry systems has had excellent results for ecological restoration while providing much-needed household services, including firewood, sheep fodder, and short-term agricultural plots.

Factors that have contributed to this success include strong local leadership, management of communal resources by consensus, having clearly identified membership of the community (50 households in total), and a clearly identified and urgent need for firewood and fodder. Individual plots (about 0.04 hectare/0.1 acre) are assigned to each community member, giving usufruct rights for five years with two stipulations: some kind of agroforestry system should be established; and soil conservation measures must be carried out.

PHOTOS / HANNAH WITTMAN

Households in San Pedrito have rehabilitated 16 hectares over seven years. The project owes much of its success to the low costs involved, with planting materials and labor as the principal inputs. Pictured above is the village tree nursery.

The agroforestry system most favored by community members, after experimentation with the local agroforestry extension agent, includes planting living soil-conservation barriers with a native lupine species and two shrubby bushes (mazote, arrayan). These quickly stop erosion and provide some firewood.

Potatoes are grown in small hillside plots to get a short-term return on the tremendous labor required for installing the conservation barriers. A native tree prized for its firewood quality, its quick re-growth and its foliage, which is excellent sheep fodder (*buddlea* spp.) is planted on contour lines.

At the end of the five-year period, the trees are shading out the potato plots, and families are ready to begin rehabilitating a new plot; they are currently seeking seed sources for high-quality forage grass to seed on plots they are leaving. The community project is in its seventh year, and 16 hectares have been brought into this rehabilitation process. Capital costs are minimal, as mostly labor and planting materials are required. Neighboring communities have begun similar experiments in the last two years based on the success of the San Pedrito experience.

—Hannah Wittman, Rural Sociology

(continued from page 117)

Any system of cooperation to protect natural resources and use them sustainably will require considerable refinement and modification based on experience. It is hoped that this approach will actively involve institutional partners operating above the community level while maintaining the enthusiasm and support of community actors.

Local resource management on the island of Flores in Indonesia has had a purposeful conflict resolution element, addressing conflicts that are intra-community, inter-community, and inter-governmental. Ilya Moeliono (International Development), as part of his graduate program, undertook action research to find ways of resolving a variety of smoldering issues (pages 42-43).

While a supporter of CBNRM, Moeliono has documented the many problems of coordination among diverse stakeholders and of enforcing inter-party agreements. Skeptics about CBNRM often regard its practitioners as advocates, for whom participation is an end in itself. But for Moeliono and colleagues in the Nusa Tenggara Community Development Consortium, the end is community development and sustainable natural resource use, treating CBNRM as one of several means.

Community-based natural resource management is still a growing area of experimentation and experience. One important model for CBNRM is the Landcare approach pioneered in Australia. In last year's annual report (pages 106-107) we saw how this approach has been extrapolated to the Philippines. But there are other approaches to CBNRM as well. Hannah Wittman reports on a locally-devised system for community rehabilitation of degraded land in Guatemala, which she studied this past summer (see box pages 122-123).

CIIFAD is trying to understand and evaluate diverse experiences, helping to build up a body of knowledge and practices that can lead to more equitable and beneficial as well as sustainable outcomes from natural resource use, motivated by the realization that improper or ineffective management can have adverse effects for many years, even generations, to come.