Managing Conflicts in Agroforestry:

From Tribal Byelaws to Farmer Participatory Research and Community-Initiated Policy Making

Case Studies from Uganda, Ethiopia and Tanzania

In an age of increasing ecosystem degradation and poverty in Africa, many scientists and non-governmental organizations have been promoting the implementation and proliferation of agroforestry techniques in hopes of increasing human security while also preserving habitat and various other ecosystem functions. This practice not only ensures the continued food security and ecological integrity of communities in developing nations, but it also provides the local and global society with watershed maintenance functions, carbon retention in carbon-soil systems, and conservation of biological diversity (McNeely and Schroth 2006).

According to the USDA's National Agroforestry Center (NAC), agroforestry is the "intentional combination of agriculture and forestry to create integrated and sustainable land-use systems… Agroforestry takes advantage of the interactive benefits from combining trees and shrubs with crops and/or livestock."[1] Because of agroforestry's characteristics and nature of combining conservation and development, the application of such an idea has exploded in projects pertaining to the African continent, where the need to secure human needs is often juggled with the need to conserve the continent's unique ecosystems.

The areas that this paper focuses on are the conflicts arising from agroforestry implementation in the highlands of East Africa- an area where the land is synonymous with biological diversity. But for the past several decades, East Africa has witnessed skyrocketing population levels to unprecedented levels and the subsequent land degradation has exacerbated poverty. As a result, the World Agroforestry Center was put in charge of finding a middle-ground between development and conservation and the dilemma between these two seemingly contradicting ideas has created many conflict situations in these communities. The progression of conflict resolution techniques will be outlined to investigate the role of tribal bylaws, multi-stakeholder dialogue groups, and community-initiated policy making groups have on managing agroforestry conflicts.

[1] Adopted from the NAC's website at http://www.unl.edu/nac/#about

Agroforestry, Farmer Participatory Research, and the African Highlands Initiative

The African Highlands Initiative (AHI) is a program that aims to enhance livelihoods in densely-settled highland areas through improved agricultural productivity and natural resources management (German et al., 2006). A major component of the AHI is the promotion of agroforestry because of its ability to enhance livelihoods while also providing legitimate means of managing natural resources. In particular, AHI supports the idea of participatory agro-ecosystem management and farmers participation research (FPR). Over the past several years, there has been a lot of research done regarding FPR. The following is a classification list from Biggs' typology, which is based on the decision-making roles of scientists and farmers (Biggs, 1989; Sanginga et al., 2006):

(1) Type A (contractual). Researchers make all the decisions alone without any organized communication with farmers.

(2) Type B (consultative). Researchers make the key decisions but with organized communication with farmers.

(3) Type C (collaborative). Decisions are made jointly by farmers and scientists through two-way, organized communication, and continuous interaction between farmers and researchers.

(4) Type D (collegial). Decisions are made by farmers collectively in a group process or by individual farmers who are involved in organized communication with scientists.

(5) Type E (farmer experimentation). This corresponds to farmer-led research whereby farmers conduct experiments on their own and make decisions individually or in a group without organized communication with scientists.

Drawing on Biggs' classification above, Sanginga et al. (2006) went on to state that in general, the dominant type of participation was consultative (Type B) at the diagnostic, planning, and

monitoring states, and more collaborative (Type C) in the management of experiments. Farmers' participation evolved to a more collegial mode (Type D) n the dissemination stage. This paper will focus more on Type C and Type D interactions and their relationship with a more traditional, "top-down" conflict resolution system.

In referring back to AHI's participatory agro-ecosystem management approach, Sanginga et al. (2006) divided the approach into eight stages: (1) diagnostic, (2) solutions identification, (3) trial planning, (4) trial implementation, (5) trial management, (6) monitoring (data collection), (7) data analysis (evaluation), and (8) dissemination. As such, the AHI's participatory process began with participatory rural appraisals in the selected communities. Farmers were then consulted on their production problems and constraints to production. Scientists would then use their disciplinary expertise to decide on possible solutions and design experiments accordingly. The "best bet" options then would be implemented on fields donated by farmers for group experimentation (Sanginga et al., 2006).

In this paper, three AHI sites in Uganda, Ethiopia and Tanzania would be examined to determine the success of traditional bylaws, farmer participatory research, and community-based policy making in dealing with conflicts arising from agroforestry implementation. The three case studies ultimately form a continuum of conflict management techniques, ranging from tribal bylaws to participatory policy-making. Lastly, these different techniques would be discussed in relation to more familiar (Western) collaborative conflict management techniques and the differences and problems (both cultural and technical) rural African communities have in applying them.

Tribal Bylaws and Social Capital in Kabale, Uganda

Uganda, for years, has suffered greatly from resource degradation due to the explosion of population numbers. Years of authoritarian rule immediately after independence has also meant

that Uganda endures very little public infrastructure and has continually lacked the ability for properly governing its natural resources. Although the country has recently enjoyed close to two decades of democracy, policies for rural land management has continually been non-existent.

Because of the country's history, Uganda lacks the governance structure necessary for a comprehensive national natural resources management (NRM) program. NRM is defined as the sustainable use of the resource base of agriculture in order to meet the production goals of farmers as well as the goals of the rest of the community (Izac and Sanchez, 2001; Sanginga et al., 2007). Also, the definition stresses that NRM systems are characterized by utilization of natural resources for multiple purposes, or by more than one user, and involve a combination of resources and rules which govern resource use (Sanginga et al., 2007). Moreover, in the case of Kabale, AHI has found that the three dimensions of social capital (collective action, bylaws implementation and linking with local government structures) have increased the ability of communities to manage and transform conflicts into opportunities for action (Sanginga et al. 2007). The strength of social norms dictated the fashion in which conflicts were resolved.

Kabale is in southwestern highlands and is one of the highest densely populated rural areas in Uganda. This area suffers from high population pressures, fragmented small farms, and deteriorating planting terraces. In Sanginga et al.'s research (2007), four conflict variables were considered: farm boundary conflicts, tree cutting, bush burning, and animal grazing conflicts. Because of the severe reduction of common grazing lands, most households in the community have experienced some form of conflict stemming from livestock grazing on crops and trees. Conflicts over farm boundaries and hillsides management also affected large numbers of households. Other conflicts included land disputes and property rights conflicts, illegal sale and grabbing of lands, cutting of trees, destruction of terraces, and disputes over access and use of land (Sanginga et al., 2007). As one can see, the conflict situation in this community is diverse and multifaceted.

Rather than consulting any judicial or other formal bodies or institutions (which is rather non-existent in Uganda) to resolve the conflicts, community members took the matters into their own hands. Communities (mostly from village elders) developed their own set of bylaws, norms and sanctions to govern the behavior of community members. For example, conflicts led to bylaws forcing the construction of new terraces, and planting of trees to demarcate farm boundaries, prevent soil erosion, and reinforce property right claims (Sanginga et al. 2007). The results show that two dimensions of social capital: norms and sanctions or bylaws, and the number of collective action events (as a response to the bylaws) were positively and significantly related to the adoption of agroforestry innovations. Communities have developed their own bylaws for managing natural resources and resolving conflicts. These include (1) soil and water conservation, (2) food security, (3) tree planting, (4) bush burning, (5) controlled grazing, and (6) swamp reclamation (Sanginga et al. 2007).

In the case of managing conflicts in Kabale, social organizations, such as social networks, social interactions, norms, social trust, and reciprocity were helpful in facilitating coordination and cooperation, and that enabled people to act collectively for formulating and reinforcing common rules, norms and sanctions (Sanginga et al. 2007; Pretty 2003; Uphoff and Mijayaratna 2000; Rudd 2000). In this conflict, no attempts were made to resolve or mitigate. Rather, village elders set forth socially-enforced rules to govern/control the behavior of community members.

This case reveals a classic "top-down" conflict resolution model, in which a certain privileged group decides the outcome of the conflict with the consultation of stakeholders. As a result, actions were forced upon community members and there was no proliferation of knowledge. Although this may seem to be an archaic process in the eyes of the West, this process is relatively common in the developing world, where the community stresses harmony and respect towards elders. Although community members were bound by their community's tribal bylaws and were unable to access information regarding the conflict, most recognized the

need to change their behavior. They simply followed the recommendations made by the village elders and were ultimately successful in resolving the conflict; resulting in the restoration of the harmonious status quo.

Citizen-Initiated Conflict Resolution in Ameya, Ethiopia

In contrast to the Kabale example above, the springs conflict in Ameya, Ethiopia is quite different. Like Uganda, Ethiopia is also a developing nation that lacks government-initiated social infrastructure for dealing with conflicts between communities and its resources. The conflict in Ameya stems from the situation where an individual landowner wishing to exploit the property rights perceived to be theirs, and water users having increasing difficulty accessing a reliable supply of clean water (German et al., 2006). In this situation, community members are dissatisfied about the management of their sole water source, which happens to be located on that piece of privately owned land. The problem is compounded by the introduction of the exotic eucalyptus tree as a replacement cash crop, which the land owner has decided to plant immediately adjacent to the water source (with good reason). This attempt to bring agriculture and forestry together has brought many problems to the Ameya community- (1) the trees are dominating against native ones, and (2) eucalyptus trees are extremely energy and water intensive. As a result, the question of water availability is compounded with the arrival of the eucalyptus tree. Again, German et al. (2006) summarizes the situation succinctly by stating that "where fast-growing exotic tree species are grown, the problem is invariably one of water quantity. Where the area is deforested for crop or livestock production, the problem becomes one of both water quality and quantity."

The continually dwindling water resource has prompted the community to confront the land owner, but to no avail. The first attempt to manage this particular conflict came as the community threatened to take the landowner to the local government (Peasants Association)

(German et al. 2006). But the landowner refused citing reasons of privileges derived from property rights. The second attempt was through the AHI, as they had newly formed a watershed committee and had offered to facilitate any discussions to attempt to manage the conflict at the community level. The idea of working with the AHI was eventually accepted, but the community decided collectively that the facilitator position should be filled by members of village elders, rather than AHI employees, citing reasons of respect, trust, and process ownership.

The elders first visited the landowner on an individual basis, encouraging him to consider the legitimacy of the villagers' complaints. This attempt at rapprochement prior to open negotiations turned out to be a decisive factor in the landowner agreeing to attend the scheduled village meeting (German et al. 2006). During the village meeting (which was hosted by the Peasants Association, the watershed committee, and the AHI), the landowner expressed his concern that he would succumb to losses in labor and cash if he were to cut down the woodlot in its entirety. The villagers immediately began attacking his position openly, citing reasons of water quantity and quality. Then, a series of crucial events turned the situation around:

(1) The facilitator intervened to legitimize the landowner's position and right to speak,

(2) The discussion then progressed to identifying consequences of a dried-up spring for future generations rather than its immediate negative effects, and

(3) The village elders' offer of a compromise in which the lot owner would remove the woodlot in exchange for having one eucalyptus tree planted by each household (German et al. 2006).

Although the proposal was initially rejected by both the community at large and the woodlot owner, when one elder farmer stood up and agreed to the conditions, stressing the importance of water supply to their livelihoods (both present and future), others followed (German et al. 2006).

This case illustrates the beginnings of farmer participated research (FPR) in such a community: The farmers and other community members had done extensive research regarding

its water supply and had determined that the reason for decreased water quantity and quality was due to this one eucalyptus woodlot. As a result, not only were their collective efforts necessary to diagnose the problem, but it also played a crucial role in bringing the woodlot owner into the discussion and ultimately to form a compromise.

German et al. (2006) recognizes four crucial points in this particular dispute in Ameya:

(1) A knowledgeable and respected third party,

(2) The recognizing of the legitimacy of all parties and avoiding marginalizing anyone,

(3) The importance and ability to reach a compromise, and

(4) Understanding that local (informal) negotiations have a more long-lasting effect than through government enforcement, such as the peasants association (Raj Upreti 1999).

As one can see, the nature of the conflict in Ameya is different from that in Kabale. The social capital in this case is expressed in the form of local institutions rather than through community norms and bylaws.

Although the mentality of community members continued to be bound by such traditional norms, they took non-traditional means to manage the conflict. Even though at first, the AHI had proposed the idea of using their own organization as a mediator, the community immediately responded by wishing that their village elders be the third party in this situation instead. Obviously, the community didn't choose a mediator who was neutral and completely detached to the conflict, but they opted for a party that was respected, trust, and deeply attached to the community. As a result, the community had transformed a highly institutionalized framework to suit the needs of their own community. Moreover, by opting to manage this conflict within the community, village members were able to gain a lot more knowledge about the situation and were able to retain a lot of decision power in the process.

Compared to Kabale, the example from Ameya definitely presented a more citizen driven conflict management framework. Instead of bylaws, the framework and results were

institutionalized by the presence of the watershed council and from the AHI's help. Citizens were more informed and they took control of the situation, therefore ensuring the compromising result to be more widely received.

Multi-stakeholder Dialogue and Policy-Making in Lushoto, Tanzania

After looking at examples from Uganda and Ethiopia, this third example from Tanzania holds characteristics from both prior case studies. Much like Ameya, Lushoto in Tanzania has been experiencing decreased water quality and availability because of intensifying agricultural production in an already densely populated area. Lushoto district is located in a highlands area, but the majority of the agricultural activity is located in fertile valleys that are crisscrossed by the numerous streams and rivers. Like Kabale, there are many community bylaws governing the management of these springs and waterways, which include the requirement of a thirty-meter radius of indigenous forest around the water source and the protection of twenty-meters of each side of waterways (German et al. 2006). Unfortunately, these bylaws have often been disregarded, resulting in the destruction of habitat and water quality. German et al. (2006) identifies three factors why these bylaws were ignored:

(1) The breakdown of the bylaw/tribal system.

(2) Selective enforcement, and

(3) Poor policies that have detrimental impacts on local livelihood.

As a result, the community and AHI turned to creating dialogue between community members and stakeholders to more effectively understand and govern the water resource while also safeguarding livelihoods of the community.

The conflict ensued when local governing authorities noticed that farmers were not adhering to the tribal bylaws that prohibit them from planting and harvesting too close to the water's edge. Negative environmental effects, such as soil erosion and decrease in water quality,

put the entire region's water availability at threat. As a result, the tribal council and other community members came together to try to figure out why this situation had occurred. They subsequently realized that the current bylaws were overly strict and the current policy of protecting the riparian zone would simply eliminate the ability for any economically viable agricultural activity around these water sources. Moreover, identical bylaws are applied to all locations in the valley without any flexible and regardless of the plot size or valley width, creating a disjuncture of enforcement capabilities and widespread confusion.

The major contentious points included allowing sufficient arable land for economically viable agricultural production while also adequately protecting the riparian zone and other water resources from agricultural contamination and degradation. The AHI, after acknowledging a need for conflict resolution, soon embarked on a process of multi-stakeholder dialogue and promoted discussion among all the farmers, community members, and the village council. As compared to the example in Ameya, citizens of Lushoto did not opt to replace an AHI-led mediation team with village elders; instead they agreed that the role should be played by AHI employees, who were recognized as being more neutral and scientifically knowledgeable.

After weighing in all the goals for livelihood and conservation in the community, everyone agreed that any law adopted should reflect the real economic situation of the village. As with the example from Ameya, citizens of Lushoto utilized a more institutionalized framework of conflict resolution. The AHI, in this case, applied certain elements from "collaborative decision making" in the process. Although organizations such as a watershed committee were not present, the presence of AHI in the intimate stages of conflict resolution was able to bring all the stakeholders to the process. Stakeholders were able to sit down and outline their concerns while all other stakeholders listened; therefore providing a forum for understanding and compromise.

A policy was eventually adapted that included only a three-meter buffer zone around any water source, therefore enabling farmers to benefit from harvesting riparian and boundary vegetation while also contributing to water conservation (German et al. 2006).

This example not only, again, outlines the significance of tribal bylaws in this area of Africa, but it also outlines the importance of a somewhat institutionalized method of resolving conflicts at the local level. Also, tribal bylaws can become policy if and only if conflicts are managed properly and communities have sufficient participatory capacity. German et al. (2006) outlines key considerations in a participatory policy formulation process:-

(1) Local-level policy formation must be balanced with higher-level enforcement.

(2) Policies should adapt to local realities.

(3) Realistic policies should be encouraged by questioning the viability of propositions and monitoring for people's acceptance of and compliance with policies early on.

After looking at all three example from East Africa, one can see a spectrum (and a progression) of ways rural communities deal with conflict situations, especially pertaining to agroforestry implementation. Although the undertone of tribal and community bylaws remains strong, many communities have chosen less conventional, more creative, and more collaborative ways to deal with problems. Even though communities described in this paper represent attempts to progress from a "top-down" to a more participatory conflict resolution process, a heavily institutionalized dispute resolution process has yet to make its debut. Still, the ideas of multi-stakeholder dialogue and community-initiated dispute resolution processes are continuing to gain ground in decision-making processes.

Conclusion- Future Prospects

The progression of the three different conflict management processes outlined by the examples illustrate problems Africa faces in dealing with integrated conservation and

development programs and the subsequent challenges these programs create. Although agroforestry provides a great vehicle for which both human and biological security can be ensured, the difference in culture and worldviews create chasms between the application and long-term sustainability of such techniques. The prevalence of bylaws in Uganda illustrates the more traditional, village-centric approach to resource governance. Although collaboration between stakeholders and community members is nearly nonexistent in this case, the shear respect garnered by village elders was able to put through resource usage techniques that minimized conflicts. In contrast, the examples from Ethiopia and Tanzania represent efforts that encompassed, to a certain degree, inputs and efforts to include a wide array of community members. The degree to which collaboration and participation were implemented varied according to local social norms and resource availability; but in general, the inclusion of dynamic stakeholders and differing views were embraced without much hesitation. Farmers and communities had the ability to exercise their own research methods, which were combined with a formalized and institutionalized operational framework presented by the AHI. Therefore, enabling communities, like Ameya and Lushoto, to carry on conflict resolution processes more similar to collaboration and negotiation as the Western world perceives it.

The future of collaborative decision making process and community-initiated policy making depends heavily on the ability and willing of rural African communities to adopt a collaborative process framework. There has been no value judgment placed stating whether collaborative processed would prove to be more beneficial or harmful to these communities in the long run, but it is clear that a collaborative process allows for knowledge proliferation and self-determination- two characteristics vital for economic and social development.

Even so, one must not ignore the more traditional side of communities, where bylaws and social norms continue to dictate the way of life. The important point is to ensure that any collaborative and/or participatory processes in Africa be cognoscente of the social history and

norms of each and every community. A Western-styled collaborative framework must not be reproduced blindly in an African setting and applied to every African village; the framework's lack of cultural sensitivity will undoubtedly result in the framework's failure. In an age of integrated conservation and development, conflicts will undoubtedly arise more and more frequently. It will be interesting to see whether communities decide choose a more traditional or collaborative path and how communities decide to integrate such an institutionalized framework into creating a more "Africa-friendly" system.

Works Cited

Biggs, S. (1989). "Proposed methodology for analyzing farmer participation in the ISNAR OFCOR study." *Agricultural Administration Research and Extension Network*. Paper 17. London, UK: ODI.

German, L., S. Charamila, and T. Tolera (2006). "Managing trade-offs in agroforestry- From conflict to collaboration in natural resource management." African Highlands Initiative. Working papers #10: ODI.

Izac, A. and P. Sanchez. (2001). "Towards a natural resource management paradigm for international agriculture: The example of agroforestry research." *Agricultural Systems* 69:5-25.

McNeely, J. and G. Schroth (2006). "Agroforestry and biodiversity conservation- traditional practices, present dynamics, and lessons for the future." *Biodiversity and Conservation* 15:549-554.

Pretty, J. (2003). "Social capital and the collective management of resources." *Science* 32:1912-1914.

Raj Upreti, B. (1999). "Managing local conflicts over water resources: a case study from Nepal." AgREN Network. Paper #95.

Rudd, M. (2000). "Live long and prosper: collective action, social capital and social vision." *Ecological Economics* 34(234):131-144.

Sanginga, P., J. Tumwine, and N. Lilja (2006). "Patterns of participation in farmers' research groups: Lessons from the highlands of southwestern Uganda." *Agriculture and Human Values* 23: 501-512.

Sanginga, P., R. Kamugisha, and A. Martin (2007). "Conflict management, social capital and adoption of agroforestry technologies: empirical findings from the highlands of southwestern Uganda." *Agroforestry Systems* 69:67-76.

Uphoff N. and C. Mijayaratna (2000). "Demonstrated benefits of social capital: the productivity of farmers organizations in Gal Oya, Sri Lanka." *World Development* 28(11):1875-1840.