Non-governmental Organizations as an Important Actor in Agricultural Extension in Semiarid East Africa

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Abstract
Major theories are advocating a shift toward pluralistic agricultural extension models, in which the public and private sectors, including partners such as non-governmental organizations (NGOs), form coalitions to provide extension services (Anderson & Crowder, 2000). With the decrease in government funding in East Africa, it is unlikely that the public sector can fully provide all of the necessary support and service. NGOs have great potential in this realm; in fact, they already are playing a vital role especially in semiarid areas (Hargrave, 1999). This paper explores the role of non-governmental organizations in extension in semiarid East Africa. Included is a comparison of the “transfer of technology” model previously used by state extension with the NGO-favored “farmer first” paradigm. Strengths and weaknesses of NGOs are examined.

Background
Semiarid East Africa has numerous problems related to agricultural production. There are many constraints to producing food in such zones, while in high potential areas various technologies have significantly increased food production. Infertile soils, low erratic rainfall and pest infestations all play a role in making farming difficult in the semiarid zones. In addition, resources are limited. Many semiarid regions are far from markets and services such as credit, and they are lacking in infrastructure. Semiarid zones are further characterized by high malnutrition rates among women and children (McMillan & Sanders, 2001). Civil unrest, unfortunately a part of life in many semiarid areas, interferes with cropping cycles (Greijn, 2000). The high population growth characteristic of Africa is occurring also in dry zones, leading to environmental degradation and exacerbating the problems of these areas (Sanders, Shapiro, & Ramaswamy, 1996).

The term semiarid has been defined in many ways. This study will follow the definition used by Sanders et al. (1996, p. xviii) and Winrock International (1992, p. 16-17). Semiarid means an area where the rainfall ranges from 500 to 1000 mm per year. It is an area where drought-tolerant crops are the major crops, and rainfall shortages reduce yields on a regular basis.

Semiarid zones around the world have similar characteristics. Many of these regions are utilized by pastoralists who herd animals for a living. However, many farmers live there too and depend solely on rain-fed crops or else small irrigation schemes if they are fortunate enough to live near water. Risk and uncertainty are a way of life in semiarid regions (Scoones et al., 1996). Semiarid zones typically have had a low population density; however, that is changing as more and more people move to such marginalized areas due to population pressure.

Research and extension’s poor track record has also turned policy makers off to these areas. One strategy used by research and extension in semiarid zones has been to develop new cultivars for such areas. The diffusion of these technologies has not been overwhelmingly successful in semiarid zones, because the new cultivars did not greatly impact yields (Sanders et al., 1996, p. 29).

Further complicating the issue is the recent inability of the state to provide effective services at all to farmers, even in the high potential areas (Venkatesan & Kampen, 1998). The failure of early extension models and more recently the Training and Visit (T&V) model instituted by the World Bank has left a shell of extension structure in East Africa with limited ability to reach farmers in an effective way (Sanders et al., 1996; Gautam, 2000). The structural adjustment programs put in place by the International Monetary Fund and the World Bank helped to contribute to this problem by reducing investment by the public sector.

The resulting inability of state services to provide for farmers has led to a search for other potential actors, with the private sector emerging as one important provider of services. The private sector’s profit motive for services is
thought to make it more efficient. However, this sector tends to ignore areas such as dry lands where there is little chance of profit. The public sector is therefore still needed to advocate and intervene in areas where the private sector has no interest. The key problem here is that with the decrease in government spending, it is unlikely that the public sector extension will have the means to fully undertake the necessary support and services in the often-remote semiarid areas. This is where non-governmental organizations play a key role.

**NGOs as Extension Providers in Semiarid Regions**

As donors considered various options, NGOs emerged as a sector with several comparative advantages over the traditional extension providers (Kanyinga, 1993, p. 53). International donors did not initially recognize and fund NGOs nor include them in the development and research process (Hargrave, 1999; Sanders & McMillan 2001; Omolo, Sanders, McMillan, & Georgis, 2001). However, during structural adjustment, donors became interested in NGOs because they were non-governmental, and there was a desire during these reforms to cut down on the massive public sector (Mbati & Ngechu, 1999). That, plus a shift in development thinking to decentralization and privatization resulted in more attention being given to NGOs (Post & Ole, 1999).

NGOs, with their flexible and cost-effective techniques, grassroots-level contacts and penchant for sustainable projects are now at the forefront in many donors’ eyes (Kanyinga, 1993). Because of their commitment to social welfare, NGOs have been involved for decades among marginalized peoples in community development projects. NGOs have now rapidly expanded to fill the void left by the state and have had an increased demand for their extension services (Omolo et al., 2001). Kanyinga explains the key role of NGOs in extension:

> In the context of declining state investment and reduced capacity, specifically in the delivery of basic social services, a search for viable institutional actors that can adequately cope with the emerging problems and fill the evolving lacuna in the development space has started. The private non-profit voluntary sector has won the attention of both governments and the lending institutions in this regard. The importance of non-governmental organizations (NGOs), particularly in local development, has increased as the state’s development role has tailed off. (Kanyinga, 1993, p. 53)

**Two Extension Paradigms**

NGOs bring both strengths and weaknesses to the table in terms of extending agricultural technologies to farmers in semiarid areas. Instead of using top-down, “transfer of technology” (TOT) methodologies for diffusion as the state so often has done, NGO methods are along the lines of the “Farmer First” (also known as FF and Beyond FF) approach: participatory, demand-driven and client-centered.

In the TOT approach, technologies are generated at research stations and diffused to farmers using the extension service (Put, 1998). Technologies are spread vertically in this top-down approach. Not only technologies but also intangibles such as power, prestige and skills are located at these centralized stations (Put, 1998). The TOT approach is biased toward better-endowed farmers whose fields and infrastructure are like those of the research stations (Chambers & Ghildyal, 1986).

TOT has been a strong model because it has been very successful in some areas and instances, such as the Green Revolution, where tremendous increases in crop production were achieved in the 1960s and 1970s. It has been successful also in the United States, and so scientists from there have little reason to doubt the model (Chambers & Ghildyal, 1986). However, risk-prone areas such as semiarid zones are extremely complex, making it difficult for research on a well-endowed station to come up with appropriate technologies. Because the technologies are not adapted to specific low
resource contexts, the transfer of technology approach is not adapted to specific areas such as semiarid (Put, 1998, p. 6).

Farmer First, on the other hand, is a very different model in its view of farmers and scientist (Table 1). It is a “bottom-up” approach. It sees farmers as part of the entire process of technology generation, providing essential input and assisting in the design and evaluation of new technologies. These models both begin and end with the farming family and farming system. The farm, not the research center, is the central location to the model. Therefore it is believed that a farmer first approach will generate more appropriate technologies to farmers in low-resource areas such as semiarid.

Table 1

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<tr>
<th>Philosophy of TOT and Farmer First</th>
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<td>Factor</td>
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<td>Diffusion of technology</td>
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<td>Farmer’s role</td>
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<td>Scientist’s role</td>
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<td>Extensionists’ role</td>
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<td>Determination of research priorities</td>
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<td>Main research location</td>
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<td>Explanation of non-adoption</td>
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*Note. Adapted from Chambers and Ghildyal, 1985; Scoones and Cousins, 1996; and Scoones et al., 1996.*

Farmer First and related models have been utilized heavily by non-governmental development agencies. Farmer First and Beyond FF supporters believe that the transfer of technology model is not necessarily geared towards the needs of resource-poor farmers in semiarid regions. There seems to be a bias towards crops grown in the higher potential areas, and the higher potential areas themselves.

**Comparative Advantages & Weaknesses of NGOs**

NGOs have several advantages over other extension providers in addition to their methodology. NGO staffs are often better motivated due to timely provision of salaries by the organizations. Funds may be available and easier to obtain for transport and other operational costs. Bureaucracy is limited. The services are usually well managed—efficient and cost-effective. NGOs can be more flexible in their programs than the state extension system due to their size and philosophy. They are close to the ground in rural communities and usually have established credibility with them (Anderson & Crowder, 2000). The international NGOs also have important links with overseas networks. The proven accountability of many NGOs, together with their facilities, transport and personnel makes them an important partner in the development process.

On the other hand, NGOs depend on donors for support, making sustainability an issue. The time frame of NGO programs is often too short-lived, being dependent on funding and donor timetables. They are limited as far as the geographical area that they cover (Ameur, 1994). NGOs all have diverse philosophies behind the services that they provide, leading to different values and emphases in their service. It was also found that some NGOs were not good at giving feedback on the new technologies introduced (Omolo et al., 2001, p. 26; Sanders & McMillan 2001). Some NGOs are lacking in capacity in terms of staff, facilities and technological expertise.

NGOs have also been criticized for failure to develop methods for monitoring and evaluating their performance, providing accountability and conducting strategic planning (Edwards & Hulme, 1996). Although many larger international NGOs are required by donors and/or their philosophy to be accountable, this issue remains a crucial and too-often weak component of NGO extension.

NGOs are extremely diverse, so much so that it is hard to generalize as far as their strengths and weaknesses. Non-governmental
organizations today are such a mixture of characteristics and forms as to have almost lost their meaning. However, in spite of their limitations and because of their strengths, many NGOs in semiarid East Africa have established themselves as important players in the extension scene.

A New Model for Extension?
With the inability of past research and extension models in the semiarid areas to effectively assist in development, stakeholders have been considering the reasons for such failures. There were obvious flaws with the research and extension approach in dryland areas. What then is the best model for extension programs working in semiarid zones today? Purcell and Anderson (1997), Picciotto and Anderson (1997), and Umali and Schwartz (1994) have advocated the pluralistic extension model. Here the role of the state becomes that of a facilitator for the many other actors involved in extension such as NGOs, farmers’ groups and private extension (McMillan & Sanders, 2001).

In pluralistic extension systems—“coalition systems,” according to Anderson and Crowder (2000)—multiple partners work together, acknowledging that each does not have all the necessary skills or knowledge for the job. Instead, they build on each other’s knowledge, skills and strengths.

NGOs are not a “magic bullet,” able to solve the problems of agricultural development, and possessing no flaws. Nor can NGOs effectively provide extension services without the assistance of the state and other players. The state has the advantage of formal linkages with research and other stakeholders. They already have well-trained personnel and infrastructure in place. The public sector also has a wide geographic coverage. Private services also have advantages such as efficiency and links to input providers.

In spite of their disadvantages, however, NGOs and their extension programs are crucial players in the semiarid areas. The question that arises is how best to use them. NGO extension programs can be encouraged by the state through both official recognition and technical assistance (Kandie, 1997). The state can utilize NGOs through outsourcing and cost-sharing, while at the same time cutting their own costs (Gautam, 2000). Some NGOs already use the ministry of agriculture staff, who are trained in extension and have access to technology, yet have no funds for travel and operational expenses. It is fairly common for government extension agents to work through alternative providers such as NGOs and the private sector (Gautam, 2000). In East Africa there are also examples of “contracting in,” where NGOs actually finance state extension services (Anderson & Crowder, 2000; Omolo et al., 2001). Bilateral organizations such as GTZ (German Technical Cooperation) and SIDA (Swedish International Development Agency) and also the Food and Agriculture Organization of the United Nations have provided financing through various programs in Kenya. By working together, extension providers can cover more ground, avoid duplication and, most importantly, reach the low resource areas such as the semiarid zones.

Conclusion
In light of past failures and current conditions, what is the best way forward in providing extension services to small-scale farmers in semiarid zones in East Africa? This paper argues that the best model when considering the present economic state, the needs of low-resource farmers and present providers in the area is a pluralistic model that capitalizes on the strengths of all players and in which NGOs play a crucial role. The new approach includes “coalition systems” between autonomous and equal partners, who acknowledge the skills and knowledge of other players and work together to make extension effective (Anderson & Crowder, 2000).

State and NGO extension should work together efficiently in the model, bringing together the technical expertise of public extension and the NGOs’ ability to mobilize communities. Other research and extension players such as farmers, universities, private companies, community-based organizations and cooperatives can also add their strengths to the mix. Dialogue must be opened up between the various players to determine how they can best work together. Formal linkages such as memoranda of understanding between these groups will also benefit the various players. Finally, because NGOs play a key role in semiarid zones and are often mentioned in extension models, their role needs to be better understood (McMillan & Sanders, 2001) in order to best utilize their strengths.
The problems of semiarid East Africa are multitudinous and complex. Technology and its transfer through extension alone will not solve the problem. However, both technological innovations and sociological change must be simultaneously addressed and explored in a participatory manner by all of the players involved in order to bring about sustainable positive change.

References
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