A COMPARATIVE STUDY OF FARMERS' PARTICIPATION IN TWO AGRICULTURAL EXTENSION APPROACHES IN TANZANIA

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Abstract

Two approaches of agricultural extension work in Tanzania, the Training and Visit System (T&V) and Sasakawa Global 2000 (SG 2000), were compared on the extent to which they incorporated participatory practices in planning, implementing, and evaluating programs, used methodologies to enhance farmers' participation, and assisted in delivering program benefits. Data were collected through personal interviews from a random sample of 300 farmers residing in 30 villages, and from 26 local level village extension officers. Four focus group interviews were also conducted in four villages with six to eight farmers in each village. It was found that neither approach employed genuine participatory approaches in programming activities. There was more emphasis on involving farmers in implementing programs than on providing for their participation in planning and/or evaluating the processes or outcomes of their programs. Even though farmers participating in SG 2000 achieved significantly greater benefits compared to those participating in T&V, neither approach seemed to allow for mechanisms to promote self-generating resources to ensure continuity, confidence, and hope.

Introduction

Agriculture is the backbone of the economy of Tanzania. It is the major employer of the people, contributes about 55% to the gross domestic product, and brings in about 80% of the country's total foreign exchange earnings. Furthermore, food crops production in the country supports a population of more than 29 million Tanzanians which is growing at a rate of more than 2.8% per year.

To bring about rapid agricultural growth, the country has, since independence in 1961, embarked on various projects and programs in rural development, including agricultural extension. However, despite the government's investment and donors' support in agricultural development programs, the agricultural sector has not shown significant improvement (Lele, 1991).

To some extent, lack of agricultural development in the country has been attributed to deficiencies in the agricultural extension system. By and large, extension projects and programs in Tanzania have been criticized for being top-down or lacking genuine farmers' participation (Mannion & Brebony, 1990; Mpesha, 1976; Oliech, 1975). Government leaders in the country, on the other hand, have emphasized that people should be given the
“…freedom to participate in the making of all decisions which affect their lives” (Nyerere, 1968, p.51). Furthermore, the guiding principle of the ruling party in Tanzania states:

The obligation of our party is to ensure that the leaders and experts implement the plans that have been agreed upon by the people themselves...it is not correct for leaders and experts to usurp the people’s right to decide on an issue just because they have the expertise (TANU1, 1971, paragraph 28).

Despite these exhortations and proclamations, participation of people in Tanzania's development has not taken root. Government officials and rural development experts support the idea of participation in principle, but in practice there is no common agreement on what participation entails. For example, one view of participation is people's contribution of their labor to the implementation of a project designed by planners (Rahman, 1991). This type of participation, with all its good intentions, may lead to serious flaws in project execution because it fails to address the complex nature of the farmer and his or her farm (Nagel, 1992).

In its true meaning, genuine participation of people is non-directive and does not impose ideas on them; it is based on a dialogical process; it is educational and empowering; starts from what people know and from where they are; is based on resources mobilized by them; relies on their collective effort; promotes self-reliance but acknowledges the partnership among individuals and their change agent as co-learners (Burkey, 1993; Oakley & Marsden, 1985). Therefore, contrary to the general practice in rural development, people's participation is not limited to farmers attending meetings or contributing their labor to the implementation of projects designed by officials.

Genuine participation also entails the active involvement of people in the planning process and is enhanced by their interaction with experts through educational methods that increase the influence farmers can exert upon the program planning process. However, it has been noted that the realities of Tanzania and other African countries may not support truly participatory approaches (Zaman, 1992). This argument has been partially responsible for the emergence of agricultural extension approaches that promote the transfer of technology through tightly managed organizations as a prerequisite for successful extension practices. On the other hand, advocates of participatory extension approaches provide little insight as to how to go about resolving the contradictions and paradoxes participation unveils when introduced into systems with rigid power structures and long histories of top-down approaches to decision-making.

This study is an attempt to provide further insight into the complex phenomenon of participation by comparing two strategies for agricultural development through extension approaches which are perceived to differ in the extent to which they incorporate participatory methodologies in the planning, implementation, and evaluation of their programs. The approaches are the Training and Visit System (T&V) and the Sasakawa Global 2000 Program (SG 2000), an example of the non-governmental organization (NGO) approach. The study also examines the extent to which the two approaches have promoted or enhanced participation benefits. The specific purposes of the study were:

1. Ascertain levels of farmers' participation in the T&V and SG 2000 extension approaches.
2. Develop an understanding of factors which may enhance farmers' participation.

The T&V program in Tanzania was launched in 1986 as part of the National Agricultural and Extension Rehabilitation Program, funded by the World Bank. Major features of T&V are (a) professionalism, or building of a professional...
extension service, (b) single line of command, (c) concentration of effort, (d) time-bound work or operating in a regular and timely fashion, (e) field and farmer orientation, (f) regular and continuous training, and (g) linkages with research (Benor & Baxter, 1984).

The SG 2000 program in Africa was launched in 1986 by Ryoichi Sasakawa of Japan in collaboration with former U.S. President Jimmy Carter and Nobel Peace Prize laureate Norman Borlaug. Six countries in Africa are currently implementing the program, and each has modified the SG 2000 approach to fit its own situation. However, common features of the program are (a) improving productivity in staple food crops grown by small-scale farmers, (b) use of locally generated research technology, (c) effective use of local extension staff, (d) field orientation and strengthening the research-extension-farmer linkage, (e) bringing about immediate and significant benefits to farmers by using well-managed and large demonstration plots, and (f) supplying in-kind farm credit to farmers organized in small groups or clusters (Borlaug, 1989).

Methodology

Sources of data for the study were farmers participating in the two approaches, extension workers responsible for the approaches, and official documents and records containing historical, organizational, and evaluative information. The study used two interview schedules: one for farmers, and one for extension workers.

A purposive sample of four districts representing major agricultural zones in Tanzania was selected: Babati district represents the Northern Highlands; Dodoma and Singida districts the Central Plateau; and Mbeya district the Southern Highlands. Dodoma and Babati districts are covered by both extension approaches. Singida district has T&V and other minor extension programs but is not covered by SG 2000. Mbeya district implements the SG 2000 and other programs but not the T&V program.

A two-stage, random sampling procedure was used to yield a total sample of 300 farmers. First, 30 villages were selected, then 10 farmers per village. In Dodoma and Babati, random samples of 10 villages per district were selected. However, in Mbeya and Singida, only five villages per district were selected since a smaller number of villages were involved. In each village, all farmers covered by the program were included in the sample frame. In each selected village, the village extension officer (VEO) was included in the study. The ten farmers and the VEO from each village were interviewed individually. The interviews in each district were conducted by an extension worker who was trained for this purpose. A total of four interviewers were involved in gathering the data. In addition to the individual interviews, qualitative data were collected through focus group interviews held in four villages in Dodoma district, two villages covered by the SG 2000 program and two covered by the T&V program. Each focus group consisted of 6 to 8 farmers and was tape-recorded with the permission of the participants. One of the authors doing the field work for the study facilitated the focus group interviews. Analysis of the focus group data was an ongoing activity and involved a “consideration of words...nonverbals, frequency, extensiveness, intensity, specificity of responses, and big ideas,” (Krueger, 1994, p.133) and was further refined by reordering of the major themes after transcribing.

Quantitative data from the personal interviews were analyzed using the Statistical Package for Social Sciences (SPSS). The analysis included descriptive statistics and the chi square, t and Kruskal-Wallis tests.

As pointed out earlier, the selection of villages for the study was based on whether they were recipients of the SG 2000 program or the T&V program. However, while conducting interviews, it was revealed that some farmers had been targeted by both programs. There was a total of 85 such cases. The remaining 215 interviewees consisted of 62 farmers who had...
participated only in the SG 2000 program and 153 farmers who had participated only in the T&V program. The study findings are based on comparing data collected from these two distinct groups.

Findings

Farmers' Characteristics

As can be noted in Table 1, out of five farmer characteristics considered in the study, one characteristic (size of farm) was differently represented in the two approaches. The T&V participants cultivated significantly larger areas of land both in the 1994 and the 1995 seasons. Another characteristic, age of farmers, was also different in the two approaches. SG 2000 participants were, on the average, 5.5 years older than T&V participants. There were no significant differences between the two approaches in regard to gender, level of education, and leadership position.

Table 1

Percentages and Means of Certain Farmer Characteristics in the SG 2000 and T&V Approaches

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Category</th>
<th>SG 2000 (n=62) %</th>
<th>T&amp;V (n=153) %</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Men</td>
<td>80.6</td>
<td>90.2</td>
<td>3.67</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>19.4</td>
<td>9.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Less than primary</td>
<td>29.0</td>
<td>26.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>62.9</td>
<td>69.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary &amp; higher</td>
<td>8.1</td>
<td>3.9</td>
<td>1.94</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Leadership Position</td>
<td>Leaders</td>
<td>46.8</td>
<td>39.2</td>
<td>1.04</td>
</tr>
<tr>
<td></td>
<td>Non-leaders</td>
<td>53.2</td>
<td>60.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Measure | Mean | Mean | t-value
--- | --- | --- | ---
Size of Farm | 1994 hectares | 1.8 | 2.9 | -3.26**
| 1995 hectares | 1.9 | 3.2 | -3.21**
| Years | 46.6 | 41.1 | 2.67**

** p ≤ .01
It is interesting that all but 1 of the 26 extension workers (5 SG 2000 and 21 T&V) in the study agreed that farmers were not involved to any appreciable extent in any of the planning activities. What is most revealing, however, is some of the remarks of farmers who participated in the focus group interviews. One farmer participating in SG 2000 stated, “…in actual fact, the project was not initiated by the people here, but, when extension authorities thought of where to initiate project demonstration plots, they also included our village, starting with ten farmers.” Another farmer commenting on SG 2000’s supporting only one crop, Tegemeo (sorghum variety), said:

In this village, there might be a person who dreams every day of planting pearl millet, another for Tegemeo, yet another would like to grow peanuts, but they don't have the technology. Others want to grow cassava. I would like the Ministry of Agriculture (extension programs) to consider our position. (Agricultural programs) should give us various courses that are acceptable in our area, be it cassava, pearl millet, Tegemeo, sunflower, every crop so that a farmer doesn't get stuck while there is a way out. Therefore, I would request training for every crop that would grow well in our area, so that if one crop fails, such as Tegemeo, I will be rescued by cassava; this is a way to food security.

There was considerably more farmer involvement in the implementation phase of programs, especially SG 2000. The differences between SG 2000 and T&V were highly significant in regard to all implementation activities. For all but one activity (organizing field days), from one-third to three-fourths of the farmers in the SG 2000 group indicated they were greatly involved in implementation activities: 35.5% organizing study tours; 43.5% training others; 62.9% planting demonstrations; 77.4% mobilizing resources. In contrast, the highest figure for great involvement in any of the implementation activities for T&V was 28.8%. Extension workers’ responses confirmed farmers’ reactions. All 21 T&V extension workers indicated that farmers were not greatly involved in 4 of the 5 implementation activities, whereas 3 of the 5 SG 2000 extension workers interviewed indicated that farmers were greatly involved in training others; 4 felt that they were greatly involved in mobilizing resources, and all 5 felt that farmers were greatly involved in planting demonstrations.

Even with relatively high participation in implementation, farmers in the focus groups were still critical of some activities. For example, in regard to selecting farmers for study tours, one farmer referred to his friend’s selection this way: “(he) was selected, but we don't know what he went to learn there. Maybe he just went there to see wild animals in the Serengeti National Park, using the Sasakawa ticket. When he came back, he refused to join the program. You see, we interested farmers were left out.”

As far as participation in the evaluation process was concerned, neither extension approach allowed for high involvement, even though SG 2000 seemed to involve farmers more, especially in impact assessment, compared to T&V. Only 10.5% of the T&V group indicated they were involved to a great extent compared to 33.9% of the SG 2000 group. Extension workers’ reactions and focus group comments also confirmed little if any farmers’ participation in evaluation activities.

**Activities Enhancing Participation**

The extent to which the two extension approaches utilized training, participatory small groups, learning materials, and indigenous knowledge to enhance participation is shown in Table 3. While both approaches made extensive use of farmers’ training, few allowances were made to encourage farmers to train other farmers. Most training was provided by the VEWs. Both approaches made use of farmers’ small groups; however, a relatively small proportion of farmers (39.5% SG 2000 and 25.7% T&V) indicated that their selection to these groups was based on mutual interest. In the case of T&V, both leaders and VEWs were
involved in assigning farmers to the groups, while SG 2000 participants were assigned for the most part by VEWs. SG 2000 supplied significantly more learning materials such as magazines, leaflets, and posters and made slightly more concerted efforts to adapt recommended technical practices to the indigenous knowledge of farmers than did T&V.

Benefits

The study employed four indicators of program benefits: increases in crop yields, livestock productivity, family food security, and family income. Farmers were asked to indicate to what extent their participation in the extension programs helped them to receive these benefits. Their responses ranged from “it didn't help them at all” to “it helped them a great deal.” Data presented in Table 4 show that 61.3% of the participants in SG 2000 felt their participation helped them greatly to increase family food security: 50.3% said the same about increase in crop yields; 37.1% about increase in family income; and 27.4% about increase in livestock productivity. The corresponding values for T&V were around 9% for all four benefits. The majority of the 21 T&V VEWs (62% or more) felt that participating in T&V did not enable farmers to receive great gains. None of the SG 2000 VEWs said the same about farmers.

Table 3

Farmers' Responses to the Use of Participation Enhancing Activities in SG 2000 and T&V Approaches

<table>
<thead>
<tr>
<th>Used</th>
<th>Not Used</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SG 2000</td>
<td>T&amp;V</td>
</tr>
<tr>
<td>Training&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers' training</td>
<td>95.2</td>
<td>95.4</td>
</tr>
<tr>
<td>Farmers training others</td>
<td>13.8</td>
<td>13.6</td>
</tr>
<tr>
<td>VEWs as trainers</td>
<td>100.0</td>
<td>99.3</td>
</tr>
<tr>
<td>Small Groups&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers' small groups</td>
<td>67.7</td>
<td>90.8</td>
</tr>
<tr>
<td>Mutual interest selection</td>
<td>39.5</td>
<td>25.7</td>
</tr>
<tr>
<td>Assigned by leaders</td>
<td>25.6</td>
<td>77.1</td>
</tr>
<tr>
<td>Assigned by VEWs</td>
<td>86.0</td>
<td>97.1</td>
</tr>
<tr>
<td>Supplying Learning Materials&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magazines</td>
<td>41.9</td>
<td>22.9</td>
</tr>
<tr>
<td>Books</td>
<td>27.4</td>
<td>24.2</td>
</tr>
<tr>
<td>Leaflets</td>
<td>56.5</td>
<td>19.6</td>
</tr>
<tr>
<td>Posters</td>
<td>46.8</td>
<td>13.1</td>
</tr>
<tr>
<td>Adapting Indigenous Knowledge&lt;sup&gt;d&lt;/sup&gt;</td>
<td>24.2</td>
<td>11.8</td>
</tr>
</tbody>
</table>

<sup>a</sup> n: SG 2000 = 58; T&V = 147

<sup>b</sup> n: SG 2000 = 43; T&V = 140

<sup>c</sup> n: SG 2000 = 62; T&V = 153

<sup>d</sup> n: SG 2000 = 62; T&V = 153

<sup>e</sup> Chi-square not valid

* p ≤ .05

** p ≤ .01
participating in SG 2000. Farmers told numerous stories during the focus group interviews indicating their satisfaction with the gains they had made as a result of participating in SG 2000.

Conclusions and Implications

Neither T&V nor SG 2000 employed genuinely balanced participatory approaches in their extension programming efforts. There was more emphasis on getting farmers to implement programs than on making provisions to involve them in planning what was to be implemented or evaluating the processes or outcomes of their programs. It was clear that SG 2000 achieved a much higher rate of participation in the activities designed to promote its program objectives than T&V was able to achieve. However, this could be largely due to the allocation of more resources to these activities compared to T&V.

Both extension approaches relied on traditional methods and techniques to enhance farmers’ participation in their program. These methods and techniques invest decision-making power in the agency and its representatives, rather than give a voice to farmers to renegotiate the organization and operation of participation-enhancing methodologies. For example, training was introduced as a one-way process, with the agency selecting who was to be trained, what the training would be in, who would be the trainer, where the training would take place, and how it would be conducted. Other opportunities for participation were approached in a similar manner. The consequences of these actions were the typical giver-receiver, donor-beneficiary, knower-not knower dualities that have permeated most agricultural and rural development programs.

While farmers participating in SG 2000 reported achieving significantly greater benefits compared to those participating in T&V, neither approach seemed to allow for mechanisms to promote self-generating resources to ensure continuity, confidence, and hope. One farmer commented on the SG 2000 program which was being phased out of their village in the Dodoma district by likening it to helping a toddler walk: “You would teach him till he learns to walk on his own,” he said, referring to what he considered a premature phasing out of the program. Farmers repeatedly spoke of participation not being an act pursued individually but as lateral interaction amongst farmers within a village and across villages, as well as vertical interaction with agricultural experts, policy makers, bankers, input suppliers, and the marketing sector. They stressed the importance of working and interacting with all these sectors as a mutual support team.

While it is important that farmers get early, recognizable benefits, such as increased crop yields, it is also important that programs aim at helping them empower themselves to embark on a dynamic and self-propelling participatory process. There are no specific techniques that can be applied across the board to ensure sustained participation and empowerment. Every program needs to create opportunities that respond to its specific socioeconomic, cultural, political, and environmental realities. In retrospect, looking at this particular case in Tanzania, the following actions might have paved the way for enhancing empowerment through participation:

1. Making sure that adequate investments were made for educational activities and materials, in addition to the usual investments for supplying production inputs. Participatory farmer training, study tours, field days, and farmer-to-farmer training opportunities did not receive adequate allocations.

2. Programs could have been aimed at helping farmers identify alternative solutions to their problems rather than prescribe recommendations that did not address farming as a system. As farmers in the study suggested, the programs should have provided a variety of options so that they “don’t get stuck in the way,” as one farmer put it, if the recommended practice did not work.
3. Extension programs could employ participatory mechanisms for accessing, assessing, documenting, disseminating, and re-evaluating indigenous knowledge. Farmers in the focus group discussions mentioned that while medical doctors have made good progress in promoting indigenous practices, agricultural researchers and extension workers lag far behind. Participatory, farmer-managed research plots, researcher-farmer-extension worker field days, and village-based meetings in workshops could help in promoting development and use of indigenous knowledge.

4. Coordination with agri-support services is also important. Initially, a participatory program may provide services to a small group of pioneer farmers. However, representatives of the agri-support community should be invited to join in planning, implementing, and evaluating activities. Their involvement is more likely to ensure development of appropriate mechanisms to provide services for farmers when a program has been phased out.

References


Mpesha, M. A. L. (1976). The effect of participation in decision-making on commitment to Ujamaa work: Special project. Morogoro, Tanzania: Department of Rural Economy and Extension, Faculty of Agriculture and Forestry.


**Endnotes**

TANU - Tanganyika African National Union was the ruling party from 1961 to 1977 when it changed its name to C.C.M. (Chama cha Mapinduzi or the revolutionary party) which still rules today.