EDUCATIONAL IMPACTS OF THE TRAINING AND VISIT EXTENSION SYSTEM ON SMALL FARMERS IN THE WEST PROVINCE OF CAMEROON

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Abstract

A mid-1980s evaluation of the national extension system in Cameroon revealed an inefficient and ineffective system not fulfilling its mission to alleviate poverty in farming areas. Stakeholders felt a strong need to revitalize and change the approach. In 1988, the Training and Visit Extension System (T&V) was adopted as a new approach. Impacts of the new approach on the target population in the West Province, one of the ten provinces of Cameroon, are described in this paper. Sixty farmers from Mbouda Extension Zone, where T&V was pilot tested in 1988, completed a three-part questionnaire identifying demographic characteristics, frequency of contact with the village extension worker (VEW), and changes in knowledge and adoption. After five years of T&V implementation, only 30% of the respondents in the sample reported contact with their VEW. The other 70% were not directly served by the T&V system. The authors recommend that T&V must be replaced with a more participatory approach that will facilitate joint problem solving and lead to more farmer-to-farmer sharing of expertise and resources.

Introduction

In the early eighties, the Food and Agriculture Organization (FAO), the US Agency for International Development (USAID), and the World Bank supported an assessment of the national extension system in Cameroon. The diagnosis revealed a number of weaknesses in a system that was not fulfilling its mission to alleviate poverty in farming areas. It was recommended that the country adopt the Training and Visit Extension System (T&V) as a solution to the plight of the current approach (Lucani et al., 1987). In 1988, the National Agricultural Extension and Education Program (NAEEP), based on the philosophy of T&V developed by Benor and his associates was launched, with financial assistance from the World Bank (Benor & Baxter, 1984; Benor & Harrison, 1977).

Those change agents who had been involved with the T&V project, at both national and local levels in Cameroon, had voiced considerable praise of the T&V approach. However, there was a more general perception that it had been unsuccessful in reaching poor small farmers. The authors of this study sought to examine local impacts of the new extension approach,
interacting directly with the target population, to inform the debate.

**Purpose of the Study**

The researchers looked for educational impacts of T&V on small farmers in the West Province of Cameroon. They examined the impact on knowledge and practice change of a sample of selected clients in Mbouda extension zone.

**The Training and Visit Extension System in Cameroon**

The Republic of Cameroon covers an area of 475,000 square kilometers, characterized by climate ranging from sahelian in the north to equatorial in the south. Its population of 13.1 million inhabitants, growing at an annual rate of 2.3%, consists of 224 ethnic groups and cultures. About 40% of the rural population, concentrated in the extreme north and western highlands, lives in absolute poverty with an annual per capita income of US $820 (Population Reference Bureau, 1994). A high percentage of people (67%) live in the rural west and find their livelihood from agriculture and livestock. With the densest population area of the country, the West Province of Cameroon is the smallest of ten provinces, covering an area of 13,883 square kilometers with 1,339,791 inhabitants.

The extension service was established by the Germans, French, and British. Since the early 1980s, institutional changes have taken place in an effort to set up an efficient system of extension to promote the expansion of cash crops and livestock, and to improve the living standards of rural dwellers.

Even though extension services are provided by various institutions, the Ministry of Agriculture (MINAGRI), with its 2,800 field staff is the most important. Since its creation, there has never been a uniform monitoring and evaluation of the extension services. Managerial difficulties within MINAGRI and bureaucratic bottlenecks prevent close links between extension agents and researchers (Lucani et al., 1987; Tchouamo, 1987). The educational level of field staff is low--only a First Leaving School Certificate supplemented by two weeks training at a rural training center (Tchouamo, 1986). The average extension worker in the West Province must assist 653 farmers, much higher than the recommended ratio of 1:323 (Lucani et al., 1987). The budgeting system is heavily centralized, with field staff having little autonomy.

The T&V system was perceived as a solution to extension problems in Cameroon. Launched in July 1988, the main objective of the T&V project was to “support government efforts to alleviate the major constraints hampering the effectiveness of the extension services and to achieve sustained increases in both agricultural production and farm incomes” (Fondouop, 1993, p.34). The project included both national and provincial level activities concentrated around three main sectors: extension services, training, and information.

Benor believed that a key component of extension is that the village extension worker (VEW) must be in regular contact with clients. It was expected that the contact farmers would then become extension agents to other farmers (Benor & Baxter, 1984). When T&V was started in the Bamboutos Division of the West Province, a list of 2,880 farmers was compiled from the 1977 general population census report and documents provided by a local coffee farmer cooperative. A group of 110 individuals was selected from this list to participate as T&V contact farmers. The remaining 2,770 farmers were intended to be served indirectly through interaction with the contact farmers.

**Conceptual Framework**

Horton (1990) believes it is impossible to establish a causal relationship between extension services and yields because of multiple causation between extension and other possible effects. Therefore, he proposed that the focus of extension program monitoring and evaluation should be shifted away from agricultural end results and toward the provision
of project services and farmers’ responses to them.

Cernea and Tepping (1977) indicated that the strategy in establishing impact indicators for the T&V system is not restricted to yield. They presented a list of evaluation indicators, including institution-building, and extension performance indicators, such as exposure to extension, visits, and adoption of farming practices. The analysis of program impact is an integral part of the T&V system (Benor & Baxter, 1984). Mohamed and Gamon (1995) based their analysis on Bennett’s chain of events in extension programs (Bennett, 1977; Mohamed & Gamon, 1995). They indicated that the evaluation of T&V should pay attention to its impact on inputs, extension activities, people involvement, clients’ reactions, change in knowledge, skill, attitude and aspiration, practice change, and end results.

Most evaluation studies of T&V have focused on the macro-level (Bagchee, 1995; Gentil, 1987; Levi & Kam, 1987; Mohamed & Gamon, 1995; Russel, 1987). Alternatively, this study sought indications of knowledge and practice change among poor small farmers in the West Province of Cameroon to better understand what is happening at the micro-level. The findings will help T&V management, policy-makers, donors, and the general public to improve the extension system in Cameroon for the benefit of small farmers.

Methodology

Primary data were collected from a sample of small farmers in Bamboutos Division, one of eight administrative units of the West Province. The main food producing area, Bamboutos Division has hosted the T&V program for the longest time, having been pilot tested there in 1988 before expansion to other divisions of the province. Out of the 215,523 inhabitants, over 80% live in rural areas. Only farmers from Mbouda subdivision, one of four units of the Bamboutos Division, were included in the study. A systematic sampling of 60 farmers (the highest number possible because of limited resources) was done by designating every 48th name from a list of 2,890 farmers provided by the VEW for interview.

The instrument consisted of a three-part questionnaire. The first section identified age, gender, marital status, level of formal education, and the language of communication with the VEW. The second section dealt with frequency of contact between the VEW and farmers and the themes discussed (Cernea & Tepping, 1977). The third section assessed the level of improvement of the respondent’s knowledge, application, and utilization of the VEW’s recommendations. The draft questionnaire had been distributed to colleagues in the Department of Rural Sociology and Agricultural Extension for comments and feedback. A pre-test was conducted with farmers near the University of Dschang.

Field data were collected by a trained fifth year student from February to May 1993. The questionnaire was hand-delivered to the selected farmers. An appointment was set for completion and further discussion. Each respondent had to be contacted 2-4 times, over a four-month period, before the interviewer was able to collect data from 55 farmers. Five additional farmers replaced the five in the original sample who could not be contacted during the data analysis period.

Findings

The average age of the respondents was 43 years, less than the national average of farm operators in Cameroon (55 years). The Bamileke society, predominant ethnic group in the area, has male heads of household. Only 3% of the sample were female, even though the 1984 agricultural census indicates that 24.2% of farmers in the West Province were women (République du Cameroon, 1987). Extension, including T&V, pays little attention to women farmers, who are the main food producers. As in the colonial era, T&V encourages export crops, grown predominantly by men.
A little over a quarter of the respondents (26%) had never attended any school, while 50% had completed the elementary level of education. The VEW deals primarily with illiterate farmers. The local dialect and pidgin English are the main channels of communication, while extension messages are developed in the French language.

After five years of T&V implementation, only 18 of the 60 potential clients (30% of the respondents) in the sample reported contact with their VEW. The other 42 respondents reported that they had no knowledge of the VEW, and were not served by the T&V system. Those 18 farmers who knew or had contact with the VEW form a sub-group that will be the focus of analysis and discussion in the remainder of this paper.

Data in Table 1 indicate the frequency of contact for the sub-group of 18 farmers who had knowledge of the VEW. The reader is reminded that the other 42 respondents reported no contact with the VEW and are not included in subsequent displays of data.

Less than one-fifth (17%) of this sub-group of respondents knew the VEW more than two years. Two-thirds of the meetings that the VEW had with the farmer lasted less than 60 minutes.

Sub-group respondents indicated that visits were frequent during the cropping season, with the VEW spending most time on demonstration of new agricultural practices. As crops grew, the visits became less frequent, and even so short that the VEW could not answer all the contact farmer’s questions. Respondents said that a visit by the VEW conferred status upon contact farmers. Because of this, the VEW was encouraged to visit often. Clients reported that they often provided gifts to the VEW. During the off-season, respondents reported that the VEWs spent considerable time socializing, often ignoring the primary objective of the visit.

The main themes of discussion during VEW visits were farm management (problems related to mixed cropping patterns), crop rotation, application of fertilizers and pesticides, government price policy of agricultural inputs and outputs, supply of high-yielding seed varieties, group dynamics, crop processing and storage, applications for subsidized loans, and demonstration of new methods of cultivation (staking, marking, and flat plowing). Even though the T&V system emphasizes the role of education rather than regulation, the respondents indicated that the VEW spent considerable time on loan applications, input supply, and sales of outputs.

Table 2 presents data on the frequency and percentages of farmers in the sub-group who found it difficult to apply the VEW’s recommendations. A majority of the farmers indicated that it was difficult to: store maize (94%); fill loan applications (88%); apply pesticides/insecticides on crops (83%); cultivate without ridges (83%); manage a poultry farm; and work in groups (61%). This may have resulted from VEW recommendations that required a high level of knowledge application, combined with use of more complicated equipment. For example, storing maize in cribs requires space and materials that are usually not available to small farmers. Applying pesticides/insecticides requires that the applicator not only know which product is appropriate, but also learn the use of a pump and other equipment.. Filling loan applications presupposes a rather high level of reading ability, in contrast to the low literacy levels represented by the study’s population. On the other hand, 94% of sub-group respondents reported that they could easily rotate crops, and 83% thought that they could effectively apply fertilizers, signaling that T&V was most successful in getting adoption of these two crop production recommendations.
Table 1

Frequency of Contact Between Farmers\(^a\) and the VEW

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>%</th>
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<tbody>
<tr>
<td>1. Time the respondents knew the VEW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 6 months</td>
<td>7</td>
<td>39</td>
</tr>
<tr>
<td>6 months - 2 years</td>
<td>8</td>
<td>44</td>
</tr>
<tr>
<td>More than 2 years</td>
<td>3</td>
<td>17</td>
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<tr>
<td>2. Time spent with the VEW per visit</td>
<td></td>
<td></td>
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<tr>
<td>Less than 60 minutes</td>
<td>12</td>
<td>67</td>
</tr>
<tr>
<td>60-90 minutes</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>More than 90 minutes</td>
<td>2</td>
<td>11</td>
</tr>
</tbody>
</table>

\(^a\) n=18

Table 2

Application of VEW recommendations by Farmers\(^a\)

<table>
<thead>
<tr>
<th>VEW recommendations</th>
<th>Difficult to apply recommendation</th>
<th>Frequency</th>
<th>%</th>
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<tbody>
<tr>
<td>1. Conservation and storage of maize in cribs</td>
<td>Yes/No</td>
<td></td>
<td></td>
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<tr>
<td>2. Filling loan applications</td>
<td>Yes/No</td>
<td></td>
<td></td>
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<tr>
<td>3. Application of pesticides/insecticides on crops</td>
<td>Yes/No</td>
<td></td>
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<td>4. Utilization of flat plow</td>
<td>Yes/No</td>
<td></td>
<td></td>
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<tr>
<td>5. Management of a poultry farm</td>
<td>Yes/No</td>
<td></td>
<td></td>
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<tr>
<td>6. Working in groups</td>
<td>Yes/No</td>
<td></td>
<td></td>
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<tr>
<td>7. Application of fertilizers on crops</td>
<td>Yes/No</td>
<td></td>
<td></td>
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<td>8. Rotation of crops</td>
<td>Yes/No</td>
<td></td>
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</tbody>
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\(^a\) n=18

Conclusions

Scholars are finding that, despite some gains, T&V is not yielding the same high impact in Africa that was reported on other continents (Bagchee, 1995; Fondouop, 1993; Gentil, 1987; Russell, 1987). In Asia, T&V was implemented on top of an efficient support system of agricultural credit and agricultural research. In Cameroon, the VEW continues to perform a necessary supply and regulatory function, in contrast to the T&V philosophy, and is still lacking an adequate support system for T&V implementation.

The finding that 70% of the respondents in this study did not know or have any interaction with their VEW is a sign that the simple goal of establishing regular contact with farmers in a T&V pilot project has been a problem. Furthermore, of the 30% of respondents in the study region who did have contact with their VEW, only 17% had known the VEW for more than two years. Penetration by T&V was very limited, falling short of expectations.

There are numerous financial and cultural factors that prevented farmers from adopting recommendations for VEWs. Small farmers indicated considerable reluctance, and often unwillingness, to share information and
resources with others, believing the risk of losing something was too great. The researchers found that there is a climate of individualism and lack of trust. In this environment, T&V has recommended organizing clients into working groups as a means of facilitating extension communication to overcome some of the problems of individualization. However, the top-down T&V management approach has provided VEWs with little preparation or modeling for facilitating group dynamics in difficult environments, such as the West Province.

**Recommendations**

Adding a regulatory function to the role of an extension worker hinders client willingness to adopt and apply recommendations. T&V was intended to divorce the VEW from regulation, but respondents in this study indicated that the agent still performs these roles. For the extension program to be effective, the regulatory function must be provided in another manner, ideally as part of civil service reform.

The extension system in Cameroon must shift toward more of a participatory approach where small farmers, extension workers, and researchers collaborate for their common good. A climate should be engendered where relationships of collaboration, including recognition of the efforts of nongovernmental organizations involved in extension activities, predominate over the threats of unhealthy competition between individuals and groups (Mattocks & Steele, 1994). Success in attaining participation will help to address some of the institutional and cultural factors that hinder group methods of extension. Increasing participation in extension will also help facilitate shared problem identification, collaborative planning processes, and sharing of resources necessary for implementation of extension plans and recommendations. The T&V philosophy, which is primarily a management approach, can not help with interpersonal communication and group facilitation technologies that are needed to enhance participatory skills of VEWs. Other models of extension must be consulted and adapted to the local needs of farmers in Cameroon.

**References**


