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REFORMING TANZANIA'S AGRICULTURAL EXTENSION SYSTEM: THE CHALLENGES AHEAD

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ABSTRACT The agricultural extension system in Tanzania has faced many problems, of which the key seems to be the poor institutional, administrative and organizational structure of the extension services. Recently, the Tanzanian government, with the assistance of the World Bank launched a major restructuring of the country's extension system including the introduction of the training and visit (T and V) extension.

The T and V extension has some inherent weaknesses particularly if implemented without any modification to the Tanzanian context, due to lack of resources and other complimentary services. Recommendations are given to make the T and V system of extension more effective under Tanzanian conditions.

Key Words: Tanzania; Agricultural extension; T and V extension; Extension management; Agricultural development; Smallholder agriculture.

INTRODUCTION

The per capita agricultural and food production in Tanzania has fallen over the years and, although there has been a recent upturn in production, this has not proved to be self-sustaining. One of the reasons advanced for the poor performance of the agricultural sector is the weak agricultural services delivery system whereby most of the essential services for farmers, including agricultural extension, are not provided in the right amounts and time.

It is a truism to state that the effective transmission of research findings to farmers is essential if research efforts are to contribute to agricultural progress. However, this requires an effective agricultural extension system which is able to work in concert with the research system, while at the same time working very closely with the farmers.

While there are many factors which will affect the effectiveness of the extension system, one of the major weaknesses which has been identified time and again is the poor institutional, administrative, and organizational structure within which extension services have to be provided to farmers. In recognition of this fact, the Tanzanian government, with the assistance of the World Bank is undertaking a major restructuring of the extension system through the National Agricultural and Livestock Extension Rehabilitation Project (NALERP). The Project, which is being introduced in phases, will involve the introduction of the Training and Visit (T and V) system of extension, and will initially cover 12 of the country's 20 Regions.

This paper analyzes the structure and management of the current extension

system in Tanzania to draw attention to some of the major problems which must be addressed in the course of restructuring the system. The paper provides some specific recommendations on how these problems can be minimized.

THE ORGANIZATION AND MANAGEMENT OF AGRICULTURAL EXTENSION IN TANZANIA

I. Agricultural Extension System in Tanzania

Agricultural extension services in Tanzania come under the responsibility of the government, specifically under the Ministry of Agriculture. As such, the services are organized as a territorial hierarchy with its headquarters in the Ministry, and regional, district and divisional level offices overseeing geographically dispersed Village Extension Workers (VEWs). The system operates like a typical government bureaucracy within the Ministry, applying the same rules and procedures applicable in other government departments.

Within the Ministry of Agriculture, agricultural extension services are under the Assistant Commissioner for Extension Services (ACES), who works closely with a team of Subject Matter Specialists (SMSs) in various disciplines including irrigation, land use planning, plant protection, agro-mechanization, agronomy, horticulture, pasture improvement, veterinary services and marketing (see Fig. 1).

For each of the 20 regions of the Tanzania mainland, the extension services are headed by the Regional Extension Officer (REO) working under the Regional Agricultural and Livestock Development Officer (RALDO). While the RALDO's position is largely administrative and supervisory, the REO is technically responsible for all extension activities in the Region, and is supported in this function by a team of SMSs.

The same arrangement is repeated at the District level where the District Extension Officer (DEO) supported by several SMSs is in-charge of extension activities in the office of the District Agricultural and Livestock Development Officer (DALDO). Within each District, there are Divisional Extension Officers (DIVEOs) who supervise the rest of the field staff within each Division, each District having about 3–5 Divisions. Finally, the individual extension field staff, formally known as Village Extension Workers (VEWs), may be responsible for one or several of the 8,000 or so villages in the country, with each village comprising 250 to 600 families.

According to figures released by the Ministry of Agriculture, the Tanzania mainland had a total of 5,755 extension workers in 1989 (Daily News, February 8, 1989). Of these, 703 extension staff were based at regional headquarters, 1,207 in district headquarters and 3,845 were based in villages. This means that, on average, each VEW was responsible for about 2 villages or about 1,000 farm families. The agricultural extension system is, therefore, steeply hierarchical in its organization. The following section draws some implications of this organizational structure for accessibility of extension services to farmers, administrative efficiency of the system and research – extension linkage, since these are key elements which will determine the effectiveness of the system.

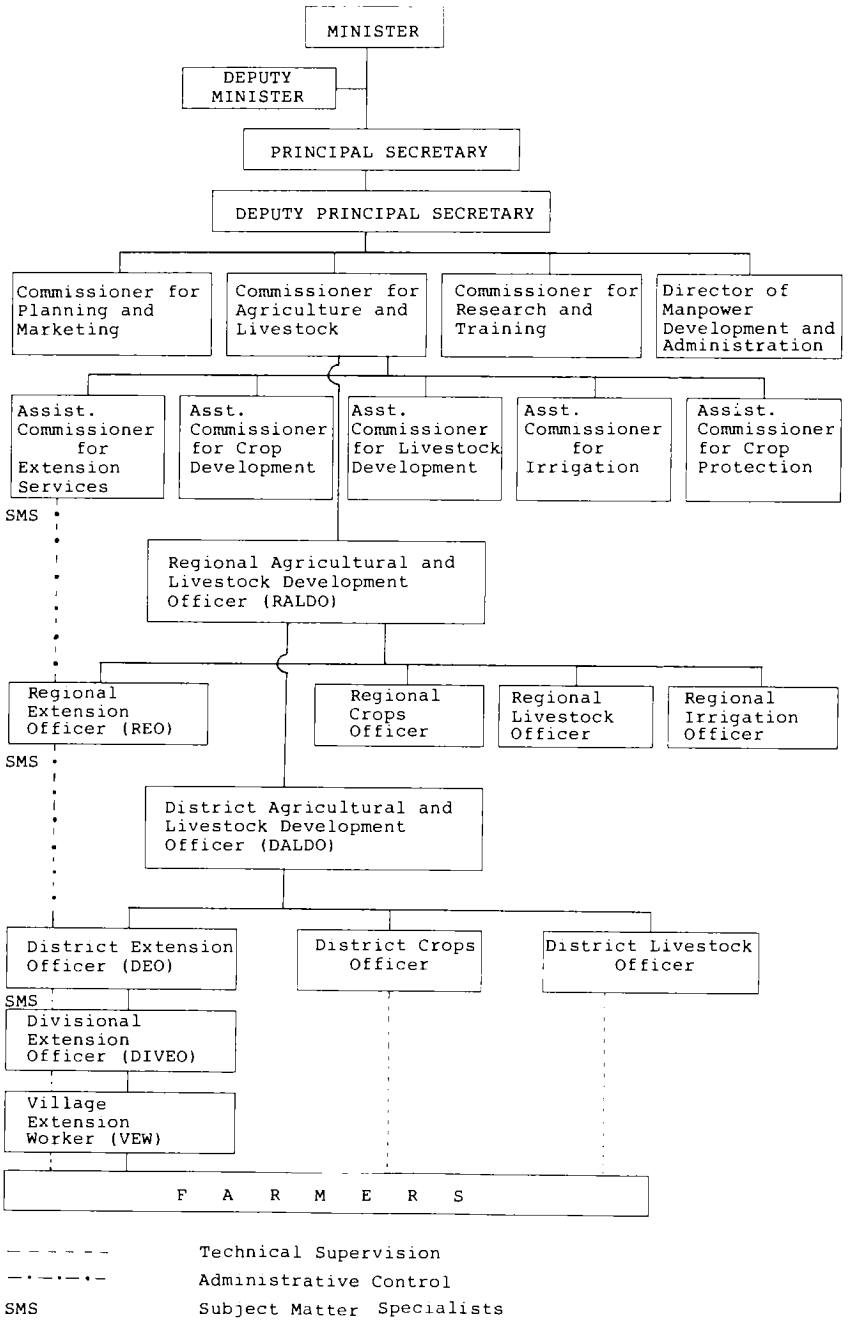

Fig. 1. The organization of agricultural extension services in the Ministry of Agriculture.

II. Access to Agricultural Extension Services

The current organization of the extension system limits farmer accessibility to extension services in several ways: First of all, because of the dispersed nature of the field staff (VEWs), few farmers have direct contact with these agents as and when necessary. As was mentioned before, one extension field worker is, on average, responsible for about 2 villages or 1,000 farm families, which means that the extension worker can not be realistically expected to work with all the farmers under his/her jurisdiction. This problem is compounded by the poor working conditions of the field staff where, by and large, means of travel are not available, while funds to pay for travel expenses are virtually non-existent (Task Force on National Agricultural Policy, 1982; Mattee, 1987; Mannento, 1989; Moris, 1989).

In addition, women, in particular, have tended to be denied accessibility to extension services because of the male bias and male domination of the extension system (Lijongwa, 1981; Swantz, 1985; Due et al., 1987; Fortman, 1987). In other words, since the extension worker is unable to reach all the farmers, the tendency is to focus attention on male farmers to the exclusion of the women farmers.

Secondly, because of the bureaucratic system in which the field staff find themselves, and because they are civil servants, their allegiance is more to the government as the employer, rather than to the farmers. When faced with competing demands, they will always pay more attention to the bureaucratic demands (filling forms, preparing reports, correspondence, etc.), rather than to the immediate needs of the farmers. On the other hand, farmers are generally unable to direct the work of the extension worker, or to articulate their needs and concerns. Farmers depend more on what the extension worker is able or willing to do for them.

III. Efficiency of the Agriculural Extension System

1. Low Efficiency of the System

There is no ideal model of extension organization which will suit all situations. Likewise, within each country, extension, perhaps more than most other institutions, must respond to widely varying local situations, depending on crops grown, the farming system, the season and the ever-changing farmer needs. However, the extension system, as is currently organized with its long chain of command, spanning from the Ministry headquarters through regional, district, divisional to village level staff, has serious negative consequences for the operational efficiency of the system and for the fulfillment of its mission. The following are some the problems.

2. Communication within the System

Since agricultral extension is concerned with the flow of information between field workers and their supervisors at the district, regional, and ministry headquarters, and also between field staff and farmers, it is important that the extension system facilitates the free and timely flow of information. With the current struc-

ture, information flow is, at best, slow since information from national headquarters will reach the field staff after passing through several levels with the possibility of being distorted along the way. Likewise, information from the field has to pass through several levels before reaching headquarters. The mode of communication is very formalistic, relying mainly on circulars and reports most of which are never read (Mattee, 1989). As a result, extension workers in the field are not always up-to-date on new technologies or extension policies, and feedback rarely reaches the top levels of the organization where decisions are then made based on wrong assumptions and without a full understanding of the problems and concerns of farmers. This problem of poor communication is compounded by the severe lack of transport and the very poor communication infrastructure, which make it difficult for superiors to visit or otherwise communicate with the field staff dispersed in villages. The field staff, therefore, feel isolated and alienated from the organization. What Chambers & Belshaw (1973) observed for Tanzania in the early seventies continues to hold, that "field workers are mostly left to decide for themselves which crops to emphasize, what operations and improvements to stress, which farmers to concentrate on and how to organize their time." Under such circumstances, it requires a highly motivated extension worker to carry out his/her extension tasks effectively.

3. Extension Programme Planning

An effective extension system should be able to identify farmer needs and problems and to determine the best possible solutions. Because of the great variation in local conditions, each field worker must be able to work within a plan which is location-specific and which is implementable under local conditions. This presupposes that field workers are directly involved in preparing these plans. However, in the present system, planning is generally centralized and aggregated, such that plans cover a wide geographical area. The general practice is that field extension workers are not directly involved as a result of which planning becomes a ritualized activity undertaken by senior staff who set unrealistic targets and who do not address farmer priorities, but rather reflect government priorities. To make matters worse, most field staff lack skills in preparing work plans, work calendars, or to undertake simple evaluations, except perhaps where they are working within a specific donor-funded project with an extension component, and which may provide specific training in those skills.

4. Coordination

Farmers require an array of technical services and inputs, for example, knowledge, skills, improved seeds, chemicals, markets, credit, storage and processing facilities in order to carry out farm operations. While the provision of such services and inputs tends to be viewed as "extension work," in reality, the services are provided by different specialized agencies which are outside the extension system, but which must be highly coordinated. The field agents for these services operate within highly bureaucratic and specialized agencies and must follow set rules and

regulations which, by and large, do not allow for dealing with outside agencies without the approval of superiors, so that in many cases they are handicapped when it comes to trying to seek cooperation and coordination with sister agencies. Moris (1987) notes that:

> contact staff are relatively junior within their respective agencies. They are not allowed to deal officially with outside organizations, except on the most trivial matters. Instead, they are expected to route requests directed at other agencies through senior officials at the District, Provincial or even national level before being sent outward to other relevant organizations (p. 210).

Also because of their junior position and lack of authority within their organizations, field workers can hardly influence other service agencies and must rely on good will or on reciprocal relation of "scratch my back and I will scratch yours." Coordination and cooperation has, therefore, tended to suffer both within the extension system, as well as between the extension system and other service agencies. The result is that the field workers are frustrated because they cannot ensure that all services and inputs which are necessary for the farmer to implement extension advice are available when needed.

5. Staff Motivation

Staff motivation is especially important for extension work because most of the extension staff work in isolated, scattered areas with little or no supervision. The nature of their work demands that the workers undertake many different tasks often on an *impromptu* basis, rather than routine tasks (Van Den Ban & Hawkins, 1988). To be highly motivated, the extension worker must believe in the importance of the job, and must be convinced of the efficacy of the extension message. Above all, the extension worker must feel part of a team with a common sense of mission, and understand his/her role in the achievement of that mission. However, under the present system, the field staff are isolated and dispersed individuals and there is very little *esprit de corps* amongst them.

Low motivation among extension staff has been further aggravated by poor working conditions and the lack of adequate incentives. The field worker who is the most crucial link between the extension system and its clientele, is usually overworked and underpaid, and worse still, deprived of logistic support, such as transport, housing and office space (Mattee, 1987; Moris, 1989; Mwandry, 1992). According to Chambers & Belsaw (1973), although the extension workers are fairly secure in their jobs, their pay and allowances are less than those of their peers working in the parastatal or private, or even in research and management, positions. The system of promotion and career mobility tends to be very arbitrary, and field workers remain at the same position for many years regardless of job performance (Mannento, 1989). Most extension workers are not aware of the procedures or criteria used to assess performance and to award promotions. Under these circumstances, the field extension staff are not likely to be motivated in their jobs, and their work performance is likely to suffer.

IV. Extension-Research Linkage

At the field level, there is little incentive for the extension worker and the researcher to interact on a regular basis since the two systems, belong to different sections of the Ministry, each being a complete system in itself. Information has to flow from research station up to research headquarters before it flows downwards to the extension field staff and vise versa. Thus, while the organizational structure of the Ministry is designed to achieve administrative convenience, it is not necessarily designed to effectively fulfill the tasks of agricultural technology development, adaptations and dissemination, as one continuous process.

Part of the problem is that the two services, extension and research, perceive their missions differently. For example, the research role is seen as that of technology development, with no responsibility for dissemination, while the extension role is perceived as that of disseminating ready-made technologies. The result is that both services tend to blame each other for the failure of farmers to adopt improved technologies.

Under the present organizational structure, researchers and extension workers are supposed to interact officially during the Annual Crop Coordinating Committee meetings where research programmes for each crop are supposed to be formulated. In practice, however, these meetings are virtually the affair of the research system, with very little participation from the extension side. In addition, generally, researchers and extension workers have different training backgrounds which makes it difficult for them to understand each other and, as a result, communication and collaboration is inhibited. It has been mentioned repeatedly that the system as currently functioning does not involve farmers in the generation of new technology, with the consequence that the technologies generated do not have much impact on the agricultural practices of farmers (Gilbert et al., 1980; Collinson, 1984; Sands, 1986).

THE INTRODUCTION OF THE TRAINING AND VISIT SYSTEM OF EXTENSION

The Training and Visit System of extension as developed by Benor (Benor & Baxter, 1984) is probably the single most important institutional innovation in the agricultural extension systems of third world countries so far. In essence, the T and V system is an application of classic management principles to the field of agricultural extension clear reporting procedures, allocation of work by function, attention to extent of authority, regularized training sessions and a scheduled cycle of field visits. The T and V requires (Moris, 1987):

—A unified extension service, adequately funded, and with full administrative control over all categories of extension staff.

—The streamling of the extension function, such that the extension worker is relieved of any non-extension functions. The extension worker should play only the educational and advisory roles.

—Regular and tight supervision of field staff by their superiors through regular

field visits, periodic training at the district level and a single line of command.
—A set of simple and locally relevant field-tested innovations designed to improve farmer productivity.
—A close link with the research system through the involvement of researchers in the periodic training of the extension workers.
—Regularized contact with pre-selected farmers (contact farmers) through periodic farm visits and farmer training sessions.

Prior to the current World Bank-sponsored attempt to introduce the T and V system into the country's extension system, a previous attempt was made on a more limited scale to introduce the system in Muheza District, Tanga Region in 1980, as part of the GTZ-financed Tanga Regional Integrated Rural Development Programme (TIRDEP). The experiences of this early attempt were not very encouraging, to the extent that the experiment had to be radically modified and finally abandoned as untenable under Tanzanian conditions (Mollel, 1986). Both internal and external evaluations of the attempt identified several problems:
(a) The frequency of farmer meetings was very irregular, while attendance and participation in these meetings were very erratic (TIRDEP, 1982; Kimambo, 1984),
(b) Contact farmers did not communicate new innovations to other farmers, so the expected two-stage flow of information did not take place (Kamambo, 1984; Mollel, 1986).
(c) Because of the lack of proper training, teaching aids and necessary inputs by extension staff, the teaching of farmers was mainly authoritarian and top-down with no proper feedback (TIRDEP, 1982; Kimambo, 1984),
(d) There was a lack of suitable and relevant technical messages which would form the basis for regular farmer training (Kimambo, 1984; Mollel, 1986),
(e) Field extension workers with the necessary training were very scarce, necessitating the recruitment of unqualified auxiliary field staff to do extension work (Kimambo, 1984), and
(f) Female-headed households were neglected (Mollel, 1986; Due et al., 1987).

According to Mollel (1986), it was the view of the extension personnel in Tanga that T and V failed in Tanga Region because of inadequate credit and inputs, high transportation costs, inadequate staff and inadequate training, lack of motivation by field extension staff, and lack of linkages with research.

At a more general level, misgivings about T and V have been voiced by several other authors (for example, Pickering, 1983; Howell, 1984; Gentil, 1989; and Roberts, 1989). Most of the critics question, not so much the methodology itself, but, rather, contend that in most African countries including Tanzania, the conditions are not sufficient to make T and V a feasible and sustainable extension approach. It was argued that the research system had not generated sufficient relevant technologies to sustain the periodic farm visits and farmer training except for perhaps the high potential areas where research efforts have been traditionally concentrated (Moris, 1991). Another factor mentioned was that the infrastructure of many countries was very weak. Lack of transportation, communication, and working tools, were all too common to enable the full potential of T and V to be realized.

Yet other authors have cited the lack of complementary factors of production,

such as credit, inputs and reliable markets, as another serious constraint to the successful implementation of T and V (Howell, 1984; Mollel, 1986; Mattee, 1989), and have also questioned how the field extension workers could assist farmers when the service agencies were yet to work efficiently (Howell, 1984; Arnon, 1987).

Another persistent criticism of the introduction of T and V into developing countries is with respect to the high recurrent expenditure which it requires and the possibility that most of these countries will never be able to sustain the necessary level of financial commitment when donor funds run out; so that, unless some form of cost-recovery mechanism is instituted, the T and V experiment is doomed to failure like so many other foreign-assisted projects have failed in the past (Howell, 1984; Roberts, 1989).

Perhaps the only conceptual criticism of the approach is with respect to its top-down nature and its inability to involve farmers fully in the process of technology generation and adaptation, suffering from the shortcomings facing the traditional extension and research organizations (Moris, 1987; Belloncle, 1989; Pickering, 1989). It has been suggested that perhaps a way out of this shortcoming is to somehow combine T and V with the Farming Systems Research approach (Moris, 1983, 1987; Rivera, 1985; Pickering, 1989), something which should be possible in Tanzania since the FSR approach has already been institutionalized in the country's research system.

Thus, T and V has been hailed as an innovative approach in extension organization and management, and offers the opportunity to reorganize and streamline the system in order to make a more efficient use of the existing staff. However, it is much more demanding in terms of resources and does not by itself solve all the problems plaguing the extension system.

CONCLUSION AND RECOMMENDATIONS

I. Conclusions

The current poor performance of the agricultural extension system is a result of inadequate resources to enable it to perform its role effectively. But perhaps a more important factor is its bureaucratic organization which tends to contradict its very mission of working closely with farmers and with other service agencies to stimulate agricultural modernization. Because of its bureaucratic nature, extension agents are rendered ineffective by the constraining bureaucratic culture and their allegiance to the superiors in the hierarchy. They are handicapped in dealing effectively with other agencies to mobilize complementary services, and so they are not able to adequately meet farmer needs.

While the T and V approach has certain merits, particularly with respect to increasing efficiency in the system, it reinforces the top-down bureaucratic operation of the existing system, and if anything, increases staff allegiance to the organization rather than to the farmers. Also, under Tanzanian conditions, it does not address the chronic shortage of resources for the extension system, nor the serious problems of other inefficient service agencies, and poor credit, marketing and pricing

policies.

II. Recommendations

Considering the problems which have been facing the extension system, and considering the current efforts by the government to reform the system, the following specific recommendations are made as a way of making the current reform efforts more effective:

(1) There should be a more organic link between the extension and research services, so that both services see their role as that of generating, adapting and disseminating technolgy to farmers. This can be achieved through several ways:

(a) Adopting, or in some cases, strengthening the Farming Systems Research approach whereby teams composed of researchers, extension workers and farmers are involved in the generation, adaptation and dissemination of new technologies,

(b) Strengthening the Research-Extension Liaison Offices in the research centres so that they can work more closely with Subject Matter Specialists in the Regional and District Extension Offices,

(c) Reintroducing annual professional meetings involving extension workers and researchers, and ensuring close working relationship with existing professional associations.

(2) There is need for some degree of decentralization in the extension services, whereby most of the important decisions pertaining to extension programme planning and staff development are made at the regional level. With such a degree of decentralization in decision making, the extension system is likely to be more responsive to local conditions, the process of programming will improve, while field extension staff will be more motivated.

Such models of decentralization have worked in several countries, for example, in the USA, India and Malaysia. Closer to home, Kenya has adopted the "District Focus" for agricultural extension, as a way of making the services more responsive to the conditions at the local level (Onyango, 1987).

(3) There is need to make more use of other media for agricultural extension. The use of agricultural shows (encompassing some form of competition among farmers) and fairs has proved extermely useful in not only informing farmers of new technologies but also of motivating them to try out the technologies. Other innovative approaches, such as setting up an extension stall at the local market where farmers can seek and obtain any relevant information, can increase the accessibility of extension services to farmers, particularly women and other disadvantaged groups.

(4) The government must endeavour to commit adequate resources in order to provide the necessary logistic support to agricultural extension. Investment in the agricultural sector must be commensurate with the acknowledged importance of the sector in contributing to the country's economy.

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