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Performance of Agriculture Extension Services under Local Government Authorities in Tanzania: A Review



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Article History

Received: 3 May, 2024

Revised: 24 July, 2024

Accepted: 3 August, 2024

Published: 5 August, 2024

How to Cite

Sebastian Severin Mosha and John Miyekelo Daudi. (2024). Performance of Agriculture Extension Services under Local Government Authorities in Tanzania: A Review. *Sumerianz Journal of Agriculture and Veterinary*, Vol. 7, No. 3, pp. 30-36.

Abstract

East African countries referred to have the effective extension system in Africa. However, the agriculture sector has not shown significant improvement in production and bettering peoples' lives in rural areas. In Tanzania, agricultural extension system remains almost entirely financed by the public sector represented by the government through the Ministry of Agriculture. Extension services provided by the Government of Tanzania are publicly funded and, thus, free for farmers employing several extension systems and approaches including the gradual improvement in farming methods, the transformation approach, the settlement scheme and the Training and Visit (T&V) system. Decentralization of extension services in Tanzania introduced with the aim of bringing services closer to farmers. However, the impact of decentralization of extension services in improving farmers' lives has been perceived mostly with failure than with success. Additionally, performance of extension services in the country reported to be affected by numerous factors such as inefficient funding, poor organization at Local Government Authorities (LGAs), coordination and management, political interference environment, and weak linkage with research sector among others. In addition, the insufficient number of staff and poor infrastructures and facilities, government extension agents reach only 10% of the farming households, leading to dissatisfaction with rendered services among farmers. However, Government's apparent commitment to policies and strategies in transforming the agriculture sector as it employs more than 70% of its population. Thus, recently, the central government provided motor bikes, iPad and soil scanners to all extension workers throughout the country. Hence, this review on the performance of agriculture extension services under local government authorities was conducted to articulate challenges facing the system and propose solutions to achieve the traditional 'structural transformation' whereby increasing agricultural production provides a platform for manufacturing and economic growth.

Keywords: Local government; Agriculture extension; Tanzania; Farmers; Decentralization.

1. Introduction

Agricultural sector in Tanzania employs about 70% of the population and the decreased trend has been observed since 2000 where 83% of the employed Tanzanians were reported to be engaged in agriculture [1]. In 2022, the sector accounts for about 24.2% of GDP while other sectors such as industry and services accounted for 27.7% and 30.6% respectively [2]. However, agricultural productivity and development is reported to be hampered by a combination of constraints such as; over reliance on rain-fed agriculture; climate change effects; poor transport infrastructure; poor policies and poor farming practices due to lack of access to timely, relevant and reliable agricultural information from extension officers [3, 4]. Furthermore, the quality of extension services is hindered by poor research-extension farmer linkages; low extension staffing and supervision; lack of delivery performance standards and regulations; and low participation of private sector as providers of extension services [3]. To address this issue, Government's efforts have been geared towards improving production and productivity to attain food

security and sufficiency at household and national level. These efforts have been addressed in National Development Vision 2025, which envisages achieving a high quality livelihood through food self-sufficiency and food security [5]. Also, the National Strategy for Growth and Reduction of Poverty (NSGRP) emphasises the reduction of poverty levels among the majority who live in rural areas through enhancement of agricultural productivity, to achieve Millennium Development Goal (MDGs) number one, which targets on eradication of extreme poverty and hunger [6].

Among the efforts, include decentralization and devolution. Since 1998, the government effectively transferred its entire extension officers to Local Government Authorities (LGAs) in line with decentralization by devolution policy, where by the provision of agricultural extension services were under the LGAs [7]. The main rationale of this approach was to shift decision-making authority to the lower administrative and political level units, hence being physically close to people and supposedly in a better position to plan and implement development programmes with the active involvement of participants [8, 9].

On the other hand, service delivery has been perceived with mixed feelings of citizen's satisfaction. However, in many developing countries, the impact associated with failures is more profound rather than success. For example, more than half of the countries reviewed in Africa, fiscal decentralization was very low and the local government authorities had low capacity to meet the needs of the people due to poor funding and lack of other resources [10, 11]. Likewise, the quality of public service delivery following decentralization has either declined or remained the same [11]. In Tanzania, Tidemand and Msami [12] revealed that more than three quarters of the citizens contacted were dissatisfied with the quality of services delivered from LGAs.

Therefore, underperformance of decentralized governments can be explained by two facts; the limited validity of their benefits and incomplete decentralization of local governments. The latter is common in any country regardless decentralization, some regulations or oversights from the central government, which guarantee a basic level of service delivery, or to protect national standards or citizen's rights. However, more often, governments transfer tasks to regional and local governments, presenting it as decentralization, but at the same time holding on to an extensive body of central rules, regulations, policies and oversight that limits the discretion of local government in decision-making and service delivery, hence prevent local governments from allocating resources according to the preferences of the local population [11, 13].

2. Overview of the Agricultural Extension Services Under the LGAs

The extension system in Tanzania is a long chain of command organized in hierarchical form from the Ministry headquarters through regional, district, divisional to village level [14]. Within the Ministry of Agriculture, agricultural extension services are under the Assistant Commissioner for Extension Services (ACES), who works closely with a team of various Subject Matter Specialists (SMSs) [14]. At regional level, agriculture is a subsector under the economic and production sector secretariat. The core function of the secretariat is to advise agricultural staff in local government authorities and linking information between local governments and the Ministry of agriculture.

At district level, agriculture is one of the departments within the local government structure responsible for agriculture, irrigation and cooperatives. Structurally, the affairs of the LGA are managed by the Council Executive Director under the direction of the respective council consisting of councillors from each of the wards. In this case, the District Agriculture, Irrigation and Cooperatives Officer (DAICO) is answerable to the Council through the Executive Director to all administrative issues and technically to Ministry through the Regional Secretariat and President's Office-Regional Administration and Local Government (PO-RALG) [7]. Field extension officers operate from the offices of the administrative subunits of LGAs (wards or villages). They visit individual farmers and farmers' groups to provide services. In addition, farmers may visit to the ward offices for individual advice and training [15].

Despite these efforts to provide services to the farmers, agricultural extension faces the challenge of establishing a well-managed, effective, and accountable system that meets the needs of many farmers engaged in farming systems, as well as effectively monitoring, evaluating and assessing the impact of extension services [16]. The current organization of the extension system limits farmer accessibility to extension services in several ways including limited number of extension agents and bureaucratic system in which the field staff works under their allegiance to the employer rather than to the farmers [14].

In recent years, the government has financed agricultural extension thus, free for farmers [17]. It employs several extension systems and approaches including the gradual improvement in farming methods, the transformation approach, the settlement scheme and the Training and Visit (T&V) system [18]. The excessive government dominance in the management of the sector did not provide room for coordination with other actors already supplementing extension delivery of the public system in the field. However, government extension agents reach only 10% of the farming households in Tanzania [18]. Private firms in the country engage in extension services whenever there is a room to make profit. In most cases, these private agencies do not specialize in providing extension services but combine extension services with other services [17].

3. Research-Extension-Farmer Linkage

The concept of linkage implies the communication and working relationship established between researchers and extension staff. Such links enable new technologies and management practices to be suited to local ecological conditions [19, 20]. The technologies or innovation discovered should be introduced to the farmers in non-technical language and in a convincing manner, such as field demonstration. Regular monitoring of the trial of the technology,

including discussion with the progressive farmers, will be required for any trouble-shooting and eventually to assess the overall performance of the new technology under real field conditions. Results and possible reasons should be conveyed to the relevant researchers who recommended the particular technology. If the benefits outweigh the problems, the technology will have a better chance of being adopted by other farmers [9].

Currently, Tanzania is among of the countries with unequal research–extension organisation status. Research and extension are in different divisions in the Ministry of Agriculture and linkage mechanisms are clearly not defined. Agriculture and Livestock development officers, extension officers and subject matter specialists are stationed to the regional, district, to ward levels. Although the official link between researchers and extension is weak, extension officers and subject-matter specialists unofficially inform researchers about farmers' problems. Subject-matter specialists are also informally involved in on-farm trials [20]. 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 formulated. In practice, however, these meetings are virtually the affair of the research system, with very little participation from the extension side. In addition, researchers and extension workers have different training backgrounds in general, which makes it difficult for them to understand each other and, as a result, communication and collaboration is inhibited [14].

Further, two schools of thought explain this situation, attitudinal problems and organisation distinction. Attitudinal problems, arises from the socio-economic gap that exists between the two sets of workers contribute to research-extension gap. On the other hand, extension workers are often less well paid, less on job training, and work at less prestigious jobs than researchers and feel they are under-valued, while researchers enjoy a higher status (they are often better educated and have greater independence). Researchers give little weight to the extension's opinions and priorities due to the performance of research systems, which is often assessed according to the recognition, receives within the scientific community [21]. This part of the system is too often conceived as one way stream, through which the "technology" developed by research workers seen as the lead manual, is transferred by extension workers to the expectant producer users [22].

In addition, organisation structure of the two agriculture subsets lead to the lack of fit between them. Each institution operates within a specific content over which managers often have little control. Organizational theory argues that different types of organizational arrangements are more effective for different types of work. The type of work to be done, the way is divided into specialized tasks, its complexity, and the amount of information or communication needed to perform in an organizational structure. For example, tasks may be divided into simple tasks through a high level of specialization and standardization so that almost no job skills or knowledge is required to perform them. However, when a well-defined job becomes increasingly complex like in universities, or in agricultural research, only individuals with a high level of knowledge and skills can perform. In this case, the way the work is organized is often referred to as the "professional bureaucracy" model [19].

Further, agricultural research and extension aim to increase food availability and promote rural development. However, agricultural research and extension may varies as follows;

- Research is organized on a national basis, while extension is provincial.
- Research units follow agro ecological distinctions, while extension follows administrative ones.
- Research divided into disciplines, while extension operations are divided into commodities or geographical areas.
- Research may focus on a single commodity, while extension has a more general focus.

Research services can target on one client group, while extension services target on individuals or groups of farmers [19].

4. Challenges Facing Agricultural Extension under LGAs in Tanzania

4.1. The Bureaucratic Political Environment

this allow local politicians to interfere technical matters in which they are not competent with [9]. Politicians are more interested in matters that are personal beneficial such as provision of subsidies and inputs to farmers, which ensure to be re-elected than improving extension services Van den Ban [23]. In most cases, expert's plans are turned down whenever they seem to be against politicians desires.

4.2. Reluctance of the Central Government to Relinquish Full Authorities to Local Governments

There is a prevailing tendency of the Central Government to oversee implementation of different matters at local levels, especially those concerned with funds spent [13]. More often, the Central Government provide guidelines and priorities for local planning and spending of budgets, thus preventing local governments to allocate resources according to the preferences of the local population [11].

4.3. Poor Research-Extension Linkage

There is little incentive for the extension workers and the researchers to interact on a regular basis since the two systems, belong to different sections of the Ministry, each being a complete system in itself. Thus, the information has to flow from research stations up to the research headquarters before it flows downward to the extension field staff and vice versa [14]. Moreover, the attitude of the most researchers stress scientific values and not accountable to clients. In most research institutes, socio–economic and policy research are very weak [24]. Additionally, Agbamu

[20] and Kumar, *et al.* [22] reported that, Tanzania had weak research extension linkages due to unequal status of research and extension organisations compared with some countries in Africa such as Nigeria.

4.4. Agriculture Extension Service is Fragmented and Uncoordinated

Diverse players involved in extension service operate independence of one another, in some cases their operations are unknown and unrecognised [25, 26]. The mode of communication is very formalistic, relying mainly on circulars and reports most of which are never read [14]. 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 made based on assumptions and therefore reflecting the government priorities rather than addressing farmers' problems [14]. In cases where extension services are provided by different agencies outside the governmental extension system, their field agents are forced to follow rules and regulations which do not allow them to deal with outside agencies without the approval of superiors, hence in many cases they are handicapped when try to seek cooperation and coordination with sister agencies [14].

4.5. Extension Service Considered Inferior to other Agriculture Professions

The common perception of many people is that public extension service is the low class service that does not need financing and highly trained staff [27]. Despite the fact that extension staff works mostly under severe weather and logistics and works with illiterate and dispersed poor rural people with relatively small plots [9, 21], agricultural extension staff is the most poorly paid and lacking job amenities and incentives [28]. Mattee [14] reported that, their pay and allowances are less than those of their peers working in the parastatals or private, or even in research and management positions.

4.6. Extension Services not Considered a Priority at LGAs

In most cases, LGAs prioritize activities, which generate revenues, despite the agriculture policy demands [9]. Local Government Act of 1982 made education, health, roads and water as LGAs obligatory functions in Tanzania and LGAs continue to rank agriculture after these sectors [24]. As a result, the budget allocated to extension services is limited compared to the amount of work that has to be done throughout the country [29].

4.7. Poor Career Development Opportunities of Extension Staff

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 [30]. Most extension workers are not aware of the procedures or criteria used to assess performance and to award promotions [14]. However, this year (2024) the government introduces online platform employee self-service performance system for public employees known as Public Employees Performance Management Information System (PEPMIS) that will help to increase staff performance at and enhance promotion [31].

4.8. Difficulty in Evaluating Accountability and Impact of Extension Staff

As many factors affect the performance of agriculture in complex ways, it is difficult to attribute specific impacts at the farm level to extension services. This difficulty weakens political support and exacerbates problems of budget allocation and staff incentives and accountability [21]. Evaluating the impact of extension merely involves measuring the relations between extension and farmers' knowledge, adoption of better practices, and use of inputs; farm productivity and profitability; and related improvements in farmers' welfare. However, many other systematic and random effects (prices, credit constraints, weather and sources of information) influence farmers' decisions and performance. For example, the impact of extension is usually high in the early stages of dissemination of a new technology; when the information is disequilibrium and the productivity difference is great. As more farmers become aware of the new technology, the impact of extension diminishes until the need for more information-intensive technologies arises [21]. In a study conducted in Kyela, Songea and Morogoro districts in Tanzania, [29], reported that, although extension officers spent many hours with farmers, adoption of technologies was generally poor. This was due to the fact that, many farmers did not consult the extension officers for advice despite them admit that, extension agents were available all the time.

4.9. Poor Management of Extension Staff

As the effectiveness of extension activities cannot be easily established, field staff are generally not held accountable for the quality of their work. Supervisors, who are accountable for extension performance to the political level, are monitored mainly in terms of budget spent, staffing levels, and other bureaucratic indicators. Therefore, accountability to clients is only minimal, as typically there are neither mechanisms nor incentives to make extension services accountable to farmers [21]. In addition, the current model of extension service forces extension agencies deliver messages determined by the government, as their employer, rather than farmers' needs. As a result, extension agents pay more attention to the employers' demands compared to the immediate needs of farmers. In the meantime, farmers have no mandate to direct the tasks of extension agents or to express their desires and concerns; instead, they are offered what the extension agent is willing to present [32].

4.10. Poor Funding for Extension Services

An outcome of many shortcomings of public extension systems is persistent funding difficulties. Dependence on public funding is problematic because of weak or no political commitment. Although much of extension responsibilities are under LGAs who are unable to fund extension services from their own sources without external assistance [33], as the financial support from the Central governments is very limited [21]. In addition, low wages of extension workers reduces their morale for work and in turn makes them to engage in other self-income generating activities [24]. Due to their scarcity and inefficient facilities compared to the number of farmers they are supposed to serve, extension agents opt to visit only a few farmers living in the nearby, limit service delivery to farmers' groups or to give priority to farmers who are willing to pay for services [15].

5. Suggested Solutions for the Mentioned Challenges

5.1. Provision of Adequate Resources to Extension Service

The government finances agriculture extension service to guarantee public benefit than individual farmers. Generally, in developing countries, many farmers cannot pay for extension services. A farmer whose family consumes 70% of his produce and have to pay for basic needs and other living expenses will usually not be able to pay for consultant services. However, in recent year, the central government provided motor bikes and soil scanners to all extension workers throughout the country; government must put an effort to commit adequate resources in order to provide the necessary logistic support to agricultural extension. Hence, investment in the agricultural sector must be commensurate with the acknowledged importance of the sector in contributing to the country's economy.

5.2. Adoption of Pluralistic Extension System

Pluralistic extension services are likely to be better to meet the diversity of rural life and needs. It is a service orientation and a move away from top-down models of technology transfer. Thus, striking a balance between public, private, and NGO's involvement in agriculture extension could better address the emerging needs of extension services in the growing economy. Experience has shown that extension services, which accommodate farmers' varying interests, needs and capacities, help to improve agricultural production and livelihood to the people.

5.3. Innovative Extension Approaches to Farmers

These approaches based on farmer's participation in diagnosis, testing and dissemination of agro technologies. They recognize that researchers and extension workers are unlikely to capture the complexity, diversity and risk facing low-income farmers who own knowledge and the farmers themselves are the best to interpret how relevant new technologies. These approaches may include establishing necessary infrastructures and facilities such as science and technology backyard (STB), on-farm research fields, demonstration plots, farmer field and business schools (FFBS) and strengthening Farmers Training Centres (FTC; Ichenga-Njombe, Mkindo-Ifakara and Bihawana-Dodoma) and Agricultural Vocational Institutes such as Ministry of Agriculture Training Institutes (MATIs) which available all over the country.

5.4. Enhancing research-extension linkage

The country can create working research-extension integration through various initiatives:

- Review current agricultural extension policies and create policies and mechanisms to promote linkages between research, extension and producers.
- Establishing a coordination mechanism between research and extension by including actors from diverse sectors; state and private (extension and research), NGOs, civil society, international research institutes operating in the country and producers.
- Introduce financial mechanisms to promote and support the commitment and coordinated participation of scientists, extension agents and private sectors.
- Establish strategic innovation platforms to facilitate dialogue at national and local level.
- Reintroducing annual professional meetings involving extension workers and researchers, and ensuring close working relationship with existing professional associations.
- Evaluation of research excellence based not only on academic criteria, but also on producers' demands and links with extension services.

5.5. Use of Media in Agricultural Extension

There is a need to make more use of other media for agricultural extension. The use of agricultural shows (encompassing some form of competition among farmers). Other innovative approaches may be setting up an extension stall at the local market where farmers can seek and obtain any relevant information, which can increase the accessibility of extension services to farmers.

6. Conclusion

The current low performance of the agricultural extension system is a result of inadequate resources to enable it to perform its role effectively. However, perhaps a more important factor is poor organisation of local governments, which tend to contradict its very mission of working closely with farmers and other agencies to stimulate agricultural modernization. Extension agents are constrained by this system and their allegiance to the superiors and handicapped

in dealing with other agencies to mobilize complementary services, and so they are not able to adequately meet farmers' needs. In addition, experience shows that, as more countries come under decentralization, their extension services are facing the problems of marginalization and lack of professional identity unless they are prepared well in advance for this critical administrative, technical and physical transition. Hence, the policy-makers should revisit the discipline of agricultural extension to let the extension functions be performed with excellence and in accordance with professionalism. Thus, the policy changes may be adopted from developed countries but should reflected the local conditions.

Acknowledgement

The authors acknowledge all the publications used to prepare this review

Conflicts of interest

Authors declared no conflict of interest.

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