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ROLE PLAYED BY KEY GOVERNMENT MINISTRIES IN ASSISTING TEACHERS TO CONTRIBUTE TO AGRICULTURE DEVELOPMENT IN ESWATINI

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Abstract
The contribution of agriculture teachers with the support from the government should go beyond the school boundaries to reach the community. However, there is paucity of literature on the role of government ministries in supporting agriculture teachers in reaching-out to the community. Therefore, this study sought to establish the role that is played by key government ministries in assisting teachers to contribute to agriculture development in Eswatini. The objectives were to ascertain the assistance afforded agriculture teachers towards agriculture development by (i) Senior Officials in the Ministry of Education and Training; and (ii) Senior Officials in the Ministry of Agriculture. The study was a phenomenological research design employing semi-structure interviews in data collection. Trustworthiness was ensured by addressing issues of credibility, transferability, dependability and confirmability. The data were analysed using thematic analysis. The findings of the study revealed that the Ministry of Education and Training can assist the teachers to contribute to agricultural development by providing constant inspection and supervision, collaborating with Ministry of Agriculture, ensuring periodic curriculum review, providing constant in-service training, motivating teachers to reach out to the community, ensuring that agriculture teachers provide extension, providing teachers with teaching resources, and improving recruitment exercise. Similarly, the Ministry of Agriculture can assist the agriculture teachers by providing constant in-service, collaborating with the Ministry of Education and Training, involvement in curriculum design, educate teachers on aspects of extension and working with farmers, and providing incentives to students and teachers. Therefore, the study concluded that there is little that is done by relevant government ministries to assist teachers to contribute towards agriculture development. Thus, the study recommended that there is need for the Ministry of Education and Training to collaborate with the Ministry of Agriculture in assisting the teachers to contribute towards agriculture development.

Keywords: Agriculture development, agriculture teacher, collaboration, Ministry of Agriculture, Ministry of Education and Training, Senior Officials

Introduction

Agricultural development is essential for economic growth, rural development, and poverty alleviation in low income developing countries such as Eswatini [where agriculture is the backbone of the economy]. Increasing agricultural productivity is an effective driver of economic growth and poverty reduction both within and outside agricultural sector (World Bank, 2023). Agricultural development is the process that creates the conditions for the fulfilment of agricultural potential such as the accumulation of knowledge and availability of technology as well as the allocation of inputs and output (World Bank, 2020). It is about providing knowledge in a bid to guide and advise farmers regarding the adoption of new technology, usage of better varieties of seeds and fertilizer, correct usage of chemicals (insecticides and pesticides) and cooperative farming (Food and Agriculture Organization [FAO], 2017). In Eswatini, agricultural development falls mainly under the Ministry of Agriculture. Also, agriculture development could come through the Ministry of Education and Training – teaching of agriculture. Even though, each ministry can

contribute to agricultural development individually; the two ministries collaborate in advancing agricultural development endeavors. Collaboration can assist the ministries deliver value and outcomes that would be difficult or impossible to deliver working individually. The basis of collaborative advantage is the synergy generated by combining resources, expertise and ideas from different agencies and authorities. This study is therefore justified by the need to explore and strengthen the interlinkages between agricultural education and agricultural development initiatives in Eswatini. It seeks to examine how collaboration between key stakeholders [mimistries] can enhance knowledge dissemination, technological adoption, and ultimately, agricultural productivity and rural livelihoods.

Research Questions

1. How can Senior Officials in the Ministry of Education and Training assist teachers in improving agriculture development?
2. How can Senior Officials in the Ministry of Ministry of assist teachers in improving agriculture development?

Methodology

A phenomenological qualitative research design employing an interview in data collection was used. The target population were Senior Government Officials in Ministry of Agriculture and Ministry of Education and Training. Specifically, the study selected all the Senior Extension Officers (n=4) and five Agriculture Inspectors of schools [four Agriculture Inspectors (n=4) and Senior Schools Agriculture Inspector] through purposive sampling. An interview guide was developed to solicit answers to the research questions from the study participants. The issue of measurement error was addressed through trustworthiness by credibility, transferability, dependability and confirmability. Credibility was ensured by debriefing the participants about the study before data collection. Transferability established by thick description on the concept of assessing agriculture development. Dependability was established through audit trails which involves giving details of every step taken in data collection and reporting. The interviews were conducted telephonically in 2021. The researcher firstly sought permission to conduct the interviews from the Director of Agriculture and Extension and Director of Education from the Ministry of Education and Training. Ethical considerations were ensured by addressing issues related to informed consent, confidentiality, privacy and autonomy, and harm. Informed consent was ensured by complete disclosure about the study such as purpose, benefits, duration, methods, and possible risks of the study. Confidentiality was addressed by concealing the identity of the participants and collective reporting of the findings. Privacy and autonomy were ensured by avoiding encroachment to confidential information. Lastly, there was no harm associated by the study. Data generated from the study were analysed using thematic analysis. Themes and categories were identified and similar themes were collapsed. Also, quotes were used to substantiate the themes.

Findings and Discussions

The findings were presented using themes guided by the research questions of the study.

Assistance from the Senior Officials of the Ministry of Education and Training

The themes on assistance that should be provided by the Senior Officials of the Ministry of Education and Training on agricultural development in Eswatini are: constant inspection and supervision, collaboration between Ministry of agriculture and Ministry of Education and Training, curriculum review, constant in-service training, motivation, ensuring that agriculture teachers provide extension, providing teachers with teaching resources, and improving the recruitment exercise.

Constant Inspection and Supervision

The study revealed that agriculture teachers require consistent inspection and supervision to ensure adherence to the curriculum and full syllabus coverage. Without adequate oversight, some teachers tend to avoid practical components, which are vital for effective agricultural education and, by extension, agricultural development. A few teachers were described as lacking motivation, reinforcing the need for supervision to maintain accountability and performance. Additionally, teachers often require support in specialized areas such as aquaculture, apiculture, and mushroom production. One participant noted, "*Supervision of agriculture teachers helps them to stay focused and assists them with challenging topics such as apiculture and mushroom production*." These findings align with Ehren (2023), who highlighted that educational inspection promotes quality assurance by enforcing standards, supporting curriculum implementation, managing discipline, and enhancing teaching and learning through focused professional support.

Collaboration between Ministry of Agriculture and the Ministry of Education and Training

The study found that collaboration between the Ministry of Agriculture and the Ministry of Education and Training is essential for enhancing agricultural education and development in Eswatini. Such collaboration would enable agriculture teachers and extension workers to share up-to-date agricultural information, ensuring consistency in messaging and practice. One participant emphasized that, *"Collaboration between the two ministries would ensure that teachers are able to use resources in the Ministry of Agriculture like tractors, implements and many others."* Beyond sharing equipment and materials, collaboration would allow for the exchange of human resources. Extension workers could support classroom teaching, especially in specialised topics such as apiculture and mechanization, while also providing students with practical demonstrations of the latest agricultural techniques. Joint planning of activities, such as agricultural shows and the Children and Youth Development Programme (CYDP), would expose teachers to new knowledge and skills, which could then be transferred to students and, ultimately, to the wider community. These findings align with FAO (2023a), which underscores that collaboration between education and agriculture sectors promotes skill development, resource-sharing, and knowledge transfer, leading to cost reduction and increased productivity in sustainable agriculture. They also support Chuma and Maphosa (2024), who emphasized that such partnerships enhance public relations and foster stronger ties between educational institutions and communities, contributing to sustainable agricultural development.

Curriculum Review

The study revealed the need for continued involvement of Senior Officials from the Ministry of Education and Training in the design and review of the agricultural curriculum. Participants expressed concerns that the current curriculum is overly theoretical and outdated, lacking practical relevance to modern agricultural practices. One participant stated, "*The curriculum of agriculture should cover contemporary issues and take a more practical approach so that students are hands-on*." A key recommendation from participants was the introduction of home-based agricultural projects. These would provide students with flexible, extended learning opportunities beyond the constraints of school hours, enabling them to develop practical skills and transfer agricultural knowledge to their families and communities. Teachers' demonstrations through such projects would further enhance community engagement and knowledge dissemination. Participants also criticized the curriculum for prioritizing academic outcomes over vocational preparation. They argued that it currently positions students as scholars rather than

future farmers, entrepreneurs, or agricultural contributors. This misalignment reinforces the perception of agriculture as an academic subject, rather than a practical, skill-based discipline. To address these issues, participants called for a curriculum that is skills-oriented, market-driven, and designed to prepare students to contribute meaningfully to agricultural development. These findings align with Kidane and Worth (2012), who observed that agricultural education in sub-Saharan Africa has been slow to adapt to evolving demands and lacks responsive curriculum reform mechanisms.

Constant In-service Training

The study highlighted the critical need for ongoing in-service training for agriculture teachers, particularly as new topics are introduced into the curriculum. One participant noted, "*Some of the topics included in the curriculum lately were not there when the old teachers [in particular] were still at college, so they need training in those areas*." This underscores the importance of regular professional development to ensure teachers remain current and competent in delivering emerging subject matter. Participants recommended that the Ministry of Education and Training organize periodic workshops to strengthen teachers' understanding of key concepts and enhance their instructional capacity. These findings are consistent with Parr, *et al.* (2023), who emphasized that agricultural education must continuously adapt to advancements in technology and shifts in global agricultural trade to remain relevant. Similarly, UNESCO (2022) highlighted that in a rapidly globalizing and technologically evolving world, teachers face heightened expectations and require robust training to address new societal and technological demands.

Motivation and Incentives

The study revealed that motivating agriculture teachers is essential for enhancing their contribution to agricultural development. Participants emphasized the need for incentives—such as hardship allowances, housing at schools, and recognition for community outreach work—to encourage teachers to go beyond their basic duties. One participant noted, "*Agriculture teachers must be appreciated for the work they do in harsh conditions.*" Providing teachers with access to land and agricultural loans was also suggested, enabling them to apply their skills in commercial farming and serve as role models in their communities. These findings align with Han and Yin (2023), who define motivation as the internal drive to achieve goals and perform effectively. Research indicates that motivated teachers are more likely to engage students and sustain high performance levels (Collie & Martin, 2021; Skaalvik & Skaalvik, 2022). Conversely, low motivation can lead to teacher apathy, reduced effectiveness, and disengagement from school and community initiatives (Lauermann & Butler, 2024; Kwok & Wang, 2023). Thus, ensuring agriculture teachers are well-supported and motivated is crucial for sustainable agricultural education and rural development.

Ensuring Agriculture Teachers Provide Extension

The study found that excessive workload hinders agriculture teachers from providing extension services to communities. Participants emphasized that if teachers are expected to take on this additional role, their school responsibilities must be reduced. As one participant stated, "*There should be measures in place to reduce workload for agriculture teachers so that they can go to communities*." Others called for the development of a clear policy to guide and support teachers in delivering community-based extension services, thereby strengthening school-community ties and improving access to agricultural knowledge for farmers. Agriculture teachers often work longer hours and manage more responsibilities than other secondary educators (Jerrim & Sims, 2021)., which negatively impacts their performance and

availability for outreach. Okoli, *et al.* (2024). further noted that poor compensation and excessive workloads contribute to low teacher performance. Without structural support and workload adjustments, agriculture teachers are unlikely to provide effective extension services—ultimately limiting their impact on agricultural development.

Providing Agriculture Teachers with Teaching Resources

The study highlighted the need for Senior Officials from the Ministry of Education and Training to ensure agriculture teachers are adequately equipped with the necessary teaching tools and materials. Participants stressed that school administrators, particularly head teachers, should be engaged to support this provision. One participant remarked, *"When agriculture teachers do not get necessary equipment on time, they get demotivated, and this negatively impacts agriculture development."* Participants also noted that many school gardens are in disrepair, urging the Ministry to support infrastructure improvements, such as repairing fences. These findings are consistent with Konyango and Asienyo (2015), who emphasised the importance of instructional resources in guiding effective learning. Essential resources include school farms, science laboratories, well-equipped workshops, agricultural machinery, and operational funding. UNESCO (2022) observed that limited financial resources constrain the expansion of vocational education, while Kabugi (2013) identified resource shortages—such as tools, land, and dedicated classrooms—as major obstacles to teaching agriculture effectively.

Improving Recruitment of Passionate Agriculture Teachers

The study revealed a need for the Teaching Service Commission of Eswatini to revise its recruitment strategy to ensure that incoming agriculture teachers are genuinely passionate about the subject. Participants noted that some teachers lack commitment and are motivated solely by financial gain. One participant observed, *"Some agriculture teachers are preoccupied with other things and are not devoted to agriculture,"* while another emphasized the need to revisit recruitment practices from the college level to foster better attitudes toward the profession. These findings align with Calvin and Pense (2013), who suggested that improving recruitment involves engaging high school students early, strengthening university outreach, and fostering connections between prospective students, teachers, and programmes. Passionate and well-selected candidates are more likely to contribute meaningfully to agricultural education and development.

Contribution of Senior Officials from the Ministry of Agriculture in Agricultural Development

Finding of the study revealed the themes on assistance that should be provided by the Senior Officials of the Ministry Agriculture on agricultural development in Eswatini are: constant in-service, collaboration between Ministry of Agriculture and Ministry of Education, intensive involvement of personnel from the Ministry of Agriculture in curriculum design, educate teachers on aspects of extension and working with farmers, and provision of incentives to students and teachers.

Constant In-Service

The study found that Senior Officials from the Ministry of Agriculture can play a key role in supporting agriculture teachers by offering regular in-service training on specialized and contemporary topics such as global warming and emerging innovations. One participant stated, "*Agriculture teachers need in-service training especially on innovations and contemporary technical skills*" while another emphasized the value of Ministry experts conducting workshops on new curriculum content. These findings align with Parr, et al. (2021), who highlighted the rapidly evolving nature of agriculture due to

technological and global trade changes, necessitating continual updates in agricultural education. UNESCO (2022) and Darling-Hammond et al. (2020) also emphasized that, in a globalized world, educators must be equipped to meet rising expectations and prepare students for a competitive international economy.

Collaboration between Ministry of Agriculture and Ministry of Education and Training

The study emphasised the importance of collaboration between the Ministry of Agriculture and the Ministry of Education and Training to support agriculture teachers. This collaboration would provide teachers with resource persons and opportunities to attend demonstrations, agricultural shows, and gain valuable knowledge. Given the shortage of extension officers compared to agriculture teachers, working together would allow teachers to be trained on extension activities, ensuring both groups use a shared approach when engaging with farmers. Teachers could also be exposed to extension work during internships, enhancing their ability to deliver up-to-date knowledge to students. Participants noted that collaboration would facilitate resource sharing, such as using gardens for demonstrations, where teachers and extension officers could learn from each other. This exchange of knowledge would benefit students and the broader community. The findings align with the FAO (2020a), which highlights the skills acquisition, cost reduction, and knowledge transfer benefits of such collaboration. Yusuf, et al. (2021) also emphasized that collaboration fosters good public relations between education professionals and the community, ultimately contributing to agricultural development.

Intensive Involvement of Personnel from the Ministry of Agriculture in Curriculum Design

The study found that personnel from the Ministry of Agriculture should be involved in reviewing the outdated curriculum taught in schools, as it no longer aligns with current agricultural practices. One participant stated, "*A lot has changed on the ground in as far as agriculture is concerned. The concepts taught in schools can rarely help students when they leave school*." Participants highlighted that updating the curriculum would ensure that teachers can impart the latest skills and innovations, turning agriculture into a vocational subject focused on skill acquisition rather than just grades. This aligns with the FAO (2020b), which noted that curricula need to be more responsive to societal changes. Obanya (2014). emphasized that education should equip students with practical skills to adapt to their environment, and the curriculum should be relevant for rural development, preparing students to enhance agricultural productivity in their communities.

Educate Teachers on Aspects of Extension and Working with Farmers

The study revealed that extension officers need a platform to share their experiences with agriculture teachers on working with farmers, preparing teachers to engage with farmers when needed. One participant stated, "*Agriculture teachers can form groups where extension workers can come and educate teachers about extension*." This collaboration would bridge the gap between the content taught to students and what extension officers teach farmers. By educating teachers, extension officers would ensure that teachers have up-to-date information to pass on to students, who can then share this knowledge with their families and communities. These findings align with Choudhry (2014), who noted that extension education aims to spread useful information to rural and urban populations, often outside traditional classroom settings. Choudhry further emphasized that agricultural researchers develop technologies for local farming challenges, but lack the resources to directly convince farmers to adopt these innovations.

Provision of Incentives to Students and Teachers

The study found that agriculture teachers should be recognized by the Ministry of Agriculture for their involvement in providing extension services to farmers. One participant stated, "*The incentives for the agriculture teachers could be teaching and learning materials*." These materials and prizes could be presented at agricultural shows, highlighting the need for the Ministry to improve the rewards given at such events. Excelling students could also be recognized, and agricultural shows offer opportunities for students to gain new skills and information from their peers. If the prizes are substantial, teachers will be motivated to put in more effort, passing knowledge to students and, ultimately, the community. The findings align with the findings by FAO (2023b), whish highlighted that teachers' motivation directly impacts their effectiveness and student performance. Obanya (2021) further noted that motivated teachers improve both teaching and learning, while demotivated teachers may experience decreased performance and disengagement, negatively affecting agricultural development.

Conclusion

Based on the findings of the study, it can be concluded that a collaboration between the Ministry of Education and Training and Ministry of Agriculture can ensure that agriculture teachers and extension officers share current knowledge, skills and resources; thus, contributing to agriculture development.

Recommendations

Based on findings and conclusions of the study it is recommended that:

1. the agriculture teachers in school must keep abreast with current trends in agriculture so that they remain relevant to the community as they can equip the learners to deal with contemporary issues.
2. the Ministry of Education and Training must ensure the curriculum taught in schools make it easy for students to relate with what they do in their respective homes in as far as farming is concerned.
3. the Ministry of Education and Training must work in collaboration with the Ministry of Agriculture so that current information is shared between teachers and extension officers.
4. the Ministry of Education and Training must enact a policy ensuring that agriculture teachers do not only teach in schools; but, also provide extension services in those communities.
5. schools that offer agriculture must make sure they provide teaching and learning materials or resources so that teachers can teach in a practical manner.

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