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Abstract

The effectiveness of agricultural extension work relies upon the accessibility of staffs that are qualified, roused, conferred and receptive to the consistently evolving social, financial and political condition. This narrative seeks to highlight the role that extension and advisory services play on a specific Agricultural Development Programme Project in North-West Province of South Africa. It also explores how best the provincial government can ensure that policies are developed and timely interventions are delivered with the needs of the farmers being considered first. Recommendations for rapid growth in the cattle and livestock industry in the province were also suggested.

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Introduction

The agricultural area is integral to rural improvement and can contribute essentially to activities to mitigate neediness. Strong extension and advisory services are therefore needed, these being led by the government in collaboration with the relevant role players. McCole et al. (2014) stated that the knowledge of agriculture is vital for food security. In many developing countries (South Africa as a case study), farmers still don't have approaches by growth and warning administrations because there still exist poor agricultural practices. The Department of Agriculture (2005) stated that "during the past ten years, agricultural extension in South Africa has undergone a fundamental change from a dualistic service (separate services for commercial and small-scale farmers) to a single amalgamated service, focusing on the needs of both the previously disadvantaged small-scale farmers and the large-scale commercial farmers". The Department of Agriculture (2005) expressed that amid the previous ten years, rural development in South Africa has encountered a noteworthy change from a dualistic organization (disengage organizations for business and little scale farmers) to a singular amalgamated organization, focusing on the necessities of both the as of now prevented little scale agriculturists and the huge scale business agriculturists. It is, in this way, vital to separate amongst expansion and warning administrations. The most widely recognized definition utilized for "agricultural extension" alludes to a 'procedure that enables farmers to end up mindful of enhanced advancements and embrace them with a specific end goal to enhance their productivity, wage, and welfare' (Purcell & Anderson, 1997).

Extension and advisory administrations are intended to improve the living standards, agricultural productivity,

and livelihood of farmers by introducing appropriate technology and the use of proper and effective communication and information channels. David and Samuel (2014) highlighted that in South Africa, gaps in the extension and advisory services were evident in a number of provinces. In addressing the gaps, measures and regulations for extension and advisory services were developed by the government. It is largely the responsibility of the South African government to deliver extension services to farmers through the provincial departments.

However, such services are also provided through the private sector and NGO's such as LIMA to farmers to improve production. It can likewise be noticed that the extension and the advisory delivery system is essential towards changing the little scale burdened agricultural division of South Africa, and legitimate guidance must be offered to farmers productively and routinely. Agholar et al. (2012) expressed that the utilization of expansion training in decreasing neediness in South Africa is vital given the vast assets accessible in the agricultural area. Moreover, the arrangement of advisory administrations increases agricultural production and the utilization of appropriate correspondence through extension administrations impacts the selection of new or enhanced innovation.

Agholar et al. (2012) noted that the provision of reliable and timely advisory services is particularly advantageous for the livestock and cattle sector. Agholar (2012) contended this sector has been neglected by policymakers and researchers, despite its growing importance in the economy through addressing poverty alleviation, land redistribution and so on. South Africa has different cultivating regions, extending from serious harvest generation in winter precipitation and high summer precipitation regions to steers farming in the bushveld,

much of the land surface being suitable for grazing, which is the main farming technique for cattle rearing and farming. The arrangement of dairy cattle raising has contributed around 25-30 percent of the aggregate cultivating yield per annum (Ijatuyi, 2016).

The Agricultural Development Project (Nguni Cattle Development Project) was introduced and funded by the government and has been placed in the hands of the Department of Agriculture to render extension administrations to agriculturists, helping them turn out to be more production inclined in order to increase their income. However, barriers to improved productivity such as poor funding, lack of technical expertise and proper infrastructure have been identified as weaknesses in the agricultural extension and advisory services. These services should be affordable, if not free, easy to access and readily available for farmers, but in the absence of the extension officers being properly trained or even, farmers seek advice and services from private organizations or NGO's. Extension services are generally more expensive in the private sector but are provided on time due to the availability of adequate infrastructure, resources, and trained personnel. However, very few farmers and farming communities can access them due to the need to pay for their services, the absence of access to any support services putting these farmers at a clear disadvantage. Those farmers who are able to pay for the private services are generally in a position of benefiting more as a result of the services afforded to them, leaving out the majority of the poor cattle rearers with no access to agricultural advice, marketing opportunities, general herd management and other information sources related or relevant to livestock farming due to their financial disadvantage. This narrative seeks to highlight the role that

extension and advisory services play on a specific Agricultural Development Programme in North-West Province of South Africa, and also communicate through its recommendations, improved policies to assist both extension agents and farmers.

Study Context

The theoretical background on agricultural extension approaches and a description of the agricultural development programme is provided to contextualize the study followed by extension being a development concept, the support which extension and advisory services rendered to agriculture together with its challenges. The theoretical framework on Agricultural Extension Approaches as indicated by Akpalu (2013), Bergevoet and van Woerkum (2006), the diverse methodologies utilized as a part of rural expansion benefit conveyance have been characterized under four ideal models, to be specific, the exchange of innovation, critical thinking, learning and adult education, and human development.

Exchange of Innovation Approach (Transfer of Technology)

The Exchange of Innovation approach has been portrayed as a restricted model, from science to home, in which the client is the inactive recipient, subsequently; information is viewed as a thing that streams from science to the customer. Bergevoet and van Woerkum (2006) talked about that the exchange of innovation demonstrate has been scrutinized on the grounds that the innovation prescribed isn't really adjusted to or reasonable for the particular circumstance that an individual farmer is stood up to with. Regardless of every one of these reactions, exchange of innovation is as yet a usually utilized expansion worldview (Coutts, 1994).

Critical Thinking Methodology

Critical thinking is a fundamental piece of extension benefits, the design being to help farmers to discover answers for innovative or administration issues. In farmers' training, critical thinking is a regularly utilized configuration to exchange learning, with skill being given to farmers by people or a gathering of counselors (Hogeveen et al., 1992).

Learning and Adult Education Methodology

Madukwe (2006) communicated that learning in an investigation bunch is a proactive easygoing technique for preparing that urges individuals to better appreciate their condition. To have the ability to get information into the learning technique that happens, grown-up learning theories may be of help, with learning cycles and styles having been used to delineate the examination gather learning forms. In any case, while in the meantime being used as a hypothetical framework for adult taking in, the strategy for learning cycles and styles has not been used as a piece of agribusiness. The learning strategy has been viewed as a reliably rehashing process that is managed by one's needs and destinations, with individuals developing their own particular learning cycles. Four learning styles, specifically, unique, assimilation, centered and accommodative learning have been recognized as identified with the unmistakable periods of the learning cycle (Kolb, 1984).

Human Improvement Approach

In human improvement, Coutts (1994) and Madukwe (2006) all talked about that extension and advisory system is a way to encourage and empower people or gatherings to step up with regards to characterizing issues and looking for answers for individual and societal concerns,

including openings (Ijatuyi, 2016). This extension worldview comprises of participatory methodologies that are received because of the expanding multifaceted nature of agricultural and environmental issues. These methodologies have merits, including: guaranteeing the acknowledgment of neighborhood methods for knowing; supporting nearby development and adjustment; including partners in investigations that has a financial and moreover social impact on the developing group; perceiving the advantage of sharing information and considerations among farmers; enabling maker ownership both of issues and replies, and making utilization of the group for learning. Akpalu (2013) featured that these methodologies have been censured, as farmers may not perceive issues (for instance, environmental issues), in which case non-participatory methodologies might be added to their human development. Besides, Black (2000) expressed that "there may likewise be the predominance of circumstances that may make thoughts be rejected, and the spread of information created in gatherings might be restricted to the gathering itself".

Methodology

This paper was developed using information from published and unpublished primary, secondary and tertiary sources.

Study Area

The North-West Province (NWP) is the fourth-smallest province in the Republic of South Africa. Nationally, the province borders the Northern Cape, Free State, Gauteng and Limpopo Provinces with the Republic of Botswana in the North-east. With a total area of 106 512 square kilometers and a mid-2010 population of 3.2-million (7.1%), it is mostly rural in nature. The Province is divided into four districts, namely, Ngaka Modiri Molema,

Bojanala Platinum, Dr. Kenneth Kaunda and Dr. Ruth Segomotso Mompoti with Mahikeng (previously Mafikeng) as the capital (Statistics South Africa, 2010). The dominance and locality of agricultural activities were the main reasons for the selecting the study area.

Results & Discussion

A number of themes emerged from reviewing the literature regarding the role that extension and advisory services play on a specific Agricultural Development Programme in North-West Province of South Africa. The study showed the relationship between the ADP, the description of the breed, and the importance of the livestock to the environment. Furthermore, extension as a function, development, and concept was discussed together with its challenges to agriculture.

Extension as a Function and Development Concept

The Ethical Tea Partnership (2014) stated that "agricultural extension is the function of providing need and demand-based knowledge in agronomic techniques and skills to rural communities in a systematic and participatory manner, with the objective of improving their production, income and, by implication, quality of life". Extension can be sub-divided into three groups: the public, the private profit and the non-profit sector. The need for agricultural extension was addressed in studies by Picciotto and Anderson (1997), Anderson (2007), Ngomane (2006), Eicher (2003), World Bank report (2000), Zwane (2012) and David and Samuel (2014), in which they all featured the fundamental focal point of extension work as being expanded food sustenance and spreading the advantages of enhanced cultivating methods.

David and Samuel (2014) further stated that agricultural extension and advisory services confront various difficulties in adequately responding to and achieving their objectives. The key challenge remains how to develop and implement strategies and approaches to ensure the optimum participation of farmers. According to Oladele et al. (2004), agricultural advisory and extension services have been changing over the past few decades. These changes are attributed to many factors that include policy and political changes, and more recently, the participation of the non-governmental organizations (NGOs) in farmer support services.

Despite the fact that as a formative idea extension is in wide utilize particularly in the rural and rural advancement sectors, extension benefit means diverse things to various individuals. Agricultural extension is intended to enhance farm efficiency in order to empower individuals to enhance their way of life and personal satisfaction. Extension can, thus, be an education; its point being to realize positive behavioral changes among farmers. In this way, extension administrations are characterized in this investigation as an administration of information, information and expertise advancement to upgrade the selection of as good as ever agricultural advances, and to encourage linkages with other institutional help administrations (input) supply, yield showcasing, and credit those farmers can profit by.

The Department of Agriculture, South Africa (2008) demonstrates that rural extension and advisory administrations are occupations that adjustment because of the earth in which they work, and their customer base needs and prerequisites. Extension and advisory services hence require a workforce that is prepared, devoted, and gifted. Figure 1 delineates that Agricultural Information

System (AIS) for rural advancement ought to interface individuals and associations to advance learning and create, offer and utilize agriculture-related innovation,

learning, and information to the best-preferred standpoint.

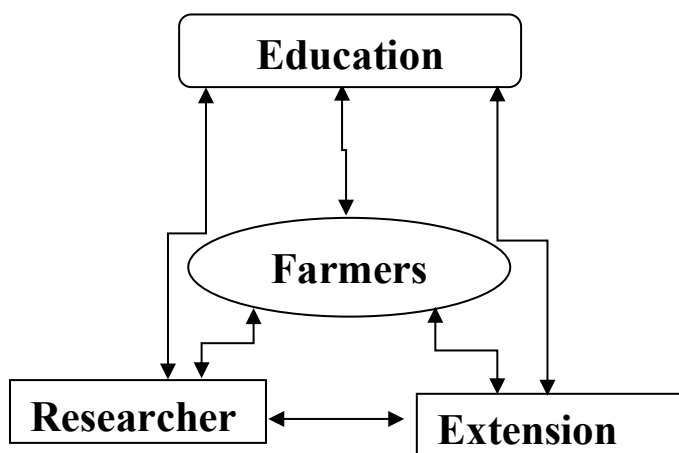


Figure 1. Agricultural extension as part of Agricultural Knowledge System/Agricultural Knowledge Information System (AKS/AKIS)

Source: Department of Agriculture, Forestry, and Fisheries (2008/9-2010/11)

Extension and Advisory Services' Support and Challenges to Nguni Cattle Farmers

According to Ijatuyi et al. (2017), the place of extension and advisory administrations in improving farmer's learning, aptitudes and in addition advances can't be overemphasized. Extension and advisory services encourage word of mouth passage of information, physical demonstrations of innovations and improved methods. Extension helps in the passage of information and innovations from the scientist to the farmers, thereby assisting farmers in taking decisions, as well as setting and clarifying their goals. Rivera et al. (2001) stated that "agricultural extension also is concerned with providing information on other crucial issues, such as food storage development, processing, farm management and marketing". Insufficiently

trained workers are a major challenge to the extension and advisory service system. When there are workers, lack of proper infrastructure and enabling the environment to mitigate against the will to work. Extension workers are not fully equipped the technical know-how, proper efficient training, and infrastructure. If extension workers are well empowered, the expectation would be that each and every extension agent who benefited from this empowerment would be a specialist in no less than one field of specialized agriculture in order to be fruitful in conveying extraordinary administrations to the farmers with every one of its obligations which are altogether capsulated in correspondence.

Extension is regarded as a bridge between farmers and researchers; one of the purposes is to transfer information. According to Mbo'o-Tchouawm and

Colverson (2014), many factors have contributed to the challenges of extension and advisory services to be rendered. These incorporate deficient assets for supporting extension endeavors, poor resourcing, confused structures bringing about the poor foundation for drawing in agricultural organizations, the constrained inclusion of rural farmers in the extension processes, and the absence of fitting techniques for powerful research and sufficient extension strategies. The impact of the extension and advisory service to the Nguni project has been minimal due to the limited extension service provided to the farmers since the project inception. Additional challenges include: poor road infrastructure, the distances extension agents need to cover, limited training centres that are adequately equipped, the high proportion of extension workers to farmers, the level of commitment to the programme by the extension agents, the salary package, lack of the basic amenities in the society, and poor extension programme funding.

Gwala (2013) highlighted that extension services failed to tackle challenges such as cattle production in general with only about 37.8% and 32.1% of the farmers in his study area having access to extension services. In which case, the services rendered were of low quality because of the correspondence systems used to give these administrations. Ijatuyi et al. (2017) recorded that extension and advisory services rendered to Nguni cattle farmers was average and contributed greatly to the livelihood of the farmers. But at the same time, an average service is not the target of the government on the Agricultural Development Project (ADP). Davis (2016) also highlighted that extension service remains a critical institution for supporting rural livelihoods and the sustainable development goals. Furthermore, Davis and Sulaiman (2014) stated that extension

services delivery perform a vital part in agricultural advancement and it decreases hunger and poverty.

According to Cwale et al. (2012), participants of the ADP indicated an upward growth since they started accepting extension and advisory service that was being rendered. The majority (67%) of participants in their study area has recorded increase in financial, physical, natural, and social capital. In a study by Gwala (2013), most of the farmers that were interviewed showed extension services had more relationship with the male farmers instead of the service cutting across all gender equally. Nguni Cattle, Description and the project

According to FAO (2006), livestock generates and contribute approximately 18% of greenhouse gas emission (CO₂) into the environment, equivalent to more than the transport system. The FAO (2006) featured that the expanded flourishing in the livestock area has prompted individuals devouring more meat and dairy items consistently anticipating the generation of overall meat from 229 million tons in 1999/2001 to 465 million tons in 2050, while milk yield is set to move from 580 million tons to 1043 million tons in the midst of a comparative period. The effect of the livestock division on the economy is becoming quicker than some other agricultural sub-area. Domesticated animals cultivating gives a wellspring of occupations to around 1.3 billion individuals comprehensively and contributes around 40% to the worldwide farming yield. Domesticated animals are likewise a wellspring of the sustainable power source and a basic wellspring of natural manure for some poor farmers in creating nations for their yields. Domesticated animals cultivating involves roughly 30% of the whole land surface, generally for the lasting field, 33% of the worldwide arable land being utilized to deliver sustain for animals.

Ntshepe (2013) further stated that a "smallholder livestock farmer in South Africa is in a difficult position, not only grappling with a changing global environment but at the local front without access to domestic markets". Ntshepe (2013) further stated that "the lack of marketing information limits adequate access to livestock markets by smallholder farmers due to the very limited knowledge of buyer requirements originating". Statistics released by the North-West Department of Agriculture (2003) demonstrates that an expected 1.816 million herds exist in the North-West Province, which is around 12% of the total in the country. As developing countries have many smallholder family farmers, it is important that livestock developments benefit these poor rural families. According to Pathak (2014), smallholder farmers, especially the women, stated that livestock helps them earn their own regular income and provides food, specifically protein, with the manure being used to fertilize crops.

Nguni cattle are an indigenous South-African breed and therefore suited to various local environments, which, until recently, faced considerable discrimination of cross-breeding with the imported breed (Bester et al., 2003). Its adaptive traits have more recently led to it being regarded as a highly suitable beef breed in both intensive and extensive farming systems, hence the birth of a programme to develop it as a national breeding herd. The Nguni breed was able to enter the developing business segment, and broad research encouraged breeds upgrades. These occurred in the commercial sector, which began to appreciate their resistance to disease and local adaptability with the benefits not being made available to community farmers who had ensured the survival of the breed (Bester et al., 2003).

According to Bester et al. (2003), "it is small to medium in size depending on the prevailing nutritional conditions; the depth is good and is accompanied by a moderate width. Mature cows have fairly short legs with good feet. The dewlap is medium-sized and thin. The cervicothoracic hump is hardly noticeable in the mature cow but is fairly well developed in the full-grown bull. The barrel of the Nguni cattle is of good length and strength, the rump is inclined to droop towards the tail and the rear quarter is light. The head is of good size with a flattish poll. It has a broad dishd forehead, widest between the eyes. The face is wide and straight to slightly convex in profile. The muzzle is broad and the ears have a refined look, being small with a sharp apex. The horns are usually round are noticeably lyre-shaped in mature cows. Coats are soft, fine and glossy with the udder and teats small to moderate". In summary, the Nguni cattle has shown that it is created through a procedure of normal determination in an exceptionally difficult condition and that it has the hereditary potential to perform well under ideal generation situations. It is additionally a medium-outline creature with a measure of tick resilience and illness protection.

The goal of the project is to re-introduce the indigenous breed to rural community farmers in North West Province. The targets of the project are to empower and ensure the upliftment of emerging livestock farmers to become commercial Nguni cattle producers. It is furthermore intended to transfer skills and the capacity necessary to establish black commercial livestock farmers and, lastly, to create jobs for the rural poor. The project envisages training beneficiaries in financial management, computer literacy, infrastructure maintenance, value adding and processing. The Nguni cattle development project is a collaborative initiative participatory between three

organizations, these being the North-West Department of Agriculture and Rural Development, the Industrial Development Corporation (IDC) and the North-West University (Mafikeng Campus). The aim is to re-introduce the indigenous Nguni cattle to the mainstream of the livestock Industry (SA News, 2013), these farmers assuming a noteworthy part in economic development, work creation, sustenance security and change in the industry.

A grant of around R 45 million was made accessible by the IDC to actualize the Nguni cattle venture, which included setting up the core of enlisted Nguni herds in shared towns over a time of five years. The project brought together traditional farmers who rear, breed and have conserved both the indigenous and commercial livestock in order to ensure the survival of this breed (IDC, 2007). The accomplishment of this venture depends to a great extent on giving extension administrations, preparing livestock supervisors and actualizing venture administration. This is vital to guarantee that the unadulterated breed that were sourced from community farmers retain their genetic value. The Nguni cattle development was launched jointly in the North-West and Limpopo Provinces in February 2006. Certain assumptions were made, among which were that the animals produced would be of market quality and that there would be sufficient resources on the ground to maintain production leading to improved meat supplies on the market. However, a number of problems were encountered; including the lack of qualified extension staff to monitor the project, minimal infrastructural development on communal lands, lack of record keeping and rights to possess or to use that is land tenure systems.

The introduction of the Nguni cattle, particularly the bulls, to the community farmers was an exertion by the Department of agriculture and the University of Fort

Hare as a team with a few NGOs who are knowledgeable about communal farmers (Mapiye et al., 2007). The bulls were intended to bring new genetic stock to the cowherds to enhance livestock production, while the extension support was intended to develop community institutions, and farming opportunities in rural areas (Bester et al., 2003). To enhance the introduction of the cattle in rural zones, sustainable models need to be developed to boost their productivity, improve the productivity of communal areas, and assess the quality of the existing stock (Bester et al., 2003). Nguni cattle development has the potential to create economic growth in rural areas, generate job opportunities in adding value to the food processing industry, and improves the standard of living of the farmers (Sikwela & Mushunje, 2013).

Agholar (2012) showed that a major way to develop agriculture in the livestock sector is to provide extension services that will increase and improve production. Through effective services, agriculture extension service can assist in alleviating poverty, improve the standard of living, and improve food security. They can possibly diminish rural poverty, which likewise relies upon education and training opportunities healthcare provision in many rural areas (Organization for Economic Co-operation and Development [OECD] 2006) as cited by Agholar, 2012).

For the services to have an impact, they must embrace current research and involve farmers in their extension programme (Agholar, 2012). Muchenje (2015) stated that the Nguni cattle development venture has additionally observed branches and coordinated efforts rising, particularly the South African Research Chair Initiative (SARChi) in meat science, which is bestowed to Stellenbosch University and the Technological and Human Resource for Industry Programme

(THRIP) in animal science and meat science in relationship with the Red Meat Research and Development of South Africa (RMRD-SA).

Nguni Cattle as an Agricultural Development Programme

Agricultural development programmes are schemes established by the government to improve farmers' productivity, environmental status, and farming skills and knowledge. Agricultural development programmes are envisaged to reduce poverty through rural development, enhance food security, and improve access to both local and international markets. An example of the development programme is the Nguni cattle project, which is intended to improve the productivity of livestock holders and encourage those farmers who are yet to start and participate in the programme to learn about the advantages of the Nguni development cattle programme. The aim is to teach the Nguni cattle farmers how to breed and maximize their returns from the cattle. As a result, the North West provincial government, together with the Provincial Rural, Environmental and Agricultural Department (READ) introduced the North-West Nguni Cattle Development Project. Farmers who participated in the development programme were to work with extension and advisory officers in order to get the maximum output from the programme. The Project started in February 2006 as a partnership between the Industrial Development Cooperation (IDC), Department of Rural, Environment and Agricultural Development (READ) and the North-West University (NWU), with the aim of reintroducing Nguni cattle into the province by providing deserving beneficiaries with heifers and bulls on a grant-loan basis.

Access to Extension and Advisory Services for an Agricultural Development Programme

Israel et al. (2011) defined an extension programme as, "a comprehensive set of activities that are intended to bring about a sequence of outcomes among targeted clients". Some of the Agricultural Development Projects that are overseen by extension services in the province include Household Agricultural Livelihood Development, People group run Indigenous Nurseries, Agricultural Crop production Infrastructure, Fundamental administrations and Infrastructure, Livestock Project Undertaking and Family unit Poultry Cultivating Venture. Extension agents have always engaged the community in training, and this is always followed up by monitoring and mentoring.

In an investigation did by Gwala et al. (2016), Agricultural Development Project did not record much participation due to the lack of exposure. Nguni Cattle Development Project had just about 17% of youth participation. A poor youth participation record thus implies a breakdown in the transfer of indigenous cattle rearing skills from the aged populates to the young and able youth as suggested by Lesoli (2011). There are stages that extension programmes go through before their advice are adopted and accepted. These include awareness stage (when the innovation or technology is made known to the farmer); knowledge stage (when the introduced technology is understood by the farmer); adoption stage (when the farmer decides to accept the introduced innovation) and practicing stage which is when the farmer finally put the adopted technology or information to use.

Interest in extension administrations is an imperative instrument for enhancing rural profitability and expanding farmer's wage (Anderson, 2007). Ejembi et al. (2006) demonstrated that training and visit (T&V)

extension has been censured for being top-down, top-overwhelming, wasteful and insufficient. Furthermore, Ejembi et al. (2006) stated that the training and visit approach was introduced by World Bank Agricultural Development Programme (ADP) to understand the problems of poor organization, dilution of efforts, impropriety, and untimeliness of messages intrinsic in the traditional extension framework. Mohammed et al. (2015) expressed that the training and visit approach is more compelling than the utilization of information innovation or media, successful and opportune conveyance of messages, regular extension farmer contact, and training, these being pre-imperatives for a viable agricultural improvement programme.

Ejembi et al. (2006) opined that despite the fact that information diffuses considerably speedier among farmers through relational correspondence channels, their capacity to get convenient information to take care of particular creation issues relies upon guide access to extension operators. It urges farmers to examine the difficulties they experience on their farms with the extension agents amid visit and to show off new or enhanced systems.

Agricultural education and rural extension have been echoed by development specialists as essential to achieving agricultural change, destitution abatement and sustenance and food security (Ragasa et al., 2013). Ragasa et al. (2013) additionally expressed that there is a precise and measurably critical gender distinction as far as access to different channels and kinds of extension administrations. Jiggins et al. (1997) express that gender is a critical variable for investigating the roles, duties, requirements, openings, motivations, expenses and advantages in agriculture.

Also, the need to improve women's entrance to agricultural research and

extension administrations must begin with an examination of people's enthusiasm for the cultivating creation process in regards to this components. According Nambiro et al. (2006), these were the separation from towns and access to methods for communications and essentially affected access to extension benefits particularly in rural areas. These authors additionally expressed that the nearer the client is to the wellspring of extension, the more probable he/she is to look for its services. Many other factors have also been identified as influencing access to extension services, such as income and literacy level, wealth status, access to media (radio, television), resources (including fuel) age and gender, resulting in extension agents spending time in locating farms. The willingness to pay for services that were previously free of charge is another factor that affects the access to extension services.

Innovations that have been initiated into the extension and advisory administrations conveyance framework to help and create enhanced outcomes incorporate farmer support groups that emphasis on rural resource centers, networking and marketing frameworks, volunteer advisory administration projects and ICT-based methodologies (Mbo'o-Tchouawm & Colverson, 2014).

Conclusions

The literature reviewed indicated that extension and advisory service comprises trained staffs that are required to support farmers by passing on information about different parts of farming, including innovation, to build efficiency. Extension and advisory administrations assume an indispensable part in guaranteeing the achievement of all parts of agriculture, empowering association amongst farmers and the extension and advisory specialists. The literature additionally uncovered that

Agricultural Extension and Advisory services in the field of agricultural advancement have seen numerous adjustments in the previous decades. The main pattern is the adjustment in theory and method of the reasoning behind extension services towards more participatory methodologies. This paper suggested that for the success of agriculture, the government should ensure that extension and advisory services are readily available, accessible and affordable by all farmers whether rich or poor.

Several aspects of improving cattle production have been discussed including improving the relationship between the farmer and researcher through extension, the challenges of livestock and the effect on the environment, improving the livelihood of the smallholder farmers and the access to extension and advisory services by the farmers.

Recommendations

From the reviewed articles, the government should continue to provide basic training and infrastructure needed for the agricultural extension agents available so that they can continue to disseminate timely ideas and innovations to farmers regarding the Agricultural Development Project. It is also recommended that government should subsidize the cost attached to extension and advisory service delivery so that all farmers in the province would be able to afford this service from the Department of Agriculture. Furthermore, it is recommended that better communication strategy between extension officers and farmers be developed to allow and foster better interaction.

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