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# CHAPTER 1 : INTRODUCTION

Agricultural extension and advisory services is a system that facilitates access of farmers or their organizations to new knowledge, information and technologies and promotes interaction with research, education, agri-business, and other relevant institutions to assist them in developing their own technical, organizational and management skills and practices. It can interpret and explain the language of modern technology to farmers, fishers and ranchers (Suvedi and Kaplowitz, 2016).

Various forms of agricultural extension services exist throughout the world. Their primary functions have been to facilitate learning and extend new knowledge and technologies in non-formal educational settings to improve agricultural productivity and increase farmers' incomes. The nomenclature of extension service providers varies by country. The frontline workers are known as agricultural extension workers, agricultural extension officers, extension educators, livestock development officers, fishery technicians, and community forestry and / or natural resources management officers.

In the United States, the Cooperative Extension Service was established in 1914. It is a partnership between local (county), state and federal governments. The extension service focuses on developing practical applications for farmers, fishers, forest land owners and home makers of research conducted in the land-grant universities by providing instruction or demonstration of existing or improved practices.

Most developing countries established agricultural extension services after their independence. In Latin America and the Caribbean, extension services were institutionalized after World War II. Extension services throughout Asia were established after the 1950s, soon after nations received their independence. In most African nations, extension services started in the 1960s and 1970s.

Historically agricultural extension was conceived as a public service targeting farming populations with agricultural information and technologies. Today, the private sector and civil society organizations are increasingly playing a role in extension service. There are new clients of extension including diverse actors in agricultural value chains located in urban areas versus the traditional focus on rural farmers; large-scale commercial farmers as opposed to subsistence small-scale farmers, youth, and women; and new research-based information and technologies.Although extension service was organized as top-down, supply driven technology transfer operation during its early years, agricultural extension today is expected to follow a participatory demand-driven services to advise growers and producers on business and entrepreneurship, value addition, farmer institution development, and facilitating linkages between farmers, other actors and service providers (Shilali et al., 2016).

Prevailing circumstances relating to rapid economic growth, diverse and dynamic agricultural systems, evolving technologies, market liberalization and growing competition for resources have caused a significant impact on the role of agricultural extension advisory service (AEAS)

providers in both developing and developed countries (Suvedi and Ghimire 2015; Chikaire et al., 2018). Due to a general increase in demand for high quality and quantity of farm produce; traditional subsistence agriculture has gradually been replaced by market-oriented or commercial agriculture (Chikaire et al., 2018). Today, extension workers serve both rural and urban populations with a wide range of programs aimed at helping to improve beneficiaries' quality of life. In order to effectively respond to the multidimensional challenges facing agriculture and food systems, there has been a paradigm shift of agricultural extension service delivery approach from a public- sector- driven, top-down extension system to pluralistic, demand-driven extension services. In this latter approach, the intended beneficiaries participate in the identification and prioritization of learning needs (Suvedi and Kaplowitz, 2016), and extension professionals are expected to respond to the needs of farmers and other food system actors rather than deliver predetermined packaged solutions. The general shift from top-down extension services to participatory and demand-driven programs are evolving accompanied with tremendous challenges for all involved. At the same time, there has been an increase in the need for broader and deeper levels of knowledge and skills for successful extension professionals.

The current trends involving socio-demographic variations, climate change, evolving technologies, globalization, national and regional poverty reduction and food security strategies present new challenges for extension, calling for competent agricultural extension personnel (Shimali et al., 2021). In response, the scope of agricultural extension services (AES) has widened, and the need to adapt to changing contexts is expanding. This 'new wave' presents new challenges skewed to offering new services, ensuring the quality of services, and strengthening collaboration and synergy among extension service providers (Sulaiman and Davis, 2012). This means that to thrive, extension must understand and adjust to rapid changes and emerging challenges, calling for organizational changes and multi-skilled human resources in extension services (Cochran, 2009). This paper therefore aims at reviewing the organizational structure of agricultural extension and advisory services; key stakeholders of extension services; major issues facing extension services and draw implications to strengthening extensionand advisory services in Africa with particular reference to five sub-Saharan African countries, namely, Nigeria, Malawi, South Africa, Kenya and Uganda.

# CHAPTER 2 : AGRICULTURAL EXTENSION AND ADVISORY SERVICES IN NIGERIA

## 2.1 Organizational Structure of Agricultural EASs in Nigeria

The public extension organization in Nigeria became effective in 1968 under the Ministry of Agriculture (MOA). As a reform of the MOA strategy, the Agricultural Development Projects (ADPs) strategy was initiated under enclave arrangement at Funtua, Ayangba, Ekiti-Akoko, Gombe, Gusau and Lafia towns in 1975. The success of this arrangement led to the introduction of ADP strategy to all the states in Nigeria. Since 1989, public sector extension activities in Nigeria have been concentrated in the Agricultural Development Programmes (ADPs). The ADP was designed to improve the traditional systems of production and raise productivity by transferring relevant and proven production technologies to farmers, easing constraints on inputs/ supplies and providing rural infrastructure (Obasi, 1995). In pursuance of this, the programme employs the training and visit (T & V) system to provide comprehensive agricultural extension services (for crops, livestock, etc.) within a single line of command (Bindlish and Everson, 1997).

The advent of the agricultural development projects (ADPs) in 1972 ushered in a different approach to extension work by bringing several elements that contributed to agricultural development under one semi-autonomous administrative set-up separate from the Ministry of Agriculture. Emphasis was on reorganizing and revitalizing the extension system with a suitable linkage with research. To this end, a National Agricultural Research System (NARS) comprising 18 national agricultural institutes, 16 faculties of agriculture and three universities of agriculture was established for basic and applied research in the country. This was in addition to the presence of the International Institute of Tropical Agriculture (IITA) and substations of other international research institutions (Mijindadi, 1984). Later, more universities of agriculture were established.

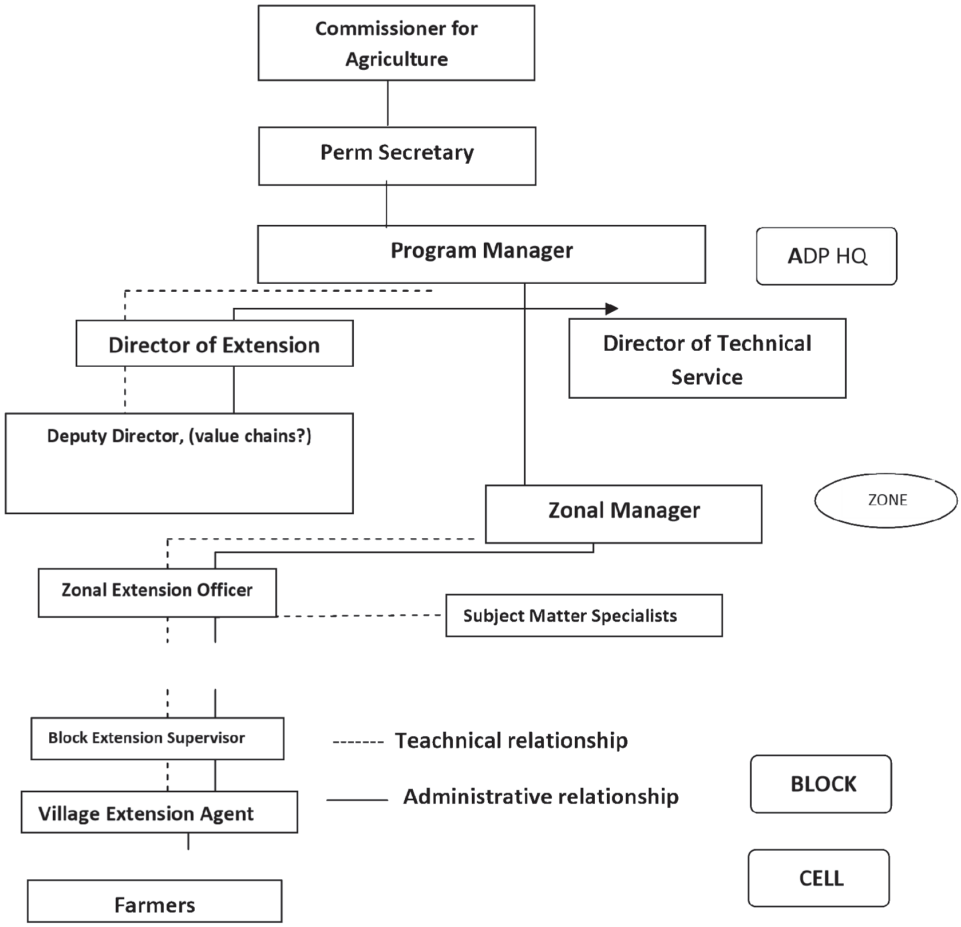
This arrangement set the stage for the collaboration of ADPs, research institutes and universities to diagnose prevailing farming problems, test promising technologies for research on the farmers' fields and promote relevant ones for mass adoption. In this connection, Mijindadi (1994) observed that an agricultural research - extension - farmer- university linkage had been established in Nigeria whereby each ADP had an agreement with a research institute or university for getting assistance of scientists in monthly and quarterly technology review meetings (MTRMs) and designing and supervising on-farm adaptive research (OFAR) trials. This two-way communication link between the agencies ensures better quality research for the development of appropriate up-to-date technologies and extension services oriented to farmers' needs.

The ADPs in the various states of Nigeria operate using similar agro-technology transfer organizational structures established in each state by law. Figure 1 shows the features of the bureaucratic set up and the linkages that exist within the structure.

Each state ADP is organized in four levels to facilitate supervision and transfer of authority: the headquarters, zonal, block and circle levels. The two broad arms of the ADP are the core and the support services or sub-programmes. The core programmes include Engineering, Extension, Technical and Rural Institution services. The support programmes are Administration, Finance, Human Resources, and Monitoring and Evaluation services.

At the headquarters is a policy-making body known as the Agricultural Development Project Executive Council (ADPEC), which is under the chairmanship of the state governor. This committee formulates policies for administrative control, appointments, promotions and general discipline, supervision and coordination. It also controls all finances and approves the project's annual budget.

The administrative head of the ADP is the project manager (PM), who is next in the hierarchical line of authority. The project manager is the head of a body known as the programme management unit (PMU), made up of all heads of sub-programmes as well as zonal managers. The PMU has responsibility for the execution of the policies and programmes approved by the ADPEC. It also prepares work plans and budget estimates, and handles appointment, promotion and discipline of ADP staff




Adapted From: FACU, 1991.

**Fig 2.1: Organogram of a typical agricultural development project (ADP)**

Each sub-programme has clearly defined responsibilities. Programme implementation, management and administration are achieved through the activities of these sub-programmes and their components. A meeting point for the sub-programmes is possible only at special review meetings where the activities of each sub- programme may be discussed. The review meetings are expected to provide opportunity for interdisciplinary exchanges and linkages. One key link for all the sub-programmes is the planning, monitoring and evaluation support services. The activities of this unit cut across all the sub-programmes  its staff can go straight into the affairs of any programme to obtain information, even before special review meetings are announced.

The second supervisory level is at the zone, which may have from six to eight blocks. Each zone is headed by a zonal manager (ZM), who is assisted in the execution of extension programmes by zonal extension officers (ZGOs) and subject matter specialists (SMSs). The organizational chart under consideration does not, however, provide for any direct linkage of the ZM with the director of extension services (DES). It appears thatthe only meeting point for both officers is at the level of PMU, since both reports directly to the PM. There should be a lateral linkage between the ZMand the DES because both are involved in implementation of the same extension programmes

The third supervisory level is the block, which in some cases may correspond with a local government administrative territory. Blocks represent areas with farming patterns that are similar in technology used and crops and animals kept. Each block is headed by a block extension supervisor (BES). These officers, together with zonal extension officers (ZEOs), maintain lateral technical knowledge with subject matter specialists (SMSs), who may be university researchers or experts from the private sector. A block extension supervisor is in charge of six to eight circles, which make up a block.

The circle, the fourth level, is headed by an extension agent (EA), who makes direct contacts with the farmers, and men's and women's groups. The organizational structure of the ADP, therefore, seems to have satisfied the principles for optimum communication within any organization asoutlined in the UNESCO handbook for information system and services (1980) in the following ways:

a. The channels of communication are definitely known -- i.e., the lines of authority have been definitely established with appropriate authority put upon each position.

b. The Principles of forward and backward communication has been provided for.

c. Lines of communication are as short as possible to increase the speed of communication and lessen the incidence of errors in transmission of information.

d. There is completeness in the vertical line of communication to ensure that communication such as from the PM to the EAs passes through every line of authority, thereby avoiding incidence of conflicting communication in either direction.

e. There is provision for the placement of competent, well trained heads to man each supervisory position to ensure accurate interpretation of incoming information and dissemination of same.

f. Continuity of sanctions and roles in the system is provided for to ensure that the lines of communication are not broken.

g. All persons in the communication line occupy necessary positions of authority, ensuring that every message or communication being handed down is articulated.

## 2.2 Key Stakeholders of Extension Services in Nigeria

Extension services in Nigeria are still within the purview of the Federal Government of Nigeria. It gives guidance and coordination to the states in agricultural programmes and implements some agricultural projects. Each of the 36 states has a network of ADPs that are responsible for providing extension delivery in 36 states and Federal Capital Territory (FCT). The ADPs within each state are organized into zones, then subzones and blocks (approximately equal to a Local Government Area or LGA), and then cells (or villages) (Developing Local Extension Capacity [DLEC], 2017). In recent times, multiplicities of private sectors, donor agencies and NGOs have provided extension advisory services. The focus of agricultural extension delivery, with the involvement of several actors, has metamorphosed from a supply- driven approach to a demand, market- oriented value chain approach.

The major stakeholders in extension advisory services are the public sector (state ADP, National Agricultural Research System), private sector, NGOs, and international donor agencies. The ADPs in collaboration with the LGAs in some states are responsible for grass-roots extension delivery nationwide, and the National Agricultural Research System is responsible primarily for technology development. Currently the major provider of public sector agricultural extension services is the Agricultural Development Programmes (ADPs) in each of the 36 states of Nigeria, with a workforce of about 7,000 public agents (28 percent female) (DLEC, 2017). It is noteworthy that, over the past few decades, changes in the approaches and performance of agricultural extension services in Nigeria have occurred (Lewis and Watts, 2015; Kuz et al., 2018; Nwoye and Nwalieji, 2019). These changes may be attributed to the participation of nongovernmental organizations (NGOs) and donors in funding and providing agricultural extension services (Sinkaiye et al. 2018).

Some private agencies have embarked on agricultural extension services directed largely toward a specific clientele system of their choice. They complement the public sector in providing extension services to farmers for either improving farmer production for off-take or generating demand for agricultural inputs they sell. Quality inputs are in high demand and there is a dearth of seed companies, creating an opportunity for the private sector. The private sector increasingly views extension services as a corporate social responsibility and as a way to increase brand loyalty with the farmers. Successes have been seen in out-grower schemes in which a processing company organizes farmers and provides inputs and training. Some of the agencies are: the Nigerian Tobacco Company, oil companies such as Shell Petroleum Development Company, and religious organizations such as the Catholic and the Anglican churches. Some nongovernmental organizations (NGOs) such as the Leventis Foundation also operate some extension services (Yahaya, 2020).

The participation of NGOs in extension delivery in Nigeria is a major feature in recent time. These NGOs are either charity based or private commercial organizations. The charity- based NGOs are non-profit- oriented organizations; private commercial organizations have a profit motive associated with their activities. These NGOs in the agricultural and rural development sector provide a wide range of extension education and technical support services, including micro-credit financing and supply of essential inputs in several communities in the country (Malabe et al., 2019). Examples of the non-profit NGOs include: the Development Education Centre (DEC), which provides extension support for women to organize themselves into grass-roots- level self-help association in southeastern Nigeria; the Women's Advancement Network (WOFAN) in the northwest, promoting income generation activities among rural women; the Farmer Development Union (FADU) and the faith-based Diocesan Agricultural Development Project (DADP) in southwestern Nigeria, which aim at poverty alleviation among small- scale farmers. Other nongovernmental organizations (NGOs) playing a supportive role in research and extension delivery in Nigeria include: Sasakawa Global 2000 and Women in Agriculture (WIA), Practicing Farmers Association of Nigeria (PFAN), Farmers Agricultural Development Union (FADU), Farmers Agricultural Supply Company (FASCOM) and Evangelical Church of West Africa (ECWA).The Sasakawa Africa Association (SSA) is probably the most prominent of the NGO operating in extension advisory service delivery in Nigeria currently. The organization has been operating in the country for over twenty years under a memorandum of understanding (MOU) with FMARD. During this period, SAA has worked with over 3000 extension agents drawn from several ADPs and 4 million farmers to raise agricultural productivity, improve postharvest management, provide extension education to midcareer extension agents, and help review the extension curriculum in universities and to promote knowledge sharing among clientele and stakeholders (FMARD, 2016).

Many international organizations have also been involved in agricultural extension and rural developments in Nigeria for decades. Notable among these are the World Bank, International Fund for Agricultural Development (IFAD), United States Agency for International Development (USAID), Technical Centre for Agricultural and Rural Cooperation, and Food and Agriculture Organization (FAO) of the United Nations. Some international research centres and networks have made their presence known and supportive in Nigeria in the area of research and extension delivery. Some of them have established collaborative efforts with the National Agricultural Research Institutes (NARIs) and other relevant agencies. Some of the international research centres are: International Institute of Tropical Agriculture (IITA), International Fertilizer Development Centre (IFDC), International Livestock Research Institute (ILRI), and International Crops Research Institute for Semi-Arid Tropics, International Fund for Agricultural Development (IFAD), Food and Agriculture Organization (FAO) of the United Nations, and the United Nations Development Programme (Yahaya, 2020).

## 2.3 Major Issues Facing Extension Services in Nigeria

The existing public agricultural extension service in Nigeria is characterized by many shortfalls, such as grossly inadequate and untimely funding; a very weak research-extension-farmer-

inputs linkages system; top-down, supply-driven extension approaches; and poor targeting of women, youths, and vulnerable groups, among others (Osondu et al., 2015; World Bank, 2020). In addition, the poor conditions of service and a non-existent career ladder for the ADP staff, a multiplicity of extension approaches and lack of coordinated/networking among the extension providers, misplacement of subsidy priorities, negative political influences in extension management and lack of low- cost credit facilities that small- scale farmers can easily access and poor loan recovery rates when credit is available are critical challenges. Also, because agricultural extension staff numbers are low compared with the farming population (Banful et al., 2010; Omotayo, 2010), not all farmers' concerns can be addressed concurrently. In attempting to reach the most marginalized farmers, agricultural extension services in rural Nigeria face the compounding challenges of decaying infrastructure (FMARD, 2016), lack of transportation (FMARD, 2016), low farmer education levels (Phillip et al., 2009), retiring staff needing replacement (Banful et al., 2010), and limited staff numbers (Banful et al., 2010). Most Nigerian agricultural extension staff are spread too thinly to adequately serve their intended geographic areas using current strategies. Further, women farmers face unique barriers to integration in agricultural extension systems staffed predominantly by men (Banful et al., 2010; Osaze, 2015). Other major challenges of Nigeria's agricultural extension and advisory services include: lack of a legislated agricultural extension policy, compounded by policy somersaults in the sector; grossly inadequate and untimely funding; poor leadership and coordination; low private sector participation; a very weak research-extension-farmer inputs/ linkages system; and ineffective top-down, supply-driven extension approaches. As a result, the public extension system is unable to respond to the increasingly diversified extension needs of rural clients. Also, the activities and services of NGOs and the main private sector, have largely been unregulated, unsupervised and uncoordinated at both the Federal and State levels to ensure quality assurance of services. In virtually all the states of the federation, NGOs in the Agricultural and Rural Development Sector were neither registered with the ADPs that are responsible for grassroots Extension, nor with the Ministry of Agriculture and Natural Resources (FMARD, 2016). Despite the varied and multiple Quality Assurance and Control Agencies in the Agricultural and Rural Development Sector, none focusses on agricultural extension and advisory services, exposing farmers to sharp practices and sometimes to unwholesome products.

Traditionally, extension plays critical role in addressing rural poverty and food insecurity through transfer of technology, support of rural adult learning, assisting farmers in problem solving, and getting farmers actively involved in the agricultural knowledge and information system (Danso Abbeam et al., 2018); and providing advisory services (Harry and Abudu, 2022; Msuya et al., 2017). According to Shannon et al. (2020), agricultural extension agents are essential partners in promoting evidence-based farm health and safety in communities. However, in more recent times, agricultural extension and advisory services are transitioning from a focus on technology transfer to a focus on facilitating a range of interventions in complex contexts. The system is being challenged to serve as the connecting actor in complex agricultural innovation systems (Kaynakçı and Boz, 2019); to go beyond technology transfer

to facilitation and beyond training to learning; to assist farmers to form groups, deal with marketing issues, address public interest issues in rural areas such as resource conservation, health, monitoring of food security and agricultural production, food safety, nutrition, family education, and youth development; and to partner with a broad range of service providers and other agencies (Chikaire et al., 2018).

The number and diversity of organizations involved in extension and advisory services has increased over the past few decades and extension is required to play an increasingly important intermediation and facilitation role to support application of new knowledge (GFRAS, 2012; AESA, 2016; GFRAS, 2017). These include organizations in the private sector dealing with agriculture inputs, agribusiness, and finance (international as well as local); producer groups, cooperatives and associations; consultants (independent as well as associated with or employed by agri-business/producer associations); and information and communication technology (ICT)-based services. Scholars have attributed this to diverse changes in the context of agricultural development (Kolawole et al., 2016; Manoher and Pooja, 2019). Consequently, the job market for extension professionals has thus changed and now demands quite different competencies than were required many decades ago. Above all, emergent methodological changes such as privatization of extension, cyber extension/e-extension, market-led extension, farmer-led extension, expert systems, social media, and media mix strategies, etc., jointly demand new competencies from extension educators.

Above all, the global and national food systems are currently facing several related cross-cutting issues which further define emerging roles and skills and competence needs of extension educators. These issues include environmental trends, gender inequality, nutrition, youth and women empowerment, youth unemployment, urbanization, globalization and trade and information communication technology explosion and digitalization. For instance, environmental trends such as soil degradation, climate change, water scarcity, deforestation, and decreasing biodiversity pose threats to the food system and livelihood of farming communities. Climate change exerts adverse effects on agricultural productivity through a wide range of meteorological and hydrological processes, including increases in the atmospheric temperature that affect the rate of precipitation and evaporation result in water scarcity, the increasing unpredictability of weather events such as seasonal rains that require smallholders to plan cultivation, and by increasingly frequent extreme weather events that can cause great soil and crop losses (Dawd et al., 2019). These trends have a significant impact on the functioning of the food system and increase the need for extension services delivery to build capacity for a sustainable and resilient food system.

The food system is faced with the pressure of feeding a growing population (Matemilola and Elegbede, 2017) with a decreasing rural labour supply and marginal lands; but of greater concern is the challenge of postharvest losses, food safety concerns, and conflicts over resource use and management. A huge and growing demand for affordable food exists among both the rural and the fast-growing urban population, but agricultural productivity remains relatively low and inefficient in many parts of the country (Helena et al., 2021).

Contributing causes include poor resource management and pervasive diverse conflicts, particularly between herders and crop farmers. This situation calls for capacitation of extension educators with technical and professional skills for efficient service delivery.

## 2.4 Implications to Strengthening Extension Services

Generally, the agricultural extension system in Nigeria is inefficient because the limited number of extension agents have poor skills. This has made it increasingly difficult for the public extension system to adequately respond to the diversified extension needs of the rural clients.Agricultural extension education is necessary to enable would be extension workers acquire the necessary skills and knowledge in extension education with a view to imparting these knowledge and skills to farmers and other stakeholders for better productivity. The undergraduate extension program, which is a pre-service training program in the universities, should be improved to incorporate practical-oriented courses. Specifically, the UG extension curriculum should be continually updated and modified to reflect these areas of competencies needed by extension professionals in the context of changing agricultural and food systems. For example, the course contents should be updated to incorporate contemporary issues such as digital extension, entrepreneurship, market-led extension, nutrition, privatization of extension, gender issues, health-related issues, urban agriculture, and cross-cutting issues (climate change, HIV/AIDS, food security, and international trade, among others). Also, the UG curriculum needs to allocate more time to the acquisition of practical-oriented skills. There is need to expand training content to reach beyond basic agronomy and into post-harvest processing and marketing of key crops, business skills and functional skills (such as mobilization, communication and facilitation). The curriculum should be demand-driven and based on the opinions of people in the field, companies, NGOs, etc., and all stakeholders in extension should make their inputs in the revitalized curriculum.

Universities offering agriculture could improve the quality of the workforce for agricultural and rural development by restructuring the curriculum to include broader and emerging issues such as climate change, food systems, renewable energy, food safety, development, health-related issues, and gender issues to equip graduates to deal with the changing agricultural scenarios and new agricultural challenges. There is need to establish minimum training standards paired with easy access to remedial training for women and men staff to avoid becoming a bottleneck. In designing the new curriculum, it is important to incorporate extension courses from the first year, and to deemphasize theoretical teaching (which currently dominates the curriculum) and emphasize practical teaching. Seeking partnerships with all key stakeholders, particularly policymakers and those in the private sector, could provide the needed assistance in developing and implementing the revised and updated curriculum.

Furthermore, it is also important to integrate scientific research training into the undergraduate extension courses to provide a diverse range of high-quality, well-mentored undergraduate research opportunities as well as knowledge of proper evidence-based agriculture and effective agricultural practices. These will prepare students to assist smallholder farmers and other extension clients.

# CHAPTER 3 : AGRICULTURAL EXTENSION AND ADVISORY SERVICES IN MALAWI

## 3.1 Organisational Structure of Agricultural EASs in Malawi

The present day extension and advisory service (EAS) structure in Malawi was established about 1949/50 basically as a direct response to the severe drought and famine that occurred in the country in the preceding season. The famine was so devastating that the colonial government was obliged to revisit the policies that existed at the time relating to agricultural production in general(Kabuye and Mhango, 2005). Apart from formulating six policy objectives, the government, developed a more coherent national extension and training system that had transparent structures. The system was basically organized at five tiers, namely: National, Regional, and Divisional, Area and Section levels more or less as is the case now. From the district level upward, the extension structures followed the administrative structures of the country i.e. Traditional Authority or Chief's Areas, District, Region and National Levels. At the district and area levels, one, two or more districts formed an agricultural division. Similarly, for agricultural areas, one large Traditional Authority's area formed an Ecological Planning Area. In some situations, however, two or more small Chief's areas were combined to form an Ecological Planning Area(Kabuye and Mhango, 2005). The colonial government introduced a Master Farmer Approach in which selected farmers were provided with extension efforts and other logistical support services such as farm planning, soil and water conservation; input supply and credit provision and marketing. The expectation was that the farmers would succeed in increasing crop and livestock production and enhance prosperity of their families. It was thus inferred that, in the long term, other farmers would emulate by adopting improved farming technologies resulting in huge increases in overall agricultural production in the country(Kabuye and Mhango, 2005; Knorr and Gerster-Bentaya, 2007). However, the approach created hatred among the follower farmers as the Master Farmers were regarded as stooges of the colonial government (Kabuye and Mhango, 2005; Knorr and Gerster-Bentaya, 2007; Masangano and Mthinda, 2010). Consequently, agricultural production was still low as the majority of smallholders were not part of the program.

Following attainment of independent government in 1964, Malawi saw a repeal of all the repressive agriculture extension laws to a "more educative and persuasive system" called M'chikumbi (progressive farmer) program (Masangano and Mthinda, 2012; Bradfield 1966). The program was directed towards commercial farmers with the aim of enhancing economic growth through private sector growth. Despite registering significant success, unlike the Master Farmer approach, it was highly politicized as it focused on those who had a political

affiliation towards the ruling party (Knorr and Gerster-Bentaya, 2007). It also discriminated against smallholder farmers.

From 1964 to 1980 Ministry of Agriculture assumed the Conventional Agricultural Extension System ordinarily used in most developing countries. The extension system was typified by a robust hierarchy by which communication was transmitted; and its dependence on the generation and transfer of technology by Agricultural Research Stations without active participation of extension staff and farmers leading to weak research-extension-farmer linkage. To improve farmer coverage and reach out to marginalized groups, the Modified Training and Visit (T&V) system called Block Extension System (BES) was introduced in 1982 (Kangaude 1982). The approach was also commonly used in many Asian and African countries to develop agriculture (Anderson and Feder, 2003, 2004; Douthwaite et al., 2001; van den Ban, 2006. The area covered by each frontline extension worker was divided into eight sections, known as ablock, which was visited at least once a fortnight (Kabuye and Mhango, 2005;Masangano and Mthinda, 2010). A once-a-month visitation schedule allowed supervisors to follow extension workers' movements. Evidence showed that BES resulted in high operational costs, thwarted extension workers' ingenuity as they were required to observe a fixed visitation schedule, excluded resource poor farmers such as women from extension services and was considered unresponsive to farmers' needs(Garforth, 2005; Axinn, 1997; Farrington, 1995; Carr 1988; Mkandawire and Chipande 1988; Quinn et al. 1988).

Dissatisfaction with BES performance concurred with advances towards democracy in sub-Saharan Africa in the early 1990s. Delivery of services began to imitate the new political dispensation, which more and more recognized the involvement and participation of grassroots level in decision-making platforms. Participatory approaches were thus upheldin EAS to address shortcomings of previous approaches. The multiparty democracy in 1994 brought in political pluralism which ushered attendant liberties including freedoms of choice and association, market liberalization and new ways of organization governance including decentralization. The decentralization process of the public sector in 1998 (GoM, 1998) and of agricultural extension services in 2000 (GoM, 2000) allowed opportunities for improving provision of EAS by allowing pluralism in service provision in Malawi. For EAS, this meant a radical rethink of both the organizational structure of EAS as well as its provision (Nankhuni, 2016).

Therefore, in 2000, the MoA through the Department of Agricultural Extension Services (DAES) came up with an extension policy titled "Agricultural Extension in the New Millennium: "Towards Pluralistic and Demand Driven Services in Malawi" (MoA, 2000). Following the establishment of the policy, governance structures in conformity with the democratic dispensation were necessary to ensure representation and accountability. To facilitate this, the MoA developed the Decentralized Agricultural Extension Services System (DAESS) as

a parallel structure at the local government level to manage the coordination and provision of EAS starting at the district level to the village level (Kaarhus and Nyirenda, 2006). Governance structures such as the Village Development Committee, Village Agriculture Committee and Area and District Stakeholder Panels were established to provide platforms for interaction among stakeholders in the process of demand articulation and responding, with a District Agricultural Executive Coordinating Committee responsible for overall coordination.

### 3.1.1 DAES Organizational Structure

The Department, headed by a director of extension services, has six sub-programs (see Figure 1) as follows:

1. Extension Planning and Training which is responsible for:
    a. Policy direction in harmonized planning and implementation of programs,
    b. Providing guidelines for capacity building of staff and farmers and,
    c. Overseeing management of financial and human resources.
2. Extension Methodologies and Systems:
    a. Uses innovative approaches, strategies and methodologies to contact farmers with agricultural technologies in order to improve food security and livelihoods. These are:
    b. Approaches-The model village approach which is used as the entry point and planning and implementation base for all programmes.
    c. Strategies for farmer mobilization- These are farming clusters *(ulimi wam'ndandanda)* and lead farmer which are strategies for mobilizing farmers to collectively engage into group activities.
    d. Extension Methodologies- Such as on-farm demonstrations (with packaged technologies), field days, study tours and training for information and knowledge sharing.
    e. Institutionalization of the District Agricultural Extension Services System (DAESS) to improve coordination of service providers and bring service delivery closer to the farmers.
    f. Strengthen Research-Extension-Farmer Linkage mechanisms in agriculture.
3. Agricultural Communication Branch- This provides media services in the Ministry and to other stakeholders through:
    a. Production of farm radio programs.

b. Development and printing of agricultural extension technical messages.

c. Upgrading and maintenance of equipment in multi-media, mobilevans, radio studio, and video-graphics and print workshop.

d. Programming all media services in Agricultural Communications Branch.

4. Agriculture Gender Roles Extension Support Services: Provide policy guidance and guidelines on mainstreaming gender and HIV and AIDS through:

   a. Supports mainstreaming of Gender and HIV and AIDS in agricultural programs and the agriculture sector in general.

   b. Improves male and female staff and farmer capacity in mainstreaming gender and HIV and AIDS in agricultural programs and projects;

   c. Enhances participation of women in agriculture and food security programs and project activities.

5. Food and Nutrition:

   a. Promote nutrition education with emphasis on food processing, preservation, and utilization for diversified diets at household levels;

   b. Strengthen coordination and collaboration with other stakeholders;

   c. Build capacity for all nutrition programs.

6. Agribusiness Development and Management:

   a. Promotes business development and management through establishment of Farmer Based Organizations (FBOs):

   b. Improves marketing of agricultural produce

   c. Establishes Farmer Business School

DAES delivers EAS to the farm level using a comprehensive organizational structure or extension delivery system which has 8 Agricultural Development Divisions (ADDs) demarcated based on agro-ecological characteristics. Each ADD is manned by a Program Manager. The 8 ADDs have 28 districts which were previously called Rural Development Projects (RDP), each headed by a District Agricultural Development Officer (DADO). There are more than 200 Extension Planning Areas (EPA) in the 28 districts, each managed by an Agricultural Extension Development Coordinator (AEDC). There are about 2880 sections each manned by an Agricultural Extension Development Officer (AEDO) who is the frontline extension officer. AEDO translates extension messages at the farm level (to the farmer) (Chingaipe and Msukwa, Undated). Figure 3.1 below depicts the DAES structure.

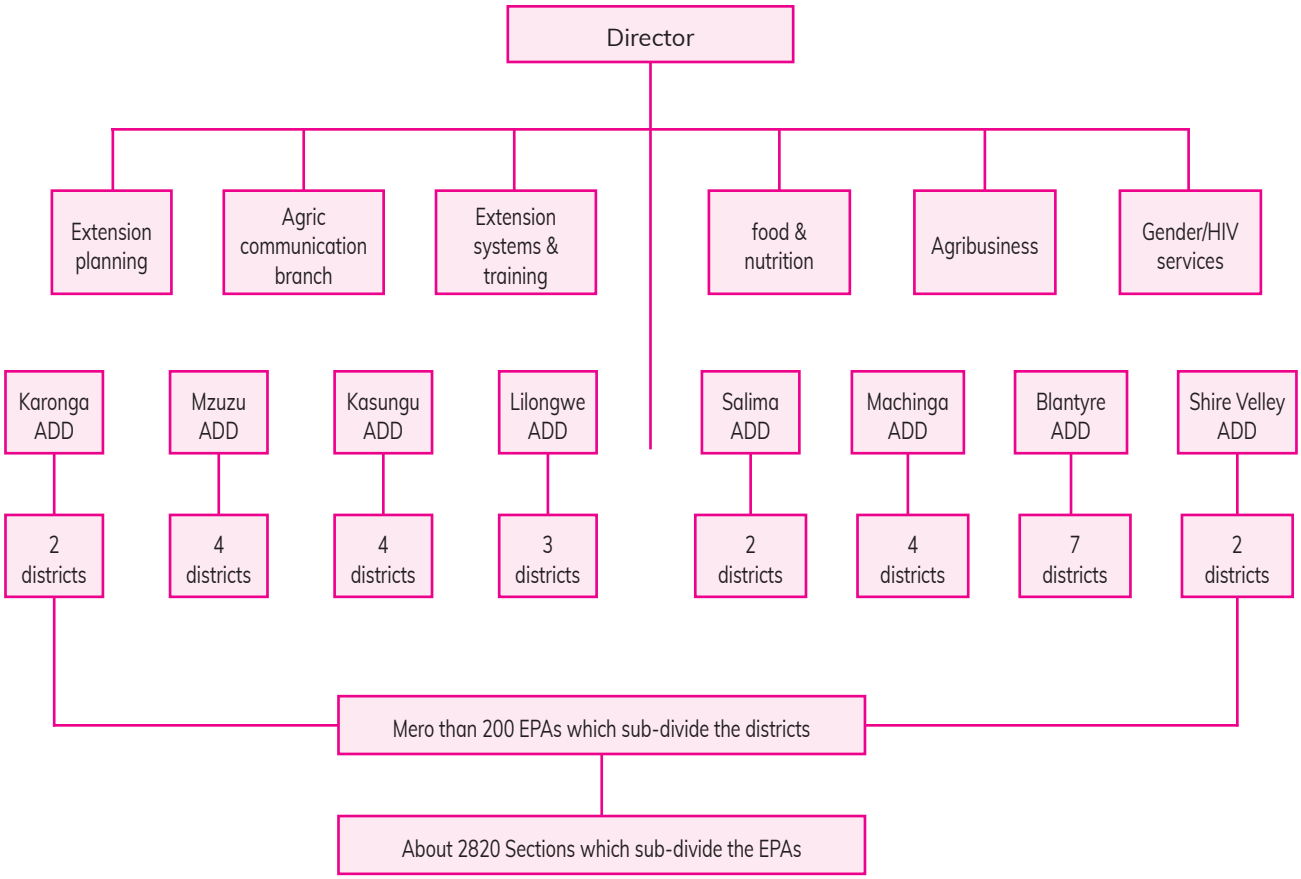



**Figure 3.1: DAES organisational structure**

### 3.1.2 Key Stakeholders of EAS

EAS delivery by DAES is carried out in partnership with various stakeholders at different levels (i.e., those who have direct interest or who might be affected by the issue at hand or intervention). Within an institutional framework for agricultural extension farmers are the key actors. Other actors and agencies include both public and private sector research and extension, non-profit organizations and donor-funded projects. Jointly and individually, these key stakeholders deliver to farmer's technical information and supporting services aimed at improving rural livelihoods (Masangano and Mthinda, 2012, MEAS, 2014; MEAS 2012).

Within the public sector, DAES is the main EAS provider and the only organization operating nationally and covering all agricultural value chains, in addition to other service areas, such as health and nutrition (Snapp et al., 2014). The Department of Agricultural Research Services (DARS) operates in the public sector through its various research institutes providing support to the EAS system which include pre-service and in-service training of extension staff, technology development and providing recommendations toward increasing the efficiencies of the country's EAS. These research institutes have little face to face interaction with farmers. Some of them engage DEAS and NGOs to deliver extension information and provide technical

assistance to farmers (Cai and Davis 2017; GoM, 2000). DAES also plays a critical role in the coordination of national stakeholders in EAS, and this has become increasingly important as pluralism in agricultural extension has developed further.

Private sector organizations, including those for-profit are a vital component of a strong and evolving agricultural sector that contributes to national development and the improvement of rural livelihoods. The profit-oriented private sector such as, Alliance One International, Malawi Bio Energy Resources Ltd, PANNAR, Seed Co, The Smallholder Farmers Fertilizer Revolving Fund of Malawi, (Cai and Davis, 2017) National Seed Cotton and Milling (NSCM), Agricultural Development and Marketing Corporation (ADMARC), Agora, Farmers World, Cheeta, Agricultural Trading Company (ATC) and Chemical and Marketing companies (i.e. seeds, fertilizers, pesticides, equipment and agricultural input retailer) are of particular importance in their role of developing entrepreneurship as more farmers are drawn into the market economy (GoM, 2000). For instance, private-sector actors slowly raised their expenditure in EAS provision largely because of the increasing payoffs in traditional export commodities and developing markets, in addition to expanding use of farm inputs among Malawian farmers. The private sector actors are categorized into two: pull or push business models, which decide the sort of extension services these actors deliver to farmers. Agricultural commodity production companies, such as tobacco companies, employ a pull-based business model "exhibited throughout-grower schemes and contract farming" (Simpson et al., 2012, p.11 cited in Cai and Davis, 2017). These companies commonly offer smallholder producers inputs and a full range of technical support in exchange for purchasing the farmer's output of tobacco and maize. Farmers can benefit from the input and services provided by these companies. On the other hand, agricultural input companies and input retailers often use a push-based business model. These actors focus on the provision of additional value-added advisory services, such as advice related to consumers' input purchasing decisions (Simpson et al., 2012, p.11 cited in Cai and Davis, 2017).

The civil society actors and donor projects operate on a not-for-profit basis and are more value-based such as NGOs, farmer-based organizations (FBOs) and donor agencies. It is useful to recognize the contribution they make, often targeting the delivery of EAS to the more marginalized in society, for example women and resource poor people. International NGOs provide EAS in collaboration with a large number of domestic NGOs working individually or under subcontracts with the international NGOs. The international and domestic NGOs provide broad technical, organizational and financial support to farmers (Cai and Davis, 2017). More than 10 international NGOs and a larger number of domestic NGOs are providing EAS to smallholder farmers in Malawi. For instance, some have particular expertise in capacity building from which a range of actors and agencies benefit. They are also valued for the contribution they make to policy formulation, and the key role they play in joint planning and implementation of extension activities. They are externally funded and often perform within short-term project cycles which renders sustainability of their efforts a major concern.

Major international NGOs includeThe Hunger Project, Total Land Care, World Vision International, ACDI/VOCA, ActionAid, Self Help Africa, Care International, Catholic Relief Services,Emmanuel International, Land O'Lakes International Development, Project Concern International, Salvation Army, Japan Overseas Cooperative Association and Save the Children. A large number of domestic NGOs work independently and under subcontracts with these international NGOs. Many of these organizations providing EAS to smallholder producers are members of the Civil Society Agricultural Network (CISANET). All NGOs operating in the country are supposed register with the Council for Non-Governmental Organizations in Malawi (CONGOMA), but membership in CISANET is voluntary. CISANET has membership of 104 (75 are international and domestic NGOs; the remainder are farmer organizations and individuals (MEAS, 2014).

Various FBOs, such as the Farmers Union of Malawi (FUM) and the National Smallholder Farmers' Association of Malawi (NASFAM) offer EAS to their members either delivered from within their own organization, by hiring staff or farmer-to-farmer, or in liaison with other competent agencies. They also guide EAS-related policy issues. The NASFAM system spans both developmental and commercial activities, which complement each other, and which operate across several value chains, including groundnuts, rice, tobacco, soya, pigeon peas, beans, and sunflower. NASFAM is a farmer-member controlled system. The control starts at Association level. The NASFAM system is organized into an extension network to support its membership of around 100,000 smallholder farmers. The smallest operational unit of NASFAM is the Club, made up of 10-15 individual farmers. Clubs combine to form Action Groups that are the key points in the extension network for dissemination of information to members, and for the bulking of member crops. Action Groups combine to form NASFAM's Associations. Currently, NASFAM has 54 associations. NASFAM operates a commercial entity managing all commercial activities, a development entity, a registered trust and an NGO implementing social and community development activities[1]. In spite of its large outreach, the 2013 Integrated Household Survey (IHS) showed that less than one percent of households receive EAS from FBOs, like NASFAM (MEAS, 2014).

Several examples of farmer organizations operate on a national level, including the Tobacco Association of Malawi (TAMA), Malawi Milk Producers Association (MMPA), National Smallholder Seed Producers Association (NASSPA), National Smallholder Farmer Association of Malawi (NASFAM), Cotton Growers Association and Poultry Association of Malawi, Malawi Organic Growers Association, and Farmers Union of Malawi (FUM). They also operate on a more regional or local basis, with others falling within a category of what might be called community-based organizations. Examples of the local farmer organizations are: Shire Highlands Milk Producers Association (SHMPA), Bvumbwe Milk Bulking Group in Thyolo as part of SHMPA, Zipatso Association in Mwanza, Lilongwe Herbs and Spices Association, Njolomole Vegetable Growers

1. Available at https://www.nasfam.org/index.php/about-us

Association in Ntcheu, Lobi Vegetable Growers Association in Dedza, Bumbunyika Vegetable Growers Association in Mzimba and Joka Vegetable Growers Association in Rumphi, Mzuzu Coffee Planters Cooperative Union Ltd, Mpoto Dairy Farming Association.

The Malawi Forum for Agricultural Advisory Services (MaFAAS)is a platform that provides network for EAS providers from various sectors to share information and experiences, collaborate and advocate for EAS at national level. MaFAAS is well placed since it connects to the African Forum for Agricultural Advisory Services and the Global Forum for Rural Advisory Services, hence conveying information between the different geographic levels. MaFAAS has organized annual events and professional workshops and conferences including the consolidation of inputs to reform the 2017 National Agricultural Extension Strategy in September 2018 (MaFAAS, 2018). Currently, MaFAAS is heavily involved in the revision of the national agricultural extension policy.

Other institutions include academia, research institutes, political and industry. These are of importance in the provision and delivery of training to extension staff, research and monitoring and evaluation of extension system; development and dissemination of technologies; advocating for and sensitizing farming communities; provision of markets for agricultural produce, inputs for use by farmers, funds for the extension service and set standards for quality. Higher education institutes have hired an increasing number of agricultural researchers since 2000. In 2015, around 37 percent of the Malawi researchers focusing on agricultural R&D worked in these education institutes. More than half of the agriculture research focuses on crop production; the three most studied crops include tobacco, beans and maize (Beintema et al., 2016). International and domestic public research institutes support the EAS system. For example, the International Food Policy Research Institute (IFPRI) together with the previous USAID project Modernizing Extension and Advisory Services (MEAS) conducted policy reviews and impact evaluations on Malawi's EAS system. Other research centers, such as the International Potato Center (CIP) and the International Institute of Tropical Agriculture (IITA), work with EAS and NGOs to promote new crop varieties (such as pigeon peas and pro-vitamin A orange-fleshed sweet potatoes) and increase the production, consumption and marketing of these new crops (Cai and Davis, 2017).

Domestic research institutes include:Lilongwe University of Agriculture and Natural Resources (LUANAR), Agricultural Research & Extension Trust (ARET), Forestry Research Institute of Malawi (FRIM), Tea Research Foundation of Central Africa (TRFCA), Chitedze Research Station, Bvumbwe Agriculture Research Station, Centre for Tick and Tick-Borne Diseases (CTTBD), Fisheries Research Station (FRS), and Lunyangwa Agricultural Research Institute.

## 3.2 Major Issues Facing Extension and Advisory Services in Malawi

The National Agriculture Extension and Advisory Services Strategy (NAEAS 2020/21-2024/25) (GoM, 2020) judged the performance of agricultural extension and advisory services in Malawi

using the seven guiding principles of the Agricultural Extension Policy of 2000 as a frame of reference. The principles are: Pluralism, Demand-driven services, Accountability, Those who benefit pay, Resource sustainability, Equalization, and Decentralized Coordination (GoM, 2000). The assessment concentrated on pertinent policy documents that recognize the crucial role of agricultural extension and advisory services in contributing to the achievement of their objectives such as the National Agriculture Policy 2016 (NAP), the National Agriculture Investment Plan 2018 (NAIP) and the Decentralization Policy 1998. Figure 2 portrays the interrelationships of the principles of the Agricultural Extension Policy of 2000 and how they influenced the effectiveness and quality of agricultural extension and advisory services in Malawi. Section 3.2.1 below describes some of the pertinent EAS challenges listed in NAEASS (GoM, 2020).

### 3.2.1 Regulatory Frameworks for EAS

In Malawi, policies and regulations are defined by high spatial stickiness implying that they cannot cascade freely across the country particularly to the districts and local structures, causing weak implementation. Additionally, the precarious nature of the regulatory framework and business environment leaves stakeholders, especially the private sector in a challenging position to boost their productive choices and investments. Further, weak and non-supportive regulatory framework for AES has brought about poor performance of the agricultural sector.

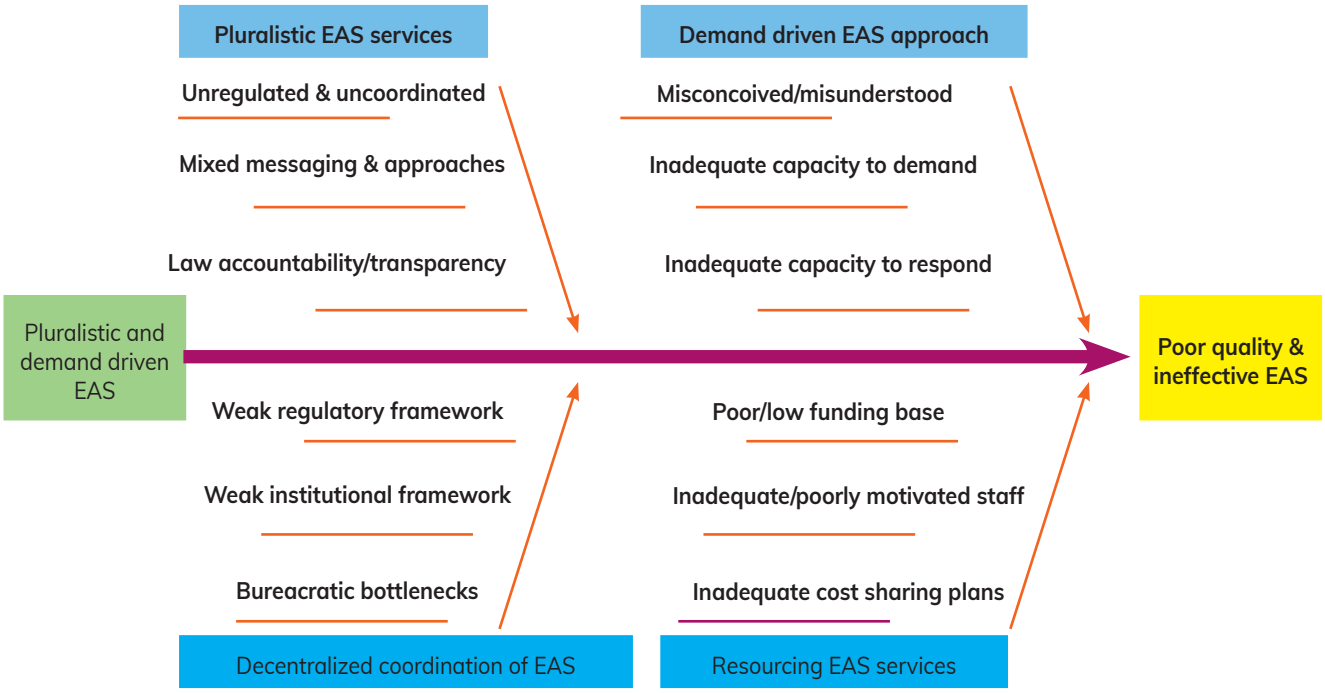



**Figure 3.2 : Agricultural Extension and Advisory Services Challenges in Malawi**

(Source: GoM, 2020)

Presently, there is no legal instrument authorizing DAES to impose guidelines and standards for the delivery of quality and proficient AES. This has resulted in several service providers

who defy the expectations of professional service provision. The direct consequence on the agricultural sector has been below potential productivity for crop and livestock enterprises (GoM, 2020).

### 3.2.2 Coordination of EAS

The Decentralization Policy (1998), Local Government Act (1998), Extension Policy (2000) NAP (2016) and NAEASS (2020) appeal for strengthened and decentralized coordination in the provision of AES.Subsequent to these policies, Malawi has seen an inrush of AES providers with typical district having an average of 20 service providers, with a range of 15 to 50 service providers per district (Chingaipe and Msukwa, undated). Nevertheless, implementation of pluralistic EAS has met mixed opinions among actors in Malawi. Studies (Chinsinga, 2008; Knorr and Gerster-Bentaya, 2007; Masangano and Mthinda, 2010) admit that multiple sources and type of services provided is a consequence of availability of numerous players in EAS. Pluralism has generated competition amongst actors which has resulted in coordination challenges (Ragasa, 2018). The existence and involvement of many uncoordinated actors has generated problems to sustain coherence and quality in delivery of AES. The poor coordination has resulted in development and use of conflicting approaches and messages, and weak coordination and collaboration between extension, research and markets (GoM, 2020; Ragasa, 2018).

### 3.2.3 Institutional and Organizational Capacity for EAS

Institutions for supply and demand of AES in Malawi include the public sector, non-state actors, academia and farmers. The institutions use agricultural extension operational structures at local level under the DAESS (Ragasa, 2018). There is no functional agricultural extension structure at national level connected directly with DAESS structures. This presents challenges of coordination and harmonization between national based and district-based structures on matters of services delivery more especiallypriorities and needs of farmers in different districts. This gap leads to delivery of top-down services because of poor understanding of farmers' issues and lack of response from farmers owing to nonexistence of formal involvement between national level decision-makers and district-based actors (GoM, 2022; Chowa et al 2013).

Although institutions for providing EAS are available, Malawi's EAS providers are challenged by few well-trained staff, limited staffing, and non-participation of private sector extension service providers. Currently, close to 1,700 extension workers serve close to 4 million farmers. This means that one extension worker is expected to serve between 2,500 and 3,000 farmers (Ragasa, 2018):the recommended ratio is 1:500 (GoM, 2011). Additionally, farmers are not capacitated enough to demand AES hence buttressing the top-down attitude among service providers (Ragasa, 2018; Chowa et al., 2013). For instance, Ragasa and Niu (2017) reported that only 14 percent of farmers that receiving advice actually demanded or requested for the advice, indicating that not many farmers are requesting or articulating their demand for extension and advisory services.Provision of AES by public and private actors is also influenced by the bad working conditions arising from limited access to basic

amenities such as housing, schools, hospitals, electricity, roads and mobility in the public sector. Public frontline extension workers are not inspired to stay and work in the rural areas thus depriving farmers of AES.

### 3.2.4 Ethical Erosion in EAS

Ethics are crucial to professionalism in any trade, EAS is not an exception. Service providers, agents, clients, and farmers have to uphold ethics to be able to build trust among them. However, ethics seem to be eroded in a number of EAS providers in Malawi. There are incidences of dubious undertakings at organizational level where EAS provider buy participation of farmers in the implementation of its interventions. Such actions are inimical to EASas they have eroded commitment and the self-help spirit resulting in lack of both ownership and sustainability of agricultural development interventions by farmers in Malawi. Cases of farmers demanding compensation for participating in EAS interventions are common in some districts that have been hosting so many EAS providers. This has emanated from the fact that EAS providers are answerable more to their sponsors than clients or farmers. Some EAS providers buy participation of farmers to outperform others in patronage of their activities to attract more resources from their financiers. This is unacceptable and is partly responsible for slow progress in agricultural development in Malawi.

### 3.2.5 Pluralism in Agricultural Extension Approaches and Methods

Conforming to the principle of pluralism in the provision of EAS in Malawi, various approaches and methods are used by different EAS providers. By and large, this offers clients, especially farmers, with a basket of approaches and methods to access EAS. Realistically though, use of plural approaches and methods has not assisted farmers significantly because of limited validation and adaption of the extension approaches and methods. This has led some EAS providers to use approaches that are technically inadequate and incompatible. Studies indicate that Malawi's EAS system lacks M&E at all levels. Additionally, DAES extension workers do not have standardized practices they can follow and use to track their own performance (Chowa et al., 2013, MEAS, 2012; Kaarhus and Nyirenda, 2006). Institutional Development across the Agro-Food Sector (IDAF) conducted mapping exercises of service providers in some districts to discover overlap and gaps in the EAS in Malawi (see IDAF, 2010). However, no system is in place for regular monitoring or for examining duplication, complementarities, synergies and gaps across agricultural advisory service providers in a given district (Ragasa et al., 2015). This lack of monitoring structures further lead to a lack of coordination among EAS actors (Chowa et al., 2013)

### 3.2.6 Financing Agricultural Extension and Advisory Services

Agricultural extension and advisory services have been popular in Malawi in terms of number of players expressing interest to provide the services. Agricultural extension policy orientation has partly influenced this development. There is relative ease of entry in the agricultural extension subsector in Malawi because of weak governing mechanisms. Having more

service providers technically suggests comparably more financial and other resources at disposal. However, the real picture of financing agricultural extension and advisory services in Malawi is uncertain because it is difficult to obtain the specifics of budgets allocated to agricultural extension and advisory services with organizations apart from the government where budgets are simply accessible. In Malawi, the general tendency is that the public sector agricultural extension and advisory services are underfinanced and not prioritized at project, program, district and national budgets except in few projects implemented through the government system. Other accompanying challenges are limited coordination of resources for agriculturalextension and advisory services and farmer payment systems for the services particularly for underdeveloped agriculture value chains.

In situations where clients of agricultural extension and advisory services pay for the services, transparency, accountability and governance have emerged as challenges. The government has been dispensinglimited financing to agricultural extension and advisory services over the years because of competing needs for same resources. This has been evidenced in limited service delivery, poor maintenance of extension workers' offices, houses, limited staff capacity building, low provision of portable water, no access to electricity, and poor means of transport for staff especially at grass-root level. Some non-state actors have not been transparent about budgets they dedicate to agricultural extension and advisory services' operations. Lack of openness has promptedqueries of transparency and accountability by the service providers. The uncertainty of available finances from some stakeholders has actually over time challenged general planning for service provision at all levels.

### 3.2.7 Food and Nutrition Security

Notwithstanding the key role of agricultural extension services in addressing food and nutrition insecurity, malnutrition, stunting and wasting are still common challenges in Malawian communities. Typically, agriculture programs fail to mainstream nutrition interventions resulting in poor access and availability of nutrient dense foods. Even worse, not all households have correct information about quality food and nutrition. This situationexposes the weakness of extension to prevent malnutrition and attain food and nutrition security.

### 3.2.8 Gender, HIV, and Youth Participation in EAS

Nearly 70% of fulltime farmers in Malawi are women and produce 80% of food for home consumption. Nevertheless, women and the youth, compared to men, have low access to and control over agricultural production resources and services such as extension, farm implements, technology and inputs, land, and credit. Moreover, women's participation in decision making in the agricultural organizations and institutions is limited. The situation is even worse among the youth whose participation in agriculture is restricted partly due to the unappealing nature of the sector. Another challenge in the delivery of agricultural extension and advisory services has been pandemics such as HIV and AIDs that have affected both staff and the farming community.

### 3.2.9 Climate Change and Variability, and EAS

Climate change and variability remain threats to agricultural production and food security. Farmers and stakeholders have poor capacity to make pertinent decisions for their farming enterprises in the face of these challenges. Agricultural extension and advisory services play a crucial role in empowering farmers to make sound decisions about plausible options that respond to the climatic conditions in line with their different contexts and risks. Besides challenges associated with climate change, Malawi faces serious land degradation giving rise to low agricultural productivity. The vitalrole for extension is to support sustainable land management practices.

### 3.2.10 Agriculture Commercialization and Agribusiness Management

In Malawi, agriculture commercialization remains mostly undeveloped mainly because more emphasis has been placed on improving agricultural productivity with little or no focus on strategic agribusiness development. This is also hampered by poor market systems where trading of most agricultural commodities is done through unstructured and unregulated markets often offered to the market in raw form.

## 3.3 Implications to Strengthening Extension Services

In Malawi, the pluralistic and demand-driven extension policy has resulted in many different players providing EAS. Smallholder farmers remain the main target group, with small-scale subsistence farmers and women farmers taking precedence. In this section, a number of recommendations are made to strengthen the DAESS system based on some challengeshighlighted above in order to serve smallholder farmers better. With the introduction of pluralism, the face of the agricultural extension system has changed,with many more players participating. To facilitate the efficient use of human and financialresources, Ministry of Agriculture, Irrigation and Water Development (MoAIWD) should strengthen coordination among the players in the system throughthe established structures of DAESS. Considering that most civil society extension organizations cover small and specificgeographical areas with a specific mandate, MoAIWD will remain the largest EAS provider for some time in many areas. It is therefore recommended that the ministry shouldcontinue to make more investments in the DAESS system while encouraging more playersand partnerships by taking the following actions: (i)increasing the number of frontline extension staff in order to reduce the staff-to-farmer ratio tomanageable levels. Alternatively, the extension staff should be supported with moreefficient transport to enable them cover wider areas; (ii)Upgrade the secondary school certificate staff to a three-yeardiploma at Natural Resources College (NRC)and Diploma holders to BSc. degrees as a matter of urgency to enhance their skills andknowledge (iii) Extension objectives have become broader to cover food and nutrition security, commercialization, climate change andfarmer empowerment. At the same time, the farmer is becoming more business-oriented. It istherefore recommended that extension organizations have relevant and trained subject matter specialists toaddress these new areas. Further, educational

institutions should ensure that the extension curriculumresponds to broader extension objectives; (iv) With the introduction of a demand-driven extension policy and having noted the top-downapproach of some extension organizations, it is recommended that community empowermentbe one of the primary focuses of extension activities. In keeping with the commitment to participatoryapproaches, farmers ought to be given a chance to participate in all stages of the extensionprogramming so that the EAS respond to their needs and priorities; (v) Considering that most civil society organizations do not have staff at the grassroots level andtherefore rely on the government extension workers, it is recommended that theseorganizations increase their investments in human resources at the lower levels, that is,employ more field extension staff so as to bring their services closer to the communities andreduce the burden on public extension workers. In addition, they should increase investmentin the government extension workers who operate with minimal resources; (vi) Donors with the help of MaFAAS should coordinate efforts by identifying existing gaps and duplications in funded projects. This coordination will aid in the development of strategies that complement each other's efforts.

# CHPATER 4 : AGRICULTURAL EXTENSION AND ADVISORY SERVICES IN SOUTH AFRICA

## 4.1 Organizational structure of Agricultural EASs in South Africa

The agricultural sector in South Africa faces many challenges. The effects of climate change have become noticeable. Rising input costs, especially the recent drastic fuel price increase, threaten production's profitability and sustainability. The COVID-19 pandemic has caused havoc in the sector by reducing food sales, reducing or stopping activities of agro-processing plants and harbors due to lockdowns, and constricting general production due to restricted availability of critical mechanical parts and inputs (Meyer et al., 2022).

In light of these circumstances, the importance of a knowledgeable, efficient agricultural extension service in South Africa cannot be overemphasized. Extension and advisory workers are directly linked to agricultural producers in rural areas. They are a critical link between the producers, government, the research community, and credit and input supply organizations (Roberts, 2022). Extension services are tasked with assisting communities in adapting to change, be it to new circumstances or through new technology (Davis et al., 2021). Supporting farmers to enhance production while preserving natural resources amid climate change is part of their role (Davis et al., 2020). When operating efficiently, extension services play a vital role in poverty alleviation and rural development (Maulu et al., 2021; Hlatshwayo and Worth, 2019).

The Department of Agriculture, Land Reform and Rural Development (DALRRD) is responsible for public-sector agricultural extension in South Africa. The country has a three-tiered system of government, in which national, provincial, and local levels of government have legislative and executive authority. According to the National Policy on Extension and Advisory Services (DAFF, 2016), the coordinating responsibilities of the sector are structured according to national, provincial, and district levels. Each level has representatives from DALLRD, the private sector, research and academics, and producer organizations.

At the national level, DALRRD's vision is: *A united and transformed agricultural, forestry, and fisheries sector that ensures food security for all and economic prosperity. Its mission is: Advancing food security, job creation, economic growth, and transformation of the sector through innovative, inclusive, and sustainable policies, legislation, and programs.*

There are six programs in the Department. Extension falls under Program 3, Food Security and Agrarian Reform, under which there is a sub-program or Chief Directorate for National Extension Support Services (Figure 1).

## 4.2 Key Stakeholders of Agricultural Extension in South Africa

There are currently 2,704 public officers distributed throughout the nine South African provinces (Table 1).

| Table 4. 1: Distribution of public extension officers in South Africa and ratio to farmers | | | | | |
|---|---|---|---|---|---|
| Province | Number of Extension officials | | Total # extension workers | Estimated # farmers [GHS 2019, StatsSA] {Thousands} | Extension to farmer ratio (current) |
| | Managers | Extension practitioners | | | |
| Eastern Cape | 42 | 488 | 530 | 518 | 1 061 |
| Free State | 11 | 116 | 127 | 145 | 1 250 |
| Gauteng | 5 | 133 | 138 | 219 | 1 647 |
| KwaZulu-Natal | 33 | 752 | 785 | 544 | 723 |
| Limpopo | 49 | 445 | 494 | 619 | 1 391 |
| Mpumalanga | 25 | 172 | 197 | 374 | 2 174 |
| Northern Cape | 9 | 49 | 58 | 38 | 776 |
| North West | 30 | 275 | 305 | 114 | 415 |
| Western Cape | 8 | 62 | 70 | 53 | 855 |
| TOTAL | 212 | 2 492 | 2 704 | 2 624 | 1 053 |

Source: DALRRD, 2021

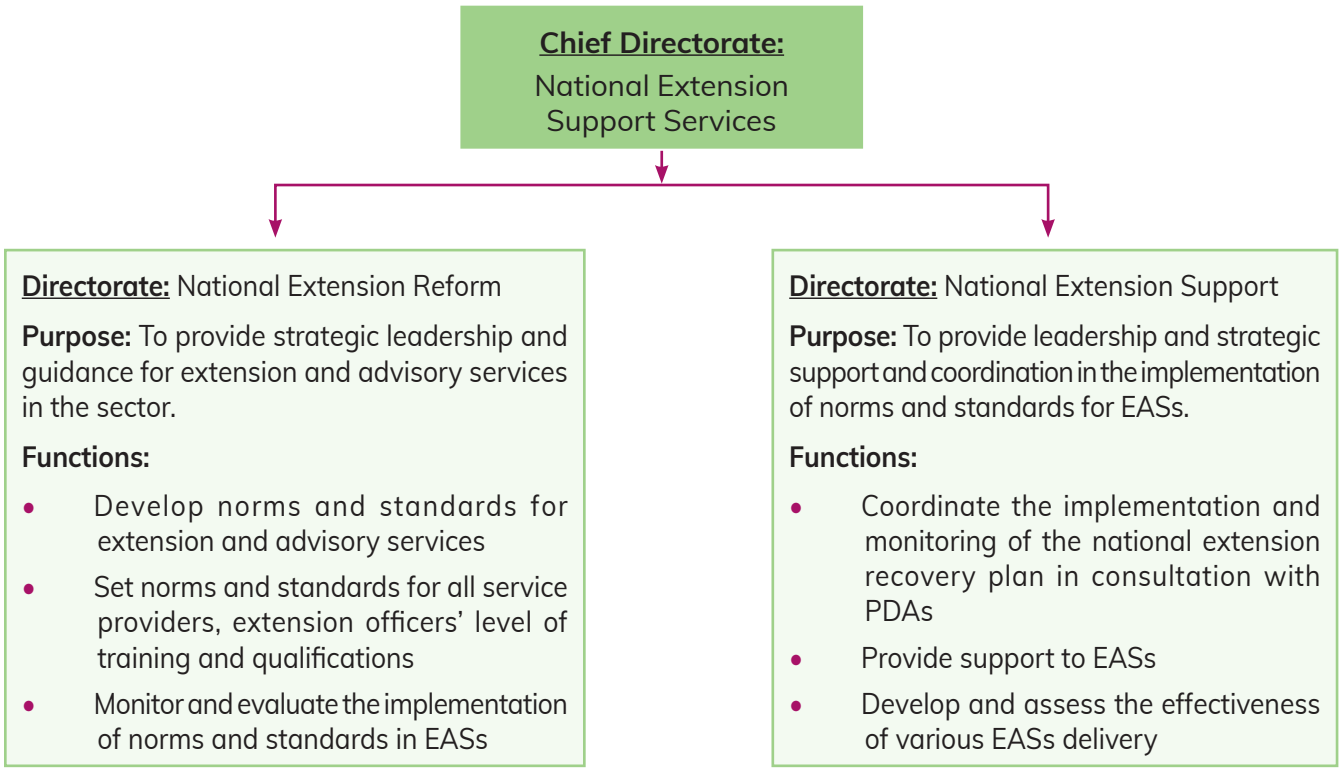



**Figure 4.1: Organogram of agricultural extension and advisory services in South Africa**

Source: Authors' compilation of information available from the Department of Agriculture, Land Reform and Rural Development website (https://www.dalrrd.gov.za/About-Us/Structure-and-Functions)

Private Officers number roughly 1,500 provide agricultural extension and advisory services in South Africa. The following institutions typically provide private extension services in South Africa:

i. Agricultural cooperatives offer training and demonstration days.

ii. Seed companies provide demonstration days and do farm visits offering personalized advice.

iii. Livestock stud associations provide training and information days/courses to educate on livestock health, feeding, and management.

iv. Feed companies provide expert advice on the feeding requirements of livestock.

v. Pesticide companies provide advice on pest and disease control of horticultural and field crops.

In addition, tertiary educational institutions offer agricultural extension qualifications, including colleges and universities. Eleven colleges offer extension subjects. Universities offering undergraduate qualifications in extension include University of Kwazulu Natal; University of Fort Hare; University of the Free State; University of Mpumalanga; Mangosuthu University of Technology; Tswane University of Technology; and Tswane University of Technology. Universities offering postgraduate or graduate degrees include University of Kwazulu Natal; University of Fort Hare; University of Pretoria' University of Mpumalanga; Mangosuthu University of Technology; Central University of Technology; and University of Limpopo.

## 4.3 Major Issues facing Extension Services in South Africa

According to the latest government review, the challenges in the public agricultural advisory and extension service in South Africa include the following (DALRRD, 2020):

i. The general public criticizes extension and advisory services for being ineffective and invisible. The department, however, attributes this to internal departmental limitations in available resources and capacity. They further argue that extension staff has no control over several factors such as the value chain, government structures and policies, climate change, and deteriorating natural resources.

ii. Training for extension practitioners is inadequate.

iii. Funding to capacitate the sector is limited.

iv. Some staff members follow a tunnel-vision approach, focusing only on the here and now instead of a forward-looking approach.

v. Extension staff members lack professional expertise and adequate opportunities to gain practical experience.

Extension practitioners contend that limited funding hinders their efficiency and ability to render efficient services. Available technologies are often unsuitable for rural farmers, and lack of experience and training among extension practitioners is also mentioned (Duvel, 2004;

Oladele, 2015). Davis and colleagues (2019) also found in their study among members of the South African Society for Agricultural Extension (SASAE) that extension professionals have tended to blame farmers for being the authors of their own problems. Extension staffs are well aware of the allegations of inefficiency, which leads to a lack of motivation and self-efficacy, and consequential low performance (Agholor, 2019).

Farmer opinions on the efficiency of agricultural advisory services are divided – some receive adequate support in their view, while others have never received assistance from extension staff. Studies in the Eastern Cape province, Gauteng province, and Western Cape province have found that farmers considered the public extension services ineffective (Khapayi & Celliers, 2016; Maake & Antwi, 2022). Reasons included inadequate competencies of extension staff, absent extension staff, and divided views between farmers and extensionists about the goals and outcome of efficient extension (Afful, 2016; Sebopetsa, 2018; von Maltitz et al., 2021; Maake & Antwi, 2022). A study conducted by Cloete et al. (2019)in the Free State province of South Africa found that there was a notable difference between farmers and extension officers in terms of perceptions of what agricultural extension entails or should entail, and the elements of effective extension methods. Many of the farmers felt that extension should mainly focus on supplying inputs and not to assist with technical information and training (Cloete et al., 2019).

Equipping agricultural extensionists with the relevant skills and competencies through appropriate higher education is undeniably a crucial component of their efficiency.

## 4.4 Funding for extension

Funding for extension is part of the Food Security and Agrarian Reform program, which in 2020 had a budget of roughly 144 million USD.

However, experts claim that there is insufficient budget on the education and training side. Respondents in a study on extension undergraduate curricula in South Africa said there was insufficient budget support practical learning experience and demonstration farms or facilities.

## 4.5 Staffing needs (quality and quantity)

In South Africa, several tertiary educational institutions offer agricultural extension qualifications, including colleges and universities that offer diploma, undergraduate, and postgraduate degrees. Improving the competencies and skills of agricultural extension staff has been on the national agenda for quite some time. The 2009 Department of Agriculture report profiling the current government extension and advisory service officers indicated that 80% of extension officers had a diploma qualification or lower and just under 20% had a degree or higher. This was in contrast with the norms and standards specification at the time requiring all agricultural advisors to have a degree qualification or higher (DAFF, 2009). The situation has improved significantly over time, and the latest report, of 2020, showed that 77% of extension staff met the minimum requirements of a four-year degree in agriculture (DALRRD, 2020).

The contents of South African agricultural extension curricula differ among the many tertiary educational institutions that offer training. Qualifications vary from three-year undergraduate

degrees, postgraduate degrees, diploma courses, and single subjects available to students. Contents vary between the qualifications. Some include training in the competencies mentioned previously; others do not. The available agricultural extension curricula in South Africa in many instances still focus predominantly on production/technical training (Davis, von Maltiz, de Bruyn, van Niekerk, and Ngomane, 2021).

Extension staff in South Africa in the public sector lack technical competence and are not necessarily in compliance with the norms and standards required (Table 2).

**Table 4.2: Qualifications of South African agricultural extension practitioners by province**

| Province | Number of Extension Practitioners | Qualifications | | Percentage compliance to norms and standards (%) |
|---|---|---|---|---|
| | | Less than 4-year qualification in agriculture | 4-year qualification in agriculture or higher | |
| Eastern Cape | 571 | 286 | 285 | 50 |
| Free State | 120 | 16 | 104 | 87 |
| Gauteng | 124 | 4 | 120 | 97 |
| KwaZulu-Natal | 750 | 243 | 507 | 68 |
| Limpopo | 538 | 104 | 434 | 81 |
| Mpumalanga | 228 | 45 | 183 | 80 |
| Northern Cape | 56 | 2 | 54 | 96 |
| North West | 194 | 15 | 179 | 92 |
| Western Cape | 71 | 2 | 69 | 97 |
| Total | 2 652 | 717 | 1935 | 73 |

Source: DAFF, 2015

Table 4.2 shows 2,031 (77%) of the extension personnel meet the minimum requirement for a four-year degree in agriculture or higher. This means that most of the practitioners in the country meet the minimum required qualifications for agricultural advisors. The Eastern Cape has the lowest percentage (50%) of practitioners with a minimum 4-year qualification in agriculture and/or higher. The Western Cape and Gauteng provinces have the highest percentage of practitioners – at 97% each – that meet the requirement set, followed by Northern Cape Province at 96% and the North West province at 92%.

Extension staff tended to rate themselves as more competent in the technical areas such as crop and animal production and horticulture. Areas such as mechanization, irrigation, and value chains were rated much lower in a study of extension staff who were SASAE members in 2021 (Davis, von Maltiz, de Bruyn, van Niekerk, and Ngomane, 2021).

New and emerging programming to address climate change, youth unemployment, gender issues, health and nutrition, etc.

The National Norms and Standards for Agricultural Extension Document lists the following as important areas for the future (DALRRD, 2020:

i. Market orientation
ii. Climate-smart agriculture & climate change
iii. Agro-food value chain approaches
iv. Food security
v. Natural resource management, conservation
vi. Agribusiness & entrepreneurship
vii. Mainstreaming ICTs

Thirty percent of SASAE members say they received technical training in climate-smart agriculture (Davis, von Maltiz, de Bruyn, van Niekerk, and Ngomane, 2021). In addition, 23% of the members—mainly South African extension staff—are trained in risk management and improving resilience. Eighteen percent are trained in nutrition principles and practices.

## 4.6 Implications to Strengthening Extension Services

In 2016, the Academy of Science of South Africa (ASSAF) conducted a consensus study in response to deep concern about the agricultural education and training in the country. The authors note that there is a need to still focus on production, but that skills for the agricultural supply chain come from a wider range of disciplines than the specific agriculture-focused qualifications. In particular, "T-shaped" skills are needed that balance breadth and depth. Furthermore, there is a need for multi and trans-disciplinary approaches to curricula that address modern-day topics such as climate change.

There is need more practical exposure during the student experience, such as through, internships, industry placements. Training institutions should put effort on practical skills, and there should be better links with the private sector and other role players to provide internships.

Professional bodies play a fundamental role in strengthening extension and keeping staff up to date. Staff should be encouraged to be members of SASAE, attend meetings, and obtain continuing education through SASAE. Through SASAE and the South African Agricultural Extension and Advisory Services (SAFEAS) forum, extension staff can be connected to regional and continental extension bodies to increase collaboration and learning.

Ensuring that extension and advisory services qualifications at the various training institutions address the profession's demands will enhance efficiency in the sector. Collaborating with the private sector and other role players willing to provide practical training and exposure to students will ensure that extension staff are aware of relevant issues and have good professional networks.

# CHAPTER 5 : AGRICULTURAL EXTENSION AND ADVISORY SERVICES IN KENYA

## 5.1 Organizational Structure of Agricultural EASs in Kenya

Agricultural extension and advisory services in Kenya, can be categorized into two broad categories: These are: Public sector and the Private sector. The organizational structure of the EAS providers differs, depending on the nature and purpose of the organization.

## 5.2 Public Sector Extension and Advisory Services

These services are fully or partially funded by the Government of Kenya. Several organizations fall under the public extension services. They include:

### (i) Ministry of Agriculture, Livestock, Fisheries and Cooperatives (MoALF&C)

This is the largest provider of agricultural extension services, covering all the 47 counties in Kenya. The MoALF&C consists of four state departments namely: Crop Development and Agricultural Research; Livestock; Fisheries, Aquaculture and the Blue Economy; and the State Department for Co-operatives. The Ministry is headed by a cabinet secretary, who is assisted by two chief administrative secretaries and four principal secretaries, each heading a department. The organizational structure at the national level is indicated in Figure 5.1.

The MoALF&C has recently been re-organized with the entry of a new government in Kenya in August 2022. It has been renamed Ministry of Agriculture and Livestock Development, with only two departments- Crops and Livestock. The departments of Fisheries and cooperatives have been put under different ministries.

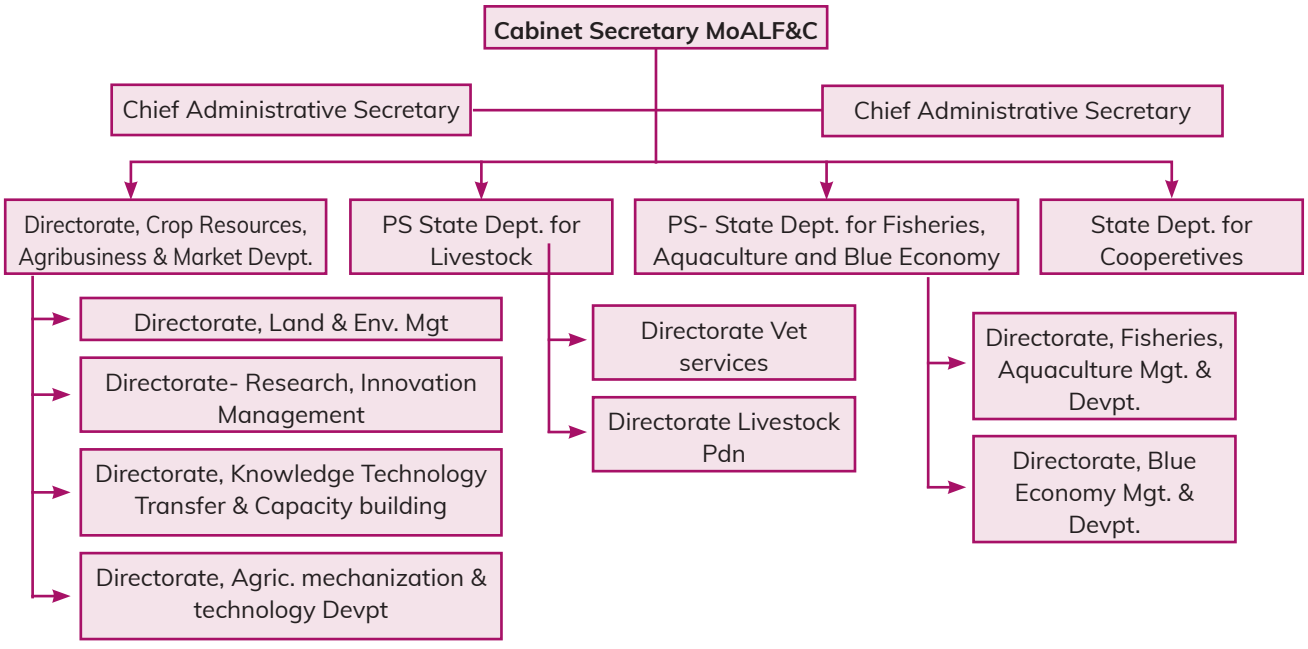



**Figure 5.1 : Organizational Structure for Ministry of Agriculture, Livestock, Fisheries, and Cooperatives at National Level.**

Before promulgation of the New Constitution (GoK, 2010), agriculture was a function of the state. However, the new constitution introduced a devolved system of Government, and agriculture was one of the devolved functions. Agricultural extension services under the Ministry are fully managed by the county governments and each county government has autonomy over how they organize and conduct the programmes. The general policy direction and development priorities however are provided by the national government.

## Organization of Government Agricultural Extension services at County Level

The counties are the implementing units for the agriculture function, with each county fully in charge of its agriculture and livestock sectors. The organizational structure has three tiers – county, sub-county and ward levels. At the county level, the Department of Agriculture is headed by the Chief Executive committee (CEC) member in charge of Agriculture, assisted by two chief officers- one in charge of crops and the other in charge of livestock. Below the Chief Officers are three county directors - one for crops, another for livestock and another for fisheries. These are county level subject matter specialists. At the sub-county levels, we have officers in charge of Agriculture livestock and Fisheries officer. The Ward agriculture officer is in charge at the ward level, assisted by subject matter specialists. The officers at the ward level serve as front-line extension workers. Figure 5.2 summarizes the structure of the Ministry at the countylevel.

Due to shortage of staff in the ministry of agriculture, most wards have only one officer – who is expected to serve all the farmers in the ward.

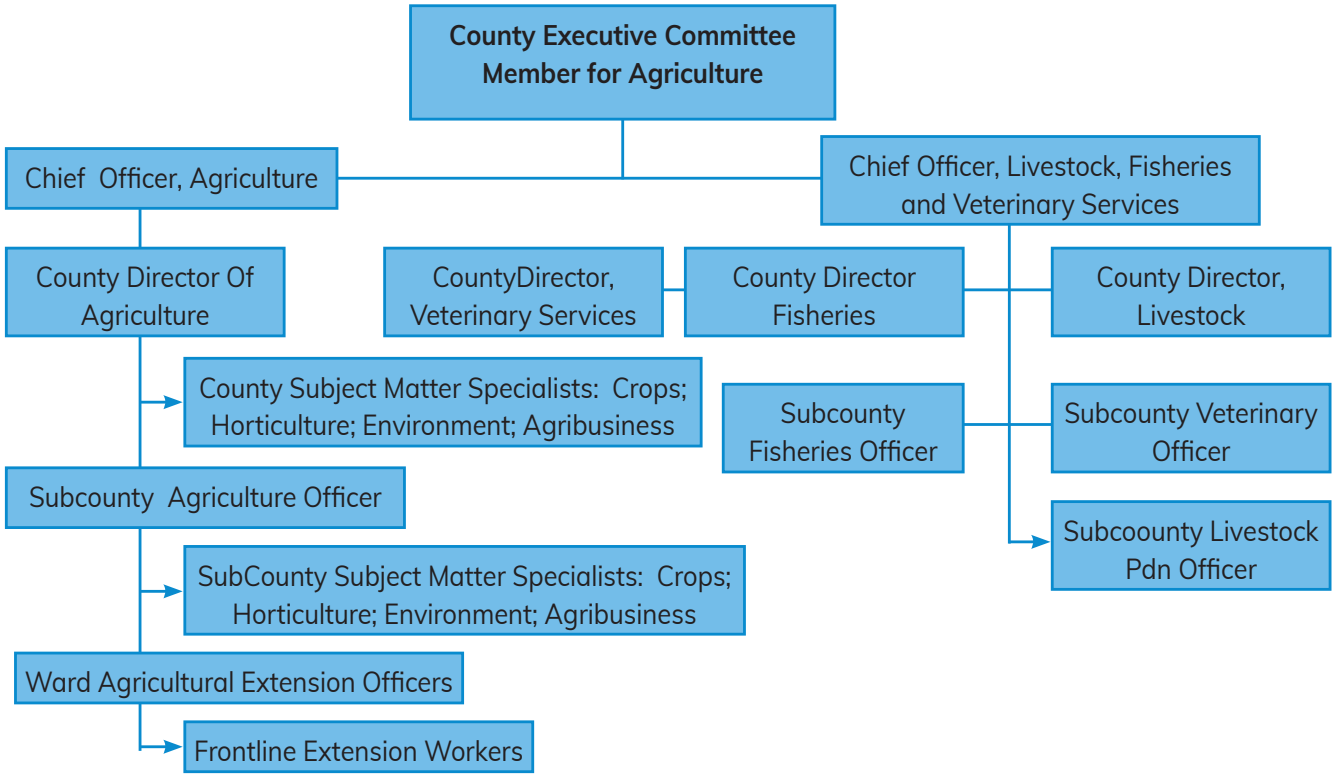



**Figure 5.2: Structure of the Ministry of Agriculture at county level**

The structure of the Ministry at the county level may also change, in line with the restructuring at national level.

### *Commodity-based Parastatals*

These are quasi-governmental organizations that promote specific commodities. Examples include the Kenya Tea Development Authority, Pyrethrum Board of Kenya, Kenya Sugar Authority, Coffee Board of Kenya and Dairy Board of Kenya. Extension is provided in varying degrees depending on the circumstances and priorities of the individual parastatal. They operate an independent budget financed from fees levied on the produce that they promote. These organizations employ their own extension staff to offer advisory services to farmers. Extension is offered as part of a package that includes provision of agricultural inputs and services to varying degrees.

### Regional Development Authorities

Their main objective is to plan and coordinate integrated economic development activities in the area they cover. The area covered by each coincides with the major river basin existing in the country. For example, Lake Basin Development Authority (LBDA), Kerio Valley Development Authority (KVDA), the Coast Development Authority (CDA), the Tana and Athi River Development Authority (TARDA), Ewaso Nyiro South Development Authority (ENSDA).

Agricultural extension activities undertaken usually involve promotion of a number of agricultural innovations and commodities. Their targets are more geared towards general development of the regions they cover with agriculture being one among other areas of focus. Each of these authorities covers large areas and extension impact is relatively modest in view of modest resources at their disposal. Some of the regional development authorities employ their own agricultural extension staff, while others rely on the government extension services.

### Kenya Agricultural and Livestock Research Organization (KALRO)

KALRO, which was previously known as Kenya Agricultural Research Institute (KARI) is a semi-autonomous research organization that was founded by the Kenya Government in 1977. This is the main government agency that has the mandate to conduct agricultural research in different parts of the country. The main goals of KALRO are to; integrate crop value chains in order to foster a better commercialization of the agricultural goods and enterprises, foster the commercialization of integrated livestock value chains from agricultural enterprises, and, ensure long-term sustainability through an integral management of natural resources needed for agricultural production (KARI, 2019). Previously, KARI existed as a semi-autonomous parastatal but was later put under the MoALF&C in the Department of Crop Development and Agricultural Research. With the coming in of a new government in Kenya in August 2022, Agricultural Research has been removed from the Ministry, but it is not clear where it falls.

There are a number of regional KALRO centres with mandates in specific agricultural commodities and livestock. For example, KALRO Njoro is mandated to do research in wheat and oil crops, KALRO Naivasha deals with dairy, and, KALRO Tigoni focuses on potato research. They carry out limited extension through their outreach units which tend to be small.

Demonstrations and field days and are the preferred extension methods, whereby the centres invite farmers and other stakeholders and showcase and disseminate various agricultural technologies. Some of the centres also sell seed or even breeding livestock to farmers and provide extension services specific to the enterprises involved.

KALRO falls under the MoALF&C in the department of Crop Development and Agricultural Research. It is headed by a director at the national level. The regional research centres are headed by centre directors.

### Public Institutions of Higher Learning

The Commission for University Education (CUE) in Kenya mandates universities to engage in community outreach through activities such as extension, consultancies, public lectures, corporate social responsibility, environmental conservation and promotion of cultural and social life of the society, and also disseminate research findings (CUE, 2014). In compliance to this mandate, universities offering agricultural programmes engage in agricultural extension activities in varying degrees.

The universities offering academic programmes in agriculture carry out agricultural extension work. Examples include; University of Nairobi, Egerton University, Jomo Kenyatta University of Science and Technology, Kenyatta University, Pwani University, Chuka University and Jaramogi Oginga Odinga University of Science and Technology. Agricultural extension is conducted through research activities and projects, community outreach activities, consultancies, student outreach programmes etc. For example, Egerton University, which is a leading agricultural training institution in the region and hosts the World Bank-sponsored African Centre of Excellence in Sustainable Agriculture and Agribusiness Management is involved in many community outreach and extension initiatives. These are guided by the University's Extension and Outreach Policy (Egerton University, 2021) based on the University's strategic goals and national and regional development goals. The University prioritizes extension and outreach based on the evidence that research and innovation yield better returns on investments when they are channeled towards meeting community needs. In addition to directly engaging in extension and outreach activities, university staff also offer consultancy services and engage in research that have components of extension and advisory services.

Apart from public universities, government funded middle level colleges (Technical and Vocational Education and Training [TVET] institutes) are also involved in extension work eg the Bukura Agricultural College and the Dairy Training Institute, Naivasha. Apart from offering certificate and diploma training programmes, these institutions offer short courses to farmers and other stakeholders in the agriculture sector. They also engage in extension activities among farming communities.

### Public Primary and Secondary Schools

Agricultural extension work in primary and secondary schools is carried out through two platforms.

### Young Farmers Clubs of Kenya (YFCK)

These are mainly found in secondary schools. YFCK is a subsidiary organization of the Agriculture Society of Kenya. It was formed way back in 1948, with the aim of preparing young people to be effective farmers in future. Since then, the mandate of YFCK has expanded to include helping young people develop life skills for sustainable development and self-sustenance. Participation in YFCK activities helps young people develop interest and positive attitude towards agriculture. One of the roles of the YFCK is provision of extension services, whereby the members act as disseminators of agricultural technologies and innovations among farmers. The members are expected to not only participate in agricultural activities but to apply the same at home, and also share the knowledge and skills with family and members of the community (YFCK face book page; Agriculture Society of Kenya website).

### 4-K Clubs of Kenya

This programme was introduced in Kenya in 1962 by the Ministry of Agriculture, and is founded on the American concept of 4-H. 4-K stands for the Kiswahili words *'Kuungana, Kufanya, Kusaidia Kenya'* which can be translated as 'loosely translating to coming together, to act, to help Kenya'. In the 1990s most 4-K clubs became defunct in schools, but are now being revived because of the re-introduction of agriculture as a subject in primary schools, under the new Competence-based Curriculum (CBC) education system.

There are up to 4,000 4-K clubs in Kenya, with a membership of about 200,000. The clubs engage in a wide range of agricultural activities, through which the students can be able to learn and disseminate knowledge to their families and communities. (MoALF&C website).

## 5.3 Private Sector Extension Services

The private sector plays an important role in the delivery of extension and advisory services in Kenya. The National Agricultural Extension Policy 2012 (GoK, 2012) paved the way for pluralism in agricultural extension services by recognizing and encouraging the participation of the private sector in extension service delivery. The private sector organizations fall into a number of categories as follows:

### i) Farmer based Organizations and Cooperative Societies

These operate on the principle of group action which enables people to attain goals that would be difficult or impossible for them as individuals. Farmer organizations are common in many parts of Kenya, and are formed for various purposes including labour sharing, collective acquisition of agricultural extension services, inputs and other services, collective marketing and/or value addition of produce, etc. Farmer groups provide good fora for farmer-to-farmer extension, where farmers share information and skills on various agricultural technologies. In addition, groups are used as platforms for offering extension services, and are a widely used method in Kenya. The groups can be large in size, forming cooperative societies, such as Kenya Farmers' Association, Kenya Cooperative Creameries, Kenya Planters Cooperative

Union. Others are smaller organizations covering specific geographical areas and dealing with specific commodities eg Limuru Dairies, Githunguri Dairies etc. Some of the successful cooperatives employ their own extension staff, to serve their members. The extension services are at times coupled with inputs and other services.

Other farmer organizations that provide some agricultural information and services to their members include: Fresh Produce Exporters Association of Kenya (FPEAK); Kenya Flower Council; and the Cereal Growers Association. According to Muyanga and Jayne (2006) farmer groups are a key intermediary in extension, and they help to enhance small scale farmers' ability to access extension services. They not only improve efficiency and effectiveness but also increase equity in extension service delivery. The use of farmer groups was strongly promoted under NALEP, where farmers were encouraged to form Common Interest Groups (CIGs) through which they were able to demand for extension services (GoK, 2010).

The Agriculture Society of Kenya (ASK) is also a major player in extension service delivery. The Society holds shows and trade fairs across the country but also runs an extensive advisory service on behalf of the Government with the aim of helping farmers improve the standards of agriculture, horticulture, fishing and forestry.

### ii) Private Commercial Firms and Companies

There are a number of private commercial firms that are focused on the promotion of specific agricultural commodities. They include: British American Tobacco, Mastermind Tobacco which promote tobacco for cigarette manufacture, Kenya Seed Company which promotes the production of maize seed, wheat, pulses, pasture and vegetable seed, the East African Breweries which promotes production of malting barley, Kenya Nut Company which promotes macadamia nut production, exporters and processors of Horticultural produce (e.g. Oserian Flowers, Sian Flowers, Homegrown). There are also a number of sugar companies eg Nzoia Sugar Company, South Nyanza Sugar Company, West Kenya Sugar Company.

Extension services are provided solely for business reasons, the company's primary goal being to make profit. Produce can be grown by farmers under contracts with marketing and processing farms. The companies may avail credit facilities to out growers for land preparations, purchase of inputs, and transportation of produce where necessary. The company extension workers perform all these duties. They recruit/hire better extension agents from the government by paying higher salaries. They can serve also as salesmen. The extension units are generally small.

Being profit-oriented, the companies have to ensure their extension units justify their existence by delivering their goods and services in a cost-effective manner. These services are therefore well managed and have been successful in terms of producing raw materials for the company as well as opening up opportunities for farmers to increase their incomes and enabling the country to save or earn the much needed foreign exchange. Extension is thus sometimes organized more efficiently and less bureaucratically by commercial firms than by Government.

Private firms, manufacturers of agro-dealers and service providers are also involved in providing extension, with some using extension as a marketing strategy for their products and services. A good example are the agro-input dealers who have proliferated in the last few years in Kenya. They sell a wide range of agricultural inputs including fertilizers, seed, crop and livestock chemicals, equipment etc. Many farmers rely on them for their extension needs. Muyanga and Jayne (2006) report that in the dairy sub-sector companies and individual provide extension advice about good dairy management practices and also offer artificial insemination and veterinary services. The private companies are active in demonstrations, field days and agricultural shows, with some sponsoring the major agricultural shows (Muyanga and Jayne, 2006).

There are other private companies that offer extension and advisory services as well as other agri-services. They include Kenya Organic Agriculture Network, Technoserve, Cereal Growers Association, Digi Farm, Agile Consultants Caritas and others (MoALF&C, 2021).

Many Non-Governmental, Faith Based and Community based Organizations are involved in delivery of agricultural extension services. Most of these organizations aim at promoting commercialization among small scale farmers.

For example, CARE-Kenya, supports farmer groups in Homabay County to grow high value rice, high oil content sunflower, grafted mangoes, and new high value crops likeokra (for seeds) and industrial chili. Some of the organizations use a more integrated approach that supports several activities.

Most of the private non-commercial extension providers rely on the government research services namely KALRO as sources of technologies. A few however, manage to establish links with private companies as well as international research centers. Many of these organizations also work in collaboration with government extension services because although they may have resources to support extension work, they tend to have limited capacity to effectively deliver extension services. The government services on the other hand have staff capacity but tend to be limited in resources for executing extension programmes.

### iii) Non-governmental Organizations (NGOs)

Generally, NGOs do not just focus on agriculture, but address various issues such as social and environmental concerns. The NGOs can be local or international, and are broadly divided into two brad categories: Faith-based NGOs and secular NGOs. Examples of faith-based NGOs include the Catholic Church through its diocese in various parts of the country, the Anglican Church of Kenya through the Anglican Development Services (ADS). International faith-based NGOs include World Vision, Food for the Hungry, and Just Earth among others.

Among the secular NGOs we have Farming Systems Kenya, One Acre Fund, Welt Hunger Kenya, CARE Kenya, SACRED Africa; TechnoServe; and Agri-Profocus. International development organizations are also involved in agricultural extension work either directly or through partners. They include the Netherlands Development Organization (SNV); the German Development Corporation (GIZ), USAID, FAO and AGRA.

### iv) Private Consultants – Commercial extension practitioners

Commercial extension practitioners are gaining prominence in Kenya, with increasing commercialization of agriculture. They target high value export crops such as flowers and other horticultural produce especially for the export market. They give farm management advice at a fee for service basis after making a thorough analysis of different production options open to a farmer. They might also provide/offer advice on production technologies such as plant disease control.

There are also increasing numbers of private/consultant extension service providers, who offer services at a fee. These are especially concentrated in high value enterprises such as the horticulture sub-sector, where production is highly commercialized and farmers are willing to pay for the advice given.

In terms of organizational structure, the private sector extension service providers tend to differ. However, most of them have fairly horizontal structures with fewer levels as compared to the public extension service providers.

### v) Private Institutions of higher learning

There are technical vocational Education and Training Institutions (TVETs) which engage in extension activities in addition to offering training in agriculture. They include: Baraka Agricultural College that specializes in sustainable agriculture and offers short courses and outreach services to farming communities; and, the Rift Valley Institute of Science and Technology which conducts a successful annual agriculture trade fair, which is attended by many farmers. Few private universities if any offer agriculture related programmes or engage in extension activities.

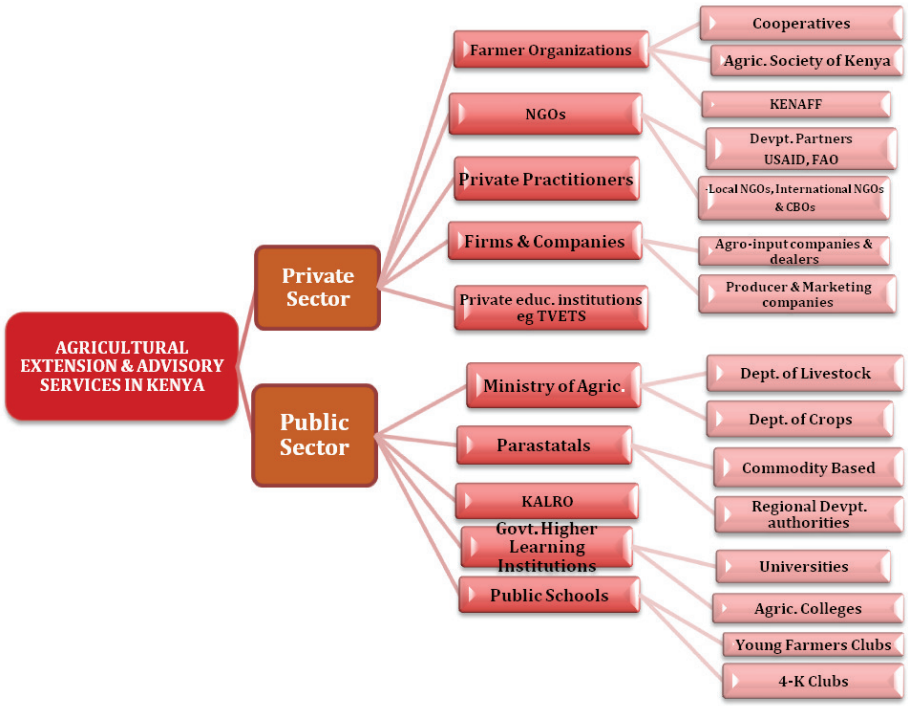



**Figure 5.3 : Major Organizations Providing Agricultural Extension and Advisory Services in Kenya**

There are technical vocational Education and Training Institutions (TVETs) which engage in extension activities in addition to offering training in agriculture. They include: Baraka Agricultural College that specializes in sustainable agriculture and offers short courses and outreach services to farming communities; and, the Rift Valley Institute of Science and Technology which conducts a successful annual agriculture trade fair, which is attended by many farmers. Few private universities if any offer agriculture related programmes or engage in extension activities.

## 5.4 Key Stakeholders of Extension Services in Kenya

There are a large number of organizations, institutions and even individuals in Kenya who are interested and/or affected by extension services and hence constitute stakeholders. They include:

*Farmers:* These play a key role as producers and adopters of agricultural innovations and technologies and are the major beneficiaries of extension and advisory services. They include large, medium and small-scale farmers, women and youth and vulnerable groups. Small scale farmers account for the bulk of agricultural output, at about 75% (KNBS, 2021). The farmers can be individuals or in groups. Community-based organizations also fall in this category.

*Extension and advisory service providers* discussed in the previous section also constitute key stakeholders. They include: The MoALF&C, KALRO, farmer organizations such as the Agriculture Society of Kenya, Kenya National Farmers' Federation, public institutions of higher learning like Egerton University, University of Nairobi, Kenyatta University, Pwani University and Jaramogi Oginga Odinga University of Science and Technology, among others.

The National government (GoK) is a major stakeholder. It is responsible for setting policies and providing funds for implementation of the agriculture function which was devolved to the counties. The county governments are the main facilitators for implementation of agricultural extension work through the departments of Agriculture, Livestock and Fisheries.

The other category of stakeholders are research organizations, with KALRO being the largest. We also have international research organizations (CGIARs) like ICIPE, CIP and CIMMYT. Universities also fall in this category. Non-governmental organizations as discussed in the earlier section are also involved in the delivery of extension services. These may be local or international; secular or faith-based. These can be for-profit or not for profit. Private companies such as those involved in input supply and other agri-services; commodity production, aggregation or processing and marketing also constitute important stakeholders in agricultural extension. Here we also have companies or individuals who offer commercial extension and advisory services.

Schools also constitute important stakeholders. Primary schools are given extension support by the MoALF&F through 4-K clubs, while secondary schools are affiliated to the Agriculture Society of Kenya through the young farmers' clubs.

International development partners like USAID and FAO are major stakeholders. These organizations fund many of the extension and advisory activities and partner with government as well as private ESPs in execution of extension programmes.

## 5.5 Major Issues Facing Extension Services in Kenya

The challenges facing agricultural advisory and extension services in Kenya fall into various categories as outlined in the Kenya Agriculture Sector Extension Policy (MoALF&C, 2021b).

C*apacity in extension service delivery:* This challenge is experienced in several ways, the main one being low staffing levels among both private and public service providers. A recent rapid assessment of the state of agricultural extension carried out in 17 counties revealed an average extension staff to farmer ration of 1:1,277 with four of the counties having ratios below 1:2000 (MoALF&C, 2021a). This situation exacerbated by the low levels of employment of new staff especially in the Ministry of Agriculture, where many of the extension officers have retired or are close to retirement with few replacements being done. The Ministry extension service is therefore characterized by an aging staff whose energy levels may be fairly low, and whose ICT capacities may be limited.

Another capacity challenge is the low levels of specialized skills and scope of knowledge on extension service delivery. This is couples with inadequate institutional capacity to train personnel (extension providers and researchers) on important emerging issues such as organic farming, biotechnology, and the characterization and selection of indigenous plants and animals of socio-economic importance. This refers to pre-service training of the extensionists as well as In-service training. The extension staff are therefore not adequately equipped to meet the demands in the current agricultural food systems.

Another factor constraining capacity in extension is low enrollment by the youth to agriculture related courses. Agriculture as a career remains unattractive to many youths, and few choose to pursue this career path. Therefore, although the Government as the major employer of agricultural extensionists has not been employing much, the available pool of qualified professionals is also limited.

*Low Funding:* The Kenyan Government is yet to attain the minimum 10 percent funding for agriculture as per the Malabo Declaration commitments to enhanced funding to agriculture. There is therefore inadequate investment in the agricultural extension service, which curtails the delivery of services.

The state of infrastructure in terms of offices, equipment and transport in many parts of Kenya is wanting. Many offices are dilapidated, there is no provision of transport to facilitate extension workers' movements, and much of the equipment is outdated or unserviceable

*Weak Research-Extension Linkages:* This has remained a proverbial challenge affecting agriculturalextension in Kenya, despite policy commitments to strengthen the linkages. There remain weak institutional mechanisms for research extension client linkages, as well

as inadequate investment to support research extension client linkages by both public and private sectors. Strong research-extension linkages are critical to achieving agricultural transformation, as they facilitate the flow of relevant agricultural technologies and innovations to value chain actors leading to increased agricultural production and productivity (Belay and Alemu, 2017).

*Partnership, Collaboration and Coordination:* This is another challenge facing extension services in Kenya, and is experienced in three ways. First is inadequate coordination of actors in Advisory Extension Service Delivery. There are many extension service providers in Kenya, but they are not well coordinated, which results in duplication, wastage of resources and failure to build on synergies. In addition, the institutions that coordinate advisory and extension Service delivery do not have adequate capacity and are therefore unable to effectively play their role. There is also lack of a framework for partnerships and collaboration.

*Inadequate policy, legal, regulatory and institutional framework for extension and advisory Services.* Extension service providers therefore lack proper guidance in the provision of extension services.

*Extension Standards and Quality Assurance:* There are three challenges associated with extension standards and quality. First is the wide variation in the quality of services rendered by ESPs. Although some ESPs are well qualified to render quality services, there are also some whose services do not meet the required standard. There is lack of a mechanism for enforcing adherence to the standards.

The second challenge is the lack of a regulatory institutional framework for certification and accreditation of extension professionals. Kenya does not have an accrediting body for agricultural extensionists. The third challenge with regard to standards is the lack of formal guidelines governing code of ethics for extension service provision.

*Low adoption of agricultural technologies among small scale farmers:* The adoption rates among small scale farmers who constitute the majority of agricultural producers in Kenya remain unsatisfactory. This is partly due to resource constraints among the farmers, especially for technologies that require capital investment. However, low adoption could also be due to use of inappropriate extension delivery methods or inefficiencies on the part of the extension service providers.

## 5.6 Implications to Strengthening Extension Services

From the foregoing information, it is clear that Kenya's agricultural extension and advisory services are not performing at the level that is expected of them, given their important role in supporting the agricultural food system. This has negatively affected the productivity and profitability of agricultural value chains and the country's ability to attain food security. The challenges facing the agricultural extension and advisory services call for urgent action towards strengthening these services. A two-pronged approach can be adopted for strengthening the agricultural extension services. The first approach involves targeting the training of agricultural extension professionals at the undergraduate level. This can have far-

reaching effect since every year, universities produce hundreds of agricultural professionals who are expected to offer extension and advisory services to farmers.

The curricula for training these professionals have to be aligned to the current needs of the agricultural food systems, which have changed a lot in recent years and they continue to change. There is need to review the curricula to incorporate and strengthen aspects that will equip the agricultural extension professionals with the core competencies and skills that are needed in today's changing agricultural food systems.

The pluralistic nature of the extension and advisory services calls for skills in networking and collaboration, so that the various ESPs can work effectively and build on synergies instead of competing with each other or duplicating efforts. The low staff capacity in terms of number of staff can be curbed through effective partnerships and collaborations with other ESP providers. This situation also calls for extension professionals to have skills in innovative delivery methods, such as the use of ICTs in order to widen their coverage. These skills and competencies can be incorporated in the curricula for training the agricultural extension professionals.

Apart from targeting the curricula for training extension professionals, short courses can be developed, in order to build capacity among the professionals who are already in the field. The courses can specifically cover areas of core competencies and skills where the professionals are inadequate. To achieve this, Universities can partner with the Ministry of Agriculture and Livestock Development since this is the largest and main ESP in Kenya, to offer modular training through the Kenya School of Agriculture or other suitable platforms.

# CHAPTER 6 : AGRICULTURAL EXTENSION AND ADVISORY SERVICES IN UGANDA

## 6.1 Organizational Structure of Agricultural ESAs in Uganda

Over the past three decades (1990-2015), Uganda's agricultural extension system has undergone major reforms. In 1990, the three ministries responsible for agriculture (Ministry of Agriculture; Ministry of Animal Industry; and Ministry of Fisheries) were merged to create the present-day Ministry of Agriculture Animal Industry and Fisheries (MAAIF). The merger was intended to address challenges of un-coordinated and parallel approaches to extension and advisory services and duplication. It was also meant to professionalize extension education services through learning and teaching as well as increased efficiency and effectiveness of public extension programmes.

The period from 1992-1997 ushered in further radical reforms including decentralization and liberalization. Decentralization transferred powers, functions, and responsibilities for planning and implementation of agricultural extension services from MAAIF to district local governments. MAAIF was left with the role of planning and policy formulation, regulatory functions, technical backstopping and training, setting standards for and monitoring performance of the agricultural sector, and managing funds of selected projects. Extension workers at the district level were put under the direction of the local district governments (Friis-Hansen and Kisauzi 2004; Mangheni 1999; Bashaasha et al., 2011). In 1998, the MAAIF's directorate of extension was scrapped, central staffing was reduced by 80 percent, and the major responsibility for supporting field-level extension was transferred to the National Agricultural Research Organization (NARO). Parallel to the changes in public extension service, there was liberalization of service delivery opening space to a proliferation of private companies and NGOs offering extension services to farmers (Friis-Hansen and Kisauzi 2004).

The most radical reform was under the National Agricultural Advisory Services (NAADS) program from 2001-2014. In 2001, Uganda, through an act of parliament (Government of Uganda, 2001) reformed its public extension system paving way for a decentralized, farmer-owned, demand-driven contract system. National management was transferred from the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) to a lean semi-autonomous agency, the NAADS, headed by an Executive Director with policy guidance by a Board of Directors. MAAIF retained the functions of policy formulation, disease and pest control, regulation and quality assurance. At the district and sub-county level, the programme was managed by coordinators. Farmers were mobilised into groups at village level, which aggregated to higher level fora at parish, sub-county, district and national level. The farmer fora were empowered to select enterprises for service provision, procure inputs, carry out monitoring and evaluation, and participate in recruitment and supervision of service providers. Extension services were delivered to farmers by private staff on short-term contracts initially of 3-6 months, later increased to 1 year. The reform was implemented under the broader

macroeconomic policy frameworks of liberalization, privatization, democratization and decentralization that allowed civil society and the private sector to complement government efforts in agricultural service delivery. The reform adopted a market-oriented agricultural advisory services (MOAAS) approach aimed at transforming agriculture from subsistence to commercial (Mangheni and Mubangizi 2007). The Neuchatel Initiative's Common Framework on MOAAS defines MOAAS as "knowledge services which assist small- to medium-scale farmers and other actors in agricultural value chains to increase their access to markets and secure benefits from commercialization" (Chipeta et al., 2008). Interventions included 'Farmer Institutional Development', 'Advisory and Information Services to Farmers', 'Agribusiness Development and Market Linkages', 'Local Service Provider Institutional Capacity Development', 'Planning, Monitoring/Quality Assurance and Evaluation' (World Bank, 2010).

The NAADs programme faced a range of challenges including inadequate capacity at all levels to implement market-oriented extension and advisory services; failure to harmonize and coordinate institutions involved; weak farmer institutions and political pressures. The programme was terminated in 2014 due to unsatisfactory performance and the national secretariat repurposed to undertake other functions. The agricultural extension function was transferred back into the mainstream MAAIF and the Directorate of Agricultural Extension reinstated in the financial year 2015/16 under the reform dubbed as "Single Spine Extension System" (BMAU 2019). In 2016 the country introduced the National Agricultural Extension Policy 2016 (NAEP 2016) which sought to guide operationalization of the pluralistic extension system. The NAEP 2016 strategic direction was to establish a structure and system to transform extension from a system of parallel institutionally fragmented public and non-state actors to a well-coordinated, harmonized, regulated pluralistic service with multiple providers addressing diverse needs. The vision of the National Agricultural Extension Policy is: "Prosperous farmers and other agricultural actors for socio-economic transformation and welfare of the population". The mission of the policy is to: "promote application of appropriate information, knowledge, and technological innovations for commercialization of agriculture."

## 6.2 Key Stakeholders of Extension Services

Uganda currently has a pluralistic extension and advisory service system consisting of public and private actors elaborated in MAAIF (2019a) and NAEP (2016). The public sector under the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) consists of Directorate of Agricultural Extension Services (DAES), a decentralized local government public structure, technical directorates and agencies; and non-state actors (NSA). At national level, the Directorate of Agricultural Extension Services (DAES) provides overall leadership, management and coordination of the public and private extension advisory service delivery systems. DAES works with the technical directorates responsible for animal resources, crop resources, fisheries resources and commodity agencies (e.g. Uganda Coffee Development Authority, Cotton Development Authority, and Dairy Development Authority). The technical directorates and agencies are responsible for generating technical information that is professionally organized by the Directorate of Agricultural Extension Services for

dissemination to extension service providers and farmers. Development of commodity value chains is a function of the technical directorates. They define the kind of extension services required along the different value chains; and work with DAES to ensure that actors along the value chains get relevant extension services. At the local government levels, agricultural extension functions are a responsibility of the staff deployed at district and sub county levels. The district level officers coordinate the pluralistic extension services and report directly to the MAAIF DAES for technical guidance. Non-state actors play a significant role in policy advocacy for extension services at all levels, resource mobilization for agricultural extension services and capacity building, among others.

The other institutions that play a key role in agricultural extension at the national level include; Uganda National Farmers' Federation which represents farmers' interests at various levels as well as providing services directly to farmers; the Ministry of Trade, Industry and Cooperatives which provides market information and other services; the Ministry of Water and Environment which provides meteorological information; and Ministry of Gender, Labour and Social Development which offers guidelines and oversight to ensure inclusive services. The universities, colleges, and training institutions offer training and development for agricultural extension and research institutions.

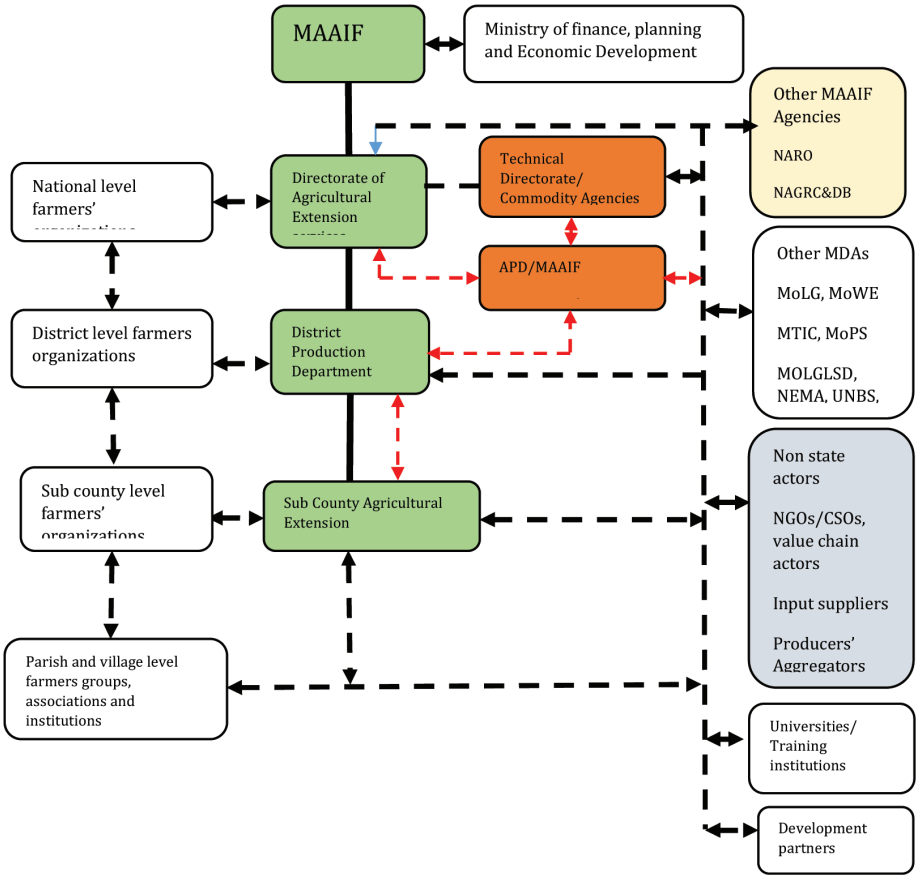



**Fig 6.1: Organogram of agricultural extension and advisory services**

Source: MAAIF

## 6.3 Major Issues Facing Extension Services in Uganda

### (i) Poor actor coordination and regulation of extension services

At the national level, the Directorate of Agricultural Extension Services (DAES) in MAAIF has the mandate to provide overall leadership, management and coordination of the public and private extension delivery systems while the district production department performs these functions at the district local government level (MAAI, 2019a). However, there have been challenges with operationalization of this mandate. The reforms over the years have left the diverse players involved in agricultural extension delivery to operate largely independently of each other. While non-state actors are registered in the general NGO register, their extension related operations are not systematically captured and recognized by MAAIF for purposes of harmonization and synergies within the agricultural extension system. The extension guidelines and standards (MAAIF, 2019a), process for registration accreditation of service providers (MAAIF, 2019b) and ethical code of conduct for extension providers (MAAIF, 2019c) are yet to be fully rolled out. Consequently, there are reported problems of overlaps, duplication, and conflicting advice and delivery approaches (BMAU, 2019; NAES, 2016). In addition, the linkages between extension and research, educational and producer organizations are adhoc and weak. Similarly, linkages of farmers to markets, processors and financial services is poor yet coordination amongst these institutions is essential for transformation of smallholder farmers from subsistence to the desired commercial agriculture. The policy aspiration to address the extension needs along the entire value chain (as opposed to the previous focus on mainly primary production) and synergistic integration with other agricultural support services for optimum return on investment (NAEP, 2016) has not been realized. Regulation of the quality and operations of extension providers is weak. The extension service providers operate without harmonized standards, ethics and their competencies are not regularly updated to align with changing needs or sufficiently regulated.

### (ii) Funding for extension

Overall, Uganda's funding for the agricultural sector is low compared to the sector's contribution to GDP. Specifically, for the agricultural extension services sub-sector, there is inadequate and inconsistent funding coupled with inappropriate distribution of resources compared to other agriculture sub-sectors (BMAU, 2019; Barungi et al., 2016). Analysis of government expenditure on extension over a five-year period 2015-2020 by the Budget Monitoring and Accountability Unit (BMAU) of the Ministry of Finance Planning and Economic Development revealed that by financial year (FY) 2019/20, there would be a budget gap of Ug shs 483.4 billion (about $1.3 m) to finance the extension reforms.

Regarding distribution of public funds to the agricultural sector, extension services are lowest in priority despite their central role in ensuring the performance of all other agriculture sub-sectors (BMAU 2019; Barungi et al., 2016). In the FY 2018/19 only 1.2% of MAAIF budget was allocated to the agricultural extension function, with the bulk of the budget going to agricultural infrastructure, mechanization and water for production (62%), animal resources (18%), policy planning and support services (10%), crop resources (5%), and fisheries (4%) (BMAU, 2019). In local governments, extension services are allocated lower budgets compared to visible infrastructure that earns local elected politicians political capital (Bashaasha et al., 2011). Similarly, the overall national budget for subsidized agricultural inputs distributed by the NAADs Secretariat takes a lion's share of the agriculture budget. Prioritizing agricultural inputs over extension services has been cited as one of the factors explaining the poor performance of the NAADs programmes (2014 to date) because farmers receive free inputs without the required capacity to utilize them effectively (Birungi et al., 2016). Another factor is the tendency of the government to fund staff salaries but with inadequate and late release of operational funds to cater for fuel, vehicle maintenance and allowances of extension workers, demo materials for farmers, exchange visits and study tours for farmers (Birungi et al., 2016; BMAU, 2019).

### (iii) Extension staff competencies to support agricultural commercialization

Uganda's national development plan for the period 2020-2025 (NPA, 2020) aims to increase commercialization and competitiveness of agricultural production and agro processing. Key expected results include: increasing export value of selected agricultural commodities, increasing the agricultural sector growth rate, increasing labor productivity in the agro-industrial value chain, creating jobs in agro-industry, and increasing the proportion of households that are food secure. There is a need for market oriented advisory services, defined by the Neuchatel Initiative's Common Framework as "knowledge services which assist small- to medium-scale farmers and other actors in agricultural value chains to increase their access to markets and secure benefits from commercialization" (Chipeta et al., 2008). Smallholder farmers and other agricultural value chain actors need extension services in marketing, business, technical production, postharvest handling, and value addition yet extension workers have inadequate competencies in these areas. In addition, there are inadequate provisions for regular capacity building of extension workers in new enterprises, improved technologies and innovations. -- notably ICT and other digital technologies,Extension services are not adequately equipped to handle new constraints, challenges, and opportunities associated with gender issues, the youth bulge, climate change  reducing land sizes, and liberalized global and regional markets.

## 6.4 Implications to Strengthening Extension Services in Uganda

The issues of poor coordination and quality assurance of extension services; and low technical capacity of the extension providers to support the national vision of agricultural commercialization and agro-industrialization are well addressed in the national agricultural extension policy and agricultural policy. Strengthening the agricultural extension services requires a serious focus on operationalization of these policies. The policies have a provision for monitoring, evaluation, and learning which are important for continuous improvement. Government and development partners should prioritize agricultural extension services by allocating adequate financial resources to cater for adequate human resources, operational costs, and regular skills development for enhanced technical capacity of public and private extension providers in the core requisite skills.

# CHAPTER 7 : GENERAL CONCLUSION AND POLICY RECOMMENDATIONS

Generally, the agricultural extension systems in Africaare challenged by limited number of well-trained extension agents; limited staffing;grossly inadequate inconsistent and untimely funding; a very weak research-extension-farmer-inputs linkages systems; inadequate policy, legal, regulatory and institutional framework for extension and advisory Services in many countries;poor targeting of women, youths and vulnerable groups; as well as a multiplicity of extension approaches and lack of coordinated/networking among varied extension providers. Other challenges include lack of low- cost credit facilities that small-scale farmers can easily access and poor loan recovery rates when credit is available; unregulated, unsupervised and uncoordinated activities and services of NGOs at both the Federal and State levels to ensure quality assurance of services, as well as, the poor state of infrastructure in terms of offices, equipment and transport in many parts of extension establishments in Africa. Many extension offices are dilapidated and much of the equipment is outdated or unserviceable.

These have made it increasingly difficult for the extension systems to adequately respond to the diversified extension needs of the rural clients. However, agricultural extension education is necessary to enable would be extension workers acquire the necessary skills and knowledge in extension education with a view to imparting these knowledge and skills to farmers and other stakeholders for better productivity. In essence, the undergraduate extension program, which is a pre-service training program in the universities, should be improved to incorporate practical-oriented courses. Specifically, the UG extension curriculum should be continually updated and modified to reflect areas of competencies needed by extension professionals in the context of changing agricultural and food systems.

We recommend the strengthening and coordination among players in the extension systems through the established structures by identifying existing gaps and duplications in different projects. This coordination will aid in the development of strategies that complement each other's efforts.Also, extension systems in Africa need to continue to make more investments in the public extension systems, while encouraging more players and partnerships by taking the following actions: increasing the number of frontline extension staff in order to reduce the staff-to-farmer ratio to manageable levels; increasing the investments of civil society organizations in human resources at the grassroots level so as to bring their services closer to the communities and reduce the burden on public extension workers and the UG extension curriculum should be continually updated and modified to reflect areas of competencies needed by extension professionals in the context of changing agricultural

and food systems. Specifically, there is need to updatecourse contents to incorporate contemporary issues such as digital extension, entrepreneurship, market-led extension, nutrition, privatization of extension, gender issues, health-related issues, urban agriculture, and cross-cutting issues (climate change, HIV/AIDS, food security, and international trade, food systems, renewable energy, food safety, development, health-related issues, and gender issues,among others). Also, the UG curriculum needs to allocate more time to the acquisition of practical-oriented skills. There is need to expand training content to reach beyond basic agronomy and into post-harvest processing and marketing of key crops, business skills and functional skills (such as mobilization, communication and facilitation). The curriculum should be demand-driven and based on the opinions of people in the field, companies, NGOs, etc., and all stakeholders in extension should make their inputs in the revitalized curriculum. It is also important to incorporate extension courses from the first year, and to deemphasize theoretical teaching (which currently dominates the curriculum) and emphasize practical teaching.

# REFERENCES


Afful, D. (2016). Public extension agents' need for new competencies: evidence from a climate variability study in Limpopo Province, South Africa. *South African Journal of Agricultural Extension*, 44(2), 59-70. doi:10.17159/2413-3221/2016/v44n2a387

Agholor, A. (2019). A review of extension self-efficacy: Bases, features, goal realisation and implications for extension. *South African Journal of Agricultural Extension*, 47(2), 140-149. doi:10.17159/2413-3221/2019/v47n2a510

Anderson, J. & Feder, G. (2003). Rural extension services. Agriculture and rural development. *World Bank Research Working Paper 2976*, World Bank, Washington DC.

Anderson, J.R.,&Feder, G. (2004). Agricultural extension: Good intentions and hard realities. *World Bank Research Observer*, 19(1), 4160.

ASSAF, (2017). *Revitalising agricultural education and training in South Africa: Consensus study, concise*. Academy of Science of South Africa (ASSAF), Pretoria.

Axinn, G.H. (1997). Challenges to agricultural extension in the twenty first century. In: Scarborough, V., Killough, S., Johnson, D. and Farrington, J. (Eds), *Farmer Led Extension: Concepts and Practices*. London: Intermediate Technology Publications, pp. 1322.

Banful, A. B., Nkonya, E., & Oboh, V. (2010). *Constraints to fertilizer use in Nigeria: Insights from agricultural extension service*. International Food Policy Research Institute. https://www.ifpri.org/publication/constraints-fertilizer-use-nigeria-0

Barungi, M, Guloba, M. & Adong, A. (2016). *Uganda's agricultural extension systems: How appropriate is the Single Spine Structure?* Economic Policy Research Centre (EPRC), Kampala, Uganda. file:///C:/Users/User/Downloads/16%20Uganda_s%20 Agricultural%20 Extension%20Systems.pdf. Accessed 18/01/2023

Bashaasha, B., Mangheni, M.N., &Nkonya, E. (2011). Decentralization and rural service delivery in Uganda. *IFPRI discussion paper 01063*. Washington, DC. IFPRI.

Beintema, N., Kondwani M., & Lang, G. (2016). *Agricultural R&D Indicators Factsheet November 2016*. Washington, DC: ASTI.

Belay K., & Lemu D. (2017). Agricultural Research and Extension Linkages: Challenges and Intervention Options. Ethiopia Journal of Agricultural Science, 27(1) 55-76.

Bindlish, V., & Evenson, R. E. (1997). The impact of T&V extension in Africa: The experience of Kenya and Burkina Faso. *The World Bank Research Observer 12*, (2), 183-201.

BMAU (2019).*Briefing Paper 25/19*. Budget Monitoring and AccountabilityUnit (BMAU) Ministry of Finance, Planning and Economic Development, Kampala, Uganda.

Bradfield, D.J. (1966). *Guide to extension training*. FAO. Rome.

Business Tech SA. *Concerns over South Africa's actual unemployment rate*. Retrieved from https://businesstech.co.za/.

Cai, T., & Davis. K, (2017). *Malawi desk study of extension and advisory services*. Developing Local Extension Capacity (DLEC) Project. Feed the Future, USAID.

Carr, E.R. (2008). Men's crops and women's crops: The importance of gender to the understanding of agricultural and development outcomes in Ghana's Central Region. *World Development, 36*(5), 900915.

Chikaire, J. U., Emerhirhi, E., Anyoha, N. P., & Onoh, P. A. (2018).Perceived competencies of agricultural extension and advisory services providers in building rural farmer capability in Imo State Nigeria. *International Journal of Research in Agriculture and Forestry, 5*(6), 25 – 32.

Chikaire, J. U., Emerhirhi, E., Anyoha, N. P., & Onoh, P. A. (2018).Perceived competencies of agricultural extension and advisory services providers in building rural farmer capability in Imo State Nigeria. *International Journal of Research in Agriculture and Forestry, 5*(6), 25 – 32.

Chingaipe, H., & Msukwa, C. (Undated). *Strengthening pluralist agricultural extension provision through the development / review of service charters*. Civil Society Agriculture Network (CISANET), Tilitonse Project Baseline Report. Institute for Policy Research & Social Empowerment (IPRSE).

Chinsinga, B. (2008). Ministries of Agriculture: Structures, Capacity and Coordination at District Level in Malawi. Future Agricultures. Retrieved from www.future-agricultures.org.

Chipeta, S., Christoplos, I. & Katz, E.(2008). Common framework on market-oriented agricultural advisory services. Neuchatel Group. http://www.agrideainternational.ch/fileadmin/10_International/PDF/NI_Publications/CF_on_MarketOriented_Agricultural_Advisory_Services_small.pdf

Chowa, C. Garforth, C. & Cardey, S. (2013). Farmer experience of pluralistic agricultural extension, Malawi.*The Journal of Agricultural Education and Extension, 19*(2), 147-166, DOI: 10.1080/1389224X.2012.735620

Cloete, P., Bahta, Y., Marunga, M., & Lombard, W. (2019). Perception and understanding of agricultural extension: Perspective of farmers and public agricultural extension in Thaba Nchu. *South African Journal of Agricultural Extension, 47*(3), 14-31. doi:10.17159/2413-3221/2019/v4n3a512

Cochran, G. (2009). *Ohio State University extension competency study: Developing a competency model for a 21st century extension organization*. (Doctoral dissertation). Retrieved from https://etd.ohiolink.edu/

Commission for University Education [CUE] (2014). Universities Standards and Guidelines 2014.

Danson-Abbeam, G., Ehiakpor, D.S., & Aidoo, R. (2018). Agricultural extension and its effect on farm productivity and income: insight from Northern Ghana. *Agriculture and Food Security, 7* (74), 1-10. DOI: https://doi.org/10.1186/s40066-018-0225-x

Davis, K., Babu, S., & Ragasa, C. (2020). *Agricultural Extension: Global Status and Performance in Selected Countries*. Washington, DC: International Food Policy Research Institute. doi:10.2499/9780896293755

Davis, K., Landini, F., van Niekerk, J., Green, K., & Terblanche, S. (2019). Extension officers' perceptions of extension and innovation in South Africa. *South African Journal of Agricultural Extension, 47*(4), 152-161. doi:10.17159/2413-3221/2019/v47n4a533

Davis, K., Snider, A., Grove, T., & Bahu, S. (2021). Organizational Innovation in Times of Crises: The Case of Extension and Advisory Services. *Journal of International Agricultural and Extension Education, 28*(1)(Special Issue), 6-14. doi:10.5191/jiaee.2021.28101

Davis, K., von Maltiz, L., de Bruyn, M., van Niekerk, J., &Ngomane, T. (2021). *South African extension agent competencies and attitudes for the future: Results of a survey*. Policies, Institutions, and Markets (PIM) Report. Washington, DC: PIM.

Dawd, G., Montague, W. D., & Barbara, J. S. (2019). Challenges and opportunities to the African agriculture and food systems. *African Journal of Food, Agriculture, Nutrition and Development 19*(1), 14190-14217.

Department of Agriculture, Forestry and Fisheries (DAFF). (2016). *National Policy on Extension and Advisory Services*. Pretoria: Department of Agriculture, Forestry and Fisheries.

Department of Agriculture, Land Reform and Rural Development. (2020). *Draft review of the national framework for the minimum norms and standards for extension and advisory services in agriculture*. Pretoria: Department of Agriculture, Land Reform and Rural Development.

Department of Agriculture, Land Reform and Rural Development. (2021). *Economic Review of the South African Agriculture 2020/21*. Pretoria: Department of Agriculture, Land Reform and Rural Development.

Developing Local Extension Capacity (DLEC) Project. (2017). Nigeria: In-depth assessment of extension and advisory services. Feed the Future, USAID.

Douthwaite, B., Keatinge, J.D.H. & Park, J.R. (2001). Why promising technologies fail: The neglected role of user innovation during adoption. *Research Policy, 30*(5), 819836.

Duvel, G. (2004). Developing an appropriate extension approach for South Africa: Process and outcome. *South African Journal of Agricultural Extension, 33*(1), 1-10.

Egerton University (2021). Extension and Outreach Policy. EXTENSION AND OUTREACH POLICY.pdf (egerton.ac.ke)

Farrington, J. (1995). The changing public role in agricultural extension. *Food Policy*, 20(6), 537544.

Federal Ministry of Agriculture and Rural Development (2016). *The agriculture promotion policy (2016 – 2020)*. http://nssp.ifpri.info/files/2017/12/2016-Nigeria-Agric- Sector-Policy-Roadmap_June-15-2016_Final.pdf

Friis-Hansen, E., &Kisauzi, D. (2004). Uganda: Evolution of the extension-farmer relationship. In: Extension reform for rural development, vol. 2, W. M. Rivera and G. Alex (Eds.), *Privatization of extension systems: Case studies of international initiatives*. Agriculture and Rural Development Discussion Paper 9. Washington D.C.: World Bank.

Garforth, C. (2005). The challenges of agricultural extension. In: Levy, S. (Ed.), *Starter Packs: A Strategy to Fight Hunger in Developing Countries? Lessons from Malawi Experience 19982003*. Wallingford: CABI Publishing, pp. 175192.

GFRAS. (2012). T*he new Extensionist: Roles, strategies, and capacities to strengthen extension and advisory services*. (Sulaiman, R.V., and Davis, K., Eds.).Global Forum for Rural Advisory Services, Switzerland. http://www.g-fras.org/en/knowledge/gfras-publications. html? Download=126: the-new-extensionist-position-paper

GFRAS. (2017). *The new extensionist learning kit*. Global Forum for Rural Advisory Services, Switzerland. http://www.g-fras.org/en/knowledge/new-extensionist-learning-kit-nelk.html 5

Government of Kenya (2010). Agriculture sector development strategy.

Government of Kenya (2010). *Constitution of Kenya 2010*. The Constitution of Kenya, 2010 (kmpdc.go.ke)

Government of Kenya (2012). National Agriculture Sector Extension Policy.

Government of Malawi (GoM). (1998). *The national decentralization policy*. Lilongwe: Ministry of Local Government.

Government of Malawi (GoM) (2000). *Agriculture extension in the new millennium: Towards pluralistic and demand driven services*. Lilongwe: Ministry of Agriculture.

Government of Malawi (GoM). (2011). *Ministry of Agriculture and Food Security Annual Report 2010/2011*. Lilongwe, Malawi. Department of Agricultural Extension Services.

Government of Malawi (GoM). (2020). *National Agricultural Extension and Advisory Services Strategy*. FY 2020/21-2024/25 Ministry of Agriculture, Lilongwe, Malawi.

Harry, A., & Abudu, S. (2022). Challenges of effective agricultural extension service delivery in Nigeria. *Bush Wealth Academic Journal*, 1(1). 13-17. Retrieved from https://bwjournal.org/index.php/bsjournal/article/view/174

Helena, P., Just, D., Mona, D., Christine, P., & Gerard, B. (2019) *Enhancing Food Systems in Nigeria Scope and Perspective for Dutch Policy Interventions*. Wageningen University & Research. https://edepot.wur.nl/478505

Hlatshwayo, P., &Worth, S. (2019). Agricultural extension: Criteria to determine its visibility and accountability in resource poor communities. *South African Journal of Agricultural Extension*, 47(2), 13-20. doi:10.17159/2413-3221/2019/v47n2a-499

https://www.agriculture.go.ug/maaif-agricultural-extension-services/. Accessed 19/01/2023

https://www.finance.go.ug/sites/default/files/Publications/BMAU%20Policy%20Brief%2025-19-Performance%20of%20Agricultural%20Extension%20Services%20-%20What%20are%20the%20emerging%20challenges.pdf Accessed 18/01/2023

Institutional Development Across the Agro-Food Sector Technical Assistance Programme (IDAF) in Ministry of Agriculture and Food Security. (2010). *Mapping of Extension Service Providers*. Lilongwe: IDAF.

Kaarhus, R., & Nyirenda R. (2006). *Decentralization in the agricultural Sector in Malawi*. Noragric Report 32. Policies, Processes and Community Linkages. Noragric, Norway: Norwegian University of Life Sciences.

Kabuye, E. S. & Mhango, J. A. (2006). *A brief history of agricultural extension services in Malawi from 1948 to 2000*. Lilongwe: Ministry of Agriculture.

Kangaude F. M. (1982). *The state of extension services in Malawi*. Lilongwe Agriculture Development Division (LADD), Lilongwe, Malawi

KARI (2019). *History and functions of Kenya Agricultural Research Institute*. The History and Functions of Kenya Agricultural Research Institute – KARI.org

Kaynacki, C., & Boz, S. (2019). Roles, responsibilities and competencies needed by extension agents in extension system. Harun, U. (ed.).*Proceedings of the Third International Conference on Food and Agricultural Economics* (Pp. 357-362), Alanya, Turkey.

Kenya National Bureau of Statistics [KNBS] (2021). *Economic Survey*, 2021. Economic-Survey-2021.pdf (knbs.or.ke)

Khapayi, M., & Celliers, P. (2016). Factors limiting and preventing emerging farmers to progress to commercial agricultural farming in the King William's town area of the Eastern Cape Province, South Africa. *South African Journal of Agricultural Extension*, 44(1), 25-41. doi:10.17159/2413-3221/2016/v44n1a374

Knorr, J. & Gerster-Bentaya, M. (2007). The history of agricultural extension in Malawi. Weilkersheim: Margraf Publishers GmbH.

Kolawole, E.A., Isitor, S.U., & Owolabi, A. O. (2016). Determinants of training needs of extension personnel of agricultural development programme (ADP) Ekiti State, Nigeria. *Agro-Science Journal of Tropical Agriculture, Food, Environment and Extension*, 15 (3), 13 - 17

Kuz, Y., Okwoche, V.A., & Age, A.I. (2018). The impact of national fadama III development project intervention on annual income generation among beneficiaries in Nasarawa State, Nigeria. *Pyrex Journal of Plant and Agricultural Research*, 3 (2), 6 – 10.

Lewis, P., & Watts, M. (2015). *Nigeria: The political economy of governance*. Washington, DC: World Bank.

MAAIF (2019a). Extension guidelines and standards.

MAAIF (2019b). Process of registration and accreditation of AEAS providers. Retrieved from https://www.agriculture.go.ug/maaif-agricultural-extension-services/.

MAAIF (2019c). *Ethical code of conduct for agricultural extension and advisory services providers*. Retrieved fromhttps://www.agriculture.go.ug/maaif-agricultural-extension-services/.

Maake, M., & Antwi, M. (2022). Farmer's perceptions of effectiveness of public agricultural extension services in South Africa: an exploratory analysis of associated factors. *Agriculture and Food Security*, 11(34), 1-15. Doi: 10.1186/s40066-022-00372-7

Malabe, K. M., Wakawa, R. C., & Gwary, M. M. (2019). A Review of agricultural intervention programs and their extension delivery system in Nigeria. *Journal of Agricultural Economics, Environment and Social Sciences*,5(1&2), 72–79

Malawi Forum for Agricultural Advisory Services, (MaFAAS). (2018). *Hear farmers' voice for agricultural transformation*. The First Farmers' Conference, Bunda College, Lilongwe University of Agriculture and Natural Resources (LUANAR) 18-19 September 2018, Lilongwe, Malawi.

Mangheni, M. N. (1999). *The relevance and effectiveness of agricultural extension services to the needs of smallholder farmers in Uganda*. A paper presented at a World Bank/ Economic Policy Research Center conference on assessing outcomes in the context of the comprehensive development framework, October 26–27, 1999, in Kampala, Uganda.

Mangheni,M.N.& Mubangizi,N. (2007). Requirements for successful privatized contract farmer-led agricultural extension: lessons from Uganda's national agricultural advisory services. In Najjingo Mangheni, M. (ed) (2007). *Experiences, innovations and issues in agricultural extension in Uganda: lessons, and prospects*. Kampala, Uganda: Fountain Publishers, pp. 13-32. ISBN 978-9970-02-715-6.

Manoher, S., & Pooja, J. (2019). Importance of professional competency of extension personnel. *International Journal of Current Microbiology and Applied Sciences*, 8(10), 1563-1573. doi: https://doi.org/10.20546/ijcmas.2019.810.182

Masangano C, &Mthinda C (2012). Pluralistic extension system in Malawi. *IFPRI Discussion paper 01171.* International Food Policy Research Institute, Eastern and Southern African Regional Office.

Masangano, C. & Mthinda, C. (2010). Agricultural extension in Malawi. Lilongwe: Bunda

Matemilola, S., & Elegbede, I. (2017). The challenges of food security in Nigeria.*Open Access Library Journal*, 4, e4185.

Maulu, S., Hasimuna, O., Mutale, B., Mphande, J., & Siankwilimba, E. (2021). Enhancing the role of rural agricultural extension programs in poverty alleviation: A review. *Cogent Food & Agriculture*, 7(1), 1-13. doi:10.1080/23311932.2021.1886663

Meyer, F., Kirsten, J., Davids, T., Delport, M., Vermeulen, H., Sihlobo, W., & Anelich, L. (2022). A sector-wide review of the COVID-19 impact on the South African agricultural sector during 2020–21. *Agrekon 61:1*, 3-20.

Mijindadi, N. B. (1994). Sustainability issues in agricultural technology transfer in Nigeria. *Proceedings of the inaugural conference of the Agricultural Extension Society of Nigeria*, 47 -56.

Mkandawire, R. M., &Chipande, G. H. R. (1988). *Smallholder agricultural development in Malawi: The case of a targeted approach with special reference to cases from selected agricultural development division*. Paper presented at the symposium on agricultural policies for growth and development, Mangochi, Malawi, October 31–November 4.

MoALF&C (2021). *State of agricultural advisory and extension services in Kenya. A rapid assessment study of selected counties*. Ministry of Agriculture, Livestock, Fisheries and Cooperatives. Unpublished Report

MoALF&C (2021b). Kenya agriculture sector extension policy: Draft policy document

MoALF&C (n.d.). 4-K Clubs Kenya. 4-K Clubs Kenya | Kuungana Kufanya Kusaidia Kenya4-K Clubs Kenya | Kuungana Kufanya Kusaidia Kenya. Ministry of Agriculture, Livestock, Fisheries and Cooperatives

Modernizing Extension and Advisory Services (MEAS). (2012). *Strengthening pluralistic agricultural extension in Malawi*. East Lansing: Michigan State University.

Modernizing Extension and Advisory Services (MEAS). (2014). *Assessment of agricultural extension, nutrition education, and integrated agriculture-nutrition extension services in the feed the future focus districts in Malawi*. East Lansing: Michigan State University.

Msuya, P. C., Annor-Frempong, F. K., Magheni, M. N., Agunga, R., Igodan C. O., Ladele, A. A., … Zwane, E. (2017).The role of agricultural extension in Africa's development, the importance of extension workers and the need for change. *International Journal of Agricultural Extension, 5* (1), 59-70.

Muyanga M. &Jayne, T. (2006). *Agricultural extension in Kenya: Practice and policy Lessons*. https://www.researchgate.net/publication/5180114_Agricultural_Extension_in_Kenya_Practice_and_Policy_Lessons

Nankhuni, F. J. (2016). *Background paper on agricultural extension and advisory service delivery in Malawi*. Feed the Future Innovation Lab for Food Security Policy Research Paper 51. East Lansing: Michigan State University.

National Agricultural Advisory Services (NAADS) Act 2001

Nwoye, I., & Nwalieji, U. (2019). Male and female participation in the implementation of fadama III additional financing project among cassava farmers in Anambra State, Nigeria. *Journal of Agricultural Extension, 23*(4), 119-129.

Obasi, R. (1995). Success story of the ADPS. *Agriscope: A quarterly Newsletter of the Federal Department of Agriculture*, 14(2), 10 – 12.

Oladele, I. (2015). Borich needs model analysis of professional competence among extension officers in North West province, South Africa. *Journal of Agricultural & Food Information*, 16(2), 151-162. doi:10.1080/10496505.2015.1013110

Omotayo, A. M. (2010). University of Agriculture Abeokuta Nigeria 30th inaugural lecture 2010: *The Nigerian farmer and the elusive crown*. Department of Agricultural Extension and Rural Development, University of Agriculture Abeokuta. https://unaab.edu.ng/inaugurallectures/

Osaze, E. L. (2015). *The role of women in agricultural production in Ovia Southwest Local Government Area of Edo State, Nigeria*. (Master's thesis), Ahmadu Bello University. http://kubanni.abu.edu.ng/jspui/handle/123456789/7892

Osondu, C. K., Ijioma, J. C., Udah, S. C., & Emerole, C. O. (2015). Impact of national Fadama III development project in alleviating poverty of food crop farmers in Abia State, Nigeria. *American Journal of Business, Economics and Management*, 3 (4), 225-233.

Phillip, D., Nkonya, E., Pender, J., & Omobowale, A. O. (2009). *Constraints to increasing agricultural productivity in Nigeria: A review*. International Food Policy Research Institute. http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/18535

Quinn V, M. Chiligo, J.,&Gittinger, P. (1988). *Household food and nutritional security in Malawi*. Paper presented at the symposium on Agricultural Policies for Growth and Development, Mangochi, Malawi, 31 October 31—November 4.

Ragasa C (2018). Supply of and demand for agricultural extension services in Malawi: A synthesis.*IFPRI Project Note*, IFPRI, Washington, DC

Ragasa, C., & Niu, C. (2017). *The state of agricultural extension and advisory services provision in Malawi: Insights from household and community surveys*. Washington, D.C.: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/131093.

Ragasa, C., Mazunda, J., &Kadzamira, M. (2015). The national extension policy of Malawi: Lessons from implementation. *MaSSP Policy Note 23*. Washington, D.C.: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/129612.

Roberts, N. (2022). Successful agricultural extension: Its dependance upon other aspects of agricultural development. The case of public sector extension in Nort-east Africa. In: W. Rivera, & S. Schram (Eds.), *Agricultural Extension Worldwide: Issues, Practices and Emerging Priorities* (pp. 54-61). Worcester, UK: Billing & Sons.

Shannon, S., Joan, M., Glenn, I., Sebastian, G., & Cassandra, W. (2020). Competing roles and expectations: Preliminary data from an agricultural extension survey on COVID-19 impact. *Journal of Agromedicine*, 25 (4), 396–401 https://doi.org/10.1080/1059924X.2020.1815619

Shimali, F., Mangheni, M. N., & Kabahenda, M. (2016). Towards a new role of agricultural extension in nutrition education: Evidence from western Uganda. In *Fifth African Higher Education Week and RUFORUM Biennial Conference 2016," Linking agricultural universities with civil society, the private sector, governments and other stakeholders in support of agricultural development in Africa, Cape Town", South Africa*, 17-21 October 2016 (pp. 355-362). RUFORUM.

Shimali, F., Margaret, N. M., & Margaret, K. (2021). Nutrition education competencies of agricultural extension workers in Uganda. *The Journal of Agricultural Education and Extension*, 27(4), 535-552 https://doi.org/10.1080/1389224X.2021.1880451

Simpson, B., Heinrich, G., & Malindi, G. (2012). *Strengthening pluralistic agricultural extension in Malawi*. Urbana, University of Illinois: Modernizing Extension and Advisory Services (MEAS).

Sinkaiye, T., Nwserema, B., & Ajayi, A. (2018). Application of livelihood analysis among farmers in Amah community of Rivers State, Nigeria: Implication for extension agents training. *Journal of Agricultural Extension*, 11(01), 87-98. Retrieved from https://journal.aesonnigeria.org/index.php/jae/article/view/1642

Snapp, S., Jayne, T., Mhango W., Benson T., & Ricker-Gilbert J. (2014). *Maize yield response to nitrogen in Malawi's smallholder production systems*. Washington, DC: International Food Policy Research Institute.

Statistics South Africa (StatsSA). (2022). *Media Release*. Pretoria: Department of Statistics.

Sulaiman, R. V., & Davis, K. (2012). *The 'new extensionist': Roles, strategies, and capacities to strengthen agricultural and advisory services*. Lindau, Switzerland: Global Forum for Rural Advisory Services (GFRAS).

Suvedi, M., & Ghimire, R. (2015). *How competent are agricultural extension agents and extension educators in Nepal?* Michigan State University. USAID/BFS/ARP-Funded Project. Award Number: AID-OAA-L-12-00002

Suvedi, M., & Kaplowitz, M. (2016). *What every extension worker should know – Core Competency Handbook*. Department of Community Sustainability, Michigan State University East Lansing, Michigan, USA. U.S. Agency for International Development (USAID) Project Modernizing Extension and Advisory Services (MEAS).

van den Ban, A. (2006) World trend in agricultural extension. *Proceedings of the 2nd International Conference on Agricultural Education and Environment, Souwon, Korea, October 2004*. Bangkok: Regional Office for Asia and the Pacific, Food and Agriculture Organization.

von Maltitz, L., Davis, K., & van Niekerk, J. (Forthcoming). *South Africa: Process Skills and Competency Gaps in Undergraduate Agricultural Extension Curriculum*. Bloemfontein.

World Bank. (2020). *Agriculture, forestry and fishing value added (% of GDP) – Nigeria*. Retrieved from: https://data.worldbank.org /indicator/NV.AGR.TOTL.ZS?locations=NG

Yahaya, M. K. (2020). *Enhancing the role of public and private extension in soil conservation and agricultural productivity*.A lead paper presented at the 25th edition of the Annual Conference of Agricultural Extension Society of Nigeria (AESON),held at the University Auditorium, Usmanu Danfodio University Sokoto, 28th – 29th July 2020

Young Farmers Clubs of Kenya: (12) Young Farmers Clubs | Facebook accessed on 03.08. 2022

## *About This Document*

*This AAP-PIRA project reviewed the agricultural extension advisory services (EASs) in MSU-AAP Consortium member countries covering Nigeria, Malawi, South Africa, Uganda, and Kenya with key research questions: (a) Do extension curricula effectively address the needs of current food and agricultural systems? and (b) What are the critical job skills and core competencies required of extension workers? Overall, the findings revealed that the conventional top-down and supply driven EASs no longer appear to be an appropriate model to address the key challenges -- reduction and untimely governmental funding, declining number of well trained extension staff, inadequate research-extension-farmer-inputs linkages, inadequate policy-legal-regulatory-institutional frameworks, inadequate targeting of diverse groups, lack of coordination among pluralistic EASs providers, inadequate EAS infrastructure, and demand for market-driven and efficient EASs. Considering the findings and gaps in delivery of EASs vis-à-vis undergraduate agricultural extension curricula, the authors recommend strengthening the extension professionals' preservice education and inservice training with 11 core competencies and 97 subcompetencies to effectively plan, implement, and evaluate extension work in today's changing context.*

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