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Abstract

Agricultural extension services the world over have been instrumental in ensuring agriculturists stay abreast of new developments to improve their productivity and economic livelihoods. This historical study describes the origin and practice of agricultural extension in the former British colonies of Zimbabwe, Uganda, and Kenya before their independence and during the decades afterward, and identifies some of the challenges impacting extension services in these countries. Over time, in a bid to improve their agricultural sectors, these countries employed a number of approaches to providing extension/advisory services. Some methods, however, were coercive and little more than the enforcement of laws and customs prejudicial to the nations' Black farmers. This often resulted in cruel treatment, exploitation, and oppression of these farmers, especially during the colonial era. In the post-colonial era, no single approach to extension delivery has been without shortcomings (Davis, 2008). To that end, a pluralistic paradigm has shown promise in mitigating the limitations of any single approach. Additional research should be conducted to determine the longstanding impact of using chiefs and other law enforcers as extension agents on individuals' present-day perceptions about extension and its potential for meeting the needs of smallholder, resource-poor farmers in the future.

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Introduction and Background

Agricultural extension predates the Renaissance period when people advocated for practical education and science that could be used to fulfill their basic human needs (Swanson & Claar, 1984; True, 1929). According to Swanson and Claar (1984) as well as True (1929), Rabelais (1483 to 1553) was among the pioneers to advocate for practical education by teaching children about nature and encouraging them to use the knowledge acquired in their daily lives.

“[I]t took nearly three-quarters of a century after George Washington was inaugurated as our first president to establish the land-grant university system and another half-century to establish extension” (Rasmussen, 1989, p. 16) in the United States. However, the idea of agricultural extension was borne by the American people long before passage of the Smith-Lever Act of 1914 to improve the lives of rural citizens and their communities (Rasmussen, 1989; Scott, 1970). Passage of the Land-Grant College Act of 1862, which established land-grant institutions, coupled with emergence of the farmers’ institute movement about the same time, had a profound impact on development of the U.S. extension system (Jones & Garforth, 1997; Scott, 1970). Thereafter, the Hatch Act of 1887 and the Smith-Lever Act of 1914 led to the creation of agricultural experiment stations and the Cooperative Extension Service, respectively, and this completed the tripartite mission of land-grant universities, i.e., teaching, research, and extension (Herren & Edwards, 2002; Jones & Garforth, 1997; Scott, 1970).

It should be noted, however, that *antecedents* to agricultural extension or advisory services existed in other parts of the world long before the idea was conceived in the United States. For example, according to Swanson and Rajalahti (2010) as well as Jones and Garforth (1997),

advising farmers and teaching them to adopt better farming practices was reported to have occurred in Mesopotamia, China, and Egypt thousands of years ago. In Egypt, advice was given to farmers on how to protect their crops and save lives from the Nile’s annual floods, and in Mesopotamia farmers were often provided advice on how to irrigate their crops to control infestations of rats as early as 1800 B.C. (Jones & Garforth, 1997).

According to True (1929), toward the end of the 18th century, several agricultural schools were established in different parts of Europe to promote agricultural development. For example, “the Georgicon Academy at Kezthely, founded in 1797 [was considered a] model agricultural college of Europe” for more than 50 years (True, 1929, p. 3). However, extension became more pronounced in the 19th century after the outbreak of potato blight in Ireland in 1845, and the attack of aphids in vineyards in Europe, especially in Germany, which led to the appointment of agriculture teachers to conduct demonstrations for farmers (Jones & Garforth, 1997; Swanson & Claar, 1984; Swanson & Rajalahti, 2010). By the end of the 19th century, many countries in Europe had developed their extension systems based on the German model of *Wanderlehrer* (migratory teacher); for example, in Denmark from 1870, and in the Netherlands during the 1840s and 1850s (Jones & Garforth, 1997).

The term *extension* itself was first used to describe adult education programs organized by Oxford and Cambridge universities in England starting in 1867; these educational programs helped extend the work of universities beyond the[ir] campus[es] and into the neighboring communities. This term was later formally adopted in the United States in conjunction with the land[-]grant

universities that were originally established as teaching institutions during the 1860s. Research activities were added in 1887, and extension activities were started in the 1890s and then formally added in 1914 as part of each university's official mandate. (Swanson & Rajalahti, 2010, p. 1)

Depending on the country, different words are used to describe *extension* (Swanson & Rajalahti, 2010; Van den Ban & Hawkins, 1996). For example, in the United States and in Canada the term *extension* is used but countries such as Britain and Germany refer to extension as “advisory work or [*Beratung* in the case of the latter], which implies that an expert can give advice on the best way to reach your goal, but leaves you with the final responsibility for selecting the way” (Van den Ban & Hawkins, 1996, p. 8). In developing countries, the term used to describe agricultural extension is mainly influenced by the funding agency, although use of *advisory services* is now more common in Sub-Saharan Africa (Swanson & Rajalahti, 2010). Further, unlike in developed countries such as the United States, where extension is part of land-grant university systems, in many developing countries most extension services are linked to their ministries of agriculture (Oladele, 2011; Swanson & Claar, 1984). In addition, the role played by extension agents varies among countries. In the United States extension serves more of an educational role, in European countries extension is more about solving problems, and in most developing countries extension is aimed at encouraging the adoption of new technologies by farmers to foment better farming practices for increased yields (Van den Ban & Hawkins, 1996).

Although substantial literature exists describing the evolution and role of extension in many of the *developed countries*, this is not the case with so-called *developing countries*. This study sought to examine the evolution of agricultural extension and the role it played in developing the agriculture sectors of three former British colonies in Sub-Saharan Africa, Zimbabwe, Uganda, and Kenya, with attention to implications for future extension delivery. Historical research enables us to understand how past events shaped the present phenomenon as well as learn about events that may continue to have influence in the future (McDowell, 2002). Further, knowledge of the past helps us to not only appreciate historical events that have shaped the present, but also to avoid previous mistakes and to plan for the future with some degree of certainty (McDowell, 2002). In addition, Peters (2002) posited knowledge of how extension was conducted historically enables us to understand better the role of extension today.

Purpose and Objectives of the Study

The primary purpose of this historical study was to describe the origin and practice of agricultural extension in the former British colonies of Zimbabwe, Uganda, and Kenya before their independence and during the decades afterward. In addition, the study sought to identify challenges facing agricultural extension in the three countries. Three objectives guided the investigation: (a) describe the origin and practice of agricultural extension in Zimbabwe, Uganda, and Kenya while under British Colonial rule; (b) describe the development of agricultural extension in Zimbabwe, Uganda, and Kenya after becoming self-governing, independent states; and, (c) identify challenges and recommendations for the future delivery of agricultural

extension in Zimbabwe, Uganda, and Kenya.

Methodology

Historical research methods were used to obtain information and data to achieve the study's research objectives. Borg (1963) defined historical research as "the systematic and objective location, evaluation, and synthesis of evidence in order to establish facts and draw conclusions about past events" (p. 188). Although historical research may be quantitative, in most cases, it is qualitative (Cohen, Manion, & Morrison, 2007) and increases "awareness and interest in the past, [helps us to] understand its complexity, and appreciate the forces which have brought about change in society" (McDowell, 2002, p. 5). When investigating historical events, Levstik (1997) asserted "there [are] no such thing[s] as *just the facts*. Someone sorts through the available data, perceives some facts as more relevant than others, organizes those facts, and assigns them a place" (p. 1). Thies (2002) posited what are viewed as facts may be subjective depending on the information a researcher seeks to discover. Further, Gaddis (2001) opined "*there is no such thing as a definite account of any historical episode* [emphasis original]" (p. 308).

This inquiry examined primary and secondary sources to achieve the study's objectives (Cohen et al., 2007; McDowell, 2002; Swan & Hofer, 2008; Thies, 2002). Historical research relies on evidence already in existence and, therefore, researchers must sift through and examine the available literature to identify the data most appropriate for their use (Cohen et al., 2007). Unlike secondary sources, primary sources contain the actual ideas of the author and have not been subjected to interpretation by others (Cohen et al., 2007; McDowell, 2002; Thies, 2002). Cohen et al. (2007), however, posited sometimes secondary

sources may have more authentic information than primary data sources. "There are numerous occasions where a secondary source can contribute significantly to more valid and reliable historical research than would otherwise be the case" (Cohen et al., 2007, p. 194).

This study examined information derived from peer-refereed journals, books, reports, official publications, monographs, dissertations and theses, newspaper articles, documents cited by other authors, as well as papers presented at scholarly and professional conferences (Cohen et al., 2007; McDowell, 2002; Thies, 2002). It is also imperative that historical researchers compare multiple sources of information to gain a better understanding of the phenomenon (Swan & Hofer, 2008). Cohen et al. (2007) and Thies (2002) urged researchers to triangulate data by comparing it with information from multiple sources to avoid *selection bias* and ensure accuracy of the evidence analyzed. The study's sources of information were also subjected to internal and external criticism by the researchers (McDowell, 2002; Thies, 2002).

The researchers relied mainly on primary and secondary sources available on the Internet and through search engines provided by Oklahoma State University's main library. Due to lack of funding, the researchers were not able to visit historical archives, libraries, or universities in Britain, Zimbabwe, Uganda, or Kenya where other relevant sources of information and historical evidence may have been found; such is a limitation of the study.

Evolution of Extension in the Former British Colonies of Zimbabwe, Uganda, and Kenya

Before 1914, most of the extension activities in Africa were conducted by missionaries who established demonstration farms alongside *spreading the gospel* (Jones

& Garforth, 1997). After colonization, however, and before nations gained their independence, agricultural extension in most of the British colonies in Sub-Saharan Africa was aimed at encouraging the rural populace to adopt new technologies and practices to improve production for the benefit of their *colonial masters*, i.e., for export (Alonge, 2003; Birmingham, 1999; Davis, 2008; Schwartz & Eicher, 1991; Swanson & Claar, 1984; Wichramasinghe, 1981). The supposition was that *all innovations were useful to all farmers* irrespective of their economic, cultural, and social orientations. The farmers had little input and their views were not often considered. According to Wichramasinghe (1981), a “centre-periphery extension model” (p. 15) was followed. The extension process was a top-down approach and often characterized by *coercion* if the farmers did not adhere to what was expected in regard to adopting new practices (Schwartz & Eicher, 1991). In addition, Shah (1999) asserted that “[i]n Africa, both former French and English colonies inherited highly centralized systems of governance geared [toward] command and control and against responsiveness to [the] public at large” (p. 2).

By 1914, departments of agriculture had been established in most British colonies (Jones & Garforth, 1997). Zanzibar, i.e., Tanzania, was one of the first to have a director in charge of agricultural research and extension as early as 1896 (Birmingham, 1999; Jones & Garforth, 1997). Before 1914, during the *Scramble for Africa*, most of the colonial governments’ ministerial departments of agriculture were more involved in administration and less focused on agricultural extension (Jones & Garforth, 1997). Where extension was implemented in the British colonies of Sub-Saharan Africa, it was mainly targeted on farming and animal production with little

effort directed to other aspects of rural development (Schwartz & Eicher, 1991).

Zimbabwe

Although steps were taken by the British to establish formal extension services in Zimbabwe, then known as South Rhodesia (Marshall, 2001), as early as 1907 (Qamar, 2013), extension did not take root until 1927. In that year, an American missionary, Emory D. Alvord, started extension for Black farmers to address the food demands of a growing population on the *allocated land reserves* (Hanyani-Mlambo, 2000; Kramer, 1997; Qamar, 2013). This meant the colonial government allotted the Black farmers specified plots of land to settle. However, Alvord was criticized by “the Industrial Missionary at the mission who did not see the need for agricultural instruction” (Kramer, 1997, p. 169). These farmers had been forcibly removed from their ancestral lands by the colonial government to settle White farmers in their place. Because the colonial government was unwilling to allocate more land for food production to those it had displaced, increasing the carrying capacity of the allotted land was their only option, and it was thought that could be done by providing extension services (Kramer, 1997). Närman (1991) explained demonstration farms were used (1930 to 1940) to teach the displaced farmers better agricultural practices to increase crop yields. Further, according to Närman (1991), during the 1920s, when Alvord initiated agricultural extension for Black farmers, he used “the Master farmer scheme” (p. 82) to provide services, which led to increased farm productivity.

The colonial government in Zimbabwe established a dual-system approach to provide separate extension services for White and Black farmers (Cobbett, 1985; Hanyani-Mlambo,

2000, 2002; Närman, 1991; Ndlela & Robinson, 2007; Schwartz & Eicher, 1991). For example, “the Department of Conservation and Extension [CONEX]” provided extension to White commercial farmers, and “the Department of Agricultural Development [DEVAG]” was mandated to provide extension services to the small-scale farmers who were predominantly Black (Hanyani-Mlambo, 2002, p. 3). Further, Schwartz and Eicher (1991) as well as Moyo, Mutuma, and Magonya (1987) asserted that, in the case of Black farmers, extension was more about maintaining law and order, but for White farmers it was geared toward adoption of new technologies and improvements in marketing. Moyo et al. (1987) stated that for the Black farmers the “extension services provided [a form of c]ommunity development, which was essentially directed at social engineering communities under traditional chiefs with a view of maintaining ‘law and order’ and [to] develop subservient ‘development skills’ promoting colonial rule” (p. 21). In addition, Whiteside (1998) asserted that, during the colonial period, “[a] carrot and stick approach was used to ‘improve’ agricultural practices by Black Farmers” (p. 16), and those who did what was approved were awarded with “a Master Farmer[']s Certificate and the opportunity to obtain land in a small-scale commercial farming area” (p. 16).

By the time Zimbabwe achieved independence from Great Britain in 1980, two separate systems of extension were operating for two forms of agriculture:

A high-yielding commercial sector with the capacity to produce a national surplus operated, on the one hand, and was managed by White farmers; alongside this affluent production power, a large [and almost entirely Black] African population of subsistence peasants

struggled for small yields on poor land. (Närman, 1991, p. 26)

After independence, the two extension departments, CONEX and DEVAG, were merged to form “the Department of Agricultural, Technical and Extension Services (AGRITEX)” (Hanyani-Mlambo, 2002, p. 3). The main objectives of this merger were to integrate the various extension personnel and harmonize them into one system as well as to reduce the racial segregation that existed under the former governmental system (Cobbett, 1985; Närman, 1991). Further, more resources were allocated toward the purchase of commercial farms to resettle individuals who had participated in Zimbabwe’s liberation struggle (Whiteside, 1998).

In 1988, AGRITEX with support from the German Organization for Technical Cooperation (GTZ) started a project called Conservation Tillage (ConTill) to help farmers with soil conservation efforts (Hagmann, Chuma, Connolly, & Murwira, 1997). In a bid to help farmers adopt new farming practices, it required interaction between farmers and the extension staff, as well as sharing information with others in the community (Hagmann et al., 1997). However, as a result of this interaction and community involvement, it further led to a transformation in the delivery of extension services, i.e., “from the rigid, linear, top-down extension model, to a more process-oriented approach, where farmers’ needs provided the framework for the extension service” (Hagmann et al., 1997, p. 3).

AGRITEX initially employed a top-down extension approach to train and disseminate new technologies to increase food production (Hanyani-Mlambo, 2000). According to de Jong (as cited in Närman, 1991), this was espoused in its main objective to implement “the agricultural policy of government through the provision

of agricultural, technical and extension services, which stimulate the adoption of proven agricultural practices, leading to increased, sustained and profitable production” (p. 77). However, in 1994, AGRITEX embarked on the Participatory Extension Approach (PEA) (Hagmann et al., 1997). And, according to Närman (1991), in the 1990s Zimbabwe was credited as having some of the best extension services in Sub-Saharan Africa. But later,

[i]n 2002, AGRITEX and the Department of Research and Specialist Services (DR&SS) were merged to form the Department of Agricultural Research and Rural Extension (AREX). In 2007, the research arm of AREX was separated to form the Department of Agricultural Research for Development (DAR4D). [And i]n 2009, the extension arm was separated from AREX to once again form AGRITEX. Similarly, the DAR4D was renamed as before, that is, [the] Department of Agricultural Research and Specialist Services (DR&SS). (Qamar, 2013, para. 5)

Of note, in 2000, Zimbabwe implemented a process of fast-tracking land reform “to address the racially skewed land distribution pattern inherited at independence in 1980” (Zikhali, 2008, para. 1, abstract). In the process of land redistribution, agricultural extension workers played a role in demarcating land to the smallholder farmers (Manby, 2002). The land was not only distributed to the landless farmers and “war veterans (for whom government policy officially reserves 20 percent), but also to the police, army, CIO [Central Intelligence Organization], civil servants such as agricultural extension workers (who are involved in demarcating plots), and traditional leaders” (Manby, 2002, p. 29). Roodt (2012) concluded the

redistribution of land was done haphazardly and this led to the collapse of most commercial farms that were replaced by a large number of small-scale farms, mainly producing food for consumption, i.e., subsistence farming, which adversely affected the country’s economy. The high influx of small-scale farmers also increased the ratio of farmers-to-extension workers, leading to a decline in the availability of extension services (Scoones et al., 2011). A 10-year study by Scoones et al. (2011) about effects of the land reform initiative reported “that the story is not simply one of collapse and catastrophe; it is much more nuanced and complex, with successes as well as failures” (p. 967) in Zimbabwe.

Uganda

In Uganda, during the colonial era (1920 to 1956), extension was mainly conducted by *chiefs* with the help of a few trained agricultural personnel (Bukenya, 2010; Kidd, 2001; Semana, 2008). The chiefs were often clan heads or elders in their communities and appointed by the colonial government to govern a specific area and to collect taxes on behalf of the central government (Ojambo, 2012; Tumushabe, Mushemeza, Tamale, Lukwago, & Ssemakela, 2010). These chiefs together with their aides were entrusted with the responsibility of distributing planting materials for cash crops, such as cotton and coffee, as well as giving instructions to their farmers on how to grow crops (Bukenya, 2010; Kidd, 2001; Semana, 2008). In addition, during the colonial period, extension was often coercive and aimed at producing cash crops to raise revenue for the colonial government (Bukenya, 2010; Kidd, 2001; Semana, 2008). From 1956 to 1963, however, the role of chiefs became less pronounced and extension was transformed to a support model for progressive farmers in their respective communities. It included

the provision of inputs as well as credit to expand and finance the progressive farmers' operations with the hope they would be viewed as demonstration farms or *models* from which the local populace could learn and thereby seek to emulate (Kidd, 2001; Semana, 2008; Tibeziinda, 1996).

In the post-independence era, especially during the 1960s and early 1970s, most of the extension services were provided by the national governments of developing countries with support from the United States Agency for International Development (USAID) and were aimed at farmer empowerment (Semana, 2008; Swanson & Claar, 1984). However, the political upheavals experienced during the 1970s and early 1980s in Uganda rendered its extension services ineffective (Bukonya, 2010; Kidd, 2001; Semana, 2008). But, in the 1980s, a demand for market-driven extension systems became more pronounced (Alonge, 2003; Kibwika, Wals, & Nassuna-Musoke, 2009; Swanson, 2011) in many countries. Despite this increased emphasis on market-driven extension services through the 1990s, extension in Uganda continued to emphasize the diffusion of new technologies (Bukonya, 2010) with little input from farmers.

The extension services provided by Ugandan government agents in the 1960s were top-down. Innovations from research stations were delivered to farmers without their input (Anderson, 2007; Bashaasha, Mangheni, & Nkonya, 2011). However, to mitigate the shortcomings of the top-down approach to extension, the agricultural knowledge and information systems model was introduced in the 1990s and "[more] recently, the innovation systems concept" (Rivera & Sulaiman, 2009, p. 64). As a result, the flow of information and innovations became more of a two-way process involving both farmers and government researchers; extension agents

became go-betweens or the facilitators of collaboration (Bashaasha et al., 2011). To this end, Swanson and Rajalahti (2010) outlined four different models used to deliver extension services in many developing countries during the 1970s, 80s, and 90s, including more decentralized and demand-driven, market-based approaches. The extension system used in most areas of Uganda, beginning in the 1990s, was intended to be comprehensive to address a wide range of areas such as animal production, crops, and aquaculture (Venkatesan & Kampen, 1998).

Moreover, in 2001, Uganda formally changed its extension services system from the traditional top-down approach to a farmer-driven/demand-driven model, as provided by its National Agricultural Advisory Services (NAADS), whereby farmers received public funds to contract private firms to provide extension services, thus replacing the traditional system (Benin et al., 2011; Lumu & Kiwuuwa, 2014; Swanson & Rajalahti, 2010). However,

NAADS in Uganda, which started in 2001, has struggled with serious management and resource problems; therefore, it is in the process of being reestablished as a public agricultural extension system, but with representative farmers continuing to shape extension programs and in setting priorities. (Swanson & Rajalahti, 2010, p. 97)

In 2014, the president of Uganda ordered a restructuring of NAADS and the firing of all its district coordinators, who were in charge of supervision and implementation of NAADS' programs, and replaced them with personnel from the Uganda Peoples Defense Forces [UPDF] (Lumu & Kiwuuwa, 2014; Rwakakamba & Lukwago, 2014; The State House of Uganda, 2014; Uganda Media Centre, 2014a). The personnel from UPDF

underwent two weeks of intensive training at Makerere University on the basic concepts underlying agriculture production (Anyango, 2014) so they would be able to effectively monitor and implement the NAADS' programs at the district level to ensure prosperity of the local populace (Uganda Media Centre, 2014b). The NAADS' coordinators were accused of a number of issues, including corruption, inefficient use of allocated resources, lack of proper accountability, failure to follow stipulated procurement guidelines, and poor monitoring (Lumu & Kiwuuwa, 2014; Uganda Media Centre, 2014b).

Kenya

Although the provision of extension services began during the early 1900s in Kenya, it did not yield much in terms of tangible results until the late 1960s and early 1970s when hybrid maize was diffused (Gautam, 1999). According to its National Agricultural Sector Extension Policy [NASEP] (2012), during the colonial era, as was the case of Zimbabwe, Kenya also had two separate extension delivery arms. A system for White settlers that was "well-packed" (NASEP, 2012, p. 6) and "combined extension services with credit and subsidized inputs" (p. 6) and another for the indigenous Africans considered "coercive in nature" (p. 6). Similar to Uganda and Zimbabwe, after achieving independence, agricultural extension in Kenya was mainly a responsibility of the national government through its Ministry of Agriculture (Davis & Place, 2003; Nambiro, Omiti, & Mugunier, 2006). Kenya, however, had and has a bifurcated extension system, i.e., an approach focused on food production, or a whole farm approach, provided primarily by the government, and a commodity-based model supported by the private sector, including parastatals and corporations producing commercial crops

(Muyanga & Jayne, 2006, 2008). Davis and Place (2003) posited "[r]esearch and extension [in Kenya] were focused mainly on [serving] large-scale farms or smallholders in high and medium-potential areas. Trials and demonstrations were [held] mostly on research stations" (p. 747).

After having gained independence in 1963, and through the 1970s, Kenya, with support from donors, adopted "the whole farm approach, and use of [the] integrated agricultural development approach" (NASEP, 2012, p. 6). Further, the government of Kenya, between 1965 and 1980, established extension services targeting small-scale farmers and this gave rise to what was called the "Farming Systems Research and Extension (FSR/E) model" (Nambiro, Chianu, & Murage, 2010, p. 5). The FSR/E model was decentralized with on-farm trials and farmers' involvement, and it provided a "three-way linkage between farmers, researchers, and extension providers" (Nambiro et al., 2010, p. 5). In the beginning, however, Kenya used a number of extension approaches to deliver services, and most of them were top-down in their modes of operation (NASEP, 2012). For example, the "whole farm extension approach, integrated agricultural development approach, and training and visit approach" were more prevalent in the 1980s and 1990s (NASEP, 2012, p. iv). According to Mcmillan, Hussein, and Sanders (as cited in Davis & Place, 2003 and in Nambiro et al., 2010), extension agents in Kenya used a "cookbook" model (p. 746 and p. 4, respectively) to deliver services through a top-down approach. In the early 1980s, the World Bank helped fund reforms to extensions systems in Sub-Saharan Africa and Kenya was the first beneficiary (Venkatesan & Kampen, 1998).

In the 1990s, a shift from the top-down scheme to a more horizontal or farmer-driven, participatory approach began

in Kenya and that led to a decentralization of its extension services (Nambiro et al., 2006). The decentralization included “structural reforms with the objective of shifting extension to other institutions and improving accountability and responsiveness” (Nambiro et al., 2006, p. 2), as well as increasing the participation of farmers in decision making with “the end-users assuming greater responsibility for designing appropriate curricula, and dissemination [of] information” (p. 2). In addition, the decentralization of extension services facilitated the entry of other organizations, especially from the private sector, to deliver extension services, including community-based organizations, cooperatives, faith-based organizations, non-governmental organizations (NGOs), parastatals, and private companies (Muyanga & Jayne, 2006, 2008; Nambiro et al., 2006; NASEP, 2012). According to Rivera (1996), decentralization of extension services empowers farmers to make independent decisions that best suit their needs, promotes sustainability, and increases the likelihood of commitment and collective responsibility amongst farmers regarding the decisions they make.

Unlike the government, which may offer a wide range of extension services, what the private sector provides tends to be *commodity-specific* depending on its needs and aims (Muyanga & Jayne, 2006, 2008). For example, corporations and cooperatives dealing in commercial crops, such as tea, coffee, and pyrethrum, may provide customized advisory services to their outgrowers to increase production and improve quality (Muyanga & Jayne, 2008). In more recent times, Kenya’s government has embraced a more demand-driven and participatory approach to the delivery of extension services (NASEP, 2012). For example, “[a] focal areas approach and farmer field schools (FFS)” (NASEP, 2012,

p. 6) have become more of the norm. Although the Kenyan government still provides financial support for its extension system, the “long term goal is to have private sector-led and fully commercialized extension services” (NASEP, 2012, p. 28) in the future.

Conclusions

In these countries, during the 1980s and 1990s, the respective governments and parastatals together with the private sector, especially NGOs, were involved in the provision of extension services through community participation, which led to further *decentralization of their extension services* (Bashaasha et al., 2011; Friis-Hansen & Kisauzi, 2002; Gautam, 1999; Hanyani-Mlambo, 2002; NASEP, 2012; Rivera, Qamar, & Crowder, 2001; Semana, 2008; Venkatesan & Kampen, 1998). When more than one type of extension provider serves a given area, a *pluralistic extension system* is operating (Rivera et al., 2001; Swanson, 2011; Venkatesan & Kampen, 1998). Rivera (1996) asserted that, in such a system, the private sector provides extension to commercial farmers as well as the smallholder farmers (outgrowers) contracted to grow crops for the companies; and, at the same time, the public sector provides extension to the subsistence farmers. For example, in Uganda, corporations, such as Sugar Corporation of Uganda Limited and Kakira Sugar Works, sign contracts with farmers to whom they provide inputs and extension services and, in turn, those farmers are obliged to honor the contracts by selling their sugarcane to the corporations (Smith, 1970). Kenya and Zimbabwe also have a number of agricultural corporations that contract with outgrowers to whom they provide inputs and extension services to ensure high quality and efficient agricultural outputs (Coulter, Goodland, Tallontire, & Stringfellow, 1999).

It is evident these former British colonies more or less have adopted demand-driven, pluralistic approaches to provide extension services (Bashaasha et al., 2011; Friis-Hansen & Kisauzi, 2002; Gautam, 1999; Hanyani-Mlambo, 2002; NASEP, 2012; Rivera et al., 2001; Semana, 2008; Venkatesan & Kampen, 1998). This kind of approach, however, makes it difficult to harmonize the activities of the various agencies involved and it may sometimes foment conflicts, especially if advice rendered to clientele by extension personnel differs from the official government position (NASEP, 2012; Qamar, 2005). This calls for governments to supervise and monitor the activities of organizations providing extension services (Qamar, 2005). Further, other than only providing agricultural extension services, most of the organizations, private and public, have incorporated multiple activities or deliverables ranging from HIV/AIDS awareness and prevention to programs supporting economic empowerment in a variety of ways (Davis, 2008; Muyanga & Jayne, 2008; NASEP, 2012; Rivera et al., 2001).

Challenges and Recommendations for Zimbabwe, Uganda, and Kenya in the Future

It should be noted that, historically, extension in the three countries studied was frequently associated with cruelty, exploitation, and oppression toward, as well as the enforcement of law and order amongst, their Black populations, i.e., those purported to be its *beneficiaries* (Moyo et al., 1987; Schwartz & Eicher, 1991; Whiteside, 1998). These acts of social injustice may have created negative perceptions so long-lasting that descendants of the people affected still harbor feelings of bitterness and distrust. Further, the *militarization of extension*, a path taken

recently by the Government of Uganda (Anyango, 2014; Lumu & Kiwuuwa, 2014; Nassaka, 2014; Rwakakamba & Lukwago, 2014; The State House of Uganda, 2014; Uganda Media Centre, 2014a), may foment civil discord because some Ugandans endured human rights abuses under past regimes, such as Idi Amin's presidency in the 1970s (Kaufman, 2003; Kyemba, 1977). However, encouraging a more participatory model for extension (Navarro, 2008) may help counter some of the negative views created during the colonial era as well as the aftermath of approaches implemented post-independence that were unsuccessful.

Reconsidering what Cohen et al. (2007) and McDowell (2002) professed, historical research enables us to understand how the past shaped the present while also learning about events likely to influence the future. Davis (2008) posited that through awareness of a country's past extension experiences more effective systems can be implemented to achieve desirable results going forward. To that aim, the governments of Zimbabwe, Uganda, and Kenya should not underestimate what impact the use of extension agents to enforce unpopular government policies may have had on the successes or failures of extension services and programs in the past. Moreover, a pluralistic approach to extension may be the most appropriate model to pursue (Davis, 2008), but in accord with guidelines set by the responsible government agencies and complementary to the nations' development agendas. In addition, national governments should guide and monitor activities of the various extension organizations to ensure harmony and avoid gratuitous use or waste of scarce resources (Lumu & Kiwuuwa, 2014; Oladele, 2011). The approaches adopted should not only involve agricultural production but rather aim to empower beneficiaries to embrace and apply sustainable practices to better ensure a

prosperous future. This would include working with stakeholders to find solutions to address crosscutting issues, such as HIV/AIDS, malaria, malnutrition, climate change, gender equity, and the promotion of good leadership (Davis, 2008; Oladele, 2011; Qamar, 2005).

Although the need exists for countries to move toward more demand-driven approaches to extension, especially with farmer participation and empowerment, guidelines should be clearly stipulated and followed by the authorities, and mixing approaches or models with politics should be avoided. By not following this stipulation, corruption, politicking, and perceived lack of accountability has already presented a substantial challenge to the future of NAADS in Uganda (Benin et al., 2011; Bukenya, 2010; Lumu & Kiwuuwa, 2014; Mafaranga, 2010; Musheshe, 2013; Nassaka, 2014). Further, even though decentralization and privatization of extension services stands to increase the accountability, efficiency, and effectiveness of providers (Bashaasha et al., 2011; Nambiro et al., 2006; Rivera, 1996), not many of the smallholder and subsistence farmers in these countries can afford to pay for extension/advisory services. The governments of Zimbabwe, Uganda, and Kenya, therefore, should continue to provide public extension to their low income, resource-poor farmers in addition to opening the provision of extension to the private sector and other sources of services. Moreover, governments of the three countries should honor the *Maputo Protocol* to which all three are signatories, and commit at least 10% of their national budgets, as agreed to in the protocol, toward the agriculture sector (Food and Agriculture Organization, 2004) to increase production and improve food security. Corporations are urged to continue providing extension services for outgrowers and to also consider

other aspects of their well-being, such as ensuring food security, providing HIV/AIDS prevention and treatment, improving general healthcare, and supporting education for them and their families.

Additional studies should be conducted to understand the longstanding impact of using chiefs and other law enforcers as extension agents on individuals' present-day perceptions about extension. This may warrant a historical narrative study (Cohen et al., 2007; McDowell, 2002) or could involve a phenomenological inquiry, i.e., personal interviews (Lincoln & Guba, 1985; Moustakas, 1994), to determine the *essence* of their lived experiences about extension during that era, including remembrances of elders' views and stories. The findings may provide extension service providers and policymakers a way forward on how best to offer extension services to this population in the future. In addition, studies should be conducted to examine the impacts and effectiveness of using military personnel to deliver extension services. McDowell (2002) posited that being aware of the past helps to avoid repeating earlier mistakes and guides us in making proper decisions for the future with some degree of certainty. Reliable data to that end could be helpful to policymakers and practitioners of extension in Zimbabwe, Uganda, Kenya, and elsewhere in the world.

References

- Alonge, J. A. (2003). Integrating farmers, their local level institutions, and social capital into extension delivery systems in Sub-Saharan Africa: Issues, challenges, and implications. *Proceedings of the 19th annual conference of the Association of International Agricultural and Extension Education, USA*, 19–31.
- Anderson, J. R. (2007). *Agricultural advisory services: Background paper*

- for the world development report 2008. The World Bank Group, Washington, DC: Agriculture and Rural Development Department. Retrieved from https://openknowledge.worldbank.org/bitstream/handle/10986/9041/WD R2008_0003.pdf?sequence=1
- Anyango, J. (2014, August). *300 UPDF officers awarded Makerere certificates in agriculture training: Officers hailed for discipline and urged to pass on the knowledge and skills to improve people's livelihoods*. Kampala, Uganda: Makerere University, College of Agricultural and Environmental Sciences. Retrieved from <http://caes.mak.ac.ug/news-events/latest-news/1522-300-updf-officers-awarded-makerere-certificates-in-agriculture-training-officers-hailed-for-discipline-and-urged-to-pass-on-the-knowledge-and-skills-to-improve-peoples-livelihoods.html>
- Bashaasha, B., Mangheni, N. M., & Nkonya, E. (2011). *Decentralization and rural service delivery in Uganda* (IFPRI Discussion paper 01063). Washington, DC: International Food Policy Research Institute. Retrieved from <http://www.ifpri.org/sites/default/files/publications/ifpridp01063.pdf>
- Benin, S., Nkonya, E., Okecho, G., Randriamamony, J., Kato, E., Lubadde, G., . . . & Byekwaso, F. (2011). *Impact of Uganda's national agricultural advisory services program*. Research Monograph. Washington, DC: International Food Policy Research Institute. Retrieved from <http://www.ifpri.org/sites/default/files/publications/rr175.pdf>
- Birmingham, D. M. (1999). Revisiting agricultural extension: Experiences in less industrialized countries. (Invited panel presentation). *Journal of International Agricultural and Extension Education*, 6(2), 19-26 (Conference issue). Retrieved from <https://www.aiaee.org/attachments/article/335/Vol-6.2.pdf>
- Borg, W. R. (1963). *Educational research: An introduction*. New York, NY: David McKay Company, Inc.
- Bukenya, C. (2010). *Meeting farmer demand? An assessment of extension reform in Uganda* (Doctoral thesis, Wageningen University). Retrieved from <http://edepot.wur.nl/15663>
- Cobbett, M. (1985). Agricultural extension in Zimbabwe: The basis for rural development. *Reality*, 7(1), 16-20. Retrieved from http://www.disa.ukzn.ac.za/index.php?option=com_displaydc&recordID=rejan85.8
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). New York, NY: Routledge. Retrieved from <http://knowledgeportal.pakteachers.org/sites/knowledgeportal.pakteachers.org/files/resources/RESEARCH%20METHOD%20COHEN%20ok.pdf>
- Coulter, J., Goodland, A., Tallontire, A., & Stringfellow, R. (1999). *Marrying farmer co-operation and contract farming for agricultural service provision in Sub-Saharan Africa*. Kent, United Kingdom: Natural Resources Institute, University of Greenwich. Retrieved from <http://www.hubrural.org/IMG/pdf/contractingoutzambia.pdf>
- Davis, K. E. (2008). Extension in Sub-Saharan Africa: Overview and assessment of past and current

- models, and future prospects.
Journal of International Agricultural and Extension Education, 15(3), 15-28.
 doi:10.5191/jiaee.2008.15302
- Davis, K., & Place, N. (2003). Current concepts and approaches in agricultural extension in Kenya. *Proceedings of the 19th annual conference of the Association of International Agricultural and Extension Education, USA*, 745-756.
- Food and Agriculture Organization. (2004). *Implementation of the comprehensive Africa agriculture development programme (CAADP) of NEPAD—progress review*. Rome, Italy: Author. Retrieved from <http://www.fao.org/docrep/meeting/007/j1604e.htm>
- Friis-Hansen, E., Kisaizi, D. (2002). Evolution of extension–farmer relationship in Uganda. *Proceedings of Workshop on Extension and Rural Development: A Convergence of Views on International Approaches*. Washington, DC: The World Bank Group, Agriculture and Rural Development.
- Gaddis, J. L. (2001). In defense of particular generalization: Rewriting cold war history, rethinking international relations theory. In C. Elman, & M. F. Elma (Eds.), *Bridges and Boundaries: Historians, Political scientists, and the study of International Relations* (pp. 301-326). Cambridge, MA: MIT Press
- Gautam, M. (1999). *Agricultural extension: The Kenya experience*. Washington, DC: World Bank Operations Evaluation Department. Retrieved from [http://lnweb90.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/B728D887FC2B754D852568BD005A8C19/\\$file/198precis.pdf](http://lnweb90.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/B728D887FC2B754D852568BD005A8C19/$file/198precis.pdf)
- Hagmann, J., Chuma, E., Connolly, M., & Murwira, K. (1997). *Propelling change from the bottom-up: Institutional reform in Zimbabwe* (Gatekeeper Series No. 71). London, UK: International Institute for Environment and Development. Retrieved from <http://pubs.iied.org/pdfs/6134IIED.pdf>
- Hanyani-Mlambo, B. T. (2000). Re-framing Zimbabwe's public agricultural extension services: Institutional analysis and stakeholders views. *Agrekon*, 39(4), 665-672.
- Hanyani-Mlambo, B. T. (2002). *Strengthening the pluralistic agricultural extension system: A Zimbabwean case study*. Rome, Italy: Food and Agriculture Organization, Integrated Support to Sustainable Development and Food Security Program. Retrieved from <ftp://ftp.fao.org/docrep/fao/005/AC913E/AC913E00.pdf>
- Herren, R. V., & Edwards, M. C. (2002). Whence we came: The land-grant tradition - origin, evolution, and implications for the 21st century. *Journal of Agricultural Education*, 43(4), 88-98.
 doi:10.5032/jae.2002.04088
- Jones, G. E., & Garforth, C. (1997). The history, development, and future of agricultural extension. In B. E. Swanson, R. P. Bentz, & A. J. Sofranko (Eds.), *Improving agricultural extension: A reference manual* (chap. 1). Rome, Italy: Food and Agriculture Organization. Retrieved from

- <http://www.fao.org/docrep/w5830e/w5830e03.htm#TopOfPage>
- Kaufman, M. T. (2003, August 17). Idi Amin, murderous and erratic ruler of Uganda in the 70's, dies in exile. *The New York Times*. Retrieved from <http://www.nytimes.com/2003/08/17/world/idi-amin-murderous-and-erratic-ruler-of-uganda-in-the-70-s-dies-in-exile.html?pagewanted=all>
- Kibwika, P., Wals, A. E. J., & Nassuna-Musoke, M. G. (2009). Competence challenges of demand-led agricultural research and extension in Uganda. *The Journal of Agricultural Education and Extension*, 15(1), 5-19. doi:10.1080/13892240802617510
- Kidd, D. A. (2001). *Extension, poverty and vulnerability in Uganda country study for the Neuchâtel initiative* (Working paper 151). London, UK: Overseas Development Institute. Retrieved from <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/2995.pdf>
- Kramer, E. (1997). The early years: Extension services in peasant agriculture in colonial Zimbabwe, 1925-1929. *Zambezia*, 24(2), 159-179.
- Kyemba, H. (1977). *State of blood: The inside story of Idi Amin*. New York, NY: Putnam Pub Group.
- Levstik, L. S. (1997). "Any history is someone's history:" Listening to multiple voices from the past. *Social Education*, 61(1), 48-51.
- Lincoln, Y. S., & Guba, E. (1985) *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.
- Lumu, D., & Kiwuuwa, P. (2014, June 18). NAADS: UPDF says it's ready to take over from civil servants. *The New Vision*. Retrieved from <http://www.newvision.co.ug/news/656685-naads-updf-says-it-s-ready-to-take-over-from-civil-servants.html>
- Mafaranga, H. (2010, July 7). Museveni suspends NAADS again. *The New Vision*. Retrieved from <http://www.newvision.co.ug/D/8/13/725098>
- Manby, B. (2002). *Fast track land reform in Zimbabwe*. Human Rights Watch. Report Vol. 14 (1A). New York, NY: Author. Retrieved from <http://www.hrw.org/reports/2002/zimbabwe/ZimLand0302.pdf>
- Marshall, P. J. (2001). *Cambridge illustrated history: British Empire*. Cambridge, United Kingdom: The Press Syndicate of the University of Cambridge.
- McDowell, W. H. (2002). *Historical research: A guide*. Harlow, Essex, England: Pearson Education Limited.
- Moustakas, C. E. (1994). *Phenomenological research methods*. Thousand Oaks, CA: SAGE Publications.
- Moyo, S., Mutuma, M. P., & Magonya. (1987). *An evaluation of agricultural extension services support to women farmers in Zimbabwe with special reference to Makonde District* (Consultancy paper 12). Harare, Zimbabwe: Zimbabwe Institute of Development Studies. Retrieved from <http://ir.uz.ac.zw/jspui/handle/10646/733>
- Musheshe, M. (2013, February 22). Who is killing NAADS, agriculture? *The Independent*. Retrieved from <http://www.independent.co.ug/column/comment/7496-who-is-killing-naads-agriculture>
- Muyanga, M., & Jayne, T. S. (2006). *Agricultural extension in Kenya: Practice and policy lessons*

- (Tegemeo Working paper 26/2006). Nairobi, Kenya: Egerton University. Retrieved from <http://ageconsearch.umn.edu/bitstream/55168/2/wp26.pdf>
- Muyanga, M., & Jayne, T. S. (2008). Private agricultural extension services in Kenya: Practice and policy lessons. *The Journal of Agricultural Education and Extension*, 14(2), 111-124. doi:10.1080/13892240802019063
- Namiro, E., Chianu, J., & Murage, A. (2010, September). The association of agricultural information services and technical efficiency among maize producers in Kakamega, western Kenya. *Contributed paper presented at the 3rd Agricultural Economists Association of South Africa (AEASA) conference, September, 19-23. Cape Town, South Africa.*
- Namiro, E., Omiti, J., & Mugunieri, L. (2006, August). Decentralization and access to agricultural extension services in Kenya. *Contributed poster presented at the International Association of Agricultural Economists Conference, August 12-18. Gold Coast, Australia.*
- Närman, A. (1991). *Education, training and agricultural development in Zimbabwe*. Paris, France: International Institute for Educational Planning (UNESCO). Retrieved from http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&sqi=2&ved=0CC4QFjAB&url=http%3A%2F%2Funesdoc.unesco.org%2Fimages%2F0009%2F000921%2F092104eo.pdf&ei=pgqVUoH6Ccr1oAT934CgAQ&usg=AFQjCNHiyQbqRmiVSIk4qTl7bpGivV_Ng&bv m=bv.57155469,d.cGU
- Nassaka, F. (2014, June 15). Is disbanding NAADS Museveni's next blunder? *The Independent*. Retrieved from <http://independent.co.ug/news/news-analysis/9057-is-disbanding-naads-musevenis-next-blunder>
- National Agricultural Sector Extension Policy [NASEP]. (2012). *National agricultural sector extension policy. Government of Kenya, Agricultural Sector Coordination Unit (ASCU)*. Nairobi, Kenya: Author. Retrieved from http://www.kilimo.go.ke/kilimo_docs/pdf/NASEP_SESSIONAL_Policy.pdf
- Navarro, M. (2008). On the path to sustainable agricultural development: Enhancing extension agents' contribution. *The International Journal of Environmental, Cultural, Economic & Social Sustainability*, 4(3), 71-77.
- Ndlela, D., & Robinson, P. (2007). *Distortions to agricultural incentives in Zimbabwe* (Agricultural Distortions Working paper 39). Harare, Zimbabwe. Retrieved from http://siteresources.worldbank.org/INTTRADERESESEARCH/Resources/544824-1146153362267/Zimbabwe_0708rev.pdf
- Ojambo, H. (2012). Decentralization in Africa: A critical review of Uganda's experience. *Potchefstroom Electronic Law Journal*, 15(2), 70-88. Retrieved from <http://www.saflii.org/za/journals/PELR/2012/17.pdf>
- Oladele, I. O. (2011). Features of agricultural extension models and policy in selected sub-Saharan African countries. *Journal of Agriculture and Environment for International Development*, 105(1),

- 35-44. Retrieved from <http://www.iao.florence.it/ojs/index.php/JAEID/article/view/10>
- Peters, J. S. (2002). Rousing the people on the land: The roots of the educational organizing tradition in extension work. *Journal of Extension*, 40(3). Retrieved from <http://www.joe.org/joe/2002june/a1.php>
- Qamar, K. M. (2005). *Modernizing national agricultural extension systems: A practical guide for policy-makers of developing countries*. Rome, Italy: Food and Agriculture Organization, Research, Extension and Training Division, Sustainable Development Department. Retrieved from <ftp://ftp.fao.org/docrep/fao/008/a0219e/a0219e00.pdf>
- Qamar, K. M. (2013). *Zimbabwe. Global forum for rural advisory services*. Lindau, Switzerland: World Wide Extension Study. Retrieved from <http://www.g-fras.org/en/world-wide-extension-study/africa/eastern-africa/zimbabwe.html>
- Rasmussen, W. D. (1989). *Taking the university to the people: Seventy-five years of Cooperative Extension*. Ames, IA: Iowa State University Press.
- Rivera, W. M. (1996). Agricultural extension in transition worldwide: Structural, financial and managerial strategies for improving agricultural extension. *Public Administration and Development*, 16(2), 151-161. doi:10.1002/(SICI)1099-162X(199605)16:2<151::AID-PAD868>3.0.CO;2-S
- Rivera, W. M., Qamar, K. M., & Crowder, V. L. (2001). *Agricultural and rural extension worldwide: Options for institutional reform in the developing countries*. Rome, Italy: Food and Agriculture Organization, Research, Extension and Training Division. Retrieved from <ftp://ftp.fao.org/docrep/fao/004/y2709e/y2709e.pdf>
- Rivera, W. M., & Sulaiman, R. V. (2009). Extension: Objective of reform, engine for innovation. *Outlook on Agriculture*, 38(3), 267-273. doi:<http://dx.doi.org/10.5367/0000000009789396810>
- Roodt, M. J. (2012). Zimbabwe's land reform: Myths and realities. *African Journal of Range & Forage Science*, 29(2), 97-99. doi:10.2989/10220119.2012.717104
- Rwakakamba, M., & Lukwago, D. (2014). *The changing face of NAADS and what the entry of Uganda People's Defense Forces will mean for Uganda's agriculture* (Public Policy Issue Paper No:004/2014). Kampala, Uganda: Agency for Transformation. Retrieved from <http://www.agencyft.org/wp-content/uploads/2014/09/The-Changing-face-of-NAADS.pdf>
- Schwartz, L. A., & Eicher, C. K. (1991). *Extension in Africa: An institutional analysis*. East Lansing, MI: Michigan State University. Retrieved from <http://ageconsearch.umn.edu/bitstream/11075/1/pb91sc01.pdf>
- Scoones, I., Marongwe, N., Mavedzenge, B., Murimbarimba, F., Mahenehene, J., & Sukume, C. (2011). Zimbabwe's land reform: Challenging the myths. *Journal of Peasant Studies*, 38(5), 967-993. doi:10.1080/03066150.2011.622042
- Scott, R. V. (1970). *The reluctant farmer: The rise of agricultural extension to 1914*. Chicago, IL: University of Illinois Press.

- Semana, A. R. (2008). *Agricultural extension services at crossroads: Present dilemma and possible solutions for future in Uganda*. Retrieved from Makerere University, Department of Agriculture Extension/Education, Kampala, Uganda. Website: <http://codesria.org/IMG/pdf/Semana.pdf>
- Shah, A. (1999). *Balance, accountability, and responsiveness: Lessons about decentralization*. Washington, DC: The World Bank. Retrieved from <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-2021>
- Smith, A. J. (1970). The production of sugar cane by outgrowers in East Mengo-Uganda. *East African Geographical Review*, 8(April), 47-54. Retrieved from http://www.macalester.edu/academic/s/geography/agr/journals/1970_8_6.pdf
- Swan, K. O., & Hofer, M. (1998). The historical scene investigation (HIS) project: Facilitating historical thinking with web-based, digital primary source documents. *Journal of the Association for History and Computing*, 11(1). Retrieved from <http://hdl.handle.net/2027/spo.33104.10.0011.101>
- Swanson, B. E. (2011). *Developing innovative extension systems, part I* (video). Modernizing Extension and Advisory Services (MEAS). Champaign, IL: University of Illinois and the United States Agency for International Development. Retrieved from <http://www.meas-extension.org/>
- Swanson, B. E., & Claar, B. J. (1984). The history and development of agricultural extension. In B. E. Swanson (Ed.) *Agricultural extension: A reference manual* (2nd ed.). Rome, Italy: Food and Agriculture Organization.
- Swanson, B. E., & Rajalahti, R. (2010). *Strengthening agricultural extension and advisory systems: Procedures for assessing, transforming, and evaluating extension systems* (Agriculture and Rural Development discussion Paper 45). Washington, DC: Agriculture and Rural Development, The World Bank. Retrieved from http://siteresources.worldbank.org/INTARD/Resources/Stren_combined_web.pdf
- The State House of Uganda. (2014, June). President Museveni commends UPDF officers for successful veterans agro program, disbands NAADS structure of coordinators. Kampala, Uganda: Author. Retrieved from <http://www.statehouse.go.ug/media/news/2014/06/10/president-museveni-commends-updf-officers-successful-veterans-agro-program-dis>
- Thies, C. G. (2002). A pragmatic guide to qualitative historical analysis in the study of international relations. *International Studies Perspectives*, 3(4), 351-372. doi:10.1111/1528-3577.t01-1-00099
- Tibezinda, J. P. (1996). *Measures of extension impact: A comparative study of three agricultural extension programs in Hoima District, Uganda* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI 9639359)
- True, C. A. (1929). *A history of agricultural education in the United States 1785-1925* (Miscellaneous Publication No. 36). Washington, DC: United States Department of Agriculture.

- Retrieved from
<http://www.biodiversitylibrary.org/item/80172#page/6/mode/1up>
- Tumushabe, G., Mushemeza, D. E., Tamale, M. L., Lukwago, D., & Ssemakela, E. (2010). *Monitoring and assessing the performance of local government councils in Uganda: Background, methodology and score card* (ACODE Policy Research Series No. 31, 2010). Kampala, Uganda: ACODE. Retrieved from
http://www.acode-u.org/documents/PRS_31.pdf
- Uganda Media Centre. (2014a, June). *President congratulates army officers for good work done*. Kampala, Uganda: Author. Retrieved from
<http://www.mediacentre.go.ug/press-release/president-congratulates-army-officers-good-work-done>
- Uganda Media Centre. (2014b, September). *Army came in to save NAADS funds from further misappropriation – President*. Kampala, Uganda: Author. Retrieved from
<http://www.mediacentre.go.ug/press-release/%E2%80%9Carmy-came-save-naads-funds-further-misappropriation%E2%80%9D-president>
- Van den Ban, A. W., & Hawkins, H. S. (1996). *Agricultural extension* (2nd ed.). Cambridge, MA: Blackwell Science.
- Venkatesan, V., & Kampen, J. (1998). *Evolution of agricultural services in Sub-Saharan Africa* (World Bank Discussion Paper No. 390). Washington, DC: The World Bank. Retrieved from
<http://elibrary.worldbank.org/doi/book/10.1596/0-8213-4259-2>
- Whiteside, M. (1998). *Encouraging sustainable smallholder agriculture in Zimbabwe. Agriculture Services Reform in Southern Africa* (R6452CA). London, UK: Environment & Development Consultancy Ltd. Retrieved from
<http://www.eldis.org/vfile/upload/1/document/0708/DOC6493.pdf>
- Wichramasinghe, L. (1981). Toward a new extension strategy from promotion of innovations to participatory communication. In Food and Agriculture Organization (Author). *1981 training for agriculture and rural development* (pp. 15-24). Rome, Italy: Publication Division, Food and Agriculture Organization.
- Zikhali, P. (2008, October). *Fast track land reform and agricultural productivity in Zimbabwe* (Environment for Development discussion paper series 08-30). Gothenburg, Sweden: Environment for Development Initiative. Retrieved from
<http://www.rff.org/RFF/Documents/EfD-DP-08-30.pdf>