

THE NEED FOR PRIVATE SECTOR INVOLVEMENT IN EXTENSION EDUCATION SERVICE DELIVERY IN NIGERIA

Dr. Babangida Ladan

Department of Adult Education and
Community Services

Bayero University, Kano.

Email: babangidaladan@gmail.com

Phone Number: +234 8035995623

DOI: <https://doi.org/10.5281/zenodo.15775663>

Abstract

The paper outlined the need for private sector involvement in extension education service delivery in Nigeria. Several studies have proved that in Nigeria it is not possible for government alone to support extension education programme in all its ramifications. In addition, public extension services have been hampered by corruption, inefficiency, poor coverage, political interference and many other challenges. The paper therefore discussed the concepts of extension and agricultural extension; trends in private sector involvement in agricultural extension; the need for private sector involvement in extension education service delivery. In order to buttress the need for private sector involvement in the delivery of extension education services, the paper highlighted the prospects for private sector extension organizations in Nigeria in the areas of strengthening farmers organizations, collaboration between public and private extension organizations, gradual emergence of private extension organizations and NGOs. The paper concluded that the practice of private sector involvement in agricultural extension organizations has gained significant attention and importance in recent years. This involvement can take various forms, such as public-private partnerships, outsourcing of extension services, or collaboration with experts.

Keyword: Agricultural Extension, Private Sector, Extension Education and Extension Service

Introduction

Adult education is a practice in which adults engage in systematic and sustained self-educating activities in order to gain new forms of knowledge, skills, attitudes, or values. Extension education and adult education are closely linked, with extension

education often considered a practical application of adult education principles, particularly in non-formal settings. Extension education, focused on disseminating knowledge and skills to individuals and communities outside formal educational institutions, relies heavily on adult learning

principles to be effective. In line with this, we have Extension Education which is concerned with reaching out to clients with useful information (Extension Services). As a result of the shift in economic policies and goals, the practice of private sector involvement in extension education services delivery and organization has gained significant attention and importance in recent years. This involvement can take various forms, such as public-private partnerships, outsourcing of extension services, or collaboration with agribusinesses. Private sector involvement can bring several benefits, including access to additional resources, innovative solutions, and market-driven insights, which can enhance the effectiveness of agricultural extension services (Nijhoff-Savvaki et al., 2016). However, it is important to carefully manage private sector involvement to ensure that it aligns with the goals of extension organizations and does not compromise the public good. Proper regulation, accountability, and transparency are crucial to prevent conflicts of interest and ensure that the needs of smallholders and marginalized communities are met. Effective public-private partnerships and strong government oversight are essential to strike a balance between promoting private sector innovation and maintaining the public nature of extension services (Ponnusamy et al., 2014). For example, while private sector involvement can offer valuable contributions to agricultural extension, it must be approached with caution and a focus on the broader social and environmental objectives of agriculture and rural development.

Agricultural extension is the most popular form of extension education especially in developing world and serves as a vibrant device for economic development. The most reliable tool for escalating agricultural yield is the reception of modern agricultural technologies, likewise seeds, fertilizers, and cropping techniques. Agriculture sector has continued reasonable develop for the assurance of food security for increasing population of country

and also providing livelihood to 43.5% of rural population. Although, the foremost challenge confronted is low profit to farmers of their produces owing to greater production costs. This necessitates sound initiatives to develop agricultural produce by value addition at farm level and industrial relations particularly under present condition where agricultural produce earnings for farmers are low as compared to production costs. The government has introduced lot of interventions to make agriculture sector more energetic, with more focus on agro based entrepreneurs' and developing strong links among agricultural research and development to transfer information on advanced technology to farming communities. The involvement of rural communities has imperative role to develop agricultural strategies in most of advanced countries. Definitely, improved and innovative technologies must be delivered to farming communities so as to inspire improved agronomic production which is only possible if the extension field staff is capable enough to deliver effectively and efficiently.

Many efforts and contributions have been made by successive governments in Nigeria to develop Public agricultural extension services in the country. This is because in spite of the public extension support system at Federal, State and Local Government levels productivity of farmers across the country have been on the decline making government to embark on the importation of some food items and raw materials for households consumption and industries. The resultant effects are high cost of food items and depletion of our foreign reserves. With the introduction of Agricultural Development Project (ADPs) and other specialized agricultural development projects like FADAMA, TRIMING etc. extension services have improved. However, with private sector investment in agriculture there has been the clamor for private sector involvement in agricultural extension services across the country. The private sector involvement seems to be required to address low productivity and

market failure so as to bring agricultural producers and buyers together. It is expected to cover the entire agricultural value chain from production, processing, storage to marketing. The privatization of extension is also a modern initiative for public private partnership. Private sector extension service is new to farmers, to government agricultural workers and other stakeholders.

Conceptual Clarification

Concept of Extension Education

Extension is regarded as one of such wide educational inputs designed for farmers to help themselves. The term extension is most frequently associated with agriculture, especially in less developed economies still operating largely at the primary production level. However, Omotayo (2005) in Agrawal (2020) stresses the conception of extension which made it to be an educational process that is applicable to diverse areas of human endeavors. Extension education can be defined as a process of getting useful information to people and assisting them to acquire the necessary knowledge, skill and attitude to utilize effectively the advantages of information technology in agriculture.

Extension services have been used and practiced a long time ago in different countries of the world, having different objectives, definition and changing approaches. Initially, it was linked with expanding the research work of the universities beyond the campus. There were more than ten definitions given for extension during the last 50 years. In 2004, it was defined as: a series of embedded communicative interventions that are meant, among others, to develop and/or induce innovations which supposedly help to resolve (usually multi-actor) problematic issues. Scholars are still giving their working definition for 'extension' based on their local specific knowledge and conditions. According to the World Bank (2021), extension is defined as a "process that helps farmers become aware of improved technologies and adopt them in order to improve their efficiency, income and welfare." The

effectiveness of agricultural services depends on a number of factors that include the relationship between extension service activities and changes in the attitude of farmers, the skills to use technologies and improved practices, farmers' access to information and availability of technology, input supply, and other support mechanisms.

Extension education is a dynamic field that involves the dissemination of knowledge and information to individuals, communities, and organizations beyond traditional educational institutions. It extends educational services and resources to diverse populations, aiming to empower them and facilitate positive change. Extension education serves as a bridge between research, academia, and the general public, bringing practical solutions and innovations to address societal challenges. (Khritish and Roy 2023)

According to Smith, (1997) in Agrawal (2020) extension refers to the process of extending, expanding, or reaching out. In various contexts, the term is used to describe the act of making information, services, or resources more widely available and accessible to a target audience. While agricultural extension focuses on farming practices, extension services in a broader context can encompass diverse fields such as education, health, technology, and community development. In education, for example, extension services involve reaching out to learners beyond traditional classroom settings. Universities and educational institutions often have extension departments that offer courses, workshops, and resources to the community, allowing individuals to continue learning and acquiring new skills throughout their lives.

In the context of agriculture, extension education plays a pivotal role in bridging the gap between research institutions and farmers. Extension education programmes often include on-farm demonstrations, workshops, and the use of multimedia tools to effectively communicate best practices and innovative techniques to farmers

(Swanson & Rajalahti, 2010). Beyond agriculture, extension education is also prominent in the field of health. Health extension workers, for instance, engage in community-based education programs to disseminate information on preventive healthcare, family planning, and disease management (Federal Ministry of Health Nigeria, 2014). of promoting public health and improving healthcare outcomes in underserved communities.

Extension education is a dynamic and multidimensional concept that spans various sectors, facilitating the transfer of knowledge and skills to diverse audiences. It plays a crucial role in empowering individuals and communities, promoting lifelong learning, and contributing to overall socio-economic development. Extension education is therefore an informal education process geared towards assisting farmers' to identify and analyze their production problems and to become aware of the opportunities for improvement, all with a view to improving their standard of living. Ladan, (2016) summarized that Extension work is therefore an educational process that involves the following:

- a) Working with rural people along the lines of their immediate and felt needs and interest, which frequently involve making a living, enhancing their level of living and improving their physical surroundings.
- b) Conducting worthwhile and acceptable activities in the spirit of cooperation and respect between the extension workers and the rural people.
- c) Utilizing support activities to bring both extension works and extension staff up-to-date through the use of subject matter specialists, resource persons, in-service training, conferences and the like.
- d) Utilizing certain teaching techniques in attaining the educational objectives of extension programmes.

Concept of Agricultural Extension

Agricultural extension has been provided primarily by the public sector in developing countries.

Agricultural extension agencies provide advice, information, and other support services to farmers to enable them to improve the productivity of their crop and animal production and thereby their farm and non-farm incomes. A holistic approach to agricultural extension service goes beyond technology transfer for major crop and livestock production systems. It also includes goals for HRD, in terms of enhancing the management and technical skills of farm households relating to production and postharvest management of high-value crops, livestock, and fisheries; sustainable natural resource management; family health care and nutrition; leadership and organizational skills; in addition to social capital development, that is organizing producer groups (Swanson, 2006).

The concept of practical involvement in agricultural extension refers to the active engagement of individuals, communities, and stakeholders in the application of agricultural knowledge and skills. Agricultural extension, as a field, aims to disseminate relevant information, technologies, and best practices to farmers, and the concept of practice involvement emphasizes the practical implementation of this knowledge on the farm. This active engagement is crucial for the successful adoption and sustainability of agricultural innovations. Practical involvement in agricultural extension is often facilitated through on-farm demonstrations, field trials, and participatory learning approaches. These methods allow farmers to directly observe and engage with new agricultural practices, technologies, and techniques in their own contexts. Research suggests that participatory approaches, which involve farmers as active participants in the learning process, can lead to more effective knowledge transfer and adoption of improved practices (Franzel et al., 2006).

The involvement of farmers in on-farm trials allows them to test and adapt new technologies to suit their specific needs and conditions. This participatory approach aligns with the principles of adult

education, recognizing that individuals are more likely to adopt new practices when they are actively involved in the learning process (Kaimowitz et al., 2002). Khritish and Roy (2023) further that, the concept of practice involvement in agricultural extension extends beyond individual farms to encompass community-level initiatives. Farmer field schools, for instance, promote collective learning and knowledge-sharing among farmers, fostering a sense of community engagement and shared responsibility for implementing sustainable agricultural practices (WB, 2021).

Private Sector Involvement in Agricultural Extension Services

Providing agricultural extension services to farmers is costly and challenging because of several reasons: farmers are geographically dispersed in difficult-to-reach places (Nakasone and Torero, 2016); this and other factors prompted the need for private sector involvement in the provision for extension services. The practice of private sector involvement in agricultural extension services has gained prominence in recent years as a means to enhance the efficiency, effectiveness, and sustainability of agricultural development. This approach represents a departure from traditional public sector-dominated extension systems and aims to leverage the strengths of the private sector to address the unique challenges and opportunities in agriculture. One of the primary motivations for involving the private sector in agricultural extension services is the recognition of its capabilities in innovation and service delivery. Private sector entities, including agribusinesses, input suppliers, and technology companies, often have the resources and expertise to develop and disseminate cutting-edge technologies, market information, and best practices to farmers. Their profit-driven nature can incentivize them to provide high-quality services and tailor their offerings to meet the specific needs of farmers. This contrasts with some public sector extension services, which

may suffer from resource constraints, bureaucracy, and a one-size-fits-all approach (Kathula, 2023)).

Private sector involvement can also lead to increased farmer outreach and adoption of modern agricultural practices. The private sector has the potential to tap into extensive networks of farmers and engage with them directly, offering training, access to credit, and agricultural inputs. Such outreach can result in improved technology adoption and increased agricultural productivity (Fafchamps & Minten, 2002). Furthermore, private sector involvement can drive entrepreneurship and economic growth in rural areas. It can create employment opportunities, foster local businesses, and stimulate innovation within the agricultural sector. Private sector entities are more likely to invest in the development of profitable value chains, linking farmers to markets and encouraging value addition, which can lead to rural economic development (Dorward et al., 2009).

There is growing recognition that, even where public financing of extension is justified, private service delivery is often more efficient in serving clients. This leads to strategies for contracting extension services delinking funding from service delivery. Contracted extension strategies take many different approaches to division of responsibilities for financing, procurement, and delivery of services, but most reforms involve public funding for private service delivery (Rivera, Zijp; Alex, 2000 and Kathula, 2023). Competitive contracting instills a private-sector mentality of cost-consciousness and results-orientation, even in public institutions too when they are forced to compete in providing services. Contracted extension systems seek to reduce costs and improve cost-effectiveness of public extension services, but most current reforms go further and attempt to draw on private sector funding to improve financial sustainability of extension. This illustrates the alternative arrangements possible in public and private financing and provision of extension services. These include the traditional public-sector extension

services, fully private services, and public-private partnerships involving some type of contractual relationship.

The economic rationale for farmers to pay for extension services is generally clear and the trend toward such user payment is well established in OECD countries (e.g., Hone, 1991; Marsh; Pannell, 2000 and (Kathula, 2023). In developing countries, many producers are unable or unwilling to pay for services as they have not seen examples of effective, responsive extension. Another constraint limiting private extension is that many countries have few extension service providers outside the public sector. Furthermore, few public institutions have incentives and institutional arrangements in place to encourage program cost-recovery.

Feder, Willett and Zijp (2001) suggested interrelated characteristics of public extension systems, which simultaneously affect each other, and which jointly can cause observed manifestations of deficient performance, low staff morale and financial stress. The characterization provides a framework to analyze the observed conduct of different levels of extension personnel, and of the performance of the system as a whole. The approach also helps in analyzing the underpinnings of different organizational forms as well as in predicting their likely performance.

Globally, the agricultural extension service delivery has not been free from problems. The major challenges are: problem of coverage, lack of appropriate and relevant technologies, poor policy environment for agriculture and rural development, weak institutional arrangements, inefficient institutional support services (such a supply of inputs, credit and agricultural markets), lack of political support and commitment, shortage of funds, etc. In order to solve the problems, different researchers and experts have worked a lot to bring about applicable and sustainable solutions. In this regard, there are emerging views on extension services that includes no longer seeing extension as a

unified service and top-down approach but as a network of knowledge and information support for the rural population; Extension needs to be viewed within a wider rural development agenda (since market, social and environmental production systems need a differentiated set of services); Usher in a stage of extension's transformation -from innovation to execution; and an arrangement of providing a menu of options for innovation, information and investment. As a result of these views and consensus reached, there are expected policy changes that governments should take under their specific conditions. Governments need to act in defining and implementing a coherent extension policy for the pluralistic system (a change in role) where extension system will includes growth of multiple service providers, reduced public sector responsibilities, requires change in nature of agriculture research and structure of the agricultural sector. The actors involved in establishing a creative partnership in providing the extension services include the government, private sector, civil society, NGOs, etc. In general, the creation of public-private partnerships (PPPs) is the key under any extension policy reform process. The goals of the extension system should encompass transferring knowledge from researchers to farmers; educating and advising farmers on their decision making; enabling farmers to clarify their own goals and possibilities; and stimulating desirable agricultural development.

The need for Private Extension Service Organizations

The necessity for private extension organizations has emerged as a result of historical shifts in the management of agricultural extension services in many developing countries. In the early post-independence periods, nations predominantly relied on state control over various aspects of their economies, with agriculture being no exception. This encompassed state-led provision of agricultural inputs, credit, research, extension services, and marketing systems, often through government

agencies. In many of these nations, such interventionist policies persisted until the late 1980s, with state-owned enterprises overseeing production and extensive price controls and input subsidies, often funded by export taxes.

However, an economic crisis in the mid-1980s prompted significant policy changes in the agricultural sector. This crisis led to a series of liberalization and privatization measures aimed at reducing state involvement in agricultural product production and commercialization. Agricultural subsidies for items like fertilizers and pesticides were removed, and key responsibilities, such as the marketing of major export crops, were transferred to the private sector. The government's objective was to encourage private investment, including through the privatization of state-owned enterprises, to bolster agricultural production and rural incomes. This shift was predicated on the belief that the private sector, driven by market forces, could allocate resources more efficiently, ultimately improving production and overall welfare.

As the 1990s unfolded, many countries faced a multitude of challenges within its rural sector, ranging from poverty and food insecurity to market integration issues and unsustainable natural resource use. Agricultural extension services emerged as a pivotal element in addressing these challenges, particularly in the context of the Poverty Reduction Strategy. The strategy sought to alleviate poverty, increase agricultural production, enhance food security, improve product quality, and ensure agricultural and environmental sustainability. In the pursuit of more effective institutional arrangements for delivering agricultural extension services, questions arose concerning whether certain public activities, such as agricultural extension, could be better executed by the private sector.

While privatization is generally associated with increased efficiency, improved service quality, and reduced government spending, it is crucial to underscore the significance of context-specific

analysis. The applications of privatization measures should not be driven solely by success stories in other countries but should take into account the unique challenges and circumstances of developing nations. The pressures for privatization, its implementation, and its influence on extension services, as well as the responses of farmers are topics of discussion. Specific objectives include defining and describing the privatization process, identifying the sources of privatization pressures, exploring farmers' willingness and capacity to contribute financially in exchange for advice, and examining the changes in extension services resulting from privatization. In this context, agricultural extension privatization refers to various funding and service delivery arrangements that require farmers to financially contribute to the operation of services in exchange for advice to enhance their productivity and income.

The reduction of subsidies and price controls, the liberalization of the economy, and the downsizing of the public sector have placed new responsibilities on communities and individuals, who may not have been adequately prepared for these challenges. Engaging the private sector in the modernization of agricultural production and productivity is becoming increasingly crucial as population continues to grow, while food production remains insufficient to meet the population's needs.

Private consulting or advisory services generally address needs of commercial farmers. Developing private services for small-scale farmers often necessitates public investment to develop capacities of service providers and establish markets for services. Veterinarians and para-vets have pioneered private service provisions (Kathula, 2023) and, in crop agriculture, pest control services present the same opportunities for private service deliveries also exist. Contracting schemes are another private-sector mechanism for providing services to small-scale farmers (Mullen, Vernon and Fishpool, 2000; Rivera and Zijp, 2002). The potential for conflict of interest

in such arrangements may warrant a public regulatory and monitoring function backed up by public information, for quality checking on information supplied.

Prospects for Private Extension Organization in Nigeria

Several researchers (Adebayo et al., 1999; Agwu and Chukwuone, 2005; Ikpi, 2001; Ogunbameru, 2005; Omotoya, 2004 and Kathula, 2023) have shown that one of the major lessons learned from the past extension programmes in Nigeria is that it is not possible for government alone to support extension programme in all its ramifications. The private sector needs to play a more active role in both funding and physical transfer of the available improved technologies. Considering the above challenges in privatizing agricultural extension in Nigeria, the following opportunities need to be considered:

a) Strengthening farmer's organizations

Strong and vibrant farmers' organizations can provide opportunities to farmers to effectively play a role in the market economy and benefit from it (Akinagbe and Ajayi, 2010). Formation of cooperatives and other rural farmers' organizations can give them a collective voice and help them to harness their resources together in order to raise their economic statuses. These cooperative societies or farmers' organizations locally indulge in financial contributions to help members in need with loans which are repayable at the stipulated time according to the rules and regulations guiding credit system of the organizations. This will enable them pay for extension services sustainably.

b) Collaboration between public and private sectors

A clearer and effective privatization of agricultural extension lies in the close collaboration of the private and public sectors. Many have considered extension services to be public goods hence; absolute withdrawal of the public sector funding might not work with the current political, social, environmental and economic situation of the country.

c) Gradual private Organization

Pure agro-information, which is not embodied in a physical product such as production techniques/cultural practices, farm management procedures and market information, is generally regarded as public goods. In the short term, however, it may be possible to exclude non-payers (free-riders), particularly where the extension service covers techniques which cannot be directly copied by neighboring farmers, or market information which can be concealed or quickly outdated/time-sensitive. In such cases, extension of information may be considered a toll good and potentially attracted to private suppliers. On the other hand, government can gradually withdraw from public financing of agricultural extension services in some areas be that would be adequately serviced by commercial bodies.

d) Emergence of NGOs

Another aspect of the prospect of agricultural extension privatization is the likely emergence of more NGOs that will be willing to provide extension service in poor communities as an agricultural development aid. This development is likely that information delivery could become a tool for market competition that will be used by private extension providers.

Conclusion

This paper has outlined the need for private sector involvement in extension education service delivery in Nigeria. Several studies have shown that one of the major lessons learned from the past extension education programmes in Nigeria is that it is not possible for government alone to support extension education programme in all its ramifications. Extension Education services comprised of different educational programmes in agriculture, health, industry, home economics and family planning. The private sector needs to play a more active role in both funding and physical transfer of the available improved technologies. The practice of private sector involvement in agricultural extension organizations

has gained significant attention and importance in recent years. This involvement can take various forms, such as public-private partnerships, outsourcing of extension services, or collaboration with experts.

References

- Adams, M. E. (1992). *Agricultural extension in developing countries*. Intermediate Tropical Agriculture Series.
- Adebayo, F. O. (2008). Administration and supervision in extension. In O. A. Akinyemiju & D. O. Torimiro (Eds.), *Agricultural extension: A comprehensive treatise* (pp. xx–xx). Lagos: ABC Agricultural Systems Limited.
- Agrawal, S. (n.d.). Education extension education and scope of extension education College of Agriculture Power Kheda, Hoshangabad, JNVC (Jabalpur). https://accessed_10/3/2023
- Agwu, A. E., & Chukwuone, N. A. (2005). Funding of agricultural extension in a democratic and deregulated economy: The cost-sharing approach. *Agricultural Extension*, 8, 90–98.
- Akinagbe, O. M., & Ajayi, A. R. (2010). Challenges of farmer-led extension approaches in Nigeria. *World Journal of Agricultural Sciences*, 6(4), 353–359.
- Beynon, J., Akroyd, S., Duncan, A., & Jones, S. (1998). *Financing the future: Options for agricultural research and extension in Sub-Saharan Africa*. Oxford Policy Management.
- Feder, G., Willett, A., & Zijp, W. (2001). Agricultural extension: Generic challenges and the ingredients for solutions. In S. Wolf & D. Zilberman (Eds.), *Knowledge generation and technical change: Institutional innovation in agriculture* (pp. 313–356). Kluwer.
- Kathula, D. N. (2023). Factors impacting agricultural production and the role of agricultural extension services in Kenya. *Journal of Agriculture*, 7(1), 22–44. <https://doi.org/10.53819/81018102t4115>
- World Bank. (2021). *Agricultural knowledge and information system for rural development (AKIS/RD): Strategic vision and guiding principles*. Food and Agriculture Organization of the United Nations and the AKIS Thematic Group of the World Bank.
- Khritish, S. Roy, K. (2023) expanding the horizons: a comprehensive guide to extension Education <https://www.reseachgate.net/publication/371641048>.
- Ladan, B. (2016). The Need for Strengthening Institutional Extension Education Delivery for Sustainable Development in Nigeria. in *Nigerian Journal of Community Learning & Development (NJCLAD)* vol. 1 (2). (Pg 80-88)
- Mullen, J.D., Vernon, D. and Fishpool, K.I. (2000), “Agricultural Extension Policy in Australia: Public Funding and Market Failure”, *Australian Journal of Agricultural and Resource Economics* 44(4), 629-45.
- Nijhoff-Savvaki, M., Kiranoudis, C. T., & Kateris, D. (2016). Public-Private Partnerships in Agricultural Extension Services: The Case of Greece. *International Journal of Agricultural Resources, Governance, and Ecology*, 12(2), 153-167

- Ogunbameru BO (2005). "Funding Agricultural Extension Services in Nigeria". In: S.F. Adedoyin (Ed). *Agric. Extension in Nigerian*, pp. 177 – 188.
- Omotayo MA. (2005). *Changing Trends and Challenges Facing Agricultural Extension Delivery in Nigeria*. Proceedings of the 1st South-west Agricultural Extension Society of Nigeria (AESON) Workshop Held on the 1st December, 2004 in Ibadan, Nigeria, pp. 16 – 23.
- Olayemi JK (1994): *Agricultural policies for sustainable Development, Nigeria's experience in Ikpi*, A. E and J. K Olayemi (eds). *Sustainable Agriculture and Economic Development in Nigeria*.
- Omotayo AM (2005). *ICT and Agricultural Extension: Emerging Issues in Transferring Agricultural Technologies in Developing Countries*. In edlAdedoyin, S.F. (2005). *Agricultural Extension in Nigeria*. Agricultural Extension Society of Nigeria, p. 146.
- Pingali, P. L., & Spielman, D. J. (2008). Policies to promote agricultural growth and food security in Nigeria. *Agriculture and rural development*, 1(1), 36-49.
- Rivera, W., Zijp, W. and Alex, G. (2000), *Contracting for Extension: Review of Emerging Practice: AKIS Good Practice Note*, Agricultural Knowledge and Information System ThematicGroup, World Bank, Washington, DC.
- Swanson, B.E., Farner, B.J. and Bahal, R. (1990), "The Current Status of Agricultural Extension Worldwide", In *Agricultural Education and Extension Service, Report of the GlobalConsultation on Agricultural Extension*, FAO, Rome, pp. 43-76.