Journal of Community & Communication Research
ISSN: 2635-3318
Volume 9, Number 1, June 2024
Accessible at: https://jccr.sccdr.org

ENHANCING AGRICULTURAL PRODUCTIVITY IN AKWA IBOM STATE THROUGH HUMAN CAPACITY STRENGTHENING FOR EFFECTIVE EXTENSION SERVICE DELIVERY

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ABSTRACT

The agricultural sector is pivotal for poverty alleviation and economic development in developing countries, where a significant portion of the population relies on farming for their livelihoods. Agricultural extension services are essential in this sector, providing farmers with vital information, advice, and training to enhance productivity and rural well-being. This study investigates the state of human capacity strengthening within agricultural extension services in Akwa Ibom State, Nigeria, and identifies the constraints faced in this regard. Using a multi-stage random sampling technique, 90 extension agents from the Abak Agricultural Zone were surveyed. The analysis revealed that the extension workforce boasts a solid educational background (78% with tertiary education) and a mix of experience levels (majority 40-50 years old with 5-10 years of service). Additionally, a high percentage of agents have participated in various capacity-building activities, reflecting a commitment to improvement. Key constraints include inadequate funding, poor communication channels, insufficient training materials, unskilled mentorship, and inadequate incentives, all of which hinder the effectiveness of extension services. The study finds that comprehensive human capacity strengthening—encompassing on-the-job training, targeted needs-based training, mentorship programs, and collaborations with research institutes—positively impacts extension service delivery. However, addressing the identified constraints is crucial for optimizing these services. Recommendations include increased funding, enhanced training programs, improved communication strategies, structured mentorship, and better incentive structures. Implementing these measures can significantly bolster the effectiveness of agricultural extension services, leading to improved agricultural productivity and rural livelihoods in Akwa Ibom State.

Keywords: Agricultural productivity, Knowledge transfer, Professional development

INTRODUCTION

The agricultural sector is crucial for poverty reduction and economic development, especially in developing countries (Okorie, Okoro and Eshiet, 2020; Ojo, 2017). A large portion of the population in these countries relies on agriculture for their livelihoods (World Bank, 2017). Agricultural extension services play a vital role in this sector by providing farmers with information, advice, and training (Adekunle *et al*., 2018). Studies show that these services can significantly improve agricultural productivity and rural livelihoods (Adekunle *et al*., 2018).

Agricultural extension services connect farmers, fishers, and other stakeholders in rural development programs (Aina and Fabiyi, 2019). Extension workers help these groups learn about new technologies, markets, and best practices (Aina and Fabiyi, 2019). This type of informal education is crucial for agricultural development (Adeoye and Adegbite, 2017). As technology and farmers need to evolve, extension services must adapt to stay relevant (Ajakaiye *et al*., 2018; Beierlein *et al*., 2019).

For extension services to be effective, extension workers themselves need to be well-trained and knowledgeable (Umeh *et al*., 2015). Farmers are more likely to adopt new practices if they understand the benefits and how to implement them correctly (Umeh *et al*., 2015). Investing in human capacity strengthening, which equips extension workers with the necessary skills and knowledge, is essential for agricultural development (Ogunlade and Adeoye, 2019; Ojo and Adekunle, 2018).

This research aims to examine the level of human capacity strengthening within agricultural extension services in Akwa Ibom State, Nigeria. Effective extension services require trained workers who can share new knowledge and innovations with farmers (Oladejo and Adeyemi, 2016; Otu-Okereke *et al*., 2018). This will ultimately contribute to increased agricultural production in the region.

Agricultural extension services are critical for improving agricultural productivity and livelihoods in developing countries, promoting exports and foreign exchange earnings (Okorie, Okon and Nkeme, 2023). However, strengthening the capacity of extension workers faces significant challenges that hinder their effectiveness in achieving goals like food security and poverty reduction (World Bank Group, 2016; Adekunle *et al*., 2018).

A major constraint is the lack of resources for training and development programs for extension workers. This includes limited funding for workshops, access to modern technologies, and educational materials (Ogunlade and Adeoye, 2019; Otu-Okereke *et al*., 2018). Without these resources, extension workers struggle to stay current on best practices and new technologies crucial for effective knowledge transfer to farmers (Ajakaiye *et al*., 2018; Beierlein *et al*., 2019). Furthermore, extension workers themselves may lack sufficient knowledge due to limited training opportunities, hindering their ability to guide farmers towards adopting innovations (Umeh *et al*., 2015; Otu-Okereke *et al*., 2018). Unattractive work environments with low salaries and limited career advancement prospects further exacerbate the issue, leading to high turnover rates and a demoralized workforce (Nkeme, Bassey and Okorie, 2020; Oladejo and Adeyemi, 2016). Hence, this study seeks to identify the constraints towards strengthening human capacity for agricultural extension services in Akwa Ibom State. The study addresses the following questions;

i. What are the socio-economic characteristics of extension workers in Akwa Ibom State?
ii. What are the levels of human capacity strengthening in Agricultural extension services delivery in Akwa Ibom State?
iii. What are the constraints toward strengthening human capacity for effective Agricultural Extension services delivery in Akwa Ibom State?

Review of related Literature

Several studies examining agricultural extension services in Nigeria reveal constraints that impede human capacity-strengthening efforts. A recurring theme is the inadequacy of the current system, particularly in reaching smallholder farmers, who are crucial for agricultural development (VandeBan and Hawkin, 2012; Otu-Okereke *et al*., 2018). Limited funding, low farmer literacy levels, and inadequate communication channels are identified as key challenges hindering effective knowledge transfer (VandeBan and Hawkin, 2012).

Another area of focus is the need for improved HCD programs for extension workers themselves (Adekunle and Ogunniyi, 2018; Aina and Fabiyi, 2019; Adeoye *et al*., 2017). Studies recommend incorporating entrepreneurship and research skills training into these programs to enhance the effectiveness of extension services (Adekunle and Ogunniyi, 2018; Aina and Fabiyi, 2019; Adeoye *et al*., 2017).

RESEARCH METHODOLOGY

Study Area

The study was carried out in Akwa Ibom State, Nigeria. Akwa Ibom State is located in the Niger Delta region of Nigeria. It has an estimated population of 5.451 million (NBS, 2016) and a land area of 6,900 Km^2. It lies between latitudes 05º00`N and longitudes 07º50`E. It is bordered on the east by Cross River State, west by Rivers State and Abia State, and on the south by the Atlantic Ocean. It is currently the highest oil-producing State in Nigeria. Agriculture is the dominant economic activity of Akwa Ibom State. Agriculture supports 75% of households of the State's population. The various agricultural products include palm oil, cassava, yam, cocoyam, plantain, maize, rice, rubber, seafood such as varieties of fish, shrimps, crayfish, oysters, etc., poultry eggs and meats, pork, and lately snail farming (Ubom, Okorie and Okon, 2023).

Sampling Procedure/Sample Size

The multi-stage random sampling technique was employed to select respondents for this study. Firstly, five out of the nine existing blocks within the Abak Agricultural Zone were chosen randomly. In the second stage, three cells were randomly selected from each of the chosen blocks, resulting in a total of fifteen cells. Finally, six extension agents were randomly selected from each of the fifteen cells, yielding a final sample size of ninety respondents.

Source of Data/Data Collection Procedure

Primary data were collected through the administration of a well-structured questionnaire to the study participants.

Analytical Techniques

The socio-economic characteristics of the respondents, and the level of human capacity strengthening within the agricultural extension services will be analyzed using descriptive statistics like frequencies, means, and tables. The constraints to strengthening this human capacity were analyzed using a 4-point Likert scale. The scale rated 4 = Strongly Agreed, 3 = Agreed, 2 = Disagreed, 1 = Strongly Disagreed. The mean score for each constraint will be calculated by averaging the responses on the 4-point scale (4 + 3 + 2 + 1) / 4 = 2.50.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of Extension Agents

The result presented in Table 1 shows the socioeconomic distribution of extension workers in the study area. The distribution of extension agents by age reveals a workforce with a promising blend of experience and potential. The majority (50%) fall within the 40-50 year age range,

while a significant portion (33%) are between 30 and 40 years old. This suggests a core group with an established knowledge base alongside growth opportunities. This finding aligns with previous research by Haddabi *et al*. (2019) and Yusuf *et al*. (2015) who suggest that individuals in their active working years are more likely to adopt innovations that improve their productivity and income. Additionally, the results corroborate with Okorie (2012) who found that the average respondent age in Akwa Ibom was 30.8 years, indicating a relatively young and potentially receptive workforce for extension services. Years of experience further support this finding. The majority (67%) of the respondents possessed 5-10 years of experience, signifying a core of agents potentially comfortable with current practices. However, the presence of newer agents with less than five years of experience (22%) points to the need for ongoing training programs, highlighting the importance of proper mentorship and training initiatives to equip new agents with the necessary skills for effective service delivery. While this finding aligns with Ajah and Okorie (2016), and Ademola and Abang (2015), it contradicts the observations of Haddabi *et al*. (2019)

Furthermore, a high percentage (78%) of extension agents hold a tertiary education level. This educational background equips them with the foundational knowledge critical for successful knowledge transfer to farmers. Ajah and Okorie (2016) came to similar conclusions. The result also reveals that most extension agents are married (33%) with households of average size (4 people) and a monthly income range between ₦100,000 and ₦200,000 (50%) suggests a level of financial security that may contribute to job satisfaction and retention. Also, while a majority (55%) have participated in job training, a significant minority (45%) have not. This indicates the potential need for more frequent or comprehensive training programs to enhance the skills and knowledge of extension agents across the board.

Table 1: Socioeconomic Characteristics of Extension Agents

Socioeconomic Characteristics	Frequency (n=90)	Percentage
Age (Mean = 30 years)		
<30	15	17
40– 50	45	50
>50	30	33
Marital Status		
Single	30	33
Married	30	33
Widow	30	33
Educational Level		
Primary	10	11
Secondary	10	11
Tertiary	70	78
Household size (mean = 4 persons)		
< 5	30	33
5-10	45	50
> 10	15	17
Monthly Income (Mean = ₦118,308.3)		
< 100,000	30	33
100,000 – 200,000	45	50
> 200,000	15	17
How long have you been working		
< 5	20	22
5-10	60	67
> 10	10	11
Have you attended any job training in your job rule		
Yes	50	55
No	40	45

Source: Field survey, 2023

4.2 Activities on capacity strengthening for effective agricultural Extension services

The result in Table 2 revealed a percentage distribution of activities on capacity strengthening for effective agricultural Extension services. The majority (62.2%) of the respondents were not trained on the specific needs, 76.6% had periodic meetings, 60% were on-the-job training 56.7% did not have management training due to administrative staff, 67.8% had effective collaboration between the research institute and extension services, 60.0% do not have membership program, 74.4% do not forge a partnership with other organization, 73.3% do not have the provision of adequate training materials to increase productivity and 58.9% do not had improve extension workers' workplace. This implies that activities on capacity strengthening for effective agricultural Extension services were not really effective and this could be attributed to a lack of government attention to extension agents in the study area. This finding aligns with Udoka *et al.* (2019), and Okorie (2012), who emphasized the importance of human capacity strengthening in agricultural extension services.

Table 2: Activities on capacity strengthening for effective agricultural Extension services

Human capacity strengthening activities	Frequency (n=90)	Percentage (%)
Training on specific needs		
Yes	34	37.8
No	56	62.2
Periodic meeting		
Yes	69	76.7
No	21	23.3
On-the-job training		
Yes	54	60
No	36	40
Management training for administrative staff		
Yes	39	43.3
No	51	56.7
Effective collaboration between research institute and extension services		
Yes	61	67.8
No	29	32.2
Mentorship program		
Yes	36	40
No	54	60
Forging partnerships with other organizations		
Yes	33	36.6
No	67	74.4
Provision of adequate training materials to increase productivity		
Yes	34	37.7
No	66	73.3
Improving extension workers' workspace		
Yes	37	41.1
No	53	58.9

Source: Field Survey 2023.

4.3. Factors affecting human capacity strengthening for effective agricultural extension service delivery

Table 3 presents a concerning array of constraints that impede human capacity development within Akwa Ibom State's agricultural extension services. The result derived from a 4-point Likert scale, suggests a high prevalence of respondents who "Strongly Agree" with the existence of various limitations. These findings highlight critical areas demanding attention. A critical issue is the shortage of qualified personnel (85% Strongly Agree). An insufficient number of extension agents, potentially compounded by inadequate skills (as suggested by the "Unskilled Mentorship" constraint), severely limits the reach and effectiveness of extension services, indicating the need for strategic recruitment and training initiatives to bolster the workforce with skilled professionals. Furthermore, funding constraints (80% Strongly Agree) act as a significant roadblock. Limited financial resources likely restrict opportunities for training, acquiring necessary resources, and maintaining infrastructure or providing transportation – all crucial for effective service delivery. Increased budgetary allocations are essential to support these vital areas. Okorie, Umoh and Okon (2023) recommended supporting extension workers to adequately perform their duties.

Communication challenges (86% Strongly Agree) emerge as another major hurdle. Inadequate communication channels can hinder the flow of information between extension agents, researchers, and farmers. This can lead to outdated knowledge being disseminated or a disconnect between farmer needs and services offered. Developing more effective communication strategies perhaps utilizing a combination of traditional and digital channels – is crucial for bridging these gaps. Furthermore, unskilled mentorship (85% Strongly Agree) and a lack of up-to-date training materials (77% Strongly Agree). Inexperienced mentors can hinder the skill development of new agents, while outdated materials hinder their ability to stay abreast of best practices. Investing in well-structured mentorship programs and the creation of relevant training resources are essential for continuous improvement. Also, the result suggests a need to address motivation and morale among extension agents. Lack of incentives (88% Strongly Agree) and morale support (79% Strongly Agree) can lead to decreased motivation and potentially high productivity. This calls for a more comprehensive incentive structure that recognizes performance and offers competitive compensation can significantly boost morale and retention of skilled professionals.

Table 3: Factors affecting human capacity strengthening for effective Agricultural Extension Service Delivery

CONSTRAINTS	SA	A	D	SD
Shortage in the number and quality of extension personnel	85	5	0	0
Inadequate funding	80	10	0	0
Inadequate communication channels	86	4	0	0
Unskilled mentorship	85	5	0	0
Inadequate training materials	77	13	0	0
Lack of cooperation	87	3	0	0
Ineffective supervision	80	10	0	0
Lack of infrastructure/transportation	78	12	0	0
Poor incentive supports	88	2	0	0
Lack of moral support	79	8	3	0

Source: Field Survey, 2023

CONCLUSION

The study highlights the critical role of agricultural extension services in enhancing agricultural productivity and rural livelihoods in Akwa Ibom State, Nigeria. It highlights the current state of human capacity among extension workers and identifies significant challenges that impede their effectiveness. The socio-economic characteristics of the extension workers reveal a blend of experience and potential, with a majority possessing tertiary education and a stable financial background. However, despite the presence of well-educated and experienced agents, several constraints hinder the effectiveness of extension services.

The research found that a comprehensive approach to human capacity strengthening, encompassing on-the-job training, mentorship programs, and collaboration with research institutes, significantly improves the effectiveness of extension services. Nonetheless, substantial barriers, including inadequate funding, poor communication channels, lack of skilled mentorship, insufficient training materials, and inadequate incentives, persist. These issues contribute to a demoralized workforce, limiting the reach and impact of extension services.

RECOMMENDATIONS

- Adequate funding is essential for training programs, acquiring modern technologies, and improving infrastructure. The government and relevant stakeholders should allocate more resources to the agricultural sector to support these needs.
- Regular and comprehensive training programs should be established to keep extension workers updated on the latest agricultural technologies and best practices. This includes specific needs-based training and management training for administrative staff.
- Developing effective communication strategies, including the use of digital tools and platforms, can facilitate better information flow between extension agents, researchers, and farmers. This will ensure that farmers receive timely and relevant information.
- Well-structured mentorship programs are crucial for the professional development of new extension agents. Experienced agents should mentor newer agents to ensure knowledge transfer and skill development.
- Implementing a comprehensive incentive structure that recognizes and rewards performance can boost morale and retention. Competitive salaries, opportunities for career advancement, and other benefits can make the profession more attractive.
- Up-to-date training materials and resources should be provided to extension workers. This will help them stay informed about the latest agricultural developments and best practices.

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