Strengths, Weaknesses, Opportunities and Threats to Extension Service Delivery in Kaduna State, Nigeria
https://dx.doi.org/10.4314/jae.v28i1.4

Tafida, Ibrahim

Department of Agricultural Economics and Extension
Bayero University, Kano, Nigeria
Email: itafida.ext@buk.edu.ng Phone: +234-8035868653
https://orcid.org/0009-0000-2354-2054

Email: timdirvondunbulus@gmail.com Phone: +234-8066792051

Nazifi, Buhari

Department of Agricultural Economics
Federal Unversity, Dutsinma, Katsina State, Nigeria
Email: bnazifi@fudutsinma.edu.ng Phone: +2348064623631
https://orcid.org/0000-0001-6985-8396

Bulus, Timdir Vondun

Department of Agricultural Economics and Extension
Bayero University, Kano, Nigeria
https://orcid.org/0009-0007-2408-1481

Abstract

This study examined strengths, weaknesses, opportunities and threats within the extension service delivery in Kaduna State, Nigeria. The total population (130) of extension agents was used for the study. A structured questionnaire and focus group discussion schedule were used to elicit information. Percentages, and mean were used to analyse the data collected. The findings showed Insecurity, high farmer-to-extension agent ratio and inadequate training facilities as challenging factors that affect extension service delivery. The study concluded that extension service delivery was highly ineffective because of the low extension-farmer ratio and low motivation among the agents. It is recommended that the government employ more extension agents to reduce the possible imbalance in extension service delivery to farmers.

Introduction

Agricultural extension programmes have been implemented in Nigeria by governmental and non-governmental agencies starting from the colonial era. Agricultural extension services are defined as ''the entire set of organizations that facilitate and support people engaged in agricultural activities to solve problems and to obtain information, skills and technologies to improve their livelihoods and well-

being" (Davis, et al., 2020). Funding and staffing levels in agricultural extension remain low compared to Nigeria's farming population (Camillone et al. 2020). Rapid agricultural development requires a large number of extension agents and farmers whose capacity is developed to understand and solve agricultural production problems. Smallholder farmers have continued to lag behind in terms of output per hectare which is a major concern considering the global hunger index (GH1) (2021) which ranked Nigeria 98th out of 107 countries in 2020 and is currently 103rd out of 116 countries compared to what is obtainable in the United States of America, Europe and Asia. This is owing to the country's inefficient and ineffective agricultural extension service delivery system.

The need for quality extension service delivery availability to farmers has become a subject of concern for extension organizations and policy makers. However, extension is known to have been under-performing in Nigeria because of the challenges of poor funding, disproportionate agricultural extension agents to farm family ratio, poor training of staff, low level of education among the extension agents, poor extension-farmer linkage, low rate of adoption of technologies and lack of mobility for extension delivery to farmers (Camillone et al., 2020; Harry and Abudu, 2022). This will limit the growth of the agricultural sector and rural community development at large.

A continued widespread improvement in agriculture requires a professional and effective extension service delivery (Chikaire, et al. 2018). This has been particularly true in lower-income countries like Nigeria where declining productivity and rising population have led to a growing concern over the requirement and opportunity for agricultural development. In response, the government has established a number of agricultural development programmes, research centres, and capital-intensive agricultural schemes as systematic efforts to raise production.
Rapid agricultural development requires a large number of extension agents and farmers whose capacity is developed to understand and solve agricultural production problems. One of the overall goals of the Agricultural Development Programmes (ADPs) is to develop well-trained and motivated staff that will effectively cater for a variety of farmers' needs which are of interest to the State and Federal government.
Generally, it was recognized that it is not possible to realize agricultural development without effective and efficient extension organization. It is against this backdrop that this study analysed the strengths, weaknesses, opportunities and threats of extension service delivery among agricultural extension agents in Kaduna State, Nigeria. Strengths and Weaknesses are of internal i.e., from within while Opportunities and Threats are external i.e., from outside. Also, Strengths and Opportunities are of a positive nature which means they will contribute to the development of the organization and therefore should be promoted while Weaknesses and Threats as the name implies are of a negative nature and should be avoided or at least limited to the barest minimum. However, the specific objectives were to:
  i.   examine the level of performance of the agricultural extension agents and
  ii.   ascertain the strengths, weaknesses, opportunities and threats of the Kaduna State Agricultural Development Programme (KADP) in providing extension service delivery to farmers.

Methodology
The study was carried out in Kaduna State, Nigeria. Kaduna State lies between latitudes 9^0 10'-11^0 30" North and longitude 6^0-9^0 10' East. It has a total area of about 67,000 square kilometres (KADP, 2007). A total area of about 67,000 square

kilometres (KADP, 2007) with a population of 6,066,562 people comprising of 3, 112, 028 males and 2, 954, 534 females. The estimated population of Kaduna State as at 2015 would be 8, 252, 366 people (NPC, 2006). According to the National Bureau of Statistics (NBS), the state has a population growth rate of 2.4% with a 2022 projected population of 9,251,648 persons (www.kdsg.gov.ng/dengraphics). The state is an agrarian with over 70% of the population engaged in crops and livestock production with an arable land area of 4.5 million hectares with 2.2 million hectares under cultivation of which 1.84 million is upland area and 0.08 million hectares of fadama land. The study was carried out across the four (4) administrative zones of the Kaduna State Agricultural Development Programme (KADP) namely; Birnin Gwari, Lere, Maigana and Samaru.

A complete census of the entire field extension staff of KADP was carried out. Hence, this constituted the total population of the study. The distribution of the survey population is shown in Table 1.

Table 1: Population of agricultural extension agents in Kaduna State

S/N	Zone	Designation	Population
1	**Samaru**	BES	6
		REA	26
		WIA	4
2	**Birnin Gwari**	BES	3
		REA	25
		WIA	4
3	**Lere**	BES	3
		REA	17
		WIA	5
4	**Maigana**	BES	6
		REA	22
		WIA	9
	Total		**130**

Source: KADP, 2020.

Note: BES: Block Extension Supervisor, REA: Regular Extension Agents WIA: Women in Agriculture

Primary data were collected using a structured questionnaire with the aid of trained enumerators. Also, a structured interview schedule was used to obtain information from the zonal extension officers and their deputies were carried out and a rating scale was used for the two-by-two matrix SWOT analysis. The data was analysed using frequency distribution, percentages, mean and SWOT analysis index to achieve the objectives of the study. SWOT data gathered was organized in accordance with the scale of agreement to arrive at decisions. The scale of agreement represents whether the decision makers were in agreement or otherwise which ranges between 0 – 1. The higher the index the more the agreement.

Results and Discussion

Extension Agent-Farmer ratio of Kaduna State Agricultural Development Programme
The result in Table 2 reveals that 37% of the extension agents affirmed that they were assigned between 901-1,300 farmers each. 32.2% of the extension agents affirmed that they were assigned between 1,301-1,700 farmers each. While very few (1.6%) of extension agents had between 1701 to 2100 farmers assigned to them. This shows a wide gap between the extension and the number of farmers to be covered. This implies that the number of extension agents to farmers across the State was far above the recommended FAO ratio of 1:1000 ideal for developing countries like Nigeria. This indicates that the number of extension agents reduced without replacement. it can be further inferred from the results that adoption of improved technologies will be low due to the personnel gap in the state, as the effectiveness of any extension service largely depends on the sufficiency of committed and active extension agents. According to Davis, et al. (2019) estimate, the extension agent to farm families' ratio varies from 1: 5,000 to 1: 10,000 within the Federal Ministry of Agriculture and Rural Development (FMARD).

Table 2: Number of farmers assigned to an extension agent

Number of farmers	Percentage
101-500	3.1
501-900	26.1
901-1300	37
1301-1700	32.2
1701-2100	1.6

Source: Field survey 2020

Tasks Assigned to Extension Agents
Task(s) assigned to extension agents are presented in Table 3. Most of the tasks performed by the extension agents were farm visits (93.8%), demonstration of improved technologies (86.2%), formation of cooperative groups (85.4%), rendering of technical advice to farmers (83.5%), record keeping (81.5%) and selection of contact farmers (80.0%) among others. The least task assigned to extension agents to perform was linkage to credit facilities (44.6%). This finding implies that most of the extension agents in Kaduna State ADP were assigned multiple tasks which could negatively affect their optimum performance. This finding is in agreement with that of Issa, Ayuba and Nti (2022) which reported similar tasks performed by extension agents.

Table 3: Tasks assigned to extension agents

Tasks assigned to extension agents	Percentage
Farm visits	93.8
Demonstration of improved technologies	86.2
Formation of cooperative groups	85.4
Rendering technical advice to farmers	83.8
Record keeping	81.5
Selection of contact farmers	80.0
Establishment of SPAT	78.5
Agrochemical handling and application skills	71.5
Formation of women's group	65.4
Linkage to input dealers	59.2
Market survey	53.1
Linkage to credit facilities	44.6

Source: Field survey 2020

Level of Job Performance

Table 4 shows the perceived level of job performance of the extension agents as basically moderate because all the variables of job performance revealed the highest frequencies at moderate level. This is shown by the quality of work (69.2%), Dependability (70%) and work allocation (70%) which reflect the areas where the extension agents were highly motivated.

Table 4: Level of job performance of agricultural extension agents

Variable	Low %	Moderate %	High %
Quality of work	0.8	69.2	30.0
Dependability	7.7	70.0	22.3
Work schedule	3.1	66.9	30.0
Work habits	0.8	66.9	32.3
Work allocation	6.2	70.0	23.8
Poise and composure	8.5	60.8	30.8
Organizational structure	09.3	62.3	28.5
Management system	11.6	57.7	30.8

Source: Field survey, 2020

Strengths, Weaknesses, Opportunities and Threats Analysis

Table 5 identifies the strengths, weaknesses, opportunities and threats (SWOT) about extension services in Kaduna State.

Table 5: SWOT of extension services in Kaduna State.

	Positive	Negative
	Strengths	**Weaknesses**
Internal	Skilled staff who disseminate useful agricultural information from the researchers to farmers. (S1)	Poor working environment (W1)
	Improved agricultural technology (S2)	Inadequate staff (W2)
	moderately qualified extension agents (S3)	Inadequate training (W3)
	Good performance in term of extension service delivery to farmers (S4)	Inadequate sponsorship for training (W4)
		Poor transportation (mobility) & communication facilities (W5)
		Lack of incentives/motivation for staff (W6)
		High work load (W7)
	Opportunities	**Threats**
External	Improve agricultural technology (O1)	Lack of political will. (T1)
	Desire for change among farmers (O2)	Political risks (T2)
	Linkage with research institutions, colleges & technology developers (O3)	Economic risks. (T3)
	Easy access to other agriculturally-related industries (O4)	Inconsistent government policy. (T4)
		Insecurity (T5)
		Poor funding (T6)

Source: Field survey 2020

SWOT Analysis Index for Agreement and Disagreement among Agricultural Extension Officers in Kaduna State

Table 7 reveals that threat factors have the highest agreement index (0.875), followed by opportunities (0.750). However, weaknesses factors have the highest level of disagreement with an index of 0.625. This implies that management authorities should find a way of eliminating or reducing threats and weaknesses to the barest minimum level and at the same time promote the opportunities which will go a long way to facilitate the achievement of the objectives that have been set for the Kaduna State Agricultural Development Programme. This finding is in agreement with that of Ilori and Fadipe (2019) who reported a lack of commitment and skills, low morale on the part of extension agents and the inability of extension organizations to provide services to farmers due to economic depression considered major constraints limiting the contribution of extension services delivery to farmers.

Table 7: Index for agreement and disagreement among agricultural extension officers on SWOT in Kaduna State

SWOT Factors	Agreement index (0 - 1)	Disagreement index (0 – 1)
Strengths	0.625	0.375
Weaknesses	0.375	0.625
Opportunities	0.750	0.250
Threats	0.875	0.125

Source: Field survey 2020

Conclusion and Recommendations

The study established that extension service delivery was highly ineffective on account of the huge extension agent-farmer ratio in the State. More extension agents should be recruited to reduce the workload of extension agents in Kaduna State to increase their extension service delivery to farmers. The extension agents' threat factors have the highest agreement index, while the weakness factors have the highest level of disagreement among the extension agents. Deliberate efforts should be made by the Kaduna State Agricultural Development Programme (KADP) to solicit extra sources of funding by coming up with proposals for programmes/projects to attract donor agencies/NGOs which will limit the financial constraints facing them. Also, Staff capacity building is necessary for effective extension service delivery to farmers.

References

Amayo F, Akidi IL, Esuruku RS, Kaptui PB (2021). Farming methods and the livelihood outcomes of women in Eastern Uganda. *Journal of Agricultural Extension and Rural Development*,13(3):182-191.

Camillone, N., Duiker, S., V Bruns, M., Onyibe, J. and Omotayo, A. M. (2020). Context, challenges and prospects for agricultural extension in Nigeria. *Journal of International Agricultural and Extension Education*, 27(4): 144-156

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

Davis, K. Lion, K. and Arokoyo, T. (2019). Organisational capacities and management of agricultural extension services in Nigeria: Current status. *South African Journal of Agricultural Extension*, 47(2): 118-127.

Davis, Kristin, E., ed., Babu, Suresh Chandra, ed., and Ragasa, Catherine, ed. 2020. Agricultural extension: Global status and performance in selected countries. Washington, DC: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/9780896293755. pp 378

Federal Ministry of Water Resources (FMWR), Government of Nigeria, National Bureau of Statistics (NBS) and UNICEF. 2020. Water, Sanitation and Hygiene: National Outcome Routine Mapping (WASH NORM) 2019: A Report of Findings. FCT Abuja. Nigeria

Global Hunger Index (GHI). Global Hunger by Severity. Concern Worldwide and Welthungerhilfe. New York, NY: GHI; (2021). [Google Scholar]

Harry, A. and Abudu, S. (2022). Challenges of effective agricultural extension service delivery system in Nigeria. *BW Academic Journal,* 1(1). Retrieved from https://bwjournal.org/index.php/bsjournal/article/view/174.

Hassen, N. A. (2019). Determinants of adoption of improved sorghum package in agro-pastoral households of Somali Region of Ethiopia: A gender perspective. *Journal Agricultural Extension and Rural Development, 11*(11):192-199.

Hussain, K. (2020). Strengthening extension and rural advisory services to contribute to reaching the 2030 Development Agenda: what works in rural advisory services? Inter press Service News Agency, Monday, April 20, 2020.

Ilori, A. R., and Fadipe, M. O. (2019). Contribution of Extension Services to Food Crop Production in Ogun State, Nigeria. *International Journal of Innovative Food, Nutrition and Sustainable Agriculture,* 7(4): 1-9.

Issa, F.O., Ayuba, N. and Nti, C. (2022). Factors influencing Job performance of extension agents in Kaduna State, Nigeria. *Journal of Applied Agricultural Research*, 10(2):64-72.

Kaduna State Agricultural Development Programme (KADP) (2007). ''A Report of the Village Listing Survey''. Kaduna State, Nigeria.

National Population Commission (NPC) (2006). "Population Census Figures of the Federal

Republic of Nigeria". N.P.C., Abuja, Nigeria.

Olurunfemi, O. D., Olorunfemi, T. O., Oladele, O. I. and Adekunle, O. A. (2018). Determinants of extension agents' competency on value added fish production: Evidence from Nigeria. J*ournal of Developing Areas,* 52 (3):15-25.

Olorunfemi, T. O., Olorunfemi, O. D. and Oladele, O. I. (2020). Determinants of the involvement of extension agents in disseminating climate smart agricultural initiatives: Implication for scaling up. *Journal of the Saudi Society of Agricultural Sciences,* 19: 285-292

Omotesho, K. F., Akinola-Soji, Blessing Adesiji, Gbolayade, Owojaiye, Oluwasanjo (2021). Knowledge and competence of agricultural extension field workers in farmer-group facilitation in Kwara State, Nigeria. *ACTA UNiversitatis Agriculturae Et Silviculturae Mendellianae Brunensis,* 69(20):231-240.

Website of the Kaduna State Government of Nigeria (2016). Accessed 29th August, 2020. www.kdsg.gov. ng/demograhics.