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EFFECTS OF FARMERS HERDERS CONFLICT ON AGRICULTURAL EXTENSION SERVICES IN ENUGU AGRICULTURAL ZONE OF ENUGU STATE

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A B S T R A C T

This research sought to find out the major effects of farmers/herders conflict on extension services in Enugu agricultural zone that seem to result in low production in the study area. The specific objectives were to; examine the socio-economic characteristics of farmers in the study area, identify farmer's response to agricultural extension service delivery in the area,, determine the effect of farmers/herders conflict on extension services and finally identify the constraints faced by farmers on extension services. The study was carried out through the use of survey research design as 96 respondents were randomly sampled. Questionnaire were administered to targeted respondents in three selected local government areas (Enugu east, Enugu north and Enugu south) in the agricultural zone. The data obtained were analyzed using descriptive statistical tools, four and five point likert scale. From the findings female respondents dominated male counterparts in agricultural production within the study areas. The major age group that were involved in agricultural production in the zone were in the age bracket of 39-48 years. Majority of the respondents were married. The result also revealed that farmers responded favourably to extension services such as improved seeds, access to information, fertilizer application and improved processing technology. Communication barriers, lack of skills to work with extension agents, lack of funding were the major constraints associated with the effects of agricultural extension services in the study area. It was also revealed that the farmers/ herders conflict affected extension services greatly in the study area The agricultural extension services had significant impact on the output of the respondents. Based on the study, some recommendations were made such as , more extension agents to meet up with the desired farmer ratio. Moreso, the use of dialogue and compensational measures should be applied in the event of conflict, efforts should be made to create reconciliatory committees in all the Local Government Areas.

A R T I C L E I N F O

Keywords:
Farmers, Herders, conflict, Agriculture, Extension services, Enugu Agricultural zone, Enugu state.

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1. INTRODUCTION

Agriculture had been identified as the leading sector for growth to meet the Sustainable Development Goals. It is being advocated that it should be given a prominent place in the world's development agenda. Even though rapid strides have been made in the last few decades in agricultural development, hunger still exists and rural population the poorest. Africa, particularly, sub-Saharan Africa has not kept pace with the developments. The term "extension" was first introduced in 1873 by Cambridge University in England to describe a particular system dedicated to the dissemination of knowledge to rural people where they lived and worked. Within a short time, the idea had spread to other parts of Britain, Europe and North America. Extension service is an out of school system of education in which adults and young people learn by doing. It is a partnership between the government, the land-grant institutions, and the people, which provided services and education designed to meet the needs of the people (Kelsey and Hearne, 1966). The term "agricultural extension" was only adopted in 1914 when the United States Federal Smith-Lever Act of 1914 formalized a nationwide cooperative federal-state-county programme and gave operational responsibility for this to the land grant colleges and Universities. In the beginning, agricultural extension was concerned primarily with the improvement of agriculture, using conventional teaching methods. As time went on, home economics, youth programmes and rural community resource development were included. Agricultural extension spread to tropical Africa, the Caribbean, Asia and Latin America following the involvement of the United States of America (USA) in bilateral AID programmes after the Second World War. The history of agricultural extension in Nigeria is interwoven with that of agricultural development in general. This is because agricultural extension is concerned with all areas of agriculture.

Mgbada (2010) defined agricultural extension as an informal educational system which assists rural dwellers in improving farming methods and techniques and other agro-based occupation, increasing production and service efficiency, income and improving the socio-economic and educational levels of the rural dwellers. Essentially, agricultural extension provides farmers with the scientific knowledge in order to solve their problems. Extension is defined by FAO (2010) as; "systems that should facilitate the access of farmers, their organizations and other market actors to knowledge, information and technologies to facilitate their interaction with partners in research, education, agribusiness, and other relevant institutions; and assist them to develop their own technical, organizational and management skills and practices". By this definition, an extension is deemed as a primary tool for making agriculture, its related activities as well as other economic activities more effective and efficient to meet the needs of the people. It is, therefore, regarded as a policy tool for promoting the safety and quality of agricultural products. Agricultural extension is aimed primarily at improving the knowledge of farmers for rural development; as such, it has been recognized as a critical component for technology transfer. Thus, agricultural extension is a major component to facilitate development since it plays a vital role in agricultural and rural development efforts Bonye et al. (2012). Bonye et al. (2012) argued that extension provides a source of information on new technologies for farming communities which when adopted can improve production, incomes and standards of living. Extension service providers make an innovation known to farm households, act as a catalyst to speed up adoption rate and also control change and attempt to prevent some individuals in the system from discontinuing the diffusion process Alemu, (2016). In reaching farmers, extension officers demonstrate a technology to farmers but with much concentration on early adopters since the laggards would

learn later from the early adopting farmers. Through extension services, farmers' problems are identified for further investigation and policy direction. Swanson, (2008) argued that extension service goes beyond technology transfer to general community development through human and social capital development, improving skills and knowledge for production and processing, facilitating access to markets and trade, organizing farmers and producer groups, and working with farmers towards sustainable natural resource management..

Extension worldwide has been transforming in response to various challenges and developments. The goals of agricultural extension include transferring information from the global knowledge base and from local research to farmers, enabling them to clarify their own goals and possibilities, educating them on how to make better decisions, and stimulating desirable agricultural development. Agricultural extension theories have shown changes over time, based on changes in agricultural development paradigms. As a result, a variety of extension approaches have been promoted in the past several decades. Early models that focused on transfer of technology characterised by 'top-down', 'linear', 'rigid' approaches were criticized for their reductionist perspectives and the passive role of farmers. Hence, extension models such as training and visit (T&V), participatory approaches, farmer field schools (FFSs), ICT-based on-line advisory services to farmers and promotion of model farms (Waddington et al. 2010) have been used in South Eastern Nigeria. Farmers and Herders conflict has caused a reduced efficiency and consistency due to fear of the herders. It has also reduced farmers attention to their farms. This conflict is resource borne. The resource is the land. The farmers need the land for their crops while the herders need the land for grasses which results to encroachment into farms and retaliation by farmers. This has exercabated the fear and insecurity in the entire state to the extent that weapons are used by both herders and farmers. It therefore created fear in the farms making it difficult for the extension agents to carry out their Training and Visit.

2. METHODOLOGY

The study area was Enugu Agricultural zone. It is one of the newly created agricultural zone of Enugu State. Others are Udi, Awgu, Nsukka, Agbani, Enugu-Ezike. The zone is made up of the three local governments, Enugu East, Enugu North, Enugu South. Enugu-East local Government Area is divided into two districts; Nike and Ugwogo respectively. Nike district has about 22 autonomous communities while Ugwogo district has about 11 autonomous communities. Nike District: Agbogazi, Ako, Akpuoga, Alulu, Amorji, Amokpo, Azama, Edem, Efokwe, Emene, Ibeagwa, Ikke-Amaowelle, Mbulujodo, Nchatancha, Neke Odenigbo, Neke Uno, Ugwuomu, Nwubo, Nokpa, Obinagu, OuogabaOnyohu. Ugwogo district: Adaeze, Amankpa, Farm Settlement Obinagu, Ogbodogo, Okpohu, Ugwunkwo, Uruagbo, Umuonu, Tazi. Enugu North local government has a lone district; of Nguli district: Amaigbo, Ihenwuzi, Onueto, Umunevo. Enugu South local Government Area is divided into four districts; Ugwuaji district, Amechi district, Akwuke district, Obeagu district. In carrying out this research, random sampling technique was employed to ensure a good spread of respondents for the study.

In the first stage, all the three (3) local governments were selected which are Enugu east, Enugu north and Enugu south. Primary data were also collected from Enugu State Agricultural Development Project. In the second stage, four (4) communities from each of the three (3) local governments were selected randomly to give a total of twelve (12) communities. In the third and final stage, eight (8) households (respondents) were selected from the twelve (12) communities to avoid bias from each of the communities to give a total sample size of ninety-six households (96). Data for this study were collected from both primary and secondary sources. Primary data were sourced using a well designed structured questionnaire, interviews and personal observations. The secondary information that supplemented the primary data were obtained from various textbooks, journals, thesis, magazines, publications on seminars, conference papers, annual and quarterly reports. The information supported other relevant information from the primary sources. The data obtained were analyzed using descriptive statistics such as frequency, percentage, and mean. The specific objectives served as a guide to techniques of data analysis objective I, ii and iii were analyzed with the use of descriptive statistical tools whereas Objective iv were analyzed using likert scale.

3. RESULTS AND DISCUSSION

3.1 Socio-Economic characteristics

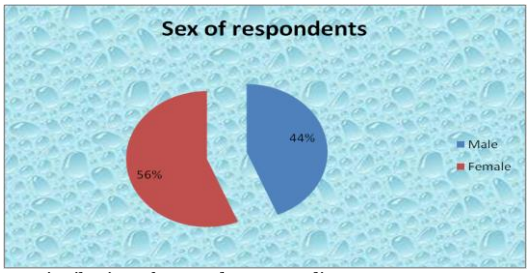


Figure 1: Distribution of respondents according to sex
Source: Field survey, 2023.

The figure 1 above shows the sex distributions of the respondents in the study area. From the figure 1, it indicated that the majority 56% of the respondents interacted with in the study area are female, while the male respondents constitute the minority 44%. This implies that female population in the area was higher than male population in the study area. It might also mean that they are more likely to be found at home and are also more exposed to answer questions in the subject matter than males.

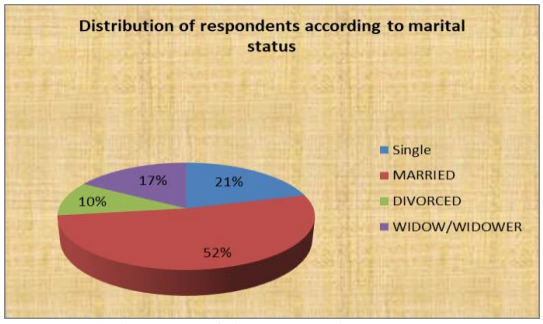
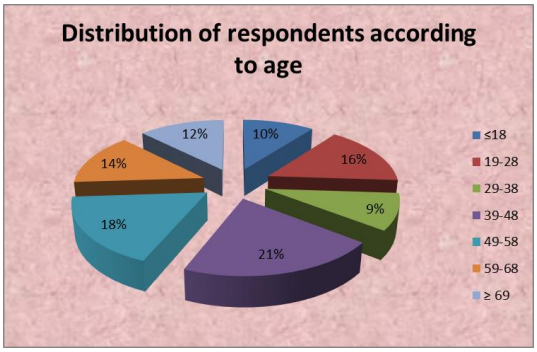


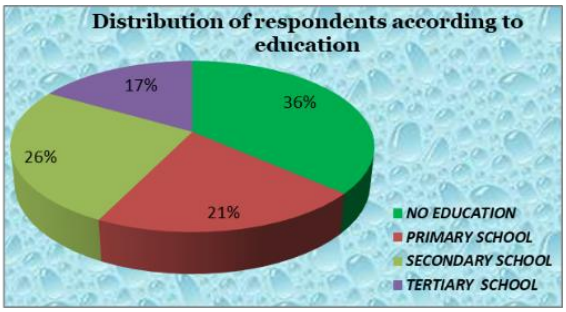
Figure 3: Marital status of the Respondents
Source: Field survey, 2023



Source: Field survey, 2023.

In figure 2 above, it shows that 10% of the respondents in the study area fall within the age bracket of ≤18 years. Furthermore, in the same figure 2, it can be seen that 16% of the respondents are 19-28 years of age as 9% of the respondents are 29-38. The age brackets of 39-48 years constitute 21% as 18% of the respondents fall within the age range of 49-58years. Critical analysis of figure 2 indicated that as 14% of the respondents are in the age range of 59- 68years only 12% of the respondents fall within the age range of ≥ 69years. The result of the analysis shows that the youth dominated on the effects of extension services on agricultural production in conjunction with the almost aged ones. This confirms the findings of Mgbada (2020) that the youth of the country are interested in the extension services but they need to be motivated so as to work very well especially in the rural areas.

From the figure 3 above, the result shows that 52% of the respondents in the study are married, where as singles respondents are 21%. As the widowed respondents constitute 17% only 10% of the respondents are in the categories of divorced. This analysis reveals that majority of the respondents were married and it aligns with the fact that the mean age of the respondents was within the marriage age which is 44 As shown in figure 2.



Source: Field survey 2023.

In developing countries like Nigeria, there is need for education of her citizenry both at the urban, semi-urban and rural areas. This is necessary because an educated mind is easy to govern and can quickly understand agricultural changes that are being introduced from time to time. In the study area, there are various degrees of educational status of the respondents as shown in figure 4. From figure 4 above, 36% of the respondents reported that they had no formal educational status in the study area. Furthermore, the same figure 4 above shows that as 26% of the respondents agreed that they had secondary education, both 21% and 17% of the respondents respectively stated they had primary and tertiary education in the study area. The implication of the high percentage of the educated respondents in the study area is that they will adapt more effectively to any new innovation in agriculture. This agreed with the views of Mgbada (2010), that agricultural extension education is better handled when the researcher is interacting with educated clientele.

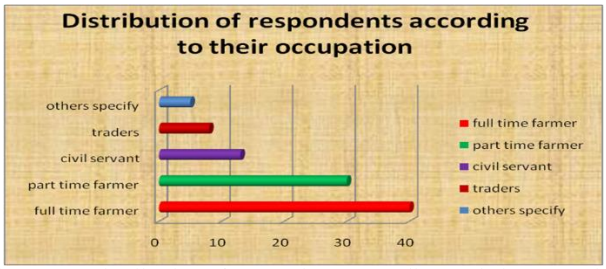


Figure.5: Distribution of respondents according to their occupation
Source: field survey, 2023.

Figure 5 above contains the distribution of respondents with regards to their occupation in the study area. The figure 5 shows that 42% of the respondents indicated that they are involved in full time farming, also in the same figure reported that 31% are part time farmer, 14% of the respondents consisted of those that are civil servant while 8% of the respondents are traders who also had small plots of land where they carry out small scale agriculture. While the remaining of the respondents 5% indicated none.

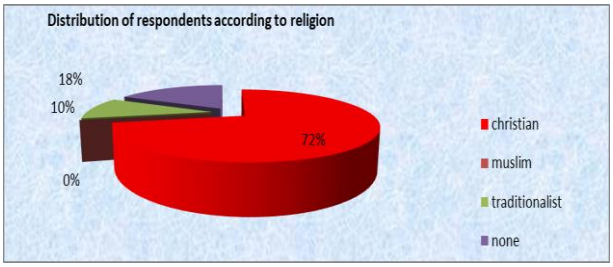


Figure 6. Distribution of respondents according to religious status.
Source: Field survey, 2022.

To conclude on the socio economic characteristics of the respondents interviewed in the study, results show that majority 72% of them are Christians while 10% of them are traditionalists. The same figure indicated that 18% of the respondents indicated none

Table.1: Farmer response to Agricultural extension on Production

	Frequency	Percentage
Improved seeds		
Yes	50	52
No	46	48
Access to information		
Yes	60	62
No	36	38
Fertilizer application		
Yes	51	53
No	45	47
Improved processing technology		
Yes	40	42
No	56	58

Source: Field survey, 2023.

The farmer's response to agricultural extension Services considered in the study are; Improved seeds, Access to information, Fertilizer application, and improved processing technology. The table 1 above shows the result of the respondents involved in the extension service of improved seeds. 52% of the respondents are highly involved in the improved seeds provided by extension agents while the remaining 48% of the respondents are not involved. The table 4.1 above shows the result that 62% of the respondents interviewed within the study have access to information concerning agricultural extension services on agricultural production While the remaining 38% of the respondents don't have access to information in the study area. As can be seen table 4.1, 42% of the respondents agreed that they have access to improved processing technology while 58% of the respondents did not agreed to have access to improved processing technology in the study area. From the table 1 above, 53% of the respondents indicated that there is increase in the fertilizer application in the study area due to extension services offered by the extension agents while the remaining 47% of the respondents reported that there is no increase. This implies that there is higher percentage of improved seeds and access to information in the study area i.e. to say that there is great positive effect in agricultural extension services on agricultural production.

Table 2: Agricultural extension services and its influence on agricultural produce

Effects	S.A	A	D	S.D	Total	Mean	decision
Increased number of extension agents	30	35	10	21	266	2.77	Rejected
Increased degree of feedback and mechanism of information	40	50	6	0	322	3.35	Accepted
Communication process	60	30	3	3	339	3.53	Accepted
Provision of incentives	70	15	6	5	342	3.56	Accepted
Provision of accommodation for to extensionistie closer to villages	60	20	10	6	316	3.29	Accepted

Source: Field survey, 2023.

Table 2: 4-Point Likert Table showing some of the factors influencing effectiveness of Agricultural extension services on agricultural production.
S.A = Strongly Agreed = 4
A = Agreed = 3
D = Disagreed = 2
S.D = Strongly Disagreed = 1
Decision Rule: cut off point = 3
>3 is regarded as there is effectiveness in agricultural extension services on agricultural production.
<3 is regarded as there is no effectiveness in agricultural extension services on agricultural production.
Table 4.2 above shows the levels to which agricultural extension services is effected on agricultural production.
Where,
1= increased number of extension agents
2= Increased the degree of feedback and mechanism of information
3= communication process
4= provision of incentives
5= provision of accommodation for extension agents closer to villagers
From the result above, the following are the factors influencing agricultural extension services on agricultural production since their mean score is above three (3).
2= increased degree of feedback and mechanism of information
3= communication process
4= provision of incentives
5= provision of accommodation for extension agents closer to villagers
While the one with mean score less than 3 is regarded as there is no effect in agricultural extension services on agricultural production. It is stated below;
1= increased number of extensionist
Table 2 shows that the majority mean score = 3.56 agree that provision of incentives effect agricultural extension services on agricultural production. The mean score 3.53 represents respondents that communication process also influence agricultural extension services while mean score of 3.35 shows that increased degree of feedback and mechanism of information also affect the effectiveness of agricultural extension services. The mean score of 3.29 represents respondents that said provision of accommodation of extension closer to villagers would influence the effectiveness of extension services on agricultural production.

Effects of Crop Farmers/Herders Conflicts on Agricultural Extension Practices/Delivery

No meaningful economic activities can occur in a conflict prone area. The same is true of extension practices and services delivery in the event of resource bornel conflicts involving crop farmers, pastoralists and other stake holders. Table 4 showed that conflicts limit the cooperative activities (M=2.68), prevents adoption of improved technologies (M=3.25), stops continued use of adopted technologies (M=3.05), withdrawal of extension services/methods (M=3.74), makes programme planning difficult (M=2.91), delays/prevents programme evaluation (M=3.60), disrupts agents work plan (M=3.19), hinders project execution/implementation (M=2.92), brings dissatisfactions among staff (M=3.01), delays completion of extension work (M=3.41), reduces/limits turnover of extension work (M=2.87), abduction/kidnapping of extension personnel (M=3.15), and possible death of extension personnel (M=2.83).

This result corroborates the findings of Bolarinwa &Oyeyinka [27], Kimenyi, et al. [28], Adelakun, et al. [29] who found that availability of extension services like number of visits per extension agent, number of contact with farmers, training of contact farmers and demonstrations on small plots (Management Training Plots) to teach the farmer new techniques and practices which enable them to compare the results of the old and new practices as well as adoption of improved technologies by both crop and livestock farmers and continued use of adopted technologies were greatly affected during conflict situation.

Robertson & Steve [30] detailed that unending asset-based struggles have unfavorably influenced the powerful conveyance of augmentation administrations likewise specialists, which thusly decreased farmers' degree of use of advances around there. The creators further expressed that expansion specialists are upset by clashes of different sizes which make it hard to complete augmentation administrations like the quantity of visits per expansion specialist, number of contact with rancher gatherings, preparing of contact farmers and exhibitions on little plots or the executives preparing plots (MTPs) to show the rancher new strategies and practices which empower them to analyze the consequences of the old and new practices were extraordinarily influenced during struggle circumstance. In a comparative turn of events, Adelakun, et al. [29] demonstrated that the impact of contention on accessibility of expansion administrations, appropriation of improved advancements by both yield and animals farmers and proceeded with utilization of embraced advances was serious. Kimenyi, et al. [28] expressed that agrarian expansion organizations and foundations like the Agricultural Development Programs (ADPs) and examination establishments that help the horticultural area are additionally influenced during the

contention circumstances. Clashes may have constrained a large portion of these organizations (government offices, ADPs and exploration establishments) to decrease their exercises like field preliminaries and other trips.

Table 4: Effects of farmersand herders conflict on extension service delivery Practices/Delivery. Mean 2.50 accepted

Effects on Extension Practice	Mean	SD
Limits the cooperation activities	2.68	1.53
Limits availability of extension worker resource	2.74	0.64
Prevents acquisition of training by extension	2.87	1.09
Prevents the motivation needed by extension	2.94	0.73
Destroys knowledge transmission channels	2.84	1.14
Stops continual use of adopted technologies	3.05	1.2
Prevents adoption of improved technologies	3.2	0.67
Withdrawal of extension services/methods	3.74	0.96
Makes programme monitoring difficult	2.91	0.81
Delays/prevent programme evaluation	3.6	0.71
Disrupts agents work plan	3.19	0.67
Extension worker/staff may abandon work	3.18	1.01
Hinder project execution implementation	2.92	1.03
Brings dissatisfaction among staff	3.01	0.84
Delays completion of extension work	3.41	0.77
Reduces/limit turnover of extension work	2.84	0.8
Abduction of extension personnel	3.15	1.04
Possible Death of extension personnel	2.83	1.02

Farmers multiple response on effects of farmers/herders' conflict on extension services

S/N	Effects of Farmers/Herders' Conflict on Extension Services	Response
1	General fear of attack	96
2	Reduced visit of extension personnel	30
3	Makes programme monitoring difficult	20
4	Withdrawal of Agents	25
5	Delays programme evaluation	20
6	Prevents Adoption	50

Extension personnel multiple response on effects of farmers/herders' conflict on extension services

S/N	Effects of Farmers/Herders' Conflict on Extension Services	Response
1	Complete stop of visit	5
2	Reduced visit to the area	15
3	Disruption of work plan	20
4	Makes programme monitoring difficult	20
5	Limits cooperative activities	15
6	Withdrawal of extension Agents	2

This implies that there is a great positive effect of extension services on agricultural production.

Table 3: Constraints faced by Producing Farmers on Extension Service

S/No	Constraints	V.T	T	N	F	VF	Total	Mean	Decision
1	Inadequate Number of Extension Agent	10	20	60	3	3	319	3.32	Rejected
2	Communication Barriers	60	10	15	11	0	407	4.23	Accepted
3	Lack of Funding	75	20	1	0	0	458	4.77	Accepted
4	Lack of Skills to Work With Extension Agents	62	21	5	6	2	423	4.41	Accepted
5	Inadequate facilities	81	6	2	3	4	441	4.59	Accepted

Source: Field survey, 2023.

Table 3: 5-point Likert table showing some of the constraints hindering agricultural extension services on agricultural production.

V.T = Very True = 5
T = True =4
N = Neutral = 3
F = False = 2
V.F= Very False

Decision Rule: Cut off point = 4

>4 is regarded as there is constraint or hindrance on the impact of agricultural extension services on agricultural production.

<4 is regarded as there is no constraint or hindrance on the effects of agricultural extension services on agricultural production.

Table 3 above indicates that the distribution of agricultural extension services is affected.

Where;
1= inadequate number of extension agent
2= communication barriers
3= lack of funding
4= lack of skills to work with extension agents
5= inadequate facilities

From the result above, the following are regarded as constraints to the effects of agricultural extension services on agricultural production since their mean score is above four (4).

2= communication barriers
3= lack of funding
4= lack of skills to work with extension agents
5= inadequate facilities

While the one with mean score less than 4 is regarded as there is no constraint or hindrance in the effects of agricultural extension services on agricultural production. It is stated below;

1= inadequate number of extension agent

Table 3 indicates that the majority mean score =4.77 strongly agreed that lack of funding hinders agricultural extension services. The mean score of 4.59 represents respondents that said there is inadequate facilities while 4.41 mean score shows there is lack of skills to work with extension agents .The mean score 4.23 agreed that there is communication barriers in the effects of agricultural extension services on agricultural production.

4. CONCLUSION

Based on the findings, the study revealed that respondents were influenced by their socio-economic characteristics such as gender, education level, and extension visits. The farmers' responses were satisfactory on extension trainings on improved seeds, access to information, fertilizer application. However, training on improved processing technology was not satisfactory. The agricultural extension services had significant effect on the output of respondents. Inadequate number of extension agents, communication barriers, lack of funding were constraints faced by respondents in the study area. It is apparently shown that Farmers and Herders conflict seriously affected extension service delivery in the study area.

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