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KNOWLEDGE, ATTITUDE AND PRACTICE ANALYSIS OF INCLUSIVE EXTENSION SERVICE AMONG AGRICULTURAL EXTENSION WORKERS IN SOUTHWESTERN NIGERIA

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SUMMARY

The study analysed the knowledge, attitude and practice (KAP) of inclusive extension service among agricultural extension workers in southwestern Nigeria. All the extension workers (268) in Agricultural Development Programmes (ADPs) in five states randomly selected within southwestern Nigeria were interviewed for the study via a structured and pre-tested questionnaire. The collected data were presented using descriptive and inferential statistics. The mean age, formal education and job experience of the extension workers were 43.3 ± 8.4 , 17.0 ± 2.6 and 14.1 ± 8.4 years, respectively. The majority of the respondents were male (74.3%) and married (77.8%). Furthermore, most of them have encountered farmers with special needs such as albinism (81.7%), hearing impairment (87.3%), visual impairment (85.2%) and mental disability (81.7%) among others. The majority of the respondents (60.0%) had high capacity for inclusive extension service. The extension workers differed significantly across the states in terms of their practice scores, but not in their knowledge and attitude scores. The findings revealed that at $p < 0.05$, job experience ($r = 0.483$) and age ($r = 0.322$) of the respondents had significant relationship with KAP of inclusive extension service. Therefore, the hypothesis was accepted for sex and marital status, but was rejected for ethnicity, age and job experience. The study concludes that the extension workers differ significantly across the states in terms of practices, but not in their knowledge and attitude about inclusive extension services.

Key words: KAP, inclusiveness, extension service

INTRODUCTION

Development of the agricultural sector is impossible without an efficient and effective extension system. Lack of good working relationships between extension organisations and different categories of farmers and farm organisations is one of the most difficult institutional problems confronting ministries of agriculture in many developing nations (Jones & Garforth, 1997; Ifenkwe, 2012; Adolphus & Ejembi, 2017).

It is, however, important to note that agricultural extension clientele traditionally include all members of rural farm families, among whom there are people with different status such as the poor, rich, educated, illiterates, digitally informed, able, disable among others. Therefore, “inclusiveness in agriculture”, which means agriculture for all, was introduced (DESA, 2009).

Inclusiveness refers to the extent to which people from diverse backgrounds and status are involved in a certain process. The term inclusiveness applies to various fields. There is social inclusion, inclusion in the educational sector and all other sectors. Social inclusion is a dynamic and principled process of promoting the values, relations and institutions that enable all people to participate in social, economic, cultural and political life based on equality of

rights, equity and dignity. It is based on promotion and protection of human rights as well as respect for and value for dignity of each individual, diversity, pluralism, tolerance, non-discrimination, non-violence, equality of opportunity, solidarity, security, participation of all people including disadvantaged and vulnerable group of persons (Department of Economic and Social Affairs DESA, 2009; Rieser, 2012; Jonsson, 2016; Singh, 2016).

Inclusive extension process in agriculture means that every farmer receives fair treatment irrespective of their status, that information and technology, skills and ideas are more useable in the environment by as many farmers as possible and are adjusted in the way that farmers with disabilities are able to use them as much as possible, and it also means eliminating beliefs that one cannot fully perform due to restrictions posed on a set of people or based on inequality. Inclusive extension service is not limited to the disabled/ people with special needs or vulnerable people alone, but also includes the old and young; men and women; rich and poor; educated and illiterates; indigenous and non-indigenous; digital and non-digital (Madukwe, 2008; Singh, 2016). Several studies on inclusiveness in agriculture has been carried out in Nigeria, Africa, and beyond: Krishna et al. (2019) explored the social inclusiveness of agricultural extension services in India; Ruifa et al. (2009) examined the effects of inclusive village-level public agricultural extension service in China; Sihlobo & Qobo (2021) addressed constraints to South African's agriculture inclusiveness; Ofuoku (2011) focused on gender representation in agricultural extension workforce and its implications for agricultural advisory services in Delta State, Nigeria. This study will present the KAP analysis of inclusive extension service among extension workers in southwestern Nigeria.

There are over one billion people, accounting for approximately 15 percent of the world's population, who live with disability/special needs (World Health Organisation - WHO, 2011). Farmers who live with disability/special need are entitled to public goods and services such as agricultural extension services. Are these farmers living with disabilities/special needs included as part of clientele of agricultural extension services in the study area? Extension clientele with hearing and talking impairment will have communication challenges, those with visual impairments will have movement restriction, those with low intellectual capacity will have hard time retaining basic information, those with physical disabilities might have problem with transportation depending on the type of disability. Do agricultural extension workers in the study area have capacity to cater for these special needs?

In addition, Discrimination against Persons with Disabilities (Prohibition) Act 2018 was enacted in Nigeria on 27th of January, 2019. This law was adopted to ensure equal treatment and participation of people with disabilities across Nigeria (Ameh, 2019). How far has it been implemented in agricultural extension delivery in the study area?

Furthermore, inclusiveness in extension will enhance the accomplishment of sustainable development goals (SDGs), otherwise known as global goals targeted by 2030. This new agenda emphasises a holistic approach to achieving sustainable development goals based on the principle of 'leaving no one behind'. There is need to analyse the knowledge-attitude-practice of inclusiveness among agricultural extension workers, as the main stakeholders in agricultural extension service in southwestern Nigeria.

Objectives of the study

The specific objectives of the study are to:

- i. describe the socio-economic characteristics of the extension workers in the study areas;
- ii. examine the extension workers' knowledge, attitude and practice of inclusiveness in agricultural extension services;
- iii. determine the extension workers' capacity to work with clientele with special needs;
- iv. identify the perceived benefits of inclusiveness in agricultural extension services.

Hypothesis of the Study

H₀: There is no significant relationship between the extension workers' knowledge, attitude and practice about inclusiveness in agricultural extension services and their socio-economic characteristics.

MATERIAL AND METHODS

The study was conducted in the southwestern region of Nigeria. Southwestern Nigeria is one of the six geo-political zones of the Federal Republic of Nigeria. The region is made up of six states with their projected population: Lagos - 12,550,598, Ogun - 5,217,716, Oyo - 7,840,864, Osun - 4,705,589, Ondo - 4,671,695 and Ekiti - 3,270,798; with total population of 38,257,260 people (National Bureau of Statistics - NBS, 2018). It is reasonable to estimate that the given population data have increased since three years ago. The region is also the traditional home of the Yoruba people, which is one of the largest ethnic groups in Africa. A larger percentage of the people in the region, except in Lagos State, practice farming, which is largely subsistent.

The respondents for this study were all agricultural extension workers of Agricultural Development Programmes (ADPs) in five States (Oyo - 69, Osun - 36, Ogun - 67, Ekiti - 30 and Lagos - 66) which were purposively selected in southwestern Nigeria, because ADP is characterised by an extension delivery aimed at providing the necessary technical backstopping for farmers/ clientele in the areas engaged in crops, livestock and fisheries. The total number of the respondents was 268. A pre-tested, opened and closed-ended questionnaire was used to elicit information from the respondents. The data were summarised using descriptive statistical tools such as frequency counts, percentage, mean and standard deviation, while inferential statistics such as Chi Square and Pearson Product Moment Correlation were used to test the hypothesis with the help of Statistical Package for Social Sciences (SPSS) 20th Version.

Measurement of variables

The dependent variable for this study was knowledge, attitude and practice (KAP) analysis of the inclusive extension service in agriculture. Knowledge, attitude and practice of inclusiveness were measured separately and summed to arrive at aggregate KAP score. In order to establish whether there are differences across the states, multivariate analysis of variance was computed, p-values <0.01 were considered statistically significant. The capacity for inclusive extension service was measured by allowing the respondents to rate their capacity in working with farmers with special needs (albinism, hearing impairment, visual impairment, physical disability, reading disability, mental disability and writing difficulties) on a scale from zero (0) to five (5), whereas 0 represents no capacity, while 5 represents the maximum capacity. The capacity of the extension workers was categorised as low, moderate or high, using equal interval approach. Benefits of inclusive extension service to farmers were measured by allowing the respondents to assess the likely benefits of inclusive extension service obtained from literature, on a following rating scale: no benefit (0), low benefit (1), moderate benefit (2) and high benefit (3).

RESULTS AND DISCUSSION

Socio-demographic characteristics of extension workers

The results in Table 1. reveal that the majority of the respondents were married (77.8%) and middle-aged (75.5%), while the mean age of the respondents was 43.3 with standard deviation of 8.4. This implies that the respondents were people of middle age with active minds and bodies, who could be versatile and capable of practicing inclusiveness in agricultural extension service. Similar findings were obtained by Aderinto et al. (2008), and Adisa & Adeloye (2012), who observed that the majority extension personnel in Ondo and Osun States respectively were male. This result indicates that, although extension service is gender sensitive, it is male-dominated. Table 1. also shows that the interviewed extension workers had an average job experience of 14.1 years with standard deviation of 8.4. In addition, many of the extension workers (54.6%) had at least university education. All of the respondents were literate and educated, which is the means of ensuring effective performance, and it is a requirement for an extension worker in the study area. Furthermore, the majority of the respondents (95.1%) were the Yorubas. This implies that the region is Yoruba dominated area with few people from other ethnic groups. Therefore, the extension workers can communicate with their clientele in a better way and acculturation would not be a problem. In addition, the results indicate that farmers with special needs met on the field in the study area were farmers with physical disability (89.9%) hearing impairment (87.3%), visual impairment (85.2%), writing difficulties (82.6%), albinism (81.7%) and mental disability (81.7%).

Table 1. Socio-demographic characteristics of respondents (n= 268; Source: Field survey, 2019)

Variables	Percentages	
Age (years)		
Below 30	4.1	Mean= 43.3
31-50	75.5	Standard deviation= 8.4
Above 50	20.4	
Marital status		
Single	16.2	
Married	77.8	
Widow(er)	6.0	
Job experience (years)		
Below 10	30.2	Mean= 14.1
10-20	47.8	Standard deviation= 8.6
Above 20	22.0	
Sex		

Male	74.3
Female	25.7
Levels of education	
NCE	9.0
OND	12.1
HND	24.3
B.Sc. / B. Agric.	35.1
Postgraduates	19.5
Ethnicity	
Yoruba	95.1
Others	4.9
*Special needs met on the field	
Albinism	81.7
Hearing impairment	87.3
Visual impairment	85.2
Physical disability	89.9
Reading disability	87.3
Writing difficulties	82.6
Mental disability	81.7
Legend: * - Multiple responses; NCE - National Certificate in Education; OND - Ordinary National Diploma; HND - Higher National Diploma; B.Sc. - Bachelor of Science; B.Agric. - Bachelor of Agriculture	

Agricultural extension workers' KAP on inclusive extension service

Multivariate analysis of variance shows that the extension workers across the states differ significantly in terms of their practice scores, but not in their knowledge and attitude scores (Tab. 2). This implies that extension workers across the states in southwestern Nigeria had similar knowledge and attitudes about inclusive extension service, but there were differences in their practice across the states in the study area. This might be connected with different motivation provided for the extension workers across the states in the study area.

Table 2. Distribution of extension workers' KAP on inclusive extension service (Source: Calculated from field survey, 2019)

Variables	Lagos (n=66)	Oyo (n=69)	Osun (n=36)	Ogun (n=67)	Ekiti (n=30)	F-value	P
Knowledge score	8.9	9.0	8.8	9.3	8.6	3.5	
Attitude score	0.4	0.7	0.6	0.8	0.6	4.1	
Practice score	2.2	2.0	2.4	2.5	2.1	0.1	0.2

General Linear Model (GLM) analysis showed that the males and females did not differ significantly in their knowledge, attitude or practice scores (Tab. 3). This implies that from the gender perspective, both male and female extension workers had similar KAP on inclusive extension service.

Table 3. Distribution of extension workers' KAP on inclusive extension service on the gender basis (Source: Calculated from field survey, 2019)

Variables	Male (n=200)	Female (n=68)	F-value	P
Knowledge score	9.1	8.7	1.2	0.3
Attitude score	0.8	0.2	0.3	0.6
Practice score	2.3	2.2	0	0.9

Capacity for inclusive extension service in agriculture

The results in Figure 1. show that as many as 60.0% of the respondents had high capacity for inclusive extension service, 29.2% had moderate and 10.8% had low capacity for inclusive extension service. Such high capacity might be connected with training (both pre-service and in-service) received by the respondents, their level of education and their length of job experience. This result is in tandem with that of Sihlobo & Qobo (2021), who reported that the majority of extension workers in South Africa have capacity to carry out inclusive extension service in agriculture.

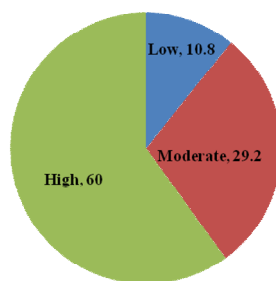


Figure 1. Categories of capacity for inclusive extension service (Source: Field survey, 2019)

Perceived benefits of inclusive extension service

The results in Table 4. reveal that inclusiveness makes farmers with special needs productive members of the society (4.33), makes them achieve livelihood enhancement (4.25), makes them have feeling of belonging to their community (4.22) and reveals hidden talents and skills in them (4.21) among others. This might be connected with training (pre-service and in-service) received by the respondents and their length of job experience. This result is in tandem with that of Neda et al. (2016), who reported that inclusiveness in agricultural extension service empower clientele with different special needs.

Table 4. Distribution of the respondents by perceived benefits of inclusive extension service (Source: Field survey, 2019)

Variables	Mean	Rank
To farmers		
It makes farmers with special needs productive members of the society	4.33	1st
It makes farmers with special needs achieve the basic goals (livelihood enhancement)	4.25	2 nd
It makes farmers with special needs have feeling of belonging to their community	4.22	3 rd
It reveals hidden talents and skills in farmers	4.21	4 th
It helps farmers to learn from one another	4.17	5 th
It empowers farmers with special needs	4.14	6 th
Legend: 0 - No benefit; 1 - Low benefit; 2- Moderate benefit; 3 - High benefit		

The results in Table 5. reveal that at 0.05 level of significance, ethnicity ($\chi^2=31.612$) and a level of education ($\chi^2=34.322$) of the respondents had significant association with KAP analysis of inclusive extension service. This might be connected with full acculturation of the extension workers and a high level of education attainment. The contingency coefficient revealed a strong association between ethnicity ($C=0.628$), as well as a level of education ($C=0.652$), and KAP analysis of inclusive extension service, based on Kerlinger (1986), who described C value of 0.28 as moderate relationship, while higher values were considered as higher association. The results also reveal that at 0.05 level of significance, the respondents' job experience ($r=0.483$) and respondents' age ($r=0.322$) had significant relationship with KAP analysis of inclusive extension service. The coefficient of determination reflects the percentage contribution to KAP of inclusive extension service. The contribution of the respondents' age was 10.4 percent ($r^2=0.1037$), and the contribution of job experience was 25.3 percent ($r^2=0.2530$). This implies that the higher the age and job experience of the extension workers, the higher KAP of inclusive extension service. Hence, the hypothesis was accepted for sex and marital status, but it was rejected for ethnicity, age and job experience.

Table 5. Relationship between socio-demographic characteristics of the respondents and KAP analysis for inclusive extension service (Source: Calculated from field survey, 2019)

Variables	χ^2 Value	DF	P-Value	C	r	r^2
Sex	9.502	2	0.323	0.132		
Marital status	4.370	6	0.635	0.322		
Ethnicity	31.612	4	0.001*	0.628		
Levels of education	34.322	6	0.001*	0.652		
Age					0.322*	0.1037
Job experience					0.483*	0.2530
Legend: * $P \leq 0.05$; DF- Degree of Freedom; C- Coefficient of contingency; r- Correlation coefficient; r^2 - Coefficient of determination						

CONCLUSION

Based on the findings of the study, it was concluded that the majority of the extension workers were male and many of them had university education. They differ significantly in terms of their practice, but not in their knowledge and attitude about inclusive extension service across the states in the study area. Many of them have high capacity for inclusive extension service. It was found that inclusive extension service enhanced the livelihood of farmers with special needs and made them productive members of the society among others. Also, the hypothesis was accepted for sex and marital status, but was rejected for ethnicity, age and job experience. It is recommended that in-service/on-the-job training should be organised on a regular basis to further improve the capacity of the extension workers for inclusive extension service in the study area.

Conflict of interest: The authors declare that they have no conflict of interest.

REFERENCES

- Aderinto A., Adedoyin S. F., Awotide D.O., Adamu C.O. (2008): Use of Information and Communication Technologies (ICTs) among Extension Personnel in Ondo State. *Nigerian Journal of Rural Sociology*, 8(1): 66-70.
- Adisa B.O. & Adeloye K.A. (2012): Analysis of farmer field school as an extension approach to cocoa production in Osun State, Nigeria. *World Journal of Agricultural Sciences*, 8(4): 421-428
- Adolphus A.N. & Ejembi S.A. (2017): Reviving Agricultural Extension for Effective Transition from Subsistence to Commercial Agriculture in Nigeria. *Journal of Rural Social Sciences*, 32(1): 132-150.
- Ameh J. (2019): Buhari signs bill prohibiting discrimination against persons with disability. Online Punch of 25th January, 2019. Available at: <https://punch.com/buhari-signs-bill-prohibiting-discrimination-against-persons-with-disability/> (accessed on March 6th, 2019).
- DESA (2009): Department of Economic and Social Affairs - Creating an inclusive society: practical strategies to promote social integration. *ECOSOC resolution* 2008/19
- Ifenkwe G.E (2012): Agent related factors affecting the performance of agricultural extension staff in Abia State, Nigeria. *Journal of Agricultural Science*, 3(1): 45-48.
- Jones G.W & Garforth C. (1997): The history, development and future of agricultural extension. In: Swanson, B.E. (ed.). *Improving agricultural extension: A reference manual*. Rome: FAO. 3-12.
- Jonsson Ó.P. (2016): Democratic and Inclusive Education in Iceland. Transgression and the Medical Gaze. *Nordic Journal of Social Research*, Special issue, 7: 77-92.
- Kerlinger N.F. (1986): *Foundation of Behaviour Research*, Third Edition, Worth Harcourt brace College Publishers, pp.453-455.
- Krishna V.V. Aravalath L. M., Vikraman S. (2019): Does caste determine farmer access to quality information? *PLoS ONE*, 14(1): e0210721. <https://doi.org/10.1371/journal.pone.0210721>
- Madukwe M.C. (2008): Practices without Policy. The Nigeria Agricultural Extension Service 30th inaugural lecture of the University of Nigeria, Nsukka delivered on April 29, 2008, University of Nigeria Senate ceremonials committee, University of Nigeria Press Ltd, Nsukka.
- National Bureau of Statistics - NBS (2018): Demographic Statistics Bulletin.
- Neda T., Azimi H., Bahaman A.S., Jegak U. (2013): Knowledge of perception of extension workers on sustainable agricultural practices. *American Journal of Environmental Science*, 9(1): 45-50.
- Ofuoku A.U. (2011): Gender representation in agricultural extension workforce and its implications for agricultural advisory services, *Tropical Agricultural Research and Extension*, 14: 37-40.
- Rieser R. (2012): Implementing Inclusive Education: A Commonwealth Guide to Implementing Article 24 of the UN Convention on the Rights of Persons with Disabilities. Available at: [https://www.globaldisabilityrightsnow.org/sites/default/files/related-files/346/Implementing Inclusive Education Article 24 in CRPD.pdf](https://www.globaldisabilityrightsnow.org/sites/default/files/related-files/346/Implementing%20Inclusive%20Education%20Article%2024%20in%20CRPD.pdf)
- Ruifa H, Yaqing C, Kevin Z.C, Yongwei C, Jikun H. (2009): Effects of Inclusive Village Level Public Agricultural Extension Service: Policy Reform Experiment in Western China. Paper prepared for presentation at the International Association of Agricultural Economists Conference, Beijing, China, August 16-22, 2009.
- Sihlobo W. & Qobo M. (2021): Addressing Constraints to South African's Agriculture Inclusiveness. Black Economic Empowerment Project, SCIC Working Paper.
- Singh J.D. (2016): Inclusive Education in India - Concept, Need and Challenges. Scholarly Research. *Journal for Humanity Science & English Language*, 3(13): 3224-3230.
- World Health Organisation - WHO (2011): World report on disabilities. Available at: https://www.who.int/disabilities/world_report/2011/report/en/ (accessed on March 6th, 2019).

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