



Household's Level of Awareness on Under-Utilized Legumes in Ido Local Government Area of Oyo State, Nigeria

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Abstract

This study determined the level of awareness on underutilized legumes in Ido local government area of Oyo State. A simple random sampling technique was used to select 100 respondents for the study and structured questionnaire was used for data collection. Data collected were analyzed using both descriptive and inferential analyses. Majority (64.0%) of the respondents were male, middle aged with mean age of 45 ± 11 , 72.0% married and more than half (53.0%) were Christians. Also, (78.0%) of the respondents were Yorubas, majority (71.0%) had tertiary education, 52.0% were civil servants, 65.0% had less than 13 years of farming experience, (85.0%) had less than 11 acres of farmland. Majority (70.0%) of the respondents were aware of some underutilized legumes., ignorance was found to be the major constraints with highest mean value of 1.58, sourced information on underutilized legumes through radio with highest mean of 1.78. (95.0%) always process underutilized legumes into various forms of food (value chain). There was no significant relationship between marital status ($\chi^2=3.509$), educational status ($\chi^2=3.111$), occupation ($\chi^2=4.307$), age ($r=-0.026$), farming experience ($r=0.089$), farm size ($r=0.106$), household size ($r=-0.116$), and level of awareness on underutilized legumes while there was a significant relation between sources of information on underutilized legumes ($r=0.196$, $p<0.045$) and level of awareness on underutilized legumes and there was no significant difference in the level of awareness of underutilized legumes among male and female respondents ($t=0.002$, $p= 0.968$). The study concluded that most of the respondents had high awareness of the underutilized legumes. It is recommended that adequate knowledge and awareness of the nutritional and medicinal value of the legumes should be given to respondents in the study area.

Keywords: Awareness level, underutilized legumes, descriptive statistics, Household

Introduction

Some crops have been so neglected that genetic erosion of their gene pools has become so severe that they are often regarded as lost crops (Williams and Haq, 2002). Neglected and underused crops are and regarded as orphan,

abandoned, lost, underutilized, local, minor, traditional, alternative, niche, or underdeveloped vegetation (Padulosi, 2017) and lately frequently referred to as forgotten or clever food. These plants are generally domesticated plant species that have been used for centuries or even millennia for their food, fibre, fodder, oil or medicinal properties, however have been reduced in importance over time owing to positive motives such as: particular supply pattern, availability, palatability, affordability, awareness and use constraints. These can include, inter alia, negative shelf life, unrecognized dietary value, poor consumer focus and reputational issues (famine meals or "poor people's food", every so often due to agricultural mechanization).

Legumes have been suggested to serve as a source of non-processed protein for rural and city dwellers of the population, in particular in the terrible international locations of the world (Bamishaye *et al.*, 2011). Legumes are precise sources of fiber, and resistant starch, as properly as different nutrients, therefore, they are one of the meals crops that have the least glycemic indices (Okonkwo and Opara, 2010). Legumes belong to the household Fabaceae (or Leguminosae), or the fruit or seed of such a plant, grown agriculturally, particularly for human consumption of their grain seed (called pulse), for farm animals forage and silage, and as soil improving green manure. Well-known legumes encompass alfalfa, clover, peas, beans, chickpeas, lentils, lupin bean, mesquite, carob, soybeans, peanuts and tamarind. Fabaceae is the most frequent family located in tropical rainforests and in dry forests in the Americas and Africa (Burnham and Johnson, 2004). In developing countries like Nigeria, the rate at which the population is increasing cannot be matched with increase in food production; therefore, for food security to be achieved, apart from increasing the production of main crops, other crops that have been neglected should be given attention. This study reviews the level of awareness of the Households (Home, Cottage, Industrial level) on underutilization legumes thus various efforts should be made to improve utilization of these legumes, at home, cottage and industrial levels.

This study will be useful to the community for adopting more seriously production and to the government. Efforts are being made to improve on the production and utilization of the many legumes that are currently under-utilized in Nigeria. It has been suggested that harvesting equipment, mechanical sheller, and solar drying system, be given to processors of bambara groundnut in Nigeria to improve production within the North Eastern part of the country (Avira *et al.*, 2013). Also, Fasoyiro *et al.* (2012) suggested that equipment utilized in household and local processing of under-utilised legumes be upgraded to allow for increased production, reduced drudgery, and efficient time management. The broad objective of this study is to determine the household's level of awareness on under-utilized legumes in Ido Local Government Area of Oyo State, Nigeria

Materials and Methods

This study was carried out in Ido Local Government area of Oyo State. Ido Local Government has an region of 986 km² and a populace of 103,261 (Census, 2006). The local government was created in 1989, Ido Local Government falls between latitude and longitude of 7.45000N and 3.87020E respectively. The Local Government, with its headquarters at Ido, used to be carved out of the former Akinyele Local Government. The area used to be referred to as Akinleye West Local Government (1981-1983) during the 2nd Republic earlier than it was merged again with Akinyele Local Government by the Buhari/Idiagbon regime in 1984. It shares boundaries with Oluyole, Ibarapa East, Akinyele, Ibadan South-West and Ibadan North-West Local Governments in Oyo State and Odeda Local Government in Ogun State. The council previously has six wards, which had been elevated to ten for convenient exercising of franchise. Among the fundamental towns within the local Government Area are Ijokodo, Ido, Omi-Adio, Apata, Apete, Akufo and Bakatari as well as about 612 villages which include Ogunweide, Dada, Olowofela, Apooyin, Oderemi, Odetola, Erinwusi, Tade, Alagbaa, Iku- senla among others.

Instruments for Data Collection

A well-structured questionnaire was used in collecting the primary data for the purpose of this study

Sampling technique and sample size

A multi-stage sampling technique was used in selecting respondents. In the first stage, Ido Local government area was purposely selected out of the thirty three (33) local government areas in Oyo state, due to the predominance of production of

underutilized legumes. In the second stage four (4) wards were randomly selected out of 10 wards. In the third stage twenty (25) women were systemically selected from households in each ward making a total sample size of one hundred (100) women.

Data Analysis

Data for this study were analyzed using descriptive statistics such as frequency distribution mean and percentage while inferential statistics such as the Chi-square and Pearson Product Moment Correlation (PPMC) were used to test for the relationships among variables.

Results and Discussion

Table 1 shows that most (36.0%) of the respondents were between the age group of 40 and 50 years with mean age of 45 ± 11 which implies that most of the respondents were middle aged and are still in their active and agile years. Majority (72.0%) of the respondents were married, most (47.0%) had between 5 and 6 persons in their households with the mean household size of 4 ± 2 this shows that most of the respondents had more than 2 persons in their households to take care of. This finding agrees with Nnadi and Akwivu (2008) who opines that a unit increase in household size increased the probability of participating by about 1% Households with more residents would have greater blocks to overcome; higher food security and social needs. Also, more than half (53.0%) of the respondents were Christians, majority (78.0%) were Yorubas, mostly (71.0%) had tertiary education, this shows that most of the respondents were literate having one form of education or the other. This is in line with Okoye *et al.* (2002) and Ajibefun and Aderinola (2004) who found that educated farmers are more likely to be responsive to awareness of underutilized legumes. Results on table 1 shows that few (26.0%) were farmers with majority (65%) food security and social needs. Also, more than half (53.0%) of the respondents were Christians, majority (78.0%) were Yorubas, majority (71.0%) had tertiary education, this shows that most of the respondents were literate having one form of education or the other.

The results in table 2 shows that majority (96.0%) were aware of nutritional benefits of soya bean which had the higher percentage, other level of awareness on some underutilized legumes were soyabean is highly rich in oil of about 20% (87.0%), nutritional value of Bambara ground nut and importance of legumes in balance diet which had (72.0%) respectively. This an indication majority of the respondents were aware of nutritional benefits of soya bean and this result corroborates the work of (Omueti *et al.*, 2000) who confirmed that in Nigeria, soybean is gaining attention over other neglected and under-utilized leguminous species.

Table 3 shows that ignorance (mean=1.58) was the very sever constraints faced by the women on the utilization of underutilized legumes which had the highest mean and was also ranked first, closely followed by Inadequate of information on health benefits of legumes (mean=1.44), economic instability (mean=1.43), inflation (mean=1.41) and consumers preferences (mean=1.38) which were ranked second, third, fourth and fifth respectively. Furthermore high cost of legumes (mean=1.22), scarcity of legumes (mean=1.22) and poverty (mean=1.21) had the least mean which were ranked eleventh and thirteenth respectively and were the least constraints faced by the respondents. This is an indication that majority of the respondents in the study lack inadequate information on health benefits of legumes due to their ignorance

Table 4 shows that most of the respondents Always sourced information on underutilized legumes through television with highest mean of 1.78. This is followed by mobile phone with mean of 1.45 and radio with mean of 1.38. This implies that most household in the study area had easy access to television, radio and mobile phone and could access information through the internet based on their high literacy. However, most of the respondents leased source for information on underutilized legumes through fax with mean of 0.67 and flyers with lowest mean of 0.56.

Table 1: Distribution of respondents

Variables		Frequency	Percentage	Mean
Age	18-28	9	9.0	45
	29-39	20	20.0	
	40-50	36	36.0	
	51-61	28	28.0	
	62-72	7	7.0	
Marital status	Single	11	11.0	
	Married	72	72.0	
	Divorced	3	3.0	
	Widow	14	14.0	
Religion	Muslim	44	44.0	
	Christianity	53	53.0	
	Traditional	3	3.0	
Ethnicity	Yoruba	78	78.0	
	Igbo	18	18.0	
	Hausa	4	4.0	
Educational status	Primary	4	4.0	
	Secondary	25	25.0	
	Tertiary Occupation	71	71.0	
Farming experience	Farming	26	26.0	
	Trading	22	22.0	
	Civil servant	52	52.0	
Farm size (Acres)	Less than 13	65	65.0	12
	13-24	21	21.0	
	25-36	8	8.0	
	37 and above	6	6.0	
Household size	Less than 11	85	85.0	8
	11-20	9	9.0	
	21-30	3	3.0	
	31 and above	3	3.0	
Household size	Less than 3	11	11.0	5
	3-4	28	28.0	
	5-6	47	47.0	
	7-8	14	14.0	

Table 2: Level of awareness on some underutilized legumes

Statements	Aware	Not aware
Are you aware of the nutritional benefits of soybean	96 (96.0)	4 (4.0)
Are you aware that soybean is highly rich in oil of about 20%	87 (87.0)	13 (13.0)
Are you aware of the nutritional value of bambara groundnut	72 (72.0)	28 (28.0)
Are you aware that lima bean is a good cholesterol lowering fibre	57 (57.0)	43 (43.0)
Are you aware of the health benefits of bennised seed	58 (58.0)	42 (42.0)
Are you aware of the importance of legumes in balanced diets	72 (72.0)	28 (28.0)
Are you aware of the nutritional benefits of bennised seeds	65 (65.0)	35 (35.0)

Table 3: Constraints to the utilization of underutilized legumes

Constraints	Severe	Mild	Not a constraint	Mean	Rank
Poverty	27 (27.0)	67(67.0)	6 (6.0)	1.21	13 th
Inadequate credit facilities	37 (37.0)	63(63.0)	0 (0.0)	1.37	6 th
Ignorance	66 (66.0)	26(26.0)	8 (8.0)	1.58	1 st
Inadequate of information on health benefits of legumes	50 (50.0)	44(44.0)	6 (6.0)	1.44	2 nd
Consumers preferences	46 (46.0)	46(46.0)	8 (8.0)	1.38	5 th
Lack of processing techniques	36 (36.0)	52(52.0)	12 (12.0)	1.24	10 th
High cost of legumes	37 (37.0)	48(48.0)	15 (15.0)	1.22	11 th
Scarcity of some legumes	31 (31.0)	60(60.0)	9 (9.0)	1.22	11 th
Large household members	43(43.0)	45(45.0)	12(12.0)	1.31	7 th
Illiteracy	48(48.0)	35(35.0)	17(17.0)	1.31	7 th
Economic instability	50(50.0)	43(43.0)	7(7.0)	1.43	3 rd
Inflation	50(50.0)	41(41.0)	9(9.0)	1.41	4 th
Inadequate information on	40(40.0)	49(49.0)	11(11.0)	1.29	9 th

Table 4: Sources of information on underutilized legumes available to households

Sources	Always	Occasionally	Not at all	Mean	Rank
Radio	86 (86.0)	11 (11.0)	3 (3.0)	1.38	3 rd
Television	80 (80.0)	18 (18.0)	2 (2.0)	1.78	1 st
Mobile phone	55 (55.0)	35 (35.0)	10 (10.0)	1.45	2 nd
Newspaper	24 (24.0)	63 (63.0)	13 (13.0)	1.11	4 th
Posters	21 (21.0)	49 (49.0)	30 (30.0)	0.91	5 th
Library	16 (16.0)	49 (49.0)	35 (35.0)	0.81	6 th
Fax	14(14.0)	39(29.0)	47(47.0)	0.67	9 th
Flyers	8(8.0)	40(40.0)	52(52.0)	0.56	10 th
Magazine	13(13.0)	44(44.0)	43(43.0)	0.70	8 th
Billboards	13(13.0)	49(49.0)	38(38.0)	0.75	7 th

Result on Table 5 shows Chi-square analysis between selected socio-economic characteristics of the respondents and level of awareness of underutilized legumes. There was no significant relationship between sex ($\chi^2=1.620, p>0.05$), marital status ($\chi^2=3.509, p>0.05$), religion ($\chi^2=2.553, p>0.05$), ethnicity ($\chi^2=0.814, p>0.05$), educational status ($\chi^2=3.111, p>0.05$), occupation ($\chi^2=4.307, p>0.05$) and level of awareness of underutilized legumes. Thus, the null hypothesis is accepted. This implies that respondents' sex, marital status, religion, ethnicity, educational status and occupation do not have any influence on their level of awareness on underutilized legumes.

Table 5: Result of chi-square analysis between selected socio-economic characteristics of the respondents and level of awareness of underutilized legumes

Variables	χ^2	df	P-value	Decision
Sex	1.620	1	0.203	NS
Marital status	3.509	3	0.320	NS
Religion	2.553	2	0.279	NS
Ethnicity	0.814	2	0.666	NS
Educational status	3.111	2	0.211	NS
Occupation	4.307	4	0.366	NS

Table 6 shows that there was no significant relationship between age ($r=-0.026, p>0.05$), farming experience ($r=0.089, p>0.05$), farm size ($r=0.106, p>0.05$), household size ($r=-0.116, p>0.05$) and level of awareness of underutilized legumes. Thus, the null hypothesis is accepted. This implies that respondents' age, farming experience, farm size and household size of the respondents do not have any influence on the level of awareness of underutilized legumes.

Table 6: Pearson correlation result between selected socio-economic characteristics of the respondents and level of awareness of underutilized legumes

Variables	r value	p value	Decision
Age	-0.026	0.799	NS
Farming experience	0.089	0.381	NS
Farm size	0.106	0.292	NS
Household size	-0.116	0.251	NS

Table 7 shows that there was a significant relationship between sources of information on underutilized legumes ($r=0.196, p<0.045$) and level of awareness of underutilized legumes. Thus, the null hypothesis is rejected. This implies that source of information had an influence on the level of awareness of underutilized legumes. This means that the more available the sources of information were to the respondents, the more they tend to be aware of underutilized legumes.

Table 7: Pearson correlation result between sources of information on underutilized legumes and level of awareness of underutilized legumes

Variables	r value	p value	Decision
Sources of information	0.196	0.045	S

Conclusion

The study concluded that most of the respondents, who were middle aged, had high literacy level and were mostly aware of the underutilized legumes. Information on the underutilized legumes was majorly sourced through radio and had the knowledge of processing of the legumes to various forms of food. Based on the findings from this study, the following recommendations are made: Adequate knowledge of the nutritional and medicinal value of the legumes should be given to the respondents in the study area in order to optimally utilize the legumes. Radio should be used for dissemination of information regarding underutilized legumes so that it can cover a wide range of people. There should be an increase of programmes on utilization of legumes on different media available to the respondents in the study area.

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Conflict of Interests

The authors declare that there is no conflict of interest.

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