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CULTURAL BELIEFS ON GRASSCUTTER CONSUMPTION AND WILLINGNESS TO ADOPT ITS DOMESTICATION TECHNOLOGY AMONG URBAN DWELLERS IN SOUTHWEST, NIGERIA

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Abstract
This study investigated the cultural beliefs on grasscutter consumption and the willingness to adopt its domestication technology in South-West, Nigeria. Multi-stage sampling procedure was used to select 160 respondents from 8 urban towns in Oyo, Ogun and Osun States. Well-structured questionnaire was used for data collection. Data was analysed using descriptive and correlation analysis. Results showed that the majority of the respondents were males, educated and married. Many (40.6%) respondents indicated being aware of grasscutter domestication technology and the major sources of information were through family and friends and ADP staff. The correlation coefficient showed no significant relationship between respondents' awareness of the technology and willingness to adopt the technology. There was significant relationship between the cultural beliefs on the consumption of grasscutter meat, and willingness to adopt its domestication technology. There is therefore need for policy advocacy for increased consumption of grasscutter meat and adoption of the grasscutter domestication technology for enhanced nutrition security and livelihood among the urban dwellers in the study area.

Keywords: Grasscutter, technology, adoption, cultural beliefs, consumption, and urban dwellers

Introduction

Nigeria is faced with huge food security challenges; about 70% of its population lives on less than $1 per day, exacerbating hunger and malnutrition (Nwajiuba, 2012). Animal production is a very important sector of the economy of any nation. The wild is a major source of animal protein both in urban and rural areas of Nigeria. (Adu *et al.*, 2017). About 80, 000 tons of bush meat is consumed annually in West Africa, which only about 0.2% is sourced from farms (Onebunne, 2013). If this should continue, it implies that Nigeria will experience a disastrous shortage in animal protein supply because of the present high rate of deforestation that is threatening globally (Olagunju, 2015). FAO (1982) indicated that reliance on livestock sector alone cannot solve the deficit of animal protein in Nigeria, with ever increasing human population and an obvious protein shortage in Africa, there is the need for an exploration of other means to provide readily acceptable meat on short term basis. Among the wild rodents, the grasscutter, or cane rat or cane cutter is the most preferred (Ashibey and Eyeson, 1975). It is therefore obvious that the growing shortage of protein in Nigeria and the rapidly increasing demand for livestock products could be solved through production of grasscutter meat (Ajayi, 1971; Ashibey, 1974; Adekola and Ogunsola, 2009). Grasscutter meat is considered a delicacy and the nutritive value is relatively high (Baptist and Mensah, 1986; Obi *et al*., 2008). Apart from attempting to balance the shortfall in national animal protein supply, the high demand for grasscutter meat could offer opportunities to small scale farmers, urban and rural dwellers (Mensah and Okeyo, 2005).

Studies on cane rat domestication and breeding have been on since 1971, yet farming of cane rat is not popular in South-West Nigeria, and most grasscutters sold in bushmeat markets in Nigeria are still sourced from the wild by rural dwellers (Akinola *et al*., 2014). The rural dwellers may see no justifiable reason to stop the hunting for grasscutter in the wild because the occupation was handed down to them by their forefathers, but the urban dwellers as a result of their exposure can be encouraged to adopt grasscutter domestication technology. Bushmeat prices increase with proximity to urban areas (Brashares *et al.*, 2011). More so in the Post Ebola era, many urban dwellers may not want to handle or eat grasscutter from the wild for the fear of contacting diseases (Ebewore *et al.*, 2015).

With the increase in the level of deforestation, wildlife exploitation, high cost of grasscutter meat and fear of contacting diseases from the animal in the wild, there is therefore an urgent need to investigate the willingness of urban dwellers to adopt the grasscutter domestication technology.

According to UNICEF, Food-Care Health conceptual framework, cultural norms, taboos and beliefs lie within the contextual factors included as one of the basic causes of malnutrition (Abubarkar *et al*., 2011; UNICEF, 1990). From the result of a study conducted in Eastern Nigeria, there so many taboos associated with the consumption of grasscutter (Ekwochi *et al*., 2016). Grasscutter is one of the most commonly foods avoided during pregnancy because it was believed that it will make labour to be difficult and prolonged during delivery. Maduforo (2010) also found the same traditional belief in a study on the traditional and nutritional habits among pregnant women in a rural Nigeria setting. Barriers to technology adoption include: lack of access, skills and experience (Hargittai, 2002), insufficient training (Cotton *et al*., and Anderson, 2016; Czaja and Sharit, 2013), decreased confidence in ability to use technology (Czaja *et al*., 2006: Siren and Knudsen, 2017). However, these barriers do not fully explain why individuals may be less willing to adopt technologies. Other factors, such as awareness and cultural beliefs on the consumption of the grasscutter meat should also be investigated. Knowledge of these factors and their interrelationships can provide important information towards the development of strategies to promote greater technology adoption by urban dwellers, which could in turn result in reduction of malnutrition in the study area.

Methodology

The study was carried out in South-West Nigeria, comprised of six States; Oyo, Ondo, Ogun, Osun, Ekiti and Lagos. National Population Commission (2007) reported that 27 511 892 people live in South-West Nigeria. Agriculture is one of the major sources of income for greater number of people in the States providing food and shelter, employment, raw materials and remains an important source of internally generated revenue. The climate is tropical with distinct wet and dry seasons, and temperature ranging between 22-38^{0}C, which favors the growth of food crops like yam, cassava, millet, maize, fruits, vegetables, plantains, cocoa and tobacco. Livestock (ruminant, poultry, fish and forest animals like grasscutter) can be found in the thick forest riverside areas in the States. The States has two vegetative zones: derived savannah and forest. Multi-stage sampling procedure was used for the study. In the first stage, three States were randomly selected (Oyo, Ogun, Osun). In stage two, eight urban settlements were purposively selected from the three States (Ibadan, Ogbomosho and Eruwa from Oyo State; Abeokuta and Ijebu-ode from Ogun State; Oshogbo, Ife and Ilesha from Osun State). In stage three, 20 urban dwellers were selected from each of the urban settlements making a total of one hundred and sixty (160) respondents. Well-structured questionnaire was used to elicit respondents' socio-economic characteristics, awareness and cultural beliefs on the consumption of grasscutter meat and willingness to adopt the grasscutter domestication technology. The data collected were analysed by the use of descriptive and inferential statistics tools. The descriptive statistics used include frequency distribution and percentages which was to describe the grasscutter awareness status of the respondents, examine the sources of information in the study area and also to identify the reasons for adopting the grasscutter technology as well as ascertain the willingness to adopt the grasscutter technology. Spearman rank correlation coefficient was used to analyse both hypotheses 1 and 2.

Results and Discussion

The result in Table 1 showed the awareness status of the respondents. According to the result, majority (59.4%) of the respondents were not aware of the grasscutter technology, while 40.6% were aware of the technology. The implication is that the technology is not popularly known in the study area, probably because of their high dependence on other mini-livestock which is readily available to the respondents. This result is in line with the findings of Sheu (2018) on factors influencing awareness of grasscutter farming in which just 32% of respondents indicated that they had knowledge about domestication of grasscutter.

Table 1: Grasscutter Technology Awareness Status of respondents

Grasscutter Technology Awareness Status	Frequency	Percentage (%)
Aware	65	40.6
Unaware	95	59.4
Total	**160**	**100**

Source: Field study, 2020

Results in Table 2 show the sources of information on grasscutter domestication technology in the study area. The findings revealed that 27.5% of the respondents indicated that Friends and family were their source of information, 25.6% indicated ADP staff, 15.6% radio 8.1% television, while the least (1.9%) indicated newspapers. In summary, friends and family, ADP staff and radio were the major sources of information. The implication is that people tend to access information through individuals at the grassroots- people who they relate with like family and friends, and those (ADP) who reach out to them, other than through sources outside

their reach. It also indicated that the mass media, especially the radio can also be a good source of creating awareness because they are within the reach of individuals. However, the prints came out to be the weakest source of awareness, probably because it is cumbersome and not readily accessible to them. The result is in tandem with the findings of Sheu (2018) on factors influencing awareness of grasscutter farming in which the highest source of awareness was through family and friends.

Table 2: Sources of Information on Grasscutter Technology

Source	Frequency (N)	Frequency (%)
Friends and family	44	27.5
ADP staff	41	25.6
Radio	25	15.6
Television	13	8.1
Newspaper	3	1.9

Source: Field survey, 2020

The results in Fig. 1 show that majority (83.1%) of the respondents indicated consumtion as the reason they would adopt grasscutter domestication technology, while only 16.9% indicated for sales. The implication is that the respondents viewed grasscutter meat as a delicacy, rather than a source of revenue generation. This is in line with the study of Ibitoye *et al*. (2019) who reported that to urban dwellers, grasscutter meat is highly palatable, referred to as the king of bushmeat and purchased at exorbitant prices from rural dwellers because of its scarcity.

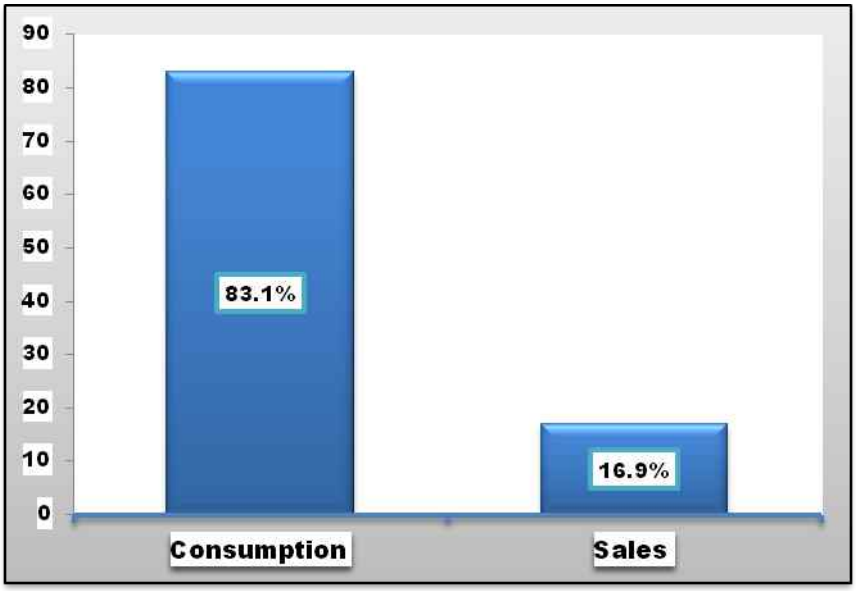

Figure 1: Reasons for Adopting Grasscutter Technology

The result in Table 3 show the levels of agreement of cultural beliefs related to grasscutter domestication technology According to the result, grasscutter is not good for the obese (unhealthily or excessively fat individuals) (x = 3.19), grasscutter is a mysterious animal (x = 3.06), grasscutter meat consumption can cause false labour in pregnant women and children eating grasscutter have tendency to steal (x = 3.05) had mean value above 2.88 the grand mean value. The implication is these cultural beliefs were considered important by respondents as affecting the willingness to adopt grasscutter domestication technology. This is in tandem with the report of Maduforo (2010) who reported the same traditional beliefs in a study on the traditional and nutritional habits among pregnant women in Nigeria.

Table 3: Assessment of cultural beliefs of grasscutter technology in the study area

Cultural Beliefs	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Rank
Eating grasscutter is tantamount to eating our ancestors.	15 (9.4)	75 (47.2)	54 (34.0)	16 (10.1)	2.45	5th
Grasscutter meat consumption prolongs labour pain in pregnant women.	15 (9.4)	73 (45.6)	53 (33.1)	19 (11.9)	2.48	4th
Grasscutter is a mysterious animal.	5 (3.1)	38 (23.8)	83 (51.9)	34 (21.3)	3.05	3rd
Grasscutter is not good for the obese.	8 (5.0)	26 (16.3)	76 (47.5)	50 (31.3)	3.19	1st
Children eating grasscutter have tendency to steal.	5 (3.1)	18 (11.3)	103 (64.8)	34 (21.4)	3.05	3rd
Grasscutter meat consumption can cause false labour in pregnant women.	5 (3.1)	15 (9.4)	106 (66.3)	34 (21.3)	3.06	2nd

Source: Field survey, 2020

Table 4 presents the assessment of respondents' willingness to adopt the grasscutter technology in the study area. The respondents' willingness to adopt was highest (93.1%) with respect to the response question 'Assuming you have enough plot of land, will you be willing to rear grasscutter' and the lowest (79.4%) for 'If you were given a breeding stock of grasscutter, will you be willing to rear them'. All together the assessment of respondents' willingness to adopt is beyond average, considering all other factors This implies that majority of the respondents were willing to rear grasscutter if variables like space, fund, availability of ready-made buyer, breeding stock, grasscutter feed and training are available. This result of this finding supports the study of Pantanali (1987) and Annor and Kushi (2008), who reported that fund and availability were found to influence adoption.

Table 4: Assessment of willingness to adopt grasscutter domestication technology in the study area

Indicators of Willingness to Adopt Grasscutter Domestication Technology	Yes N (%)	No N (%)
Do you have a space in your house to domesticate grasscutter	134 (83.8)	26 (16.3)
Are you willing to rear grasscutter	83 (51.9)	77 (48.1)
Assuming you have access to fund, will you be willing to rear grasscutter	147 (91.9)	13 (8.1)
Assuming you have enough plot of land, will you be willing to rear grasscutter	149 (93.1)	11 (6.9)
If you have a ready -made buyer, will you be willing to rear grasscutter	147 (91.9)	13 (8.1)
If you have a ready -made supplier of grasscutter feed, will you be willing to rear them	147 (91.9)	13 (8.1)
If you were given training on grasscutter rearing, will you be willing to rear grasscutter	147 (91.9)	13 (8.1)
If you were given a breeding stock of grasscutter, will you be willing to rear them	127 (79.4)	33 (20.6)
If you were living in your own personal house, will you be willing to rear grasscutter	135 (84.4)	25(15.6)

Source: Field survey, 2020

Table 5 revealed the result of the relationship between respondents' cultural beliefs on grasscutter consumption and the willingness to adopt the grasscutter domestication technology. It showed that there is significant relationship between respondents' cultural beliefs on grasscutter consumption and their willingness to adopt the grasscutter domestication technology. The coefficient correlation was significant at 1% level. The result of this study is in line with the finding of Kodikarage and Broekel (2016) which highlighted cultural constraints is one the factors that significantly predict adoption of agricultural technologies.

Table 5: Correlation analysis showing relationship between cultural beliefs and willingness to adopt grasscutter technology

Variables De scription	r- value	p- value	Remark	Decision
Cultural Beliefs and Willingness to Adopt	0.336	0.000	H_0 Rejected	Significant

Source: Field survey, 2020

****Correlation is significant at the 0.01 level**

Table 6 revealed the result of the relationship between respondents' awareness on grasscutter domestication technology and the willingness to adopt the grasscutter domestication technology. It showed that there was no significant relationship between respondents' awareness on grasscutter domestication technology and their willingness to adopt the grasscutter domestication technology. The result of this study opposed the findings of Acheampong *et al*. (2018) who revealed that awareness positively and significantly influenced the adoption of agricultural technologies.

Table 6: Correlation analysis showing relationship between awareness and willingness to adopt grasscutter technology

Variables Description	r- value	p- value	Remark	Decision
Awareness about Grasscutter Technology and Willingness to Adopt	-0.161	0.204	H_0Accepted	Not Significant

Source: Field survey, 2020

Conclusion

The study shows that majority (59.4%) of the respondents were not aware of the domestication of the grasscutter technology among the respondents. The respondents' sources of awareness were mostly through family and friends and ADP staff, and majority would be involved in the adoption of the technology for consumption purposes. In summary, the research reveals that there was no significant relationship between respondents' awareness of the grasscutter domestication technology and their willingness to adopt the technology, while there was a significant relationship between respondents' cultural beliefs on grasscutter consumption and their willingness to adopt the grasscutter domestication technology. The study recommends advocacy campaign for the consumption of domesticated grasscutter meat without reservation and fund extension agents to extend trainings to urban dwellers on the adoption of grasscutter domestication. In like manner, extension agents should encourage both urban and rural dwellers to adopt grasscutter domestication.

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