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Peri-Urban and Urban Farmers' Perceptions of Mini-Livestock Farming in Southwestern Nigeria

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Abstract

The study focused on perception of peri-urban and urban farmers about mini-livestock farming in South-Western Nigeria. Specifically, the peri-urban farmers' socio-economic characteristics, level of involvement in rearing mini-livestock, constraint associated with mini-livestock farming and farmers' perception about mini-livestock farming were examined. One hundred and eighty-two respondents were interviewed through the use of structured interview schedule and Focus Group Discussions (FGDs). Data analysis was carried out using frequency counts, percentage, mean, standard deviation and correlation. The results of the study showed that more males were involved in mini-livestock rearing than females, while the mean age of the farmers was 46 years. Majority were literate and information sourced from fellow farmers was the most common and reliable source of information accessible by the respondents, but there was low extension contact. Problems confronting the respondents include inadequate credit facilities, untimely supply of inputs, improper management skill and low extension contacts. Peri-urban and urban farmers had moderate perception about mini-livestock farming but with low level of involvement in the production. In conclusion, there is need to arouse the interest of farmers through training and re-training in the management practices of these mini-livestock. A little motivation from change agents research institutes and government policy makers could boost production of mini-livestock.

Key words: Change agents, credit facilities, management practices, perception, training.

INTRODUCTION

Many small animals, such as rodents and giants snails, are threatened by extinction in Nigeria and African countries as a whole. Rearing these types of animals in captivities does not only help to protect and preserve them from going into extinction, but also serve as a source of protein and income for peri-urban farmers. The rearing of such small body size animal that requires moderate nutrition and management is referred to as Mini-livestock (micro-livestock) production (Akinnusi1998). Mini-livestock keeping according to Technical Centre for Agriculture and Rural Cooperation (CTA) (2008) can also be described as the farming of small wild indigenous species such as grasscutter *Thryonomys swinderianus*, Giant African snails (*Achatina spp* and *Archachatina spp*) and other rodents. Mini-livestock keeping covers various species of vertebrates and invertebrates (CTA, 2008).

The smallness of the size of mini-livestock animals is undoubtedly one of their most significant assets, since it makes it possible to raise and manage them in small areas and in clusters (Thys, 2001). Rearing these types of livestock will help to improve their conservation in the bush. It is a known fact that most mini-livestock are being reared in peri-urban areas of South-western parts of Nigeria as coping strategies in a situation where reliance on one economic activity is not sufficient to meet the needs of the people. Studies (CTA, 2008; Akinola and Letorna, 2008) have also shown that in some parts of Central and West Africa, consumers prefer meats of mini-livestock animals, popularly referred to as 'bush meat', and consider them a great delicacy, compared with beef. Small-scale farming of certain breeds of rodent is now widely seen as an invaluable asset in the fight against malnutrition and poverty.

Perception involves the process an individual undergoes to understand his environment both social and physical world through his senses. Perception is the first step in memory because information perceived forms an impression on the mind. Shepherd (1998) claimed that perception or feeling of people about the benefit that will accrue from activities would influence their involvement in it. Perception has influence in involvement in mini-livestock production.

The Agricultural Development Programmes (ADPs) of South-Western Nigeria, which has the mandate of disseminating new technologies received from research institutes, claimed to have introduced and trained peri-urban and urban farmers in mini-livestock keeping and their management practices. The above scenario notwithstanding, there has been low level of involvement in mini-livestock farming among peri-urban and urban farmers (Imran, Kehinde, Samuel, Adesope, and Akinyemi, 2007). Based on the foregoing, this study sought to assess perception of peri-urban farmers towards mini-livestock production in South-Western Nigeria.

The main objective of the study was to assess peri-urban and urban farmers' perception of mini-livestock farming. The specific objectives were to

(i) describe personal socio-economic characteristics of peri-urban farmers that involve in mini-livestock production;
(ii) determine peri-urban farmers' level of involvement in these min-livestock;
(iii) examine constraints associated with mini-livestock farming; and
(iv) assess the level of peri-urban farmers perception about mini-livestock farming.

Research Methodology

The target population of this study was mini-livestock farmers such as grasscutter and snail farmers. Four states namely Osun Ondo and Oyo were purposively sampled in Southwestern Nigeria because extension agents

claimed to have disseminated technologies on mini livestock to peri-urban and urban farmers in aforementioned states. Multistage sampling procedure was used to select respondents from the four states. In first stage, two Local Government Areas (LGAs) were randomly selected from each state making a total of 8 LGAs in the four states. These LGAs are Ife East and Ife Central in Osun State, Ondo West and *Ile-oluji/Oke-Igbo* in Ondo State and Ibadan North-East and Ibadan North-West in Oyo State. At the second stage, four peri-urban communities were randomly selected from each of the LGAs based on the list of prevalent communities that are raising mini-livestock collected from the agricultural officers in the state ministry of agriculture, giving a total of 24 communities. At the third stage, all the 38 grasscutter farmers in the sampled communities were purposively selected and 10 percent of snail farmers in each of the 24 communities using snowball sampling technique (Table 1). A total of 144 snail farmers and 38 grasscutter farmers were selected and interviewed for the study.

Structured interview schedule was used to collect relevant quantitative data while Focus Group Discussions (FGDs) was used to elicit qualitative data. The data collected were edited; coded and Statistical Package for Social Sciences (SPSS, version 16) was used for data analysis. Descriptive statistics such as percentages, mean and standard deviation were used to summarize the data. Pearson correlation was used to determine the relationship farmers' perception and the variables studies

The farmers perception statement was measured through the use of likert scale such as strongly agreed, agreed, undecided, disagreed and strongly disagreed. To determine the level of perception of farmers mean ± standard deviation.

Results and Discussion

Results in Table 2 show that majority of farmers (65.7%) were between the ages of 30 and 60 years. This indicates that majority of the peri-urban farmers in the three states were within productive age range. Also majority (64.3%) were male, while 36.7 percent were female. The finding corroborates that of Ogunjimi (2011) who reported that majority of farmers that engaged in mini-livestock farming in South-Western Nigeria were male. The mean number of household size was 8.0 with a standard deviation of 5.4. The small size of household may be due to the fact that majority of the respondents were monogamist, which may be attributed to their level of education and religious affiliation. This finding is in line with that of Kolawole (1998) where it was reported that mean household size of rural areas of Lagos State in South-Western Nigeria was 8.0. Majority (61.7 %) of the farmers were Christians while 35.0 percent were Muslims. This finding is an indication that Christianity and Islam were the common religious practices in the study area. Unlike some bush meat which may not be killed or touched because of religious dictates, traditional taboos or prejudices (Vos, 1978), the grasscutter meat transcends religious prohibitions and even Muslims who do not consume guinea pig are known to consume grass cutter (Annor and Kusi, 2008).

Majority (76.6 %) were literate, while 23.3 per cent had never been to school. This indicates that farmers can easily comprehend whatsoever they learnt and can read instructions and manuals about feeding, breeding materials and other management practices. Above average (53.7%) claimed to have attended training organised by Local and state ministry of agriculture, while 42.3 and 32.6 percent have attended training and workshop organised by University and Research institutes. Results of Focus Group Discussions conducted indicate that some of the farmers had attended seminar workshop and training from research institution such as Forestry Research Institute of Nigeria, Ibadan; Department of Agricultural Extension of Obafemi Awolowo University, Local Government and State Ministry of Agriculture. One of the discussant at Basorun in Ibadan Northeast, Oyo State said '*we have attended training on grasscutter rearing and snail farming by trainers from State Ministry of Agriculture Oyo State at the Ibadan Northeast LGA headquarter but there is no follow up from the trainers'*. The implication of this is that, despite the fact peri-urban farmers attended training that could assist in raising their economic status and empowered them to use their locally available resources in improving their livelihood, lack of follow-up of such training programmes would not help to consolidate the gains of organising such training programmes.

Result in Table 2 also shows that majority (67.3 %) of the respondents had less than five times in a year contact with extension agents to discuss issues concerning selected mini-livestock production and their management practices, while 23.3 percent had no contact with extension agents. The implication of low extension contact is that farmers may not be well exposed to requisite training on the management practices which may subsequently affect production of the mini-livestock in the study area. The result also shows that majority (63.8 %) sourced for loan from farmers' cooperative society, which shows the importance of this organization as a good source of financial empowerment to farmers. The mean annual income realized by grass cutter farmers was ₦76, 000 with standard deviation of ₦15, 610, whereas the mean annual income of the snail farmers was ₦69, 335 with standard deviation of ₦12, 452. Majority (59.7 % and 52.7 %) of the respondents in Table 3 indicated they sourced information related to snailery and grass-cutter farming from other farmers while 49.3 percent and 39.6 percent of snail and grasscutter farmers, respectively, got information from radio and 45.1 and 42.1 percents from extension agents. Also, 44.7 percent of grasscutter farmers claimed sourcing information from research institutes. Information sourced from other farmers was thus most common and reliable source of information among the respondents. Agricultural Development Programme (ADP) and Research Institutes need to always be on ground to give reliable information to farmers on the management skill required.

Involvement in mini-livestock:

Results in Figure 1 show that sizeable percentage (79.1%) of respondents were involved in snail and while (20.9%) of the farmers were rearing grasscutter (cane rat), respectively. The findings indicate that the number of peri-urban farmers engaged in snailery were more than those involved in grass cutter farming. Low involvement in grass cutter rearing might be due to inadequate technical –know-how on their management practices.

Categorization of peri-urban farmers by level of involvement in mini-livestock production

Results in Figure 1 show that majority (75.0 %) who claimed to be involved in grass cutter rearing were involved at low level, while 25.0 percent had high level of involvement. Above average (51.2%) had low level of involvement in snail rearing, while 48.8 per cent were highly involved in the rearing of snail**.** The finding shows that snail farming had high patronage of the respondents in the study area. On the other hand majority of the respondents were well informed about the domestication of the selected mini-livestock but surprisingly, few of them were actually fully involved in mini-livestock farming especially grass cutter. This might be as a result of inadequate technical skill in breeding, feeding, diseases and pests control, processing, packaging, storage, marketing, and other management practices.

Constraint associated with mini-livestock farming: Most of the problems confronting peri-urban and urban farmers that were involved in mini-livestock include inadequate credit facilities (mean=3.79), untimely supply of inputs (mean=3.46), inadequate management skill (mean=3.38), inadequate information (mean=3.19), low extension contact (mean=3.19), high cost of production materials and inadequate processing technology (mean=2.67).

Rank-order of statement of opinion on perception of peri-urban and urban farmers about involvement in mini-livestock farming.

Table 5 shows that the grand mean perception score of the respondents toward involvement in selected livestock production was 3.73 with standard deviation of $\pm$0.5 The statement of opinion that "involvement in selected livestock production (such as grasscutter, and snail farming) is a worthwhile venture, hence, farmers should be encouraged to go into it" was ranked best with mean score of 4.35. "Livestock production mentioned increase income of farmers, hence, involvement is necessary" was ranked second (2^{nd}) with mean score of 4.29.

Other statements were ranked in the following order: "livestock production makes mini-livestock farmers busy all the year round" (mean = 4.18), "market value of some of these mini- livestock production mentioned are commensurate with the cost of production" (mean= 3.90), most of these activities are environmental friendly (mean = 3.87). Research–extension–farmers linkage encouraged farmers involvement in the activities mentioned (mean = 3.58), production technologies for this activities are inadequate, hence discourage investment in it (mean = 3.54), activities mentioned required a lot of technical know-how (skill) which is very difficult to acquired (mean 3.50), mini-livestock production is a waste of time venture, hence, involvement is not necessary (mean = 3.35); cultural taboos in my community discourage farmers from going into these activities (mean = 3.27); most of these mini-livestock mentioned are vulnerable to pests and diseases, hence discourage involvement in these activities (mean = 3.19); and inadequate infrastructural facilities are responsible for not involved in these activities mentioned came last with mean score of 3.00.

The mini-livestock mentioned are worthwhile ventures, hence farmers should be encouraged to venturing into them was highly ranked, which is an indication that peri-urban and urban farmers perceived involvement in the activities as a necessity which could bring additional sources of income especially during the off season.

The finding revealed that 61.7percent of the total respondents had medium perception about the perceptional statements, while 20.3 percent and 18.0 percent had high and low perception respectively as shown in Table 6. On perception statement score, peri-urban and urban farmers had moderate perception about involvement in selected mini-livestock. It could be deduced that there is need to arouse the interest of farmers through training and re-training in the management practices of these mini-livestock. A little motivation from change agents and research institutes and government policy makers could boost production of selected mini-livestock.

During an FGD session at Bajare community in Idanre LGA, Ondo State, members indicated their interest towards these activities and their readiness to expand their scope of involvement if given required training. A discussant said our involvement in these activities is at minimal level; we want to expand but we have little knowledge about most of these activities and we believe it is a worthwhile venture, where we can make more money to feed our family. The statement indicate that peri-urban and urban farmers were not fully involved because they had little knowledge and also acquired little skill on the management practices of the mentioned coping strategies. If these farmers could be trained, they may likely be more involved.

Testing of hypotheses

Results in Table 7 also reveal positive and significant relationship between the level of involvement in mini-livestock and perception of peri-urban farmers about mini-livestock production ($r= 0.282$; $P \leq 0.01$). This result could probably be due to the fact that majority of the farmers that were involved mini-livestock farming had positive perception about the statement of opinion at moderate level. The higher the level of perception of farmers about mini-livestock farming, the higher the level of involvement in the production. Furthermore, there existed a positive and significant correlation between farmers' perception of mini-livestock farming and participation in social organization ($r = 0.225$;$P\leq 0.01$). The higher the farmers participation in social organization, the more they are exposed to information through other members of the organisation about these activities, which might in turn increase their feeling towards it. Moreover, characteristics of selected mini- livestock ($r=0.242$ $P\leq 0.01$) had positive and significant relationship with farmers' perception of mini-livestock production. The correlation results in Table 7 show that characteristics of mini-livestock such as compatibility ($r = 0.178$; $P\leq 0.01$); availability ($r=0.250$; $P\leq 0.01$); visibility ($r =0.274$; $P\leq 0.01$); openness ($r = 0.246$; $P \leq 0.01$) had positive and significant relationship with the farmers' perception towards mini-livestock farming.

This shows that the more the mini-livestock production and their management practices were available, compatible with existing practices, visible on the income of farmers, open in terms of discussion on management practices, the higher the farmers level of farmers' perception . This could imply that when the technology involved in the production of the activities was made available, compatible,

openness and economically desirable, there is every tendency for the farmers to be more committed and positively change farmers' perception towards mini-livestock production.

However, complexity of the management practices(r=-0.178) had negative but significant relationship with the level of farmers' perception of mini-livestock farming. As long as production technology and other management practices were simple and easy to handle, farmers would be more involved in these activities. This indicated that the higher the complexity of mini-livestock management practices, the lower the level of perception of peri-urban and urban farmers towards livestock farming.

Conclusion: Based on the findings of the study the following conclusions were made. Majority of farmers (65.7%) were males and between the ages of 30 and 60 years. Also majority were literate, and have attended training organised by local and state ministry of agriculture, university and research institutes, but there is no follow up from the trainers. 'Other farmers' was the most common and reliable source of information and there was low extension contact. Majority of the farmers interviewed were engaged in snail farming whereas, minority were practicing grass cutter farming. Majority of those involved in snailery and grasscutter farming and their management practices were involved at low level of production. Problems confronting respondents in rearing mini-livestock include inadequate credit facilities, untimely supply of inputs, inadequate information, improper management skill, low extension contact and inadequate processing technology. The finding revealed that majority of peri-urban farmers had medium perception about mini-livestock production.

Recommendations: Since perception of peri-urban farmers about mini-livestock farming was at medium level, there is need to arouse the interest of farmers through training and re-training in the management practices such as production, packaging, processing, storage and marketing to be organized by the extension agents. There should be follow-up visits to ensure the desired result among peri-urban farmers. Farmers should be encouraged to join a functional cooperative society in order to access credit facilities from government and other relevant financial institutions. If these recommendations can be adhered to, more farmers will be encourage going into mini-livestock farming which will, consequently, lead to increase in production of the selected mini-livestock, enhance sustainable livelihoods and alleviate poverty among the populace.

References

(1)Akinola, O, and Letorna A.F. 2008. Grasscutter farming: An initiative in protein supply. An invited paper presented at Agricultural product development strategy workshop organised by River State Sustainable Development Agency (RSSDA) held on 9th - 10th September, 2008 in Port-Harcourt, River State.

(2) Akinnusi, O *Inroduction to Snail Farming* Omega Science Publisher Tinuoso House Lagos Nigeria Pp 1 -4. 1998

(3) Imran, G.T., Kehinde, A.S., Samuel, A. A., Adesope, A. A., and Akinyemi, O. D.. Problems and challenges of grasscutter farming in Ibadan and its environs Journal of Forestry Reseach and Management, 4:25-34. 2007

(3) Annors S.Y. and Kusi C. Factors influencing the adoption of grasscutter production in the Brong Ahafo Region of Ghana Livestock Research for Rural Development 20(9) 2008

(4) Kolawole O.D. The Rural Households of Lagos State: Problems and Prospects. Centre for Rural Development. Lagos State Univeristy, Nigeria; 6th Ed. 587p 1998

(5) Ogunjimi,.S.I. Assessment of cacao farmers' livelihood coping strategies in selected states of Southwestern Nigeria Thesis Ph.D (Agricultural Extension and Rural Sociology) Obafemi Awolowo University, Ile-Ife, Faculty of Agriculture. Pp 81-89 2011.

(6) Shepherd, A. *Sustainable Rural Development* London Macmillan Press Ltd pp 55-205. 1998

(7) Technical Centre for Agricultural and Rural Cooperation. *''Mini-livestock keeping: Think big with mini-livestock''*. Field report from Togo 2008.(online) *Retrieved on* 24th December, 2011 Available *http://www.ledis-ifas ufi.edu.FAO 48.htm*

Vos A. *De Game as Food*: A report on its significance in Africa and Latin America, Unasylva, 2 – 12pp1978.

ANNEXURE

Table 1
Distribution of grass cuter farmers per Local Government Area

Local Government	Number of Grasscutter farmers
Ibadan Northeast	10
Ibadan Northwest	9
Ife East	5
Ife Central	7
Ondo West	3
Ile Oluji/Oke-Igbo	4
Total	38

Source: Field survey 2011

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Table 2

Distribution of peri-urban farmers according to socio-economic characteristics N=182

Variables	Frequency	Percentage
Age (Years)		
Below 30	9	21.4
31 – 60	110	60.4
61and above	33	8.1
Sex		
Male	115	63.3
Female	67	36.7
Marital Status		
Single	22	12.1
Married	138	75.8
Divorced	6	3.3
Widowed	16	8.8
Household size		
None	22	12.9
1-5	65	35.7
6-5	86	47.3
11 and above	9	4.9
Religion Affiliation		
Christianity	92	50.8
Muslim faithful	74	40.7
Traditional religion	16	8.9
Year of schooling		
1-6	52	28.6
7-12	66	36.3
13 and above	41	22.5
Never	23	12.6
Extension contact		
1-4	93	51.1
5-8	28	15.4
9-12	15	8.2
13-16	4	2.2
No contact	42	23.1
Participation in social organization		
Religious organization	139	76.4
Cooperative association	124	68.1
Occupational organization	88	54.9
Thrift society	69	37.9
Fraternal organization	14	7.7
Income realized from selected Mini-livestock	Mean	standard deviation
Grasscutter farming	76,000	15,610
Snail farming	69,335	12,452

Source: Field survey, 2011

Table 3

Distribution of peri-urban farmers according to sources of information

Source of information	Frequency	Percentage
Snail farming		
Other farmers	85	59.0
Radio and television	71	49.3
Extension agents	65	30.5
Newspaper	44	45.1
Research institution	57	39.6
Grasscutter farming		
Other farmers	20	52.7
Research institution	17	44.7
Extension agents	16	42.11
Radio and television	15	39.3
Newspaper	13	34.1

Source: Field survey, 2011

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Table4

Distribution of respondents according to the problems encountered on involvement in mini livestock

Problems	Mean	Rank
Inadequate credit facilities	3.79	1st
Credit facilities are not timely	3.74	2nd
Untimely supply of inputs by government	3.46	3rd
Inadequate management skill method	3.38	4th
Inadequate information on production	3.19	5th
Low extension contract	3.19	5th
High cost of production materials	2.83	7th
Inadequate processing technology	2.67	9th
Inadequate labour supply	2.78	8th
Unavailability of market	2.50	10th
Inadequate storage facilities	2.23	11th
Inadequate farmland	2.04	12th
Bad weather	1.94	13th
Inadequate infrastructural facilities	1.89	14th

Source: Field survey, 2011

Table 5

Rank –order of statement of opinion on perception of peri-urban and urban farmers about mini-livestock production

	Statement of opinion	**Mean**	**Ranking**
1.	livestock production is worthwhile venture hence farmers should be encourage to go into it	4.35	1st
2.	Mini-livestock mentioned increase the income of farmers hence involvement is necessary.	4.29	2nd
3.	Selected mini-livestock make farmers busy all the year around.	4.18	3rd
4.	Market values of some activities mentioned are commensurate with the cost of production	3.90	4th
5.	Most of the activities are environmental friendly	3.87	5th
6.	Research extension farmers linkage encourage farmer's involvement in these activities	3.58	6th
7.	Production technologies for these activities are inadequate hence discourage involvement.	3.54	7th
8.	Activities mentioned required a lot of technical skill, which is very difficult to acquire.	3.50	8th
9	Income from other occupations is enough to spend throughout the year hence involvement is a waste of time	3.35	9th
10	Selected mini-livestock farming is a waste of time venture hence involvement is not necessary	3.27	10th
11.	Cultural taboos in my community have no effective on involvement in most of these activities	3.27	11th
12	Most of these activities mentioned are vulnerable to pest hence discourage Farmers from going into it	3.19	12th
13.	Inadequate infrastructural facilities are responsible for not involved in these mini-livestock mentioned	3.00	13th
	Grand mean	3.73	
	Standard deviation	0.54	

Source: Field survey, 2011

Table 6

Categorization of perception of peri-urban and urban farmers' involvement in mini-livestock farming

Perceptional score	Frequency	Percentage
High	61	20.6
Medium	185	61.7
Low	54	18.0

Source: Field survey 2011

Table 7

Correlation analysis between characteristics of mini-livestock management practices and farmers' perception of mini-livestock farming

Variables	Correlation(r)
Level of involvement in mini-livestock	0.282**
Participation in social organization	0.225**
Characteristics of mini- livestock	0.242**
Availability of production materials	0,250**
Compatibility with existing management practices	0.229**
Economic desirability of mini-livestock	0.274**
Openness terms of discussion on management practices	0.246**
Complexity of management practices	-0.178**

Source: Field survey, 2011
**Significant at p≤0.01

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