Nig. J. Anim. Prod. 2008, 35(2):267 - 274
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Adoption of improved goat production practices in Ogun State, Nigeria

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Abstract

The study examines adoption level of improved goat production practices by women farmers in Ogun State, Nigeria using Ikenne and Ijebu-Ode zones of the Ogun State Agricultural Development Project (OGADEP) as case studies. A total of 150 respondents were selected for the study using multi-stage random sampling technique. Information was obtained from the women through structured interview schedule. Data were analyzed with the use of frequency counts and percentages while correlation coefficient (r) was used to test the stated hypothesis. Results of data analysis revealed that most of the women were still in active ages of between 40 and 59 years (62%) with 91% of them married and majority (71%) educated. While 6 percent of the women did not adopt improved practices, 40.67% showed low adoption; 33.33% - moderate adoption level and 20% demonstrated high adoption level. Result of hypothesis testing indicated significant relationship between level of adoption and marital status(r = 10.21) and cosmopoliteness(r = 0.30) at 0.05 level of significance and critical level of 0.19.

Key words: Adoption, goat, women, Ogun State.

Introduction

Goats constitute one of the most populous ruminants across Nigeria. They are found in homes, villages and cities where they are kept in small numbers, given less attention and reared under extensive system of management. They are often kept as scavengers, feeding on kitchen wastes and fallow areas. The major supply of goats in Nigeria is still in the hands of peasant farmers who are greatly relied upon to provide enough to meet rising demands nationwide. It is noteworthy that most of these peasant farmers keeping goats are women of the ages of 45years and above (Peacock, 1996).

The rate of production of goats in the country continues to increase because of the relative emphasis placed on agriculture in recent times via various agricultural programmes through Agricultural Development Projects (ADPs) in the country. Despite this assertion, it is a reality that less attention is still paid to rural farmers in the area of technology. Most significantly, attention is not paid to women farmers involved in goat production. It is noted that due to socio-cultural factors, female farmers had limited access to extension services Adeokun (2000) indicated that only 25.70% of women involved in agricultural processing in Lagos State, received assistance from extension workers. It is also reported that most extension agents are males. This makes extension services more available to the men than the women farmers especially in communities where men have restricted contact with female counterparts. This phenomenon greatly affects goat production as well.

Adoption is a mental process involving a sequence of thoughts and actions of potential adopters and change agents from the time a new

idea comes into existence until it is finally adopted (Ekong, 2002). This process is relevant to women's use of improved production techniques in goat production. Some constraints have been identified working against women farmers' adoption of innovations. They are reported to respond slowly to changes in technologies and therefore have always lagged behind in their level of production. This is said to be made worse where women have to provide for the family and combine this function with farming activities (Adeokun, 2000).

In the South-western part of Nigeria where this study was carried out, many women keep local fowls, goats and sheep on range. Some keep guinea pigs while rabbitary is just beginning to gain popularity. Though the scale of production is very low, but because an appreciable number of women is involved, their contribution to sheep and goats production is of significance, most especially during Christians and Muslim festivities for consumption and income earning. It is of note that the average number of goats kept per family or household is eight in Osun and Ogun States; seven in Oyo State; fourteen in Bauchi State and 2 to 4 in other parts of the country (Sumberg and Mack 1985; Gefu et.al 1994; Doma et.al 1996 and Odeyinka, 1996).

With this level production, goat production in South-western Nigeria has been plagued with many problems associated with feeding, housing and health. In order to address these problems some improved goat production practices are available to be disseminated to farmers via extension services. These improved practices if adopted would assist farmers to improve on their production practices. Their adoption of the improved goat production practices could be affected by factors such as farm size, personal characteristics of the farmer, sociological characteristics, values and goals, social nature of community and neighbours; contact with extension agents; availability of well-trained extension officers; leadership structure in the community ; cost and economic feasibility of practice and the complexity of a new innovation (Williams, 1984, Jibowo, 1992, Adeokun, 2002 and Adeokun and Akinyemi, 2003).

The essential aspects of goat production in which women are expected to be improved upon through introduction of new techniques and technology include housing, feeding and housing. It is believed that there are quite a lot of research findings on these stated areas for agricultural practitioners to gain from. This study will investigate into these areas to find out the innovations are available and level of use by female goat farmers.

Realising the role of women in goat keeping and the need to improve their production practices, this paper will assess their level of adoption of innovations in goat keeping and specifically examine the personal characteristics of the respondents; identify the improved goat production technologies/innovations introduced to them; determine their access to improved practices through extension services and investigate the sources of information to the women about improved packages adopted by the women. It is further hypothesized in this study that there is no significant relationship between the personal characteristics of the women and adoption of improved goat production practices.

Materials and Methods

The study was carried out in Ikenne and Ijebu-Ode zones of Ogun State Agricultural Development Project (OGADEP). These two (2) zones were selected randomly through balloting

from four (4) zones of OGADEP. In each zone, there were six (6) blocks from which two (2) blocks were also randomly selected through balloting from each of the two (2) zones initially selected making four (4) blocks in all for the study. In each block, there were eight (8) villages out of which four villages were purposively selected for their pronounced goat keeping activity to give a total of sixteen (16) villages for the study. From the record of goat farmers in OGADEP, each village has an average of forty (40) goat women farmers. From fourteen (14) of the sixteen (16) villages, twenty-five (25) percent of the farmers, that is 10 women farmers were selected making 140 and 12.5 percent were selected from the remaining 2 villages i.e. 5 farmers each making 10 farmers. In all, 150 women goat farmers were selected for this study using multi-stage random sampling technique. Data were collected from the respondents through structured interview schedule. Data were analysed with the use of percentages and frequency counts while correlation coefficient (r) was further used to test stated hypothesis at 0.05 level of significance.

Results and Discussion

Personal Characteristics of Respondents

Results from Table 1 indicate that most of the women goat keepers fall between the ages of 40 and 59 years (62%). This implies that the women were adults who would be prepared to adopt innovations introduced to them on goat production as they would be interested in any thing that will bring about enhanced production for more income and consumption. Most of the women (91%) were married. This result justifies one of the reasons why women keep goats, that is to have something to slaughter for the consumption of their families during festivities such as Christmas and Ileya.

Most of the women (76%) claimed they raised goats mainly for economic reasons while 14 percent kept it for household consumption and 10 percent kept the goats for pleasure or hobby. It was further revealed that majority (53%) of the women kept between 1 – 10 goats.

In terms of religion, two main religious groups - Christianity and Islam were mostly represented in the study area with 52% and 43% respectively. This shows religious affiliation was not a constraint to keeping of goats by the women. The results further revealed that very few (29%) of the respondents had no formal education. This implies that most of the women had received one form of education or the other. This will facilitate adoption of innovations especially through literature since they would be able to comprehend instructions with little or no stress.

For their cosmopoliteness, few of the women (21%) never travelled out of their domain. This high level of cosmopoliteness will enhance awareness of the women about innovations and new technologies in goat keeping. Majority of the women (41.33%) were involved in cooperative activities while only 20 percent were not in any group, be it social or religious. Since most (80%) of the women were in one group or the other, it implies that cooperative societies and other community based organizations could be strengthened and used to contact the women for dissemination of innovations and new technologies.

Innovations introduced to the women on goat production

The women highlighted some of the innovations introduced to them at one time of the other by agricultural extension agents (Table 2). The innovations covered areas of management such as housing, feeding and health.

Table 1: Distribution of respondents by personal characteristics (n=150)

VARIABLES	FREQUENCY	PERCENTAGE
AGE		
20 - 29	9	6
30 - 39	21	14
40 - 49	40	27
50 - 59	53	35
60year and above	27	18
Total	**150**	**100**
MARITAL STATUS		
Married	137	91
Single	13	9
Total	**150**	**100**
RELIGION		
Christianity	78	52
Islam	65	43
Traditional	7	5
Total	**150**	**100**
EDUCATION		
No formal Education	43	29
Adult Education	33	22
Primary Education	58	39
Secondary Education	11	7
Tertiary Education	5	3
Total	**150**	100
COSMOPOLITENESS		
Daily	12	8
Weekly	38	25
Monthly	27	18
Fortnightly	15	10
Seasonally	27	18
Never	31	21
Total	**150**	**100**
PARTICIPATION IN SOCIAL ORGANISATIONS		
Cooperative Societies	62	41.33
Religious Societies	24	16.00
Social Clubs	34	22.67
Home	30	20.00
Total	**150**	**100.00**

Source: Field Survey, 2004

Table 2: Distribution of the respondents according to innovations introduced to them (n = 150).

Type of innovation	Frequency	Response/percentage
Housing		
• Use of semi covered structure with rough concrete floor with non sheet roofing.	138	92
• Thatched roofing with bamboo sides and rough concrete floor.	141	94
Feeding		
• Inclusion of concentrates in goat feeds.	81	54
• Essence of balanced diet.	147	98
Health		
• Routine inspection of animals for diseases and pests infestation.	102	68
• Need for contact with veterinary doctors.	144	96
• Application of appropriate drugs.	111	74
• Hygienic practices	150	100

Source: Field Survey, 2004.

* *Multiple responses indicated*

The results of data analysis indicate that in all cases of innovation delivery, over 50% of the respondents were aware of innovation on housing, feeding and health. Significant innovations introduced to the women were on hygienic practices (100%); essence of balanced diet (98%); need for contact with veterinary doctors (96%) use of thatched roofing structure with concrete floor (94%) and bamboo and also semi-closed housing structure (92%). These results show that there are available innovations for farmers to adopt on goat production. The question now is whether the innovations are adopted by the intended and users or not. Several researchers have indicated that there are quite a lot of research results on-shelf that are yet to be adopted by farmers [Adeokun et.al, (2004); Ekong (2002); Adedoyin and Jibowo (1992)]

Further information from the respondents reveals that majority (90%) had access to improved packages while only very few (10%) had no access to improved packages in goat production. This low percentage is very related to the

information in table 3 that indicates that 12.67 percent either did not adopt (6%) or had very low level adoption (6.67%). This implies that access to the packages is related to adoption of innovations, though this was not statistically tested. There is the need therefore to investigate the sources from which the women obtained information about improved packages.

Summary of the results revealed in Table 3 indicate that adoption of improved packages by the women is on the average. While few of the women (6%) indicated non-adoption, also few (7.33%) gave very high level of innovation adoption. Most of the women indicated low (34%) to moderate (33.33%) levels of adoption. These results imply that extension efforts should be geared towards more awareness of improved packages for farmers who had not adopted the innovations at all. In like manner, greater extension activities should be directed towards achieving higher level of adoption of innovations about goat keeping.

Table 4 reveals that most of the women goat farmers (48.50%) got their information from extension agents. Other relevant sources of information included radio (16.67%); fellow farmers (22.10%) and village heads (20%). These sources mostly used by the women farmers should therefore be further strengthened for greater effectiveness.

Test of hypothesis

The hypothesis tested is that Ho: There is no significant relationship between selected

Table 3: Distribution of women farmers according to their level of adoption of innovations (n = 150)

Level of Adoption Score	Frequency	Percentage
Non Adopter	09	6.00
Very low	10	6.67
Low	51	34.00
Moderate	50	33.33
High	19	12.67
Very high	11	7.33
Total	150	100.00

Source: Field Survey, 2004.

Table 4: Distribution of respondents by source(s) of information on improved goat packages (n = 150)

Sources of Information	Frequency	Percentage
Extension Agents	73	48.50
Radio	25	16.67
Neighbours and Friends	15	10.20
Fellow Farmers	33	22.10
Television	10	6.67
Newspapers	04	2.67
Contact farmers	15	10
Village heads	30	20

Source: Field Survey, 2004.

*Results indicate multiple responses.

Table 5:- Hypothesis Testing

Personal Characteristics of farmers	Correlation Coefficient	Coefficient of Determination r^2	Decision
Age	0.1609	0.025889	Not significant
Marital Status	-0.2096	0.043937	Significant
Educational Level	0.1214	0.14738	Not significant
Cosmopoliteness	0.3044	0.09265	Significant
Social Organizations	0.1120	0.6125	Not significant
Size of Stock	-0.1066	0.01136	Not significant

Source: Field Survey, 2004.
Level of significance = 0.05
Critical Value (r) = 0.1940

personal characteristics of the women farmers and their level of adoption of improved goat production packages.

The results of correlation analysis for hypothesis testing indicate significant relationship between level of adoption and marital status though the relationship was negative (Cal_r = -0.2096 and Tab_r = 0.1940; $p<0.05$). This implies that as the women got married, their level of adoption decreased. This is because after marriage, in most cases, it is only the husbands that are exposed to improved packages from extension agents. This is supported by Olawoye (2002); Ekong (2000) and Adeokun (2003). They could therefore hardly adopt innovations they were not aware of.

Another variable that gave significant relationship with adoption is cosmopoliteness (Cal_r = 0.30 and Tab_r = 0.19; $p<0.05$). This implies that the more the people relates with the world outside their locality, the greater was their adoption level. This is because cosmopoliteness will expose the farmers more to other progressive farmers from whom they could obtain current information about improved practices of not only goat keeping, but agriculture in general.

Conclusion and Recommendations

Findings from this research indicate low percentage of farmers with high adoption level. The findings also reveal that the women obtained information on improved goat production practices mostly from extension agents. It therefore implies that, to attain higher level of adoption, the extension services in Ogun State should be strengthened while avenues to support extension services should be sorted. In order to improve the level of adoption of improved packages on goat production by the women therefore, it is hereby recommended that:-

- Supportive facilities such as adequate transportation, incentives such as over-night/out-station allowance, and promotion as at when due should be given to extension agents to motivate them to perform better;
- Mass media stations especially radio and television should be established in most rural areas with more air-time devoted to agricultural programmes where such things that are relevant to improved goat production could be discussed; and

- Traditional institutions such as the traditional rulers should be used by extension agents to reach out to women goat farmers since this study revealed that the women farmers also obtained information from their village heads.

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(Received 15th Feb. 2006 ;Accepted 8th February, 2008)