

ASSESSMENT OF GOAT MICRO-CREDIT PROJECT AS A STRATEGY OF POVERTY REDUCTION AMONG RURAL WOMEN IN SELECTED LOCAL GOVERNMENT AREAS OF JIGAWA STATE, NIGERIA

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ABSTRACT

The study assessed Goat Micro-Credit Project as a strategy of poverty reduction among rural women in selected Local Government Areas of Jigawa State, Nigeria. Multistage sampling technique was used in selecting 180 rural women were selected. Primary data were obtained using structured questionnaires and analyzed using both descriptive and inferential statistics. The result shows that majority (76.7%, 63.3% and 58.3%) of the respondents were within the ages of 30-59 years, married and had a household size of 2-7 persons respectively, with a mean age of 42 years and 7 persons, respectively. The results also reveal that less than half (48%) of the respondents had no formal education and majority (63.3%) of the respondents were not members of cooperatives. The result also shows that respondents agree that goat micro-credit increases income ($\bar{X}=4.9$), good livelihood ($\bar{X}=4.1$) and access to credit ($\bar{X}=4.6$) among others. On the other hand marital status, household size were positive and significant ($P<0.05$) factors influencing credit repayment, while age was negative and significant ($P<0.05$) factor influencing credit repayment. The major constraints faced by the respondents were inadequate extension agents, working capital and high cost of medication and were ranked 1st, 2nd and 3rd respectively. The study concludes that respondents' livelihood and standard of living were improved by the project and that socio-economic characteristics of the respondents had significant influence on their repayment ability. The findings recommend that government should employ and deploy more extension agents, respondents should form and actively participate in cooperatives so as to increase their access to capital.

Keywords: Assessment, Micro-credit, Rural, Women, Poverty, Reduction

INTRODUCTION

Agriculture is a key sector to invest in for Nigeria to diversify the economy away from the oil sector. The sector used to be the mainstay of the economy before the discovery of oil, and still is an important source of livelihoods for a large part of the population. The livestock sector is an integral part of agriculture and vital to the socio-economic development of the country, though its productivity currently is very low. It contributes around 1.7 percent to the national GDP and around 9 percent to the agriculture value added. Recent estimates indicate that Nigeria's national herd comprises 18.4 million cattle, 43.4 million sheep, 76 million goats and 180 million poultry1 (FMARD, 2017). The majority of animals are raised in extensive production systems comprising smallholders and nomadic herders. Large commercial holdings are currently rare but expanding, especially in the poultry subsector. Total production of milk, meat and eggs amounts to 0.5 billion litres, 1.4 and 0.6 million tons per year, respectively. Importation of food amounts up to 3-5 billion USD per year, out of which milk accounts for 1.3 billion USD (NLTP, 2019). Including net trade, the per capita food supply of animal source foods is 8 litres of milk, 9 kg of meat and 3.5 kg or 55 eggs per year. Consumption levels of milk and meat are lower than the continental averages that are 44 litres and 19 kg, respectively (FAOSTAT, 2019). Statistics on total production and consumption levels, depending on the source, vary significantly and, in addition, do not account for the value of organic fertilizers and that of draft power provided by animals. Nigeria is a lower-middle income country with a population of 190 million and a GDP per capita of USD 1 968. In 2017, 49.5 percent of Nigeria's population lived in urban areas, growing substantially from 17.3 percent in 1968. The size of the middle class was estimated at around 20 percent of the population in 2013 (Corral *et al.*, 2019). The low levels of farm size, technical and economic inefficiency coupled with low technological uptake have held back productivity and development of goat production system in Nigeria.

In 2015 the Jigawa State Government embarked on the journey towards rural empowerment with the launch of Goat Micro-credit finance scheme – a ground breaking empowerment programme aimed at transforming the lives of rural women, vulnerable individuals and persons with disabilities. It covers this targeted group in Jigawa's twenty-seven local government areas. The programme which goes beyond traditional agricultural practices considers two hundred and twenty (220) women drawn from eleven (11) wards in each local government areas to benefit. Each of the beneficiaries received one doe buck and two does with an eighteen months window every benefiting women is required to pay back the loans with three goats which will be re-allocated to other women in the same areas. However, the goat micro-credit finance programme is the only empowerment programme in the state with 92% retention and 79% repayment level. And the easiest and most effective way to alleviate poverty is through the goat micro-credit programme which borrowed from Botswana and South Africa in which millions of women were removed out of poverty (Wikitime.com). the broad objective of study is to assess goat micro-credit project as a strategy of poverty reduction among rural women in some selected Local Government Areas of Jigawa State. While specific objectives were to:

- i. Describe the socio-economic characteristics of rural women beneficiaries in the study area;
- ii. Examine the effects of goat micro-credit programme among rural women;
- iii. Determine the factors influencing goat micro-credit repayment; and
- iv. Describe the constraints to rural women that participation in the project.

MATERIALS AND METHODS

The Study Area

Jigawa State is located in the North Western Nigeria approximately between latitudes $11^{\circ}00'00''\text{N}$ to $13^{\circ}00'00''\text{N}$ and longitudes $8^{\circ}00'\text{E}$ to $10^{\circ}15'\text{E}$. The State border Kano and Katsina States to the west, Bauchi State to the east and Yobe State to the north east. It also shares an international border with Zinder Region in the Republic of Niger, which is unique opportunity for cross- border trading activities. The government readily took advantage of this by initiating and establishing a free trade zone at the border town of Maigatari Local Government Area.

The state has a total land area of approximately 23, 154 square kilometers. Its topography is characterized by undulating land, with sand dunes of various size spanning several kilometers in parts of the State. The southern part of Jigawa comprises the basement complex while the northeast is made up of sedimentary rocks of the Chad Formation. The main rivers are Hadejia, Kafin - Hausa and Iggi Rivers with a number of tributaries feeding extensive marshlands in north – eastern part of the State. Hadejia – Kafin Hausa River traverse the state from west to east through the Hadejia – Nguru wetlands and empties into the Lake Chad Basin. Most parts of Jigawa lie within the Sudan Savannah with elements of Guinea Savannah in the southern part. Total forest cover in the state is below national average of 14.8% with a projected population of about 5,828,200.

Agriculture is one of the major economic activities of the people of the area. However, in Jigawa State the land is rich and suitable for the growth of a wide range of crops like rice, maize, millet, sorghum, groundnut, sesame and cowpea during the rainy season, while tomatoes, pepper, hot pepper, onion and other vegetables are grown more during the dry season. Permanent tree crops planted by farmers include: mangoes, guava etc. Henceforth, peasant farming is predominant in the State, a certain proportion of farmers in the study area engage in livestock production, for instance poultry, goats, sheep, cattle, fisheries, etc.

Sampling Techniques and Sampling Size

Multi-stage sampling techniques was employed to select respondents from the study area. In the first, stage three (3) LGAs comprising; Gwiwa, Miga and Taura Local Government Areas were purposively selected because they fulfil the criteria and full participation in the project. In the second stage, two (2) districts were randomly selected from each of the Local Government Area making (6) districts. In the third stage, three (3) village/communities were randomly selected from each district making 18 villages/communities for the study. In the final stage, from each village 25% of goat micro-credit beneficiary were randomly selected, making a total sample of 180 farmers in the study area. The sampling procedure is presented in Table 1.

Table 1: Sampling Procedure

LGAs	District	Villages	Sampling frame	Sampling size (25%)
Gwiwa	Gwiwa	Firji	40	10
		Zauma	40	10
		Guntai	40	10
	Korayal	Rorau	40	10
		Shafe	40	10
		Dabi	40	10
Miga	Miga	Miga	40	10
		Hantsu	40	10
		Tsakuwawa	40	10
	Zareku	Zareku	40	10
		Dangyatun	40	10
		Abakura	40	10
Taura	Taura	Taura	40	10
		Malamawa	40	10
		Abakura	40	10
	Kwalam	Kwalam	40	10
		Gilima	40	10
		Bula	40	10
Total			720	180

Data Collection

Data collection was through administering of well-structured questionnaires and accompanied with interviews. Primary data were collected directly from the rural women on information like socio-economic characteristics, breeds of goat collected, factors influencing goat micro-credit repayment and constraints associated with goat micro-credit project.

Likert Type

Likert-scale was used to collect data on effect of goat micro-credit project for rural women. A 5–points scale was used and coded as; strongly agreed = 5, Agreed = 4, Undecided = 3, disagreed = 2 and strongly disagreed = 1.

Data Analysis

Data collected were analyzed using descriptive and inferential statistics. Descriptive include means, frequency tables and percentages.

Descriptive Statistics

Descriptive statistics such as mean percentage, frequency table and ranking was used to achieve objective i, ii, iii and vi and inferential statistics was used to achieve objective v while means score was used to analyses objective iv.

Mean Score

The mean threshold of ≥ 3.0 indicates a significant effect while <3.0 implies a non - significant effect of the project on the beneficiaries.

Inferential Statistics (Multiple regression)

Multiple regression was used to examine factors affecting goat micro – credit repayment in the study area. The model is specified as;

$$Y = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + B_5 X_5 + B_6 X_6 + B_7 X_7 + B_8 X_8 + B_9 X_9 + B_{10} X_{10} + B_{11} X_{11} + \dots \text{equation 1}$$

Where: $Y = X_1 = \text{Age (Years)}$

$X_2 = \text{Primary occupation of the respondent (Farming = 1, otherwise = 0)}$

$X_3 = \text{Marital status (Married = 1, widow = 2, divorce = 3)}$

$X_4 = \text{Educational level (Years of Education)}$

$X_5 = \text{Household size of the respondent (number of persons)}$

$X_6 = \text{Duration of the programme (Years)}$

$X_7 = \text{Number of goats received (Number)}$

X_8 = Number of credit phases obtained (Number)

X_9 = Extension visit (Number of visits)

X_{10} = Access to micro - credit (Access = 1, non-access = 0)

X_{11} = Membership of Association (Member = 1, Non - member = 0)

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Respondents

The Socioeconomic variable for the rural women included in the study includes: Sex, Age, Marital Status, Educational Level, Household Size, Goat rearing Experience, month before kidding, Number of Kids per kidding and Membership of Cooperatives.

Quantitative Socio-Economic Characteristic of the Rural Women

The result from Table 2 shows the quantitative socioeconomic characteristics of rural women in the study area. The findings revealed that 26.7%, 25.6% and 24.4% of the respondents were within the age brackets of 50-59, 30-39 and 40-49 years respectively. The result also shows that 16.1% and 7.2% of the respondents were within the age brackets of 20-29 years and above 59 years with a mean age of 42 years. This implies that most of the respondents were within their active ages of production in agriculture, that is they fall within active and youthful ages to cater for the responsibilities of rearing animals especially goat farming which require intense production and management practices in the study area. This agrees with (Oladokun & Adenegan, 2019) who found that most women in rural households had average age of 40 years, and reported a relationship between age and relative achievements.

The result also reveals that 31.1%, 27.2% and 25.6% of the respondents had a household size of 5-7 persons, 2-4 persons and 8-10 persons respectively, with 12.8% and 3.3% of the respondents having household size of 11-13 and above 13 persons in the study area. The mean household size of 7 persons implies that most of the respondents had relatively small household size, this shows that respondents had inadequate family labour in the study area. This is in line with (Jerumeh, 2019) who reported a mean household size of 6 across rural Southwestern Nigeria.

The finding shows that more than half (51.1%) of the respondents had 2-9 years of goat rearing experience, while 21.1%, 18.3%, 6.1% and 3.3% had 10-17, 18-25, 26.33 and above 33 years of goat rearing experience respectively with a mean years of goat rearing experience of 12 years. This implies that most of the respondents had a good number of years in goat rearing and had over the years acquired skills and knowledge of goat management in the study area. Nigerian women are predominant in agriculture, food processing, and sales activities in the informal sector (Eze, *et al.*, 2016). This may be because agriculture is considered as the main source of income of majority of people living in rural Nigeria, and agriculture employs the largest percentage of rural people.

Table 2: Quantitative Socio-Economic Characteristic of Rural Women (n=180)

Variables	Frequency	Percentage
Age	$\bar{X}=42$	
20-29	29	16.1
30-39	46	25.6
40-49	44	24.4
50-59	48	26.7
60 and Above	13	7.2
Household Size	$\bar{X}=7$	
2-4	49	27.2
5-7	56	31.1
8-10	46	25.6
11-13	23	12.8
14 and Above	6	3.3
Goat Rearing Experience	$\bar{X}=12$	
2-9	92	51.1
10-17	38	21.1
18-25	33	18.3
26-33	11	6.1
34 and Above	6	3.3

Source: Field Survey (2022)

Qualitative Socioeconomic Characteristics of Rural Women

The result further showed that majority (63.3%) of the respondents were married while 23.3% and 13.3% were widowed and divorced respectively. This implies that most of the respondents were married, that is, they had certain level of family responsibilities especially taking care of the children. This contributes to their needs for credit to meet up with their domestic needs in the study area. This agrees with FAO, (2020) in their study *Agriculture in Africa: Making a Strong Case for African Women*. Who reported that marital status of many respondents' shows that majority 78% of the respondents were married, while 22% were single. This is also in line with (Jerumeh, *et al* 2019) who found that majority of rural people in Nigeria were married.

The result further shows that 48.3% of the respondents had no formal education while 21.1%, 17.8% and 12.8% had secondary, primary and tertiary levels of education, respectively. This implies that a substantial number of the respondents had attended one form of formal education or another while others were unable attend formal education, this could be attributed to the cultural believes that women should be married and kept at home to cater for the domestic needs while men should be allowed to travel far distance and seek for formal education and white collar jobs to take care of their families in the study area. This is in contrast with Ajayi (2016) who reported 82% women farmers having at least primary or secondary education.

The result further shows that majority (63.3%) of the respondents were not members of any association while 36.7% were members of one association or another in the study area. This implies that most of the respondents were not members of any association or cooperative which reduces their access to credit, inputs and market of agricultural produce in the study area.

Table 3: Qualitative Socio-Economic Characteristic of Rural Women (n=180)

Variables	Frequency	Percentage
Marital Status		
Married	114	63.3
Widow	42	23.3
Divorce	24	13.3
Membership of Association		
Yes	66	36.7
No	114	63.3
Educational Level		
No Formal	87	48.3
Primary	32	17.8
Secondary	38	21.1
Tertiary	23	12.8

Source: Field Survey (2022)

Production Information on Goat

The finding further showed that 45% of the respondents indicated that goats takes 5-6 months before kidding while 2.8% indicated that goats kidding takes above 8 months in the study area. The mean of 6 months taken by goats before kidding implies that most of the respondents got their goats from the project at a good age in the study area. The results further showed that majority (62.2%) of the respondents revealed that their goats gives birth to two kids per birth, while 12.2% indicated that their goat gives birth to one and three kids per birth with a of mean two kids per birth in the study area. This shows that the goats distributed were of good breeds and had good management practices in the study area. According to FAO (2020), women occupy a central place in subsistence agricultural production and are accountable for 80% of agricultural production.

Table 4: Distribution of Respondents According to Goat Production Information

Variables	Frequency	Percentage
Months before kidding	$\bar{X}=6$	
1-2	9	5.0
3-4	15	8.3
5-6	81	45.0
7-8	70	38.9
9 and Above	5	2.8
Number of kids per kidding	$\bar{X}=2$	
1.00	46	25.6
2.00	112	62.2
3.00	22	12.2

Source: Field Survey 2022

Impact of Goat Micro-Credit on Respondents

The result reveals the impact of goat micro-credit on the respondents in the study area. The finding shows that respondents agreed on all the perceived impacts of goat micro-credit in the study area which includes increase in income ($\bar{X}=4.9$), improves livelihood ($\bar{X}=4.1$), access to credit ($\bar{X}=4.6$) and access to market ($\bar{X}=4.5$) as indicated by the mean scores above the mean threshold value of 3.0 in the study area respectively. The result also shows that respondents agreed that goat micro-credit increases access of children to quality education ($\bar{X}=4.5$), family health ($\bar{X}=4.6$), level of awareness for service providers ($\bar{X}=4.4$) and soil fertility ($\bar{X}=4.7$) as indicated by the mean scores above the mean threshold value of 3.0 in the study area respectively. Others includes increase women empowerment ($\bar{X}=4.1$), reduction of gender marginalization ($\bar{X}=3.9$) and poverty reduction ($\bar{X}=4.8$) as indicated by the mean scores above the mean threshold value of 3.0 in the study area respectively. This finding implies that most of the respondents had enjoyed the goat micro-credit and had gained several benefits targeted at improving their living standards and ultimately reducing poverty and hunger among the respondents in the study area. (Adamu *et al.*, 2018).

Table 5: Distribution of Respondents According to Impact of Goats Micro-Credit Project

Variables	Mean	Remark
Increases in income	4.9	Agree
Increases in good livelihood	4.1	Agree
Increases access to credits	4.6	Agree
Access to marketing	4.5	Agree
Increases children access to education status	4.5	Agree
Increases family health condition	4.6	Agree
Increases level of awareness of services providers	4.4	Agree
Increases soil fertility of farm	4.7	Agree
Increases women empowerment	4.1	Agree
Reduction marginalization of gender Reduction of poverty	3.9	Agree
Poverty reduction	4.8	Agree

Field Survey (2022)

Factors Influencing Goat Micro-Credit Repayment

The result from Table 6 reveals the factors influencing goat micro-credit repayment among the respondents in the study area. The finding shows that marital status (2.327) was positive and significant ($P < 0.05$) factor influencing goat micro-credit repayment, which implies that as the number of married respondents increase in obtaining goat micro-credit there will be increased tendency and possibilities of repayment in the study area. This implies that married respondents with certain level of responsibilities value the little empowerment programme so as to increase their household income and improve their standard of living hence the need for prompt repayment of credit in the study area. This agrees with John A. *et al.*, (2022) who showed that marital status significantly influenced farmers' access to microcredit from cooperative society.

Table 6: Factors Influencing Goats Micro-Credit Repayment

Variables	B	Std. Error	Beta	T	Sig.
(Constant)	1.145	.159		7.216	.000
Age	-.005	.002	-.272	-2.378	.019**
Marital status	.053	.023	.195	2.327	.021**
Household size	.013	.007	.220	2.021	.045**
Educational level	-.017	.014	-.094	-1.178	.240
Goat rearing experience	.001	.002	.063	.718	.473
Access to extension	.034	.076	.069	.444	.657
Number of extension contact	-.005	.008	-.061	-.630	.529
Production and mgt practice	-.050	.055	-.114	-.902	.368
Sources of seeds	.008	.035	.020	.230	.819
Health management practice	.024	.044	.056	.538	.592
Marketing information	-.033	.045	-.060	-.729	.467
Breed of goats received	-.002	.033	-.005	-.066	.948
Number of goats received	-.005	.020	-.020	-.255	.799

Field Survey, 2022 **Significant ($P < 0.05$)

The result also shows that household size (2.021) was positive and significant ($P < 0.05$) factor influencing goat micro-credit repayment among the respondents, this implies that increase in household size of the respondents will lead to increased goat micro-credit repayment. This finding implies that as the number of children increase per household their needs increase and cheap labour for rearing goats also increase hence their ability to rear more goats and repay their debt promptly in the study area.

The finding further shows that age (-2.378) was negative and significant ($P < 0.05$) factor influencing goat credit repayment, which implies that as the age of the respondents increases their goat micro-credit repayment tends to decrease. This is not unconnected to the fact that older respondents tend to loose energy of managing animals especially goats which require energy and time for rearing, hence as they grow older participation in goat micro-credit decline and the repayment also decrease in the study area. This is similar to the finding of Adamu, *et al* 2018 who identified age and educational level as factors influencing women participation in urban agriculture. This result is also consistent with

the findings of Mitra *et al.* (2018) and Chandio *et al.*, (2021) who agreed that age was negatively related to access to credit because as the age of respondents increases, access to credit decreases with age since farmers become more risk averse, they become less productive and innovative.

Suggestion on Expanding Micro-credit Project

The result showed that Most (92.8%) of the beneficiaries suggest that extension visit in the study area should be increased while majority (89.4%) request for the market for the goat and its byproduct to be improved. Similarly, the beneficiaries suggest that the need to increase token needs and training needs of group dynamics among group leaders were ranked 3rd and 4th by the respondents in the study area. This finding implies that most of the respondents had good knowledge of goat micro-credit and its importance in rural empowerment among the respondents hence their suggestion on the better ways of improving the projects in the study area. Participation implies playing a role or taking part in an activity usually with others, participation also refers to involvement of individuals and groups in development process with the aim of ensuring self-reliance and better standard of living (Adamu *et al.*, 2018).

Table 7: Distribution of Respondents According to Suggestion for expansion of Project

Variables	Frequency	Percentage*	Rank
Extension visits should be increase	167	92.8	1 st
Goats and goats by-products market should be improved	161	89.4	2 nd
Token should be given to beneficiaries	147	81.7	3 rd
Group leaders should be train on group dynamics	30	16.7	4 th

Field Survey 2022.

Constraints to Respondents' Participation in Micro-Credit Project

The result from Table 10 depicts the constraints affecting respondents' participation in goat micro-credit project in the study area. The finding revealed that the major constraints faced by the respondents were inadequate extension agents (1st), working capital (2nd) and high cost of medication (3rd) as ranked by the respondents, respectively. The result further shows that inadequate number of goats (4th), high cost of feeds (5th), lack of formulated ratio (6th) and poor market price (7th) were constraints to participation of the respondents in participation in goat micro-credit in the study area, respectively. Others constraints reported were inadequate capacity building (8th), difficulty in enrolment (9th) and poor leadership in association (10th) respectively. Adamu *et al.* (2018) argued that women farmers are constrained by lack of finance and technological backup to undertake agricultural activities.

Table 8: Distribution of Respondents According to their constraints to Participation in Micro-credit Projects

Variables	Frequency	Percentage*	Rank
Inadequate extension agents	171	95.0	1 st
Inadequate working capital	166	92.2	2 nd
High cost of medication	165	91.7	3 rd
Inadequate number of goats	155	86.1	4 th
High cost of feeds	96	53.3	5 th
Lack of formulated ratio	60	33.3	6 th
Poor market price	26	14.4	7 th
Inadequate capacity building	24	13.3	8 th
Difficulty in enrolment	18	10.0	9 th
Poor leadership in association	14	7.8	10 th

Field Survey (2022) *Multiple response

CONCLUSION AND RECOMMENDATIONS

The study concluded that goat micro-credit project on rural women empowerment in selected Local Government Areas of Jigawa State shows that respondents' livelihood and standard of living were improved by the project. The findings also shows that the project is constraints by inadequate extension agents, inadequate capital and high cost of medication, high cost of feeds, poor market price, difficulty in enrolment, poor leadership in association and inadequate number of goat.

Based on the findings of the study the following recommendations were made;

- i. Government should employ and deploy more extension agents in the study area to assist beneficiaries on goat production information.
- ii. Respondents should form and actively participate in cooperatives so as to increase their access to acquire credit facilities in order to expand their production.
- iii. Government and non-governmental organization should provide ambulatory services to rural goat farmers for cure and preventing goat from pest and diseases infestation and also Cooperatives should conduct workshops and seminars on goat rearing in the study area.

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