



**FACTORS INFLUENCING AMOUNT OF LOAN ACCESS BY WOMEN
ENTREPRENEURS IN SOME MICRO FINANCE BANKS IN GOMBE STATE,
NIGERIA**

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ABSTRACT: *The paper examines the factors influencing the amount of loan access by women entrepreneurs in some Micro Finance Banks in Gombe state Nigeria. Many studies conducted on microfinance institutions have been on its effects on poverty alleviation in both developed and developing nations, but very few have been on the determinants of their performance and outreach especially in North Eastern Nigeria. The study establishes that the performance of the women agricultural entrepreneurs is unprecedented going by the profitability in their businesses. The study concluded that the women are relatively educated and organized as most of them belong to a cooperative society and are within their most productive ages. The study also concluded that the income of the women agricultural entrepreneurs in the study area is relatively increasing as they access their loan from the banks.*

KEYWORDS: Women, Factors, Amount, Loan, Access



INTRODUCTION

Background of the Study

Microfinance is the supply of loans, savings and other financial services to poor people in order to run their own businesses. People need capital and financial services like savings, money transfer systems, insurance, pensions and information to help stabilise their consumption and shield themselves against risks. The definition of micro credit refers to loans made to borrowers who need more than just a loan. With money only, it is difficult to start up or expand businesses. There is a need for services like insurance, transaction services, self-employment services and instructions for starting up small businesses. The term ‘microfinance’ covers microcredit and other financial services. The special institution delivers this microfinance to people who lack collateral (Bismark, 2017).

Large volumes of financial transactions are being carried out by microfinance institutions and their clients with little publicity around them. Their operations are not explicitly captured in official financial statistics and their activities are hardly reported by the mass media. Yet their transactions impact directly a large section of the population, especially the poor (The Post, 2017). The non-regulation of the activities of some of these institutions has serious implications on the Central Bank of Nigeria’s (CBN’s) ability to exercise one aspect of its mandate of promoting monetary stability and a sound financial system. The concept of microfinance is as old as when man started using money. People have always been borrowing, lending and saving for as long as there has been money. This has always been done within communities, using their own system and methods without any external assistance or services. The microfinance scheme was primarily developed as a response to the inability or apathy of commercial banks and the formal financial system to serve the needs of low-income households and micro-enterprise (Bismark, 2017).

According to the Central Bank of Nigeria (CBN, 2016), the formal financial system provides services to about 35% of the economically active population, while the remaining 65% are excluded from access to financial services. Looking back into history, one would see that Nigerians have always engaged in economic activities, but such activities continued for a long time on a subsistence basis. In most cases, agriculture was carried out simply to feed the immediate family. Other activities such as pottery, weaving, etc were for personal needs and markets within the locality. These traditional rural occupations such as pottery, basket making, cloth dying, local brewing, etc, which used to keep people employed, are not thriving very well. This is because these poor entrepreneurs do not have access to financial services, which will support their activities to enable them to succeed in business and consequently reduce poverty, and possibly bring about economic growth and development. Large amounts of funds are allocated to the commercial sector of the economy to the detriment of the more vital economic activities, especially agricultural and manufacturing sectors which provide the foundation for sustainable growth and development (CBN, 2017).

Available data show that most Nigerian women entrepreneurs are engaged in the informal sector, mainly as self-employed proprietors. They suffer from many constraints and restrictions in the informal sector such as lack of managerial and technical skills, lack of access to improved technology and credit, marketing problems, and other issues. Because of their small-scale operations, women’s incomes are low (Eze *et al.*, 2016). Furthermore, poverty data also support the fact that most women in the informal sector belong to poor households. For example,



Nigerian women are predominant in agriculture, food processing, and sales activities in the informal sector (Eze et al., 2016). According to National Bureau of statistics (NBS, 2017), unemployment, underemployment and poverty were higher for women than men in 2016. During the first quarter, 16.3% of women in the labor force (those between 15 to 65 years of age, willing, able and actively working or searching for work) were unemployed in 2016, and a further 24.2% of women in the labor force were underemployed.

Statement of the Problem

Many studies conducted on microfinance institutions have been on its effects on poverty alleviation in both developed and developing nations, but very few have been on the determinants of their performance and outreach especially in North Eastern Nigeria. Most studies conducted were mainly on impact analysis of microfinance institutions and on poverty alleviation, with the exception of a few studies (FAO, 2015). This is particularly so because the viability of any microfinance institutions, as well as the sustainability of its services, depend in part on the volume of internal resources that the microfinance institutions can generate, which is a function of the level of outreach achieved by the microfinance institutions. In addition, studies that have addressed microfinance institutions' outreach to have been on the issue of whether they are performing their outreach objective effectively. The general consensus from literature indicates that microfinance institutions owned by government and Non-Governmental Organizations (NGOs) are performing well in reaching out to the poor while those owned by the private sector are not (FAO, 2015). The evidence from studies shows that the issue of what determines the performance outreach of microfinance institutions has not been extensively addressed in the literature. Microfinance banks in Gombe State, Nigeria had disbursed large quantum of funds to women agricultural entrepreneurs with little or no publicity. Microfinance is a link between the poor and the financial system in a country, especially when Micro Finance Institution (MFIs) becomes a regulated part of the financial system. Analysis is required because there is no guarantee that only the poor are served by Micro Finance Institutions unless strong eligibility criteria are enforced (Sasa, 2014). It is against this backdrop that this study was conducted with a view to examine the factors influencing the amount of loan access by women entrepreneurs in some microfinance banks in Gombe state, Nigeria.

The following research questions were answered:

- i. What are the socio-economic characteristics of the women agricultural entrepreneurs?
- ii. What are the factors influencing the amount of loan collected from the microfinance banks?
- iii. What is the relationship between the amount disbursed and the recoveries from 2012 to 2018?

Objectives of the Study

The broad objective of the study was to examine the factors influencing the amount of loan access by women entrepreneurs from the loan facilities of some Micro Finance Banks in Gombe State, Nigeria. The specific objectives were to:



- i. describe the socio-economic characteristics of the women agricultural entrepreneurs
- ii. determine the factors influencing the amount of loan approved to women entrepreneurs
- iii. determine the relationship between disbursement and recoveries from 2012 to 2018.

Justification of the Study

The study will enable microfinance institutions know factors that militate against their operations and deal with them accordingly. Government will be well informed to come out with policies that will enable the Micro Finance Banks operate effectively. Microfinance interventions will become more relevant for development if perceptions of service providers and users are taken into account in the design and implementation of microfinance interventions. Inadequate financial support and access from the microfinance banks and other sources of finance to women entrepreneurs has become a major concern in Gombe State due to the potential of the state in terms of entrepreneurship development such as agricultural production, trading, processing, inputs selling, etc. Hence, the outcome of this study will be very useful to micro finance institutions in the state, government for policy making, and other researchers who will intend to undertake a similar study in the future.

Limitation of the Study

The study covered the loans advanced to clients for the period 2012 to 2018 in the selected microfinance banks in the state and the samples were restricted to only women entrepreneurs served by the banks.

METHODOLOGY

The Study Area

The study was carried out in Gombe State. The state is located between latitude $9^{\circ} 3'N$ and $12^{\circ} N$ and longitude $8^{\circ} 45'E$ and $9^{\circ} 3'E$ (Gombe State Government, GMSG, 2016). The land area is about 16,639 square kilometers, with a population of two million three hundred and sixty five thousand and forty (2,365,040) people out of which one million two hundred and sixty nine thousand one hundred and sixty (1,269,160) are males while one million one hundred and thirty four thousand one hundred (1,134,100) are females, according to the National Population Commission (NPC, 2006). According to United Nation's world population prospects (2018), the projected population of Gombe State from 2006–2016 is 3,257,000 with annual growth rate of 3.3%, and from 2017–2019 is projected to grow by 3.5 which is 113,995 annually and 341,985 for the three years 2017–2019, which will give the population of 3,598,985 in 2019. The people in the state mostly grow crops like maize, guinea corn, millet, cotton, groundnut and cassava (Gombe State Government, GMSG, 2016). The people of Gombe State are mostly entrepreneurs who are involved in agricultural related businesses such as fruits and vegetable selling, oil milling, and farming, among others. The climatic conditions of Gombe State are wet and dry seasons respectively. The wet season starts from April/May and ends in November, while March, April and May are the hottest months. The average rainfall of the study area is 850mm (GMSG, 2016). Gombe is endowed with both human and natural resources. Most of its inhabitants are commercially oriented as well as agriculture dependent; that is why Gombe

has been the commercial centre of the state (GMSG, 2016). The map in Figure 1 is shows the eleven local government areas in the state, where Gombe, Kwami, Funakaye, Dukku and Nafada are in Gombe North agricultural zone, Akko and Yemaltu Deba are in Gombe central agricultural zone while Billiri, Kaltungo, Shongom and Balanga local government are in Gombe south agricultural zones.



Figure 1: Map of Gombe State Showing the Eleven Local Government Areas



Sources of Data and Method of Data Collection

The data for the study were collected from both primary and secondary sources. The primary data was collected using questionnaires that were administered to the respondents by the researcher with the help of well-trained enumerators. Data collected include the socio-economic characteristics of the beneficiaries—mainly women agricultural entrepreneurs—such as age, occupation, level of education, asset acquisition, savings, household size, volume of business before and after the loan, and membership of cooperative, among others. The secondary data were collected from the bank, which includes total number of clients, number of women clients, volume of loans disbursed, loan recovery, interest rate charged on client's loans, rate of default, frequency of visits for loan recovery, and sources of funds, among others.

Sampling Technique and Sample Size

A multistage sampling technique was used in this study. The first stage involved the purposive selection of one microfinance bank from each agricultural zone. These were Gombe Micro Finance Bank from Gombe North, Tangale Micro Finance Bank Billiri from Gombe South and Gombe Micro Finance Bank, Kumo from Gombe Central agricultural zone of the state, so as to ensure spread across the state. The second stage involved the purposive selection of women agricultural entrepreneurs from each of the three (3) banks from the existing sample frame obtained from the bank during the pre-visit. The total number of women agricultural entrepreneurs from the bank's record as at 2017 was 1346 comprising 633 from Tangale Micro Finance Bank Billiri, 462 from Gombe Micro Finance Bank and 251 from Gombe Micro Finance Bank, Kumo. The third stage involved the selection of 10.5% using a proportionate sampling technique, as adopted by Chris (2016) in the selection of women entrepreneurs from each of the banks. The questionnaires were distributed to the women entrepreneurs but only 141 questionnaires were retrieved (Table 3.1) and used for the analysis.

Table 3.1: Sample Selection from the Selected Micro Finance Banks

Micro Finance Bank	Sample Frame	Sample Size (10.5%)
Tangale Micro Finance Bank	633	66
Gombe Micro Finance Bank	462	49
Gombe Micro Finance Bank, Kumo	251	26
Total	1346	141

Source: Field Pre-visit June, 2017

Methods of Data Analysis

The data collected were analyzed using descriptive statistics and inferential statistics.

Descriptive Statistics

The descriptive statistics such as means, percentages, frequencies and charts were used to achieved objective (i).



Inferential Statistics

Objective (ii) was achieved using multiple regression analysis, where

Y = Amount of loan collected (₦).

X_1 = Type of enterprise (Micro processing = 1, Fruits/Vegetables Selling = 2, Sheep/Goat fattening = 3)

X_2 = Educational level (measured by years spent in school)

X_3 = Total amount saved with the bank before the loan approval (₦)

X_4 = Loan amount applied (₦)

X_5 = Experience in agro business (measured in years)

X_6 = Interest on loan (₦)

X_7 = Age of the respondents (years)

X_8 = Marital status (married = 1, single = 2, widowed = 3)

X_9 = Membership of cooperative association (member = 1, non-member = 0)

X_{10} = Household size

e = Error term

$b_1 - b_{10}$ = Coefficients of the parameters estimate.

This was used to determine the relationship between the amounts of loan approved as dependent variable regressed against some socio-economic characteristics of the respondents. The regression analysis was run for all the three enterprises that women agricultural entrepreneurs were involved. Four functional forms were tested—Linear, Semi Logarithm, Double Logarithm and Exponential Forms—and Semi Logarithm functional form was selected as lead equation based on the value of R^2 , adjusted R^2 , t-ratio, F-value, standard error, Beta values and other *a priori* expectations which were used for further analysis.

The model implicitly represented as follows:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10} + e) \dots\dots\dots (3.3)$$

However, the explicit form is given as:

$$\text{Semi log function: } Y = b_0 + b_1 \log X_1 + b_2 \log X_2 + b_3 \log X_3 + b_4 \log X_4 + b_5 \log X_5 + b_6 \log X_6 + b_7 \log X_7 + b_8 \log X_8 + b_9 \log X_9 + b_{10} \log X_{10} + e \dots\dots\dots (3.4)$$

Objective (iii) was achieved by correlation in a paired t-test.

SPSS version 23 and Eviews 7 software were used for the analysis.



RESULTS AND DISCUSSION

Socio-Economic Characteristics of the Respondents

Socio-economic characteristics of the women entrepreneurs discussed include age, marital status, household size, educational level, experience in business, membership of cooperative society, loan amount applied and amount collected as loan in the study area.

Age of Respondents

Age is an important variable in assessing loan application by banks as it measures the maturity of an individual in managing loan given. The results in Table 4.1 reveals that about 48% of the women entrepreneurs in the study area were between 31 and 40 years, 16% were between the age brackets of 26 to 30 years, while those between the ages of 41 to 50 years were 15%; those above 50 years of age constituted about 10% of the respondents. Their mean age was estimated at 35 years with minimum of 20 years and maximum of 55 years. The results indicated that most of the respondents were in their economically active age, which could influence their physical work. The result agrees with the findings of Bawa *et al.* (2010) who stated that women involved in agricultural seed systems activities in Borno State, North-East Nigeria, were within the economically productive age range of 18–35 years. Musa *et al.* (2016), in their study on broiler production in Borno State, reported that the age of the farmers is an important factor that affects the roles played on level of productivity and overall coping ability in their businesses. Age is also believed to influence the level of physical work and the willingness to take risk.

Table 4.1: Distribution of the Respondents by Age

Age (years)	Frequency	Percentage
20-25	20	14
26-30	23	16
31-40	67	48
41-50	21	15
51-60	10	7
Total	141	100
Mean = 35		
Minimum = 20		
Maximum = 55		
Std = 9		

Source: Field Survey, 2019

Marital Status of Respondents

Marital status refers to the condition of an individual being married or not, and is a measure of how responsible one is. Banks assess this among other conditional ties in appraising loan applications of their clients. The results in Table 4.2 shows that majority (79%) of the women entrepreneurs were married, 14% were single and 7% were widowed. This implies that



marriage cannot be a barrier to their effective participation in agricultural activities since the women are involved in taking care of their families managing their businesses. The study has shown that married women are mostly considered by microfinance banks in loan approval for agricultural enterprise than unmarried ones.

Table 4.2: Distribution of Respondents by Marital Status

Marital Status	Frequency	percentage
Married	112	79
Single	19	14
Widowed	10	7
Total	141	100

Source: Field Survey, 2019

Household Size of the Respondents

The household size relates to the total number of people who in the house. The distribution of the respondents based on household size is shown in Table 4.3. The results indicated that majority (70%) of the women entrepreneurs have a household size 1 to 2 persons, about 23% have between 3 to 5 persons in their houses, while 5% of the respondents in the study area have 6 to 8 persons in their household; only 1% have between 9 and 11 persons in their household. The mean of the respondents is estimated at 4 persons. This means that majority of the respondents had relatively moderate household size which can help in other household activities and/or family labour. This is in line with what Ahmed and Maitra (2010) reported, in their study of gender and wages discrimination in rural and urban labor markets of Bangladesh, that those with large family size may participate more in agricultural activities than those with small family size. This is because those with large family size have the advantage of family labor and division of labor at home to do more work on the farm.

Table 4.3: Distribution of Respondents by Household Size

Household size	Frequency	Percentage
1-2	99	70
3-5	32	23
6-8	7	5
9-11	2	1
12- 15	1	1
Total	141	100
Mean = 4		

Source: Field Survey, 2019



Types of Micro Enterprise of the Respondents

Micro finance banks approve loan applications of their clients based on a good business plan that states clearly the income and expenditure of the enterprise. Women entrepreneurs in the study area that utilized such loans invested it in various enterprises. The result in Table 4.4 shows the distribution of the respondents based on enterprises they were involved in. Majority (40%) of the respondents were microprocessors (50kg to 100kg of groundnut/cowpea). This may be attributed to the fact that their status as women and home makers makes it easier for them to be involved in microprocessing. Furthermore, 31% of the respondents were involved in fruits/vegetables production, and 29% were involved in sheep/goat fattening.

This is in line with what Centre for Technical Agriculture (CTA, 2017) reported that women around the world are overcoming barriers to establish profitable businesses in the agricultural sector, such as micro processing and rearing of small animals, among others. However, strong links to high-value markets, access to necessary finance and resources, and sufficient business training are essential requirements for women business leaders to break through the ‘glass ceiling’ and expand their agribusinesses to compete on an international scale. Leading lights for sub-Saharan Africa agribusiness provide some inspiring examples of successful women-led agribusinesses in these regions. The success of such businesses not only relies on resilient leadership of women entrepreneurs, but is also dependent on strong market linkages and sufficient access to resources and finance, as well as opportunities for capacity building and mentorship (CTA, 2017). **The aim of most women entrepreneurs is to earn profits from their micro-farming and other related ventures, if they determine the objectives.**

Table 4.4: Distribution of Respondents Based on Types of Micro Enterprise

Type of Enterprise	Frequency	Percentage
Micro Processors	57	40
Fruits and Vegetables	43	31
Sheep/Goat Fattening	41	29
Total	141	100

Source: Field Survey, 2019

Educational Level of the Respondents

Educational attainment of an entrepreneur plays an important role in adopting improved production technologies and in decision making (FAO, 2015). It also has bearing with a person’s ability to evaluate and manage risk which to a large extent determines the overall success of the business. The results in Table 4.5 show that majority (45%) attained secondary education while 35% were educated up to higher level. About 16% of the respondents stopped their education at primary school level and 4% of the respondents attended other educational training in the study area. This indicates that the respondents are mostly knowledgeable and are expected to be able to make wise decisions pertaining to their businesses. Olateju (2018) is of the opinion that “education is one of the important factors that help development to be realized. The purpose of education is to communicate accumulated wisdom and knowledge



from one generation to the next.” Secondly, “education enhances active participation in innovation and the development of new knowledge.”

Table 4.5: Distribution of Respondents by Level of Education

Educational Level	Frequency	Percentage
Informal education	6	4
Primary Education	22	16
Secondary Education	64	45
Tertiary education	49	35
Total	141	100

Source: Field Survey, 2019

Experience in Agricultural Enterprises

Experience is the effect or influence of an event or subject gained through involvement in or exposure to it. The results in Table 4.6 indicated that 49% of the respondents had 5 to 6 years of experience in business. The other 20% had 3 to 4 years of experience while 15% of the respondents had 1 to 2 years of experience in the businesses; those with 7-8 years and 9-10 years of experience are 9% and 7% respectively. The mean experience of the respondents is estimated at about 4.7 years, which shows that the respondents may be able to operate their business more efficiently and profitably. Olateju (2018) reported that a positive relationship exists between years of experience in business and its performance; hence, the entrepreneurs are able to operate more economically and efficiently than the more recently established businesses.

Table 4.6: Distribution of Respondents by Years of Experience in Business

Years of Experience	Frequency	Percentage
1-2	21	15
3-4	38	20
5-6	60	49
7-8	12	9
9-10	10	7
Total	141	100
Mean = 4.7		
Std = 1.2		

Source: Field Survey, 2019



Membership of Cooperative Society

Cooperative society is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through democratic principles. The results in Table 4.7 revealed that majority (79%) of the respondents are members of the cooperative association, while 21% are non-members. The implication is that the respondents may be better organized than the non-cooperative members and may have the benefit of basic training in record keeping, accounting and management; hence, they may operate their enterprises more efficiently. The result is in line with the findings of Unugbro (2010) who reported that in Nigerian societies, women had formed various forms of cooperatives and mutual assistance groups such as *Adashi* and *Esusu*. But in modern form, micro financing has become popular on a large scale. The women invested the money collected from microfinance banks in tailoring, weaving, processing, and small animals handling businesses, and returned after a while to repay their loans. They were enabled to start their own ventures which were profitable enough to improve their standard of living as well as those of their families.

Table 4.7: Distribution of Respondents by Membership of Cooperative Association

Status	Frequency	Percentage
Member	111	79
Non-member	30	21
Total	141	100

Source: Field Survey, 2019

Factors Influencing the Amount of Loan Approved by the Banks for Women Entrepreneurs

The relationship between amounts advanced as loans to the beneficiaries with some socio-economic characteristics of the respondents are shown in Table 4.9. The four functional forms of regression model were tried and the best model was selected. After evaluation of the results, the semi logarithm function was chosen as the lead equation. It was selected based on the magnitude of coefficient of determination (R^2) which was 0.826 (83%), F-value was 61.69 and other a priori expectations. The magnitude of the R^2 , used to measure the goodness of fit of the estimated model, indicates that the model is reasonably fit in prediction.

The diagnostic test carried out shows the indicated there is no autocorrelation in the data used; Ramsey RESET test also was not significant with value of 1.520 difference of (1.128) and probability of 0.219; the heteroskedasticity test was also carried out which indicated the Observed R-squared at 10.07. The variance inflation factors show that it is within the acceptable threshold level with the mean of 1.5; the results of diagnostics test are attached in the Appendix iv. This implies that the model fits the data. The R^2 value of 83% indicates that the variables included in model have accounted for 83% of the variation in the factors that the banks considered in granting the loan which was explained by the independent variables included in the model. The results of the analysis shows that four out of the ten variables included in the regression analysis (interest rate, amount applied, marital status and savings) were statistically significant at $P < 0.01$ (0.1%) and $P < 0.001$ (0.5%) respectively. The



coefficients of interest rate and amount applied were both found to be significant and positive. This indicates that an increase in the interest rate will stimulate the microfinance banks to grant more loans to the applicants. This will help the banks to make more profits and help the bank grow and remain in business. Similarly, the higher the amount of loan applied the more the grant approval after evaluating all the risks associated with loans and all loans assessment made. Microfinance banks will always approve higher loans to take advantage of the interest rate to be charged on loans. Arogundade (2010) reported that “since the financial institutions are not able to control all actions of borrowers due to imperfect and costly information, they formulate terms of the loan contract to induce borrowers to take actions in the interest of the financial institution and to attract low risk borrowers.”

Marital status was also positive and significant at $P < 0.01$ indicating that the bank considers married women in giving out their loans because they are more responsible than those without a responsibility, and more likely their loan applications may be approved. Saving also is significant at 1%; this implies that increase in saving by the respondents will encourage the microfinance banks to approve more loans for the sole aim of maximizing profit. Similarly, microfinance banks would be favorably disposed to grant more loan facilities to respondents who have some savings with the bank than those without the savings.

Table 4.9: Factors Influencing the Amount of Loan Approved by the Banks

Variable	Parameters	Coefficient	Standard Error	t-Values
Constant	β_0	3.428	0.062	54.21
Enterprises	β_1	-0.006	0.006	-0.977
Education	β_2	0.0000	0.001	0.122
Savings	β_3	0.012	0.005	2.536
Amount Applied	β_4	8.761	0.000	7.063 ***
Experience	β_5	0.007	0.005	1.420
Interest Rate	β_6	0.072	0.005	15.436 ***
Age	β_7	0.000	0.001	0.228
Marital Status	β_8	0.024	0.007	3.233 ***
Membership	β_9	0.006	0.010	0.643
Household size	β_{10}	0.003	0.005	0.879

Source: Results of Regression Analysis, 2019

*** $P < 0.0001$ (0.1%) ** $P < 0.01$ (1%) * $P < 0.05$ (5%)

R-squared 83%

Adjusted R-squared 81%

F-statistic 61.69 ***

Factors Influencing the Amount of Loan Approved for Microprocessors

The relationship between amount collected and some socio-economic characteristics of the respondents who were into microprocessing activities are shown in Table 4.10. The four



functional forms tried the semi logarithm function was also chosen as the lead equation. It was selected based on the magnitude of R^2 (0.525) which is 53%, adjusted R^2 was 43%, F-value was 5.7 and statistically significant at $P < 0.001$ and other apriority expectations. The diagnostic test carried out shows that there is no autocorrelation in the data used; Ramsey RESET test also shows that the data was stable; the heteroskedasticity test was also carried out which indicated the observed R-squared at 10.14. The variance inflation factors with the mean of 22.11 and the results of the diagnostics test are attached in the Appendix v.

The results revealed that 53% of variation in the amount of loan approved for microprocessors is explained by the independent variables in the model however, and the remaining 47% of the variations were accounted for by other external factors that were not included in the regression model. Two variables namely interest rate (X_6) charged and savings (X_3) were both significant at $P < 0.001$ level. This implies that an increase in interest rate will encourage microfinance banks to approve more loans for the sole aim of maximizing profit. According to Arogundade (2010), “since the financial institutions are not able to control all actions of borrowers due to imperfect and costly information, they formulate terms of the loan contract to induce borrowers to take actions in the interest of the financial institution and to attract low risk borrowers.” Similarly, microfinance banks would be favorably disposed to grant more loan facilities to microprocessors that have some savings with the bank than those without the savings. Carter and Shaw (2006) reported that motivational factors influencing women in joining the leading group of entrepreneurs are of two types. One is entrepreneurship by choice, and the other is entrepreneurship by necessities. Women become entrepreneurs by choice due to the following factors: to materialize their ideas into capitals for their empowerment and freedom, prove their worth among their male family members, establish their own rules for their work to overcome the deficiencies they faced during their job experience, and a long term standing desire to own their own company.

Table: 4.10 Factors Influencing the Amount Approved for Microprocessors

Variable	Parameters	Coefficient	Standard Error	t-Values
Constant	β_0	2.826	0.000	6.198 ***
Enterprises	β_1	0.002	0.003	0.181
Education	β_2	0.032	0.026	1.205
Savings	β_3	0.226	0.074	3.578 ***
Amount Applied	β_4	7.437	0.000	1.172
Experience	β_5	-0.10	0.020	-0.531
Interest Rate	β_6	0.114	0.032	3.600 ***
Age	β_7	0.02	0.004	0.556
Marital Status	β_8	-0.04	0.041	0.124
Membership	β_9	-0.076	0.056	-1.475
Household size	β_{10}	-0.008	0.014	-0.609

Source: Regression Model Analysis, 2019

*** $P < 0.0001(0.1\%)$ ** $P < 0.01(1\%)$ * $P < 0.05(5\%)$

R-squared 53%

Adjusted R-squared 43%

F-statistic 5.74 ***



Factors Influencing the Amount of Loan Approved for Fruits and Vegetables Sellers

The relationship between amount collected and some socio-economic characteristics of the fruits/vegetables sellers were shown in Table 4.11. The four functional forms of multiple regression models tried the semi logarithm function, gave good results and were chosen as the lead equation. The magnitude of the R^2 is 0.743 which indicates that 74% of the variation is as a result of the factors included in the model. The diagnostic test carried out shows that there is no autocorrelation in the data used; Ramsey RESET test also shows that the data was stable; the heteroskedasticity test was also carried out which indicated the observed R-squared at 21.88. The variance inflation factors with the mean of 2.9 and all results of the diagnostics test are attached in the Appendix vi.

The results of the analysis from fruit and vegetable sellers also showed that the amount applied as credit was found to be positive and significant with 2.400 as coefficient, indicating that percent increase in the amount applied will bring about 24% increase in the amount of loan to be collected by the respondents, while interest rate and membership of association are also significant and positive at 5% respectively. This indicates that a percent increase in interest rate and membership of association will bring about 3.7% and 8.5% increase respectively in the amount to be collected as loan. According to Umemezia and Osifo (2018), micro credit is influenced by several factors. These include income, education, size of business, type of business, membership of economic association and family size. They also observed that family size positively influences the decision to participate in micro credit schemes.

Women in groups are likely to have access to micro credit than those who do not belong to any group. They opined that households and individuals with low income especially in developing countries have difficulty accessing credit. Evidence shows that women are stronger savers than men, more responsible borrowers and more calculated risk-takers (African Development Bank, AFDB, 2019). According to recent research from the Bank of New York, giving women better access to finance could unlock \$330 (₦155,100) billion in annual global revenue. Second, financial institutions should start to think outside the box and use other methods to credit-check individuals, such as issuing loans based on cash flow, savings group history, mobile phone transaction history or a track record of enterprise performance. Saving is a vital foundation for economic independence.

Table 4.11: Factors Influencing the Amount of Loan Approved for Fruits and Vegetables Sellers

Variable	Parameters	Coefficient	Standard Error	t-Values
Constant	β_0	4.034	0.298	13.519 ***
Enterprises	β_1	0.003	0.006	0.223
Education	β_2	0.002	0.0018	0.121
Savings	β_3	0.0096	0.054	-1.792
Amount Applied	β_4	0.2400	0.000	3.609 ***
Experience	β_5	0.007	0.014	0.0535
Interest Rate	β_6	0.037	0.021	1.731**
Age	β_7	-0.003	0.003	-1.056
Marital Status	β_8	0-0.040	0.051	-0.776
Membership	β_9	0.085	0.043	1.987**
Household size	β_{10}	0.000	0.012	0.029

Source: Field Survey, 2019

*** $P < 0.0001(0.1\%)$ ** $P < 0.01(1\%)$ * $P < 0.05(5\%)$

R-squared 74%

Adjusted R-squared 67%

F-statistic 10.62 ***



Factors Influencing the Amount of Loan Approved for Ram/Goat Fatteners

The relationship between amount collected and some socio-economic characteristics of the respondents which are ram/goat fatteners are shown in Table 4.12. The four functional forms of multiple regression model were tried and selection of the best model was based on statistical and a priori expectations. Semi log model was chosen as the lead equation. It was selected based on the magnitude of R^2 of 0.810 which is 81%, adjusted R^2 was 0.755 which is 76%, F-value was 14.7 and other a priori expectations. The diagnostic test carried out shows that there is no autocorrelation in the data used; Ramsey RESET test also shows that the data was stable; the heteroskedasticity test was also carried out which indicated the observed R-squared was 10.10. The variance inflation factors with the mean of 1.88 and all results of the diagnostics test are attached in the Appendix vii.

Interest rate and marital status of the respondents are significant at 1% respectively. This implies that a percentage increase in interest rate tends to bring about a 5% increase in the amount to be collected as loan. Saving and experience in business are also significant at 5% respectively. This indicates that a percentage increase in saving will bring about a 33% increase in the amount of loan to be collected. This is in line with what Arogundade (2010) reported that perhaps one of the most innovative schemes for providing financial services to small businesses holders and low income people is through the provision of small savings and deposit accounts in Nigeria.

According to Dede (2019), women in groups are more likely to have access to microcredit than those who do not belong to any group. They opined that households and individuals with low income especially in developing countries have difficulty accessing credit. Equally suggested by literature is the fact that credit and training should go together. However little the training may be, skill training is necessary to provide the needed entrepreneurial skill for small business start-up while business or management training provides the needed managerial competence for routine and corporate decisions.

Table 4.12: Factors Influencing the Amount of Loan Approved for Ram/Goat Fatteners

Variable	Parameters	Coefficient	Standard Error	t-Values
Constant	β_0	4.710	1.248	3.773 ***
Enterprises	β_1	0.013	0.009	0.274
Education	β_2	-0.019	0.070	-0.278
Savings	β_3	0.338	0.146	2.308**
Amount Applied	β_4	2.605	0.000	0.292
Experience	β_5	0.228	0.116	1.956 **
Interest Rate	β_6	0.481	0.059	8.202 ***
Age	β_7	0.013	0.011	1.138
Marital Status	β_8	0.290	0.009	3.191 ***
Membership	β_9	0.127	0.154	0.821
Household size	β_{10}	-0.109	0.005	-1.916

Source: Field Survey, 2019

*** $P < 0.0001(0.1\%)$ ** $P < 0.01(1\%)$ * $P < 0.05(5\%)$

R-squared 81. %

Adjusted R-squared 76%

F-statistic 14.7 ***



Loan Approval/Disbursement and Repayment in Gombe Micro Bank 2012 to 2018

The results in Table 4.17 showed the trend of disbursement and loan recovery by Gombe microfinance banks from 2012 to 2018, which indicated that a large amount of money was being injected every year. In 2012, Gombe microfinance banks disbursed ₦9,230,000 to their clients with a loan recovery of ₦8,500,000, which is 92% repayment. In 2013, the amount disbursed increased to ₦21,333,123 naira and actual repayment was ₦19,234,000, which is about 90% recovery. In 2014 and 2015, the disbursement and loan recovery were reduced mostly due to the rate of insurgency by Boko Haram in the North East. In 2016, 2017 and 2018, the amount increased throughout that period with ₦30,560,000, ₦37,089,345 and ₦47,200,123 respectively and the percentage recovered was up to 95%, 95.3% and 97% respectively. The total disbursement in the seven years stood at ₦176,993,127 with 92% total recovery, meaning throughout the years the total default from the clients was only 8%.

The relationship between the amount disbursed and the actual repayment shows a high correlation between the amount disbursed and the actual repayment with correlation value of 0.995, indicating that the higher the amount disbursed, the higher the repayment and vice versa. The standard deviation is ₦1,396,591.40 and the t-value is 4.42, which is also a significant difference at 95% confidence interval. The projected growth in revenue from loan repayment was achieved using the formula adopted from Edward (2012) in estimating growth rates from data points, as $\text{Growth rate} = \left(\frac{\text{Present Value}}{\text{Past Value}} \right)^n - 1$. From the base year 2018 to 2019, the growth was encouraging with 5.5% growth but in the following year 2020, it decreased from 5.5% to 4.3% mainly due to some managerial factors from the side of the bank. From 2021 to 2023, the growth rate will be stagnant at 4.2% over the three years, which forecasts a danger to the bank loan repayment, if serious measures are not taken from the management of the Gombe Micro Finance Banks.

Table 4.17: Gombe Micro Finance Bank Amount Applied/Approved/Actual Repayments in Naira

Year	Amount Applied (₦)	Amount Approved (₦)	Actual Amount Repaid (₦)	Percentage
2012	29,200,000	9,230,000	8,500,000	92
2013	37,365,222	21,333,123	19,234,000	90
2014	21,000,000	15,234,768	10,345,768	68
2015	20,500,321	16,345,768	14,342,768	88
2016	60,435,345	30,560,000	29,111,212	95
2017	63,234,564	37,089,345	35,345,342	95
2018	67,500,000	47,200,123	45,786,124	97
Total	299,235,452	176,993,127	162,665,214	92
Mean		25,284,732.43	22,952,173.43	
Standard deviation		1,396,591.40		
Correlation		0.99		
T- Value		4.42		
Projected growth rate from 2019 to 2023				
2019		5.5%	48,304,360.82	
2020		4.3%	50,381,447.48	



2021	4.2%	52,497,467.77
2022	4.2%	54,702,361.42
2023	4.2%	56,999,860.6

Source: Bank's record, 2019 and data projection

Loan Approval/Disbursement and Repayment in Tangale Micro Bank 2012 to 2018

The analysis and distribution of the amount disbursed and the amount recovered are shown in Table 4.18, which indicates a high correlation between the amount disbursed and actual repayment with correlation value of 0.982 and standard deviation of ₦1, 140,088.49. The t-value of 4.13 indicates a significant difference in the disbursed and repayment at 95% confidence interval. In 2012, Tangale microfinance bank disbursed about 10,630,002 naira to their clients with loan recovery of about 9,320,100 naira, which is about (88%) repayment. In 2013, the amount disbursed increased to 20,000,234 naira and actual repayment was 18,564,300 naira, which is about (93%) recovery. In 2015, the disbursement and loan recovery amount were reduced to 18,234,342 and 16,442,778 naira but the percentage increased respectively while in 2016; amount reduced mostly due to the rate of insurgency by Boko Haram in the North East. In 2017 and 2018, the amount increased throughout that period with 27,089,345 and 27,978,543 respectively and the percentage recovered was up to 99% and 96% respectively.

The total disbursement in the seven years stood at 148,156,029 naira with 91% total recovery, meaning throughout the years, the total default from the clients was only 9%. The microfinance bank needs to increase its trend of disbursement for more repayment in order to allow the bank to get a wider margin of profit. The projected growth in the loan repayment from Tangale Micro Finance Bank indicates a stagnation of repayment funds throughout the period of 2020 up to 2023, if drastic action is not taken by the bank. Even though the figures collected as repayments are increasing year in year out, the percentage increase is 4.2% throughout the coming four years which is detrimental to the banks' revenue.

Table 4.18: Tangale Micro Finance Bank Amount Applied/Approved/Actual Repayments

Year	Amount Applied	Amount Approved	Actual Amount Repaid	Percentage Recovered
2012	19,400,100	10,630,002	9,320,100	88
2013	25,165,320	20,000,234	18,564,300	93
2014	24,786,800	20,987,888	18,262,123	87
2015	21,564,311	18,234,342	16,442,778	90
2016	25,897,234	23,235,675	19,453,564	94
2017	28,786,435	27,089,345	26,757,456	99
2018	28,900,345	27,978,543	26,876,342	96
Total	174,500,545	148,156,029	135,676,663	91
Mean		21,165,147.00	19,382,804.30	
Standard Deviation		1,140,088.48		
T-value		4.13		
Correlation		0.98		
95% confidence interval				



Projected growth rate from 2019 to 2023

2019	4.0%	27,951,395.68
2020	4.2%	29,125,353.59
2021	4.2%	30,348,617.83
2022	4.2%	31,623,258.91
2023	4.2%	32,951,434.84

Source: Bank's record, 2019 and projected figures

Loan Approval/Disbursement and Repayment in Micro Bank Kumo 2012 to 2018

The relationship between the amount disbursed and the actual repayment shows a high correlation between the amount disbursed and the actual repayment with a correlation value of 0.952, indicating that the higher the amount disbursed, the higher the repayment and vice versa. The standard deviation is ₦386,896.763 and the t-value is 7.52 which is also a significant difference at 95% confidence interval. Table 4.19 also indicates that in 2012, Kumo microfinance bank disbursed about 7,453,675 naira to their clients with loan recovery of about 6,456.789 naira which is about 87% repayment. In 2013, the amount disbursed increased to 9,789.234 naira and the actual repayment was 8,768,000 naira, which is about 90% recovery. In 2014 and 2015, the disbursement and loan recovery were reduced to 80% and 81% respectively, mostly due to the rate of insurgency by Boko Haram in the North East. In 2016, 2017 and 2018, the percentage recovered increased to about 85%, 89% and 82% respectively. The total disbursement in the seven years stood at 51,720,197 naira with 85% total recovery, meaning throughout the years the total default from the clients was only 15%, indicating a great performance from the bank but the projected figures in coming years are somehow disturbing, unless some measures are taken from the management of Kumo Micro Finance Bank. From the base year 2018 to 2019, the projected growth was 4.8% but it dropped from 2020 to 4.2%. Throughout 2021 up to 2023, the amount to be collected will continue to increase at a decreasing rate but the percentage increase will remain constant, meaning if care is not taken, it will drop down which will subsequently affect the revenue accruable to the bank.

Table 4.19: Gombe Micro Finance Bank Kumo Amount Applied/Approved/Actual Repayments

Year	Amount Applied	Amount Approved	Actual Amount Repaid	Percentage
2012	9,340,405	7,453,675	6,456.789	87
2013	11,567.897	9,789.234	8,768,000	90
2014	8,456,734	7,456,345	5,989,987	80
2015	6,456,675	6,675,876	5,432,234	81
2016	7,345,000	6,000,000	5,123,678	85
2017	7,980,987	6,345,632	5,675,432	89
2018	9,345,876	7,999,435	6,567,342	82
Total	60,493,574	51,720,197	44,013,462	85
Mean		7,388,599.57	6,287,637.42	
Standard Deviation		386,896.76		



Correlation	0.95	
T-value	7.52	
95% confidence interval		
Projected growth rate from 2019 to 2023		
2019	4.8%	6,882,574.42
2020	4.2%	7,171,642.12
2021	4.2%	7,472,850.96
2022	4.2%	7,786,709.70
2023	4.2%	8,113,750.78

Source: Bank`s record, 2019 and projected figures

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study was conducted to analyze the Factors Influencing the Amount of Loan Access by Women Entrepreneurs in Some Micro Finance Banks in Gombe State, Nigeria. The objectives of the study were to identify the socio-economic characteristics of the respondents, determine the factors influencing the amount of loan granted as credit from the microfinance banks, and determine the relationship between amount disbursed and amount repaid. A multistage sampling technique was used in this study. The first stage involved the purposive selection of one microfinance bank from each senatorial zone. These were Gombe Micro Finance Bank from Gombe North, Tangale Micro Finance Bank Billiri from Gombe South and Gombe Micro Finance Bank Kumo from Gombe Central senatorial zone of the state, so as to ensure spread across the state. The second stage involved the purposive selection of women agricultural entrepreneurs from each of the three (3) banks from the existing sample frame obtained from the bank during the pre-visit. The total number of women agricultural entrepreneurs from the bank`s record as at 2017 was 1346 comprising 633 from Tangale Micro Finance Bank Billiri, 462 from Gombe Micro Finance Bank and 251 from Gombe Micro Finance Bank Kumo. The third stage involved the selection of (10.5%) using a proportionate sampling technique as adopted by Chris (2016) in the selection of women entrepreneurs from each of the banks. Questionnaires were used in data collection and data were analyzed using descriptive statistics and inferential statistics.

The mean age of the respondents was 35 years. The mean age of the respondents shows that they are in their economically active age. The semi logarithm function was chosen as the lead equation in the regression analysis. It was selected based on the magnitude of coefficient of determination R^2 which was 0.826, which indicates that 83% of variation is as a result of the variable included in the model. The results of the analysis shows that four out of the ten variables included in the regression analysis (interest rate, amount applied, marital status and savings) were statistically significant at $P < 0.01$ (0.1%) and $P < 0.001$ (0.5%) respectively. The coefficients of interest rate and amount applied were both found to be significant and positive. This indicates that an increase in the interest rate will stimulate the microfinance banks to grant more loans to the applicants.

The relationship between the amount disbursed and the actual repayment shows a high correlation between the amount disbursed and the actual repayment with correlation value of



0.995, indicating that the higher the amount disbursed, the higher the repayment and vice versa. The standard deviation is ₦1,396,591.40 and the t-value is 4.42, which is also a significant difference at 95% confidence interval. The projected growth in revenue from loan repayment was achieved using the formula adopted from Edward (2012) in estimating growth rates from data points, as $\text{Growth Rate} = \left(\frac{\text{Present Value}}{\text{Past Value}} \right)^n - 1$. From the base year 2018 to 2019, the growth was encouraging with 5.5% growth but in the following year 2020, it decreased from 5.5% to 4.3% mainly due to some managerial factors from the side of the bank. From 2021 to 2023, the growth rate will be stagnant at 4.2% over the three years, which forecasts a danger to the bank loan repayment, if serious majors are not taken from the management of the Gombe Micro Finance Bank.

Conclusion

The projected figures in coming years are somehow disturbing and will be realised unless some measures are taken from the management of the banks. From the base year 2018 to 2019, the projected growth was 4.8% but it dropped from 2020 to 4.2%. Throughout 2021 up to 2023, the amount repaid will continue to increase at a decreasing rate but the percentage increase will remain constant, meaning if care is not taken it will drop down, which will subsequently affect the revenue accruable to the bank. The study establishes that the performance of the women agricultural entrepreneurs is unprecedented going by the profitability in their businesses. The study concluded that the women are relatively educated and organized as most of them belong to a cooperative society and are within their most productive ages. The study also concluded that the income of the women agricultural entrepreneurs in the study area is relatively increasing as they access their loan from the banks.

Recommendations

Based on the analysis and the resulting outcomes of the study, the following recommendations were proffered:

- i. The interest charged on respondents' loans should be reviewed downward and the amount given to the clients should be increased by the banks, most especially for those who borrowed and repaid back their loans as required by the banks.
- ii. The management of the banks should try to increase the amount accessed by the women entrepreneurs as the higher the amount disbursed the higher the repayment and vice versa.

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