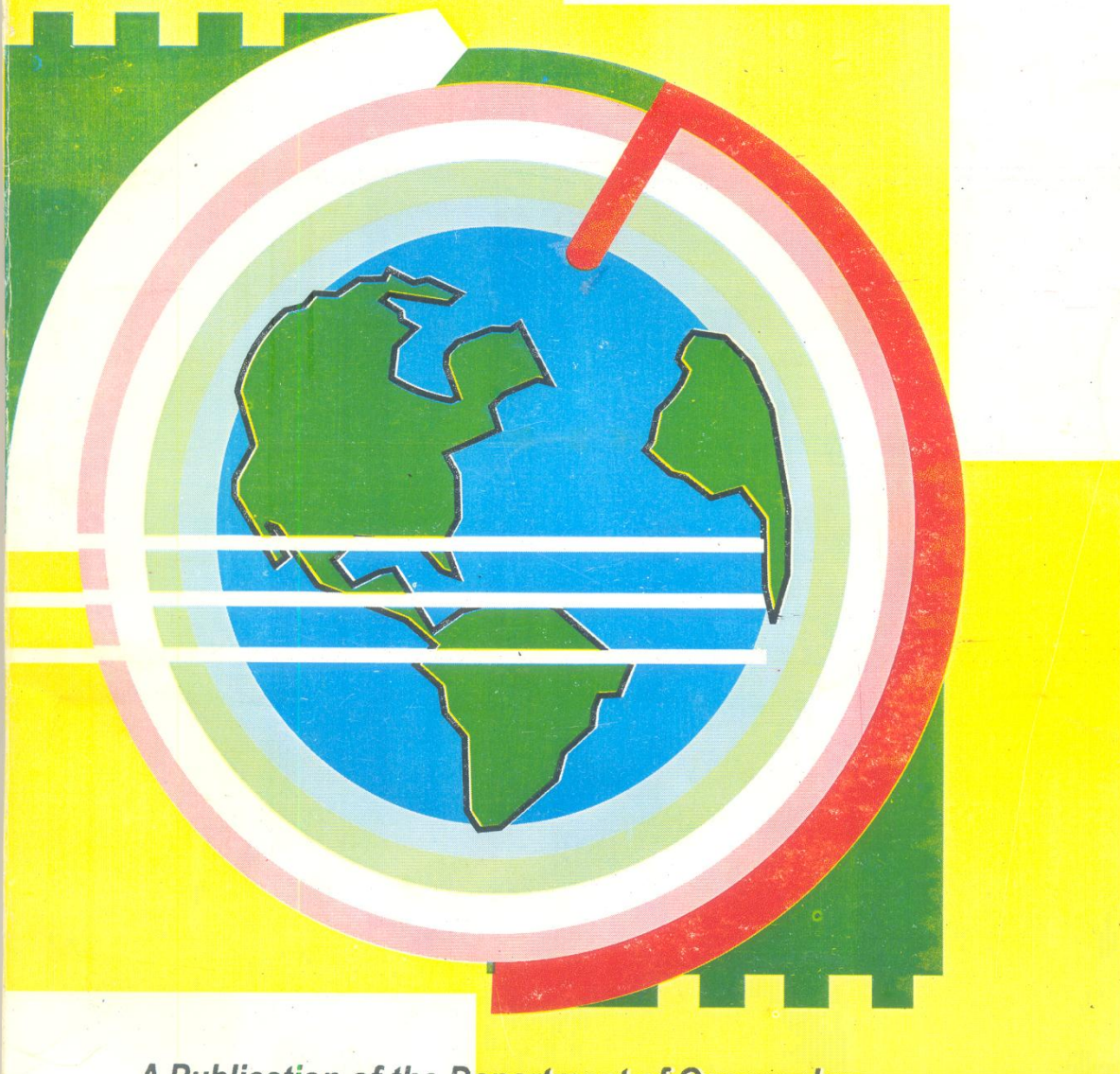




Volume 4, Numbers 1 & 2, 2009

Geo-Studies Forum

An International Journal of Environmental & Policy Issues



*A Publication of the Department of Geography
University of Ilorin*

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Women Farmers and Food Security in Asa L.G.A, Kwara State of Nigeria

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Abstract

The study examines women farmers and food security in Asa Local Government Area of Kwara State. Both primary and secondary sources of data were used to source information from the respondents. Random sampling technique was used to select ten villages from the 24 villages that make up Asa Local Government Area (LGA) of Kwara state and a total of one hundred and fifty (150) women farmers were sampled. The women farmers were also interviewed to obtain information on their socio-economic characteristics, farm activities, farm production and factors motivating them into farming. Descriptive and inferential statistics were used to analyze the data collected. The results of multiple regression technique which was used to detect the most important factors that account for contribution of women farmers to food production revealed that poverty level, accessibility to land and credit facilities are the most important factors motivating women into food production and food security. Recommendations were made that women should be included in decision making and should have equal access to agricultural resources like their male counterparts.

Introduction

Looking at every household in Nigeria and other places in the world today, the burden of feeding the family and food security rest mainly on the women. Women, as subordinates to men are saddled with the responsibility of providing adequate food at the right time for the children and even their husbands irrespective of whether their husbands give them money to provide the food or not. Women either produce food or earn income for its purchase. They are nearly universally responsible for food preparation for their families. Women in rural areas bear the brunt of trekking long distances to fetch water and collect firewood by having to eke out their living and that of their families often on barren land to which they had been removed. However, these contributions many times go unnoticed due to the fact that they are not counted in surveys and statistics, since most of the work women perform in agriculture and processing of food is unpaid (Arkesteijn 1998). According to Kabeer (1994) women are the backbone of the agricultural sector, accounting for 70% of agricultural labour and being responsible for 60% of agricultural production and 80% of food production.

Women's contributions to agricultural production vary from country to

country and from region to region, crop to crop and tasks to tasks. Kisseka (1981) reported that in Nigeria 60-80% of the agricultural workers are women. Worldwide, women produce more than 50% of the food grown. In most developing countries, this contribution is even higher in Sub-saharan Africa. Women contribute 60-80% of the labour in food production besides being involved in weeding, transplanting and post harvest activities. In many countries women have the primary responsibilities for small animal, fetching water, processing food, childcare and other domestic chores. In Asia, women provide up to 90 percent of the labour for rice cultivation while in Egypt, women contribute 53 percent of the agricultural labour.

Karki (2009) opines that women farmers are the main food producers in developing countries and yet they are one of the most vulnerable groups, their economic empowerment to produce more and to participate in policy formulation is critical to addressing poverty and food insecurity.

The population of Nigeria is on the increase and so food supply cannot keep pace with the food demand, essentially high inflation characterized food market. According to Quisumbing et al (2008) sharp increases in food and fuel prices over the past few years have eroded the purchasing power of poor households and raised serious concern about food insecurity and malnutrition in many countries including Nigeria. Accessibility to adequate food supply constitutes a serious problem for many Nigerian households today and the situation is gradually approaching a food crisis situation. High food prices affect nearly everybody and even the salary earners appear worse-off because they have to spend almost all their income on food not to talk of other basic services that they have to pay for again. Ojo (1991) pointed it out that food security implies ability on the part of Nigeria to meet the food needs of her people for an active and healthy life within the framework of her national development aspirations. The only way by which food needs of the people can be met is by increasing food production in the country. It is against this background that this paper therefore focuses on women farmers and food security in Asa LGA of Kwara State. Chung et al (1997) used a triad of concepts in the definition of food security. These include food availability, food access and food utilization. Food availability is associated with food production and supply while food access deals with affordability of food and finally, food utilization refers to the nutritional aspects of food intakes like calories fat, protein and vitamin intakes. The aspect of food security examined in this article is the food availability/production. This is because without food production, one cannot have access to it and utilize it. The paper goes further to highlight some of the factors responsible for women's involvement in food production. It also examines the constraints faced by these women in food production. It concludes by making recommendations on how to improve agricultural production generally in Nigeria.

Food Security

The concept of food security which originated in the international development literature of the 1960s and 1970s has been widely defined by different authors. Food security was defined in the 1974 World Food Summit as:

“availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” (United Nations, 1975).

In 1983, FAO expanded its concept to include securing access by vulnerable people to available supplies, implying that attention should be balanced between the demand and supply side of the food security equation:

“ensuring that all people at all times have both physical and economic access to the basic food that they need” (FAO, 1983).

This definition is again refined in The State of Food Insecurity 2001: “Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2002).

According to Nugent and Egal (2000), food security can be defined as access to food rather than mere availability of food. Food security exists when all people at all times have physical, social and economic access to enough safe nutritious food to meet their dietary needs and food preferences for an active and healthy lifestyle (World Food Summit, 1996). It was further stressed that to be food secured is that food must be available, affordable and utilized. Food security is when people do not need to live with hunger or fear of starvation (Webster, 2008). The World Health Organisation defines food security as “The implication that all people at all times have both physical and economic access to enough food for an active healthy life”. Access to adequate food is a necessity but not a sufficient condition for a healthy life. This is because other factors like health and household or public capacity to care for the vulnerable must be taken into consideration (Adegboye, 2004). Similarly, Egbuna (2001) opines that availability of food does not guarantee access to food but access to food is contingent on availability of food.

The ability to meet aggregate food need in a consistent way is known as food security (Anderson and Cook, 1999 p.142). Access to food “include the ready availability of nutritionally adequate safe foods and the assured ability to acquire them in socially acceptable ways” (Holben 2002 p. 156). “A household is food secure when it has access to the food needed for a healthy life for all its members and when it is not at undue risk of losing such access” (UN, AC/SCN, 1991). Hamm and Bellows

(2003) opined that "a situation in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through sustainable food system that maximizes community self-reliance and social justice is known as community food security". National food security is when the amount of food available in a country is evenly distributed and enough to meet people's food needs.

Women in Agriculture

The role of women in fighting the current food crisis in the world cannot be underestimated. Women contribute immensely to agricultural production process in Africa particularly in Nigeria. They have been known to grow; process, store and market food crops and they also rear animals. They earn income through the sale of agricultural produce as well as through agricultural wage labour. Ajayi (1992) puts it that women in Africa are active in the community as well as in family life. According to Adekanye (1984), for the whole of Nigeria, economic considerations are a major determinant of the extent to which women are involved in farming as against processing and trading. Once men move out of farming into such non-farm occupations as factory work, mining and distribution of industrial goods, women take up food production for home consumption and for sale, regardless of which ethnic group they belong. Tunde (2005) confirmed that women who were farmers undertook most farm operations themselves, including the more difficult ones such as land clearing and land preparation for planting. Similarly, the World Bank (2000) reported that Women worldwide participate in a wide range of agricultural activities including preparation of land, tree planting, saving seeds breeding, weeding, controlling pests, harvesting, threshing, post harvest, processing, livestock management, firewood collection, marketing and food preparation. When necessary, they used supplementary family and hired labour.

Rural women produce more than half of the world's food supply and they make up more than 40% of the developing world's agricultural labour force (FAO, 1983). Women are responsible for milking, processing milk for sale, collecting fodder, drying cow dung for fuel and looking after young or sick animals in Northern part of Nigeria. Women also participate in the rearing of animals for sale as well as for home consumption. Again, in communities surrounding River Benue, Niger, Cross River, Kaduna, and Yelwa women play important role in fishing activities such as preservation and marketing of fish. They also provide capital and other services to fishermen such as market information concerning fishing, while in the Southern part of Nigeria women participate in the harvesting, processing and marketing of cocoa (Adekanye, 1984).

Despite the growing importance of the women farmers' role in agriculture, as well as in overall rural development, they still lack access to and control over productive resources which deprives them of opportunities for their own capacity building and improved quality of life.

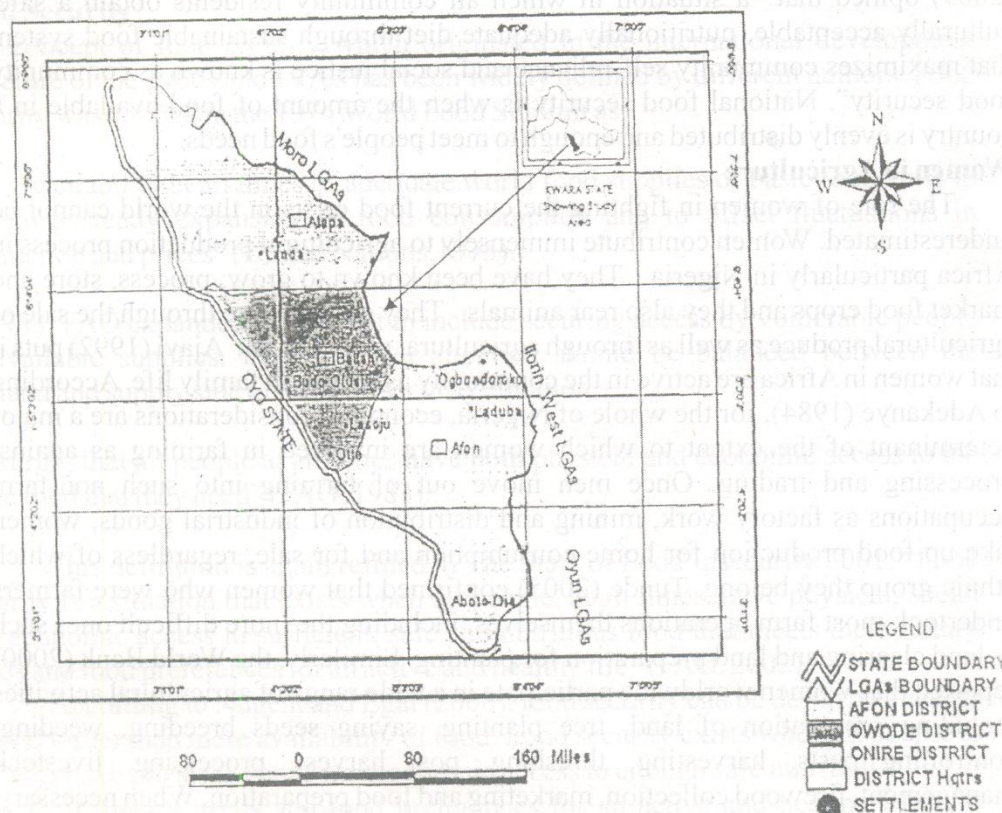


Fig 1: Map of Asa Local Government Area showing sampled settlements.

Source: Ministry of Lands and Surveys, Ilorin.

Study Area

The area under study for this paper is Asa Local Government Area of Kwara State. The Local Government Area is divided into three (3) districts namely Afon, Owode and Onire. Asa LGA is one of the sixteen (16) LGAs of Kwara State. Afon is the headquarters of the Local Government Area and it is 27km away from Ilorin the State capital. The LGA is located on latitude $8^{\circ}00'$ and $9^{\circ}10'$ north and longitude $2^{\circ}45'$ and $4^{\circ}15'$ east of the equator (fig 1). It is about 1,525sqkm and it stretches from the peri-urban fringes of the city of Ilorin by Oyo State. It is bounded by Moro LGA to the north, Oyo State to the south, Ilorin West LGA to the East and Oyun LGA to the West. The population of the area as put forward by the National Population Commission is 126,435 comprising 64,982 males and 61,453 females. The LGA falls within the tropical hinterland with wet and dry climate. The average annual rainfall is between 1,000mm -1,500mm. The heaviest rainfall is often recorded between the months of June and early August (Oyegun, 1993). The vegetation of the area comprises of

Guinea Savannah, derived savannah and rainforest (Oyebanji, 1993). Trees found here are mainly deciduous that shed their leaves during the dry season so as to reduce moisture loss to transpiration, while they are fresh and luxuriant during rainy season. Grasses here are very good for grazing and therefore support cattle rearing.

The soil type found in this LGA is ferruginous tropical soil characterised by much weathered soil which allows for deep root penetration. According to Oyegun (1983) the geology of Asa LGA is crystalline pre-cambian Basement Complex rock that are rich in minerals such as calcium, magnesium, phosphorus and potassium which are micronutrients for plants. The soil is also suitable for food production because of its mineral content and texture. Most inhabitants of this LGA are predominantly farmers of small scale/subsistence agriculture. They grow crops such as maize, Yam, Guinea corn, groundnut, cassava, beans, and vegetables among others. They also keep livestock such as goat, sheep, duck, turkey, fowls. Other economic activities practised by the inhabitants include artisans, petty trading and few salary earners in the LGA office and institutions present there.

Method of study

A simple random sampling technique was used to select ten villages from the 24 villages that make up Asa local Government Area (LGA) of Kwara state. The sample size consisted of 150 women farmers chosen from the ten villages (Afon, Abata-oja, Laduba, Ogbondoroko, Ballah, Lasoju, Otte, Alapa, Budo Olusi and Landa) through purposive random sampling procedure. The purposive technique was used to ensure the selection of women farmers. Interview schedule was employed to collect relevant data on socio-economic characteristics, agricultural production and membership of co-operative societies, method of obtaining loan and farming constraints from the women farmers selected. Data collected were analyzed using descriptive and inferential statistics involving frequency percentage, mean and multiple regression analysis.

To measure the factors that motivated women to contribute to agricultural production, a regression model was employed to identify the most significant variables explaining women contribution to agriculture/food production in the study area.

The model is of the form $Y = a + b_1x_1 + b_2x_2 + \dots + b_nx_n + e$

where $Y = \% \text{ of women contribution to agricultural production}$

$a = \text{intercept}$

$e = \text{error term}$

The independent variables are

$X_1 = \text{Formal educational status (Average number of farmers that had formal education)}$

$X_2 = \text{Poverty Level (Average number of farmers with growing income)}$

$X_3 = \text{Age (Average number of farmers below 20yrs and 50yrs and above)}$

- X_4 = Accessibility to credit facility (Average number of farmers that have access to credit facility)
 X_5 = Availability of Labour (Average number of farmers that have ready labour (children))
 X_6 = Size of farmland (Average number of farmers that have 0.5 to 2.00 hectares and above)
 X_7 = Ownership of land (Average number of farmers that own land)
 X_8 = Annual income (Average number of farmers that earn less than N10,000 to N50,000 above annually)
 X_9 = Skills and experience (Average number of farmers that have 10yrs and above experience)
 X_{10} = Membership of cooperative society (Average number of farmers that belong to cooperative society)

The variables were chosen after considering different factors that motivated women into agricultural production. Also, past works of different researchers (Tunde, 2005 and Fatulu 2007) who have used similar variables were considered.

Factors Determining Women's Contribution to Food Security and Agricultural Production.

In order to identify the most significant factor motivating women to contribute to food security and agricultural production in Asa Local Government Area of Kwara State ten (10) variables were considered. A stepwise multiple regressive analysis was performed on the variables. The dependant variable is Y (the level of contribution to food security and agricultural production by women). Factors X_1 to X_{10} are the independent variables.

Table 1: Regression Summary of the dependent and independent variables

Variables	Coefficients	Standard Error	R	R ²	Contribution	T. Value
Intercept	1.0389	2.0210	-	-	-	-
X_2	2.0035	0.210	0.58	0.3364	57.44	0.000
X_7	0.9328	0.236	0.27	0.0729	31.40	0.003
X_4	0.0602	0.0152	0.17	0.0289	20.20	0.002

Source: Computer output/ authors field survey, 2009

The regression summary of the dependent and independent variable in table 1 shows that out of the ten(10) variables that were fed into the model only three(3) variables X_2 (Poverty level), X_7 (Land ownership) and X_4 (Accessibility to credit facilities) were found to be significant at the specified tolerance level of 5% for entry into the model. X_2 (Poverty

level) is probably the best predictor of women's involvement in food security and agricultural production. The correlation co-efficient of the variable is 0.58 and co-efficient of determination of 0.3364. This indicates that 57.44% of the women farmers in Asa Local Government Area practice agriculture because of their poverty situation. This is in support of Prakash (1999) that in developing countries, among the poor, rural women are the poorest and more vulnerable than men.

Ownership of land (X_7) also appeared to be another very important factor with a correlation of 0.27 and co-efficient of determination of 0.0729 indicating that about 31.40% of the women in this study area will be involved in agricultural production and food security if they own land. This indicates that about 88.84% of the joint variance in contribution to food security and agricultural production is collectively explained by the variables X_2 and X_7 . Accessibility to land could have positive relationship with women's contribution to food security and agricultural production because land happens to be a major production resource and lack of control over it is a major limiting factor to women's productivity. If women could own land, they can use it as collateral to obtain loans from bank but lack of land ownership hinders their ability to obtain loan.

Accessibility to credit facilities (X_4) also relates perfectly with other variables of women's contribution to food security and agricultural production with a correlative co-efficient of 0.17 and co-efficient of determination of 0.0339 indicating that about 91.04% contribution of the three variables X_2 , X_7 and X_4 are jointly associated with agricultural production. This means that where there are loan facilities for women farmers it will encourage them to contribute more to food security and production. A short and long-term credit is needed to pay for input and hired labour in developing world, banks and credit associations are less inclined to women without property and land rights, they lack collateral (FAO 2008).

The remaining seven (7) variables X_1 , X_3 , X_5 , X_6 , X_9 , X_{10} may not be meaningful in explaining their variables because their correlation co-efficient are too low (8.6%) to make an impact.

The explanatory regression equation could thus be written as

$$Y = 1.0389 + 2.0035X_2 + 0.9328X_7 + 0.060X_4$$

($R^2 = 91.04\%$; SE 2.0210)

This implies that reduction in poverty, increase in land and increase in accessibility to credit facilities will increase women's involvement in food security and agricultural production in the study area.

Results and Discussion

Socio-economic characteristics of respondents in the study area:

Majority of the women farmers in the study area are middle-aged women. Table 2 shows that 85% of the respondents are within 20-49 years of age while 15% are between 50-70 years of age. This signifies that majority (85%) are in the economic active age (20-49). Many of the respondents (88%) are married signifying that there will be cheap labour from the children, 5% widows 3% divorced and 4% are single.

Table 2: Socio-economic Characteristics of Women Farmers

Socio-economic characteristics	Frequency	Percentage
Age-group		
20-39	37	25
40-49	90	60
50-70	23	15
Total	150	100
Marital Status		
Single	6	4
Married	132	88
Widowed	7	5
Divorced	5	3
Total	150	100
Educational Status		
Formal	104	69
Informal	46	31
Total	150	100

Farming Experience		
1-10	45	30
11-20	38	25
21-30	45	30
31-40	22	15
Total	150	100
Size of farmland		
0.1-1.5ha	72	48
1.6-3.0ha	48	32
Above 3.0ha	30	20
Total	150	100

Source: Field survey, 2009

Majority of the respondents had formal education 69%, while 31% had no formal education. Seventy (70%) of the respondents had 11-40 years of farming experience while the remaining 30% had 1-10 years experience. 48% had 0.1-1.5 hectares of land, 32% had 1.6-3ha while 20% had 3ha and above for farming.

Agricultural Production

From table 3, the percentage distribution of farm activities performed by women farmers revealed that 49% are into land clearing, 80% planting, 78% in weeding, 90% transporting, 88% watering, 89% harvesting, 93% processing and 95% marketing. Women farmers plant different types of staple crops such as maize, beans, vegetables, guinea corn and cassava.

Table 3: Agricultural Production

Agricultural Production	Frequency	Percentage
Land Clearing	74	49
Planting	120	80
Weeding	117	78
Transporting	135	90
Watering	132	88
Harvesting	133	89
Processing	139	93
Marketing	142	95

Note: Total not 150 because of multiple responses

Source: Field survey, 2009.

This shows that middle aged and married women are more active in food security and agricultural production in the study area. They participate mainly in land clearing, planting weeding, harvesting, transporting, processing and marketing except felling of trees and spraying of chemicals. These findings are similar to that of palmer (1991) who states that after land preparation in which women also participate in rural women farmers are responsible for all other agricultural production activities in Africa.

Livestock Production

Table 4 shows that the respondents keep different types of livestock. They keep livestock such as goats (52%), poultry (50%), fish 30% and others such as rabbit, pigs, sheep and guinea fowl among others (45%).

Table 4: Livestock keeping

Livestock	Frequency	Percentage
Poultry	78	52
Goats	75	50
Fish	45	30
Others	68	45

Note: Total not 150 because of multiple responses
Source: Field survey, 2009

Land Ownership

Most women farmers in the study area do not own land by inheritance because of the patriarch type of land tenure system practiced here. Table 5 shows that 8% purchase their land, 48% used their husband's land, 22% used family's land, 12% used hired land for farming and 3% farm on inherited land.

Table 5: Land Ownership

Land Ownership	Frequency	Percentage
Purchase	22	15
Husbands land	72	48
Familys land	33	22
Hired land	18	12
Inheritance	4	3
Total	150	100

Source: Field survey, 2009

Method of Obtaining Credit

Table 6 shows that 6% of the respondents obtained bank loan, 10% used their salaries, while 84% borrowed money from friends and relations. This is in support of FAO studies that women do not have access to bank loans since they have no collateral to obtain such loan. Most of these women borrow money from friends and others.

Table 6: Method of obtaining Credit

Method of obtaining Credit	Frequency	Percentage
Bank	9	6
Salaries	15	10
Friends and relations	126	84
Total	150	100

Source: Field survey, 2009.

Membership of Cooperative Society

From table 7, 62% of the women farmers are members of cooperative societies while remaining 38% do not belong to any cooperative societies. The cooperative societies to which these women farmers belong include Temidire, Irewolede, Ifelere, Agbewuyi, Omolere, Oresowapo, Agbeyewa, Ifelajulo, Agbelere and Omoniyi. The implication of this is that women farmers who are members of the cooperative society would be able to obtain loan from these societies. This will in turn enhance increased agricultural productivity.

Table 7: Membership of Cooperative Society

Membership of Cooperative Society	Frequency	Percentage
Yes	93	62
No	57	38
Total	150	100

Source: Field survey, 2009

Constraints Facing Women in Agricultural Production

The major problems facing women farmers in the study area include:

- Land ownership, most of the women farmers in Asa L.G.A do not have right to own land making it difficult for them to obtain loan from the bank since land is a major collateral that can be used to obtain loan from the bank.

- Lack of farm inputs such as improved farming techniques, inadequate information, improved seeds/seedlings, fertilizers, and pesticides among others.
- Lack of credit facilities to enhance increased agricultural production.
- Lack of involvement in decision making process.
- Access to agro-extension services is also a problem.

Conclusion

The conclusion from this research finding is that in order to encourage increase in women farmers' contributions to agricultural production and rural development in general, an employment-educational and incomes strategy should be devised for them. This will help in achieving their personal desire. The following recommendations were however made:

- women farmers in food crops production should be encouraged through the use of incentives;
- women should have equal opportunities with men to own land and in decision making process;
- Women should have access to agricultural services that will be tailored to their needs;
- capacity enhancement for women farmers organizations should be encouraged;
- adoption of appropriate inputs and technology to free up women's time for income-producing activities should be promoted; and
- government policies should be reviewed and re-oriented to ensure that the problems that constrain the role of women in food security are addressed.

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