

Contributions of Rural Women to Family Farming in Benue State, Nigeria: Implications for Agricultural Development

¹Mbah E.N., ²Saror S.F. and ³Agada M.O,

^{1,3}Department of Agricultural Extension and Communication, University of Agriculture, Makurdi, Nigeria

²Institute of Food Security, University of Agriculture, Makurdi, Nigeria

Abstract-- The study was carried out in Benue state, Nigeria to assess contributions of rural women to family farming and its implications for agricultural development. Questionnaire/interview schedule was used to collect data from a sample of one hundred and eighteen (118) respondents. Descriptive statistics such as frequency, percentage and mean score as well as inferential statistics (factor analysis) were used in analyzing data collected for the study. Findings show that about 52.5% of the respondents were aged 20-30 years, majority (89.0%) were married, 89.9% had formal education with a mean household size of 6 persons. Major contributions of rural women to family farming include harvesting of crops such as maize, cowpea, vegetables (M = 4.84), clearing of farm land (M = 4.81), staking of crops such as yam, beans, etc (M = 4.70), detuberization (M = 4.68), marketing of farm produce (M = 4.62), making of ridges, seed beds (M=4.42), gathering of fruits (M=4.41), mulching of young seedlings (M=4.40), storage of crops in silos, cribs, etc (M=4.40), among others. These contributions were further grouped into land management, livestock management, post-planting and processing operations. The study highlights that non-governmental organizations and development partners should be encouraged to establish banks in the rural areas to enable women obtain loan for purchasing farm inputs such as improved seeds and fertilizers to increase yield and enhance optimum productivity for economic empowerment.

Key words-- Contribution, rural women, family, farming, agricultural development, Nigeria

I. INTRODUCTION

Daily food needs of most families are provided by rural women and such roles cannot be overemphasized. Rural women play a vital role in food production and food security on family farms and as paid or unpaid laborers on other farms and agricultural enterprises (Ahmed and Maitra, 2010). Rural women are involved in both crop and livestock production at subsistence and commercial levels. They produce food and cash crops, providing two thirds of the food crops and manage mixed agricultural operations, involving crops, livestock and fish farming, considered as part of the agricultural labor-force (Food and Agriculture Organization (FAO), 2011). Rural women are also known to be fully involved in all operations of farming such as planting, thinning, weeding, fertilizer application, harvesting, storing, processing and marketing (Mybada, 2000). Particularly striking is the fact that rural women more than their male counterparts take the lead in family farming, making up to 60 – 80 percent of the agricultural labour force in Nigeria (World Bank, 2003).

Rural women contribute between 40% and 60% of all hours spent in agricultural production and processing and also undertake 60% to 90% of the rural agricultural products marketing, thus providing more than two thirds of the

workforce in agriculture (Soubh, 2006). Olawoye (2000) reported that 97% of women in Oyo State were involved in weeding (97%), processing (92%), transportation (91%), marketing (79%) planting (50%) and harvesting (35%). They are also involved in collection of fuel wood and water, caring for family members and maintaining their homes. Many of these activities are not defined as economically active employment but they are essential to the well being of rural households.

Despite the dominant and important roles women play in family farming in Nigeria, they are hardly given any attention in the area of training and/or visitation by extension agents with improved technologies. Banks hardly grant loans to them and are rarely reached with improved seeds, fertilizer and other farm inputs (Damisa, Samndi and Yohanna, 2007). These conditions have placed the women in a vicious cycle of poverty and are highly disadvantaged in economic empowerment for agricultural development.

Development policy makers and planners are becoming increasingly aware of the crucial contributions of women farmers to agricultural production and food security. Nevertheless, agricultural policies on the whole still do not address the needs of rural women farmers adequately. Where the roles and needs of women farmers are recognized in policy, these tend not to be adequately translated into practice in agricultural development programmes and planning (karl, 2005). This therefore raises the following pertinent questions: What are socio-economic characteristics of rural women in family farming? What are contributions of rural women to family farming?

Specifically, the objectives were to:

1. Describe socio-economic characteristics of rural women in family farming; and
2. Ascertain contributions of rural women in family farming.

II. METHODOLOGY

The study was carried out in Benue State, Nigeria. The state is named after the Benue river and was formed from the former Plateau state in 1976. It has an estimated population of 4,253,641 people (National Population Census (NPC), 2006). Benue State is made up of the following major ethnic groups namely; Tiv, Idoma and Igede. Other tribes found in the state include Jukun, Nupe and Hausa. The major occupation of the inhabitants is farming. Crops grown are millet, cassava, maize, yam, sweet potatoes, ground nut and cowpea. Fishing is mostly attributed to the Jukuns. The state has 23 Local Government Areas namely; Agatu, Ado, Apa, Buruku, Gboko, Guma, Gwer-west, Gwer-east, Katsina-ala, Konshisha, Kwande, Logo, Makurdi, Obi, Ogbadibo, Ohimini, Oju, Okpokwu, Otukpo, Tarka, Ukum, Ushongo and Vandeikya. Benue State

comprises three (3) geopolitical zones namely; Zone A (Eastern zone), Zone B (Northern zone) and Zone C (Central zone). Zones A, B and C are also called Benue North East, Benue North West and Benue South, respectively.

The population of the study consists of all the rural women in Zone B. Zone B is made up of seven Local Government Areas, namely; Buruku, Gboko, Guma, Gwer East, Gwer-West, Tarka, and Makurdi. Two (2) Local Government Areas namely; Guma and Makurdi were selected from the 23 Local Government Areas using simple random sampling technique. Makurdi Local Government Area has eleven districts namely; Agan, Ankpa/Wadata, Bar, Central south mission, Clerk/Market, Fiidi, Mbalagh, Modern market, North Bank 1, North Bank 2 and Wailemayo. Guma Local Government Area has ten districts namely; Abinsi, Kaambe, Mbabai, Mbadwem, Mbawa, Mbayer/Yandev, Nyiev, Ngoron, Sagev and Uvei.

Three (3) communities were selected randomly from each of the two (2) Local Government Areas using simple random sampling technique. Twenty (20) rural women were randomly selected from each of the six (6) communities, giving a total of one hundred and twenty (120) respondents used for the study. Data for this study were collected from primary source using a well structured questionnaire/interview schedule. Questionnaire was used for the literate rural women, while interview schedule was used for non-literate rural women. The questionnaire contained two sections (A-B). Section A contained information on the socio-economic characteristics of the rural women, while section B focused on the contributions of rural women to family farming. One hundred and twenty (120) copies of questionnaire were administered but one hundred and eighteen (118) were found analyzable due to wrong filling. Descriptive statistics such as frequency, percentage and mean score, as well as inferential statistics such as factor analysis were used for analyzing data collected for the study.

III. RESULTS AND DISCUSSION

A. Socio-economic Characteristics of the Respondents

a. Age (years)

Table 1 shows that 52.5% of the respondents were within the ages of 20-30 years, 24.5% were within the age range of 31-40 years, while 17.6% were aged of 41-50 years, among others. The mean age of the respondents was about 32 years. This implies that the respondents were young and in their productive years hence greater involvement in family farming which enhances agricultural development.

b. Marital Status

Result in Table 1 shows that majority (89.0%) of the respondents were married, 5.1% were widowed, while 4.2% were single. This shows that the respondents were mostly married and should be highly involved in family farming in order to feed members of their households.

c. Level of Education (years)

Data in Table 1 show that 52.4% of the respondents had primary education, 35.6% of them had secondary education while about 10% had non-formal education. The mean number of years spent in school was 8.58 years. This implies that the respondents had formal education and were literate enough to be able to use improved technologies to boost food production.

d. Household Size (numbers)

Data in Table 1 show that about 48% of the respondents had a household of 1-5 persons, 44.0% had 6-10 persons, while 8.5% had above 10 persons. The mean household size was 5.89. This implies that the respondents had a relatively large household size which could serve as source of labour used in family farming. The findings are in line with a study carried out by Ajani and Igbokwe which stated that greater percentage of rural women had a household size of 1-5 persons.

e. Farming Experience (years)

Entries in Table 1 show that 45.7% of the respondents had a farming experience of between 11 and 20 years, while 37.1% had a farming experience of 1-10 years, among others. The mean farming experience of the respondents was about 16 years. This implies that the respondents have been farming for a long period of time and have acquired experiences that will enable them to improve their activities in family farming.

f. Farm Size (hectares)

Results in Table 1 indicate that 62.7% of the respondents had a farm size of 3-4 hectares, about 24% of the respondents had 5-6 hectares, while 13.6% had 1-2 hectares of farm land. The mean farm size was 2.10ha. This implies that the respondents had access to a relatively large farm land which they use in cultivation of crops. This could also lead to diversification of crops to guard against failure resulting from sole cropping.

g. Type of Farming

A greater percentage (79.7%) of the respondents were involved in crop production, 18.6% were involved in mixed farming, while 1.7% were involved in livestock production (Table 1). The implication of the findings is that the respondents were fully involved in crop production which can either be consumed by family members or sold in the market for income generation.

h. Major Occupation

Majority (92.4%) of the respondents had farming as a major occupation, while about 6.0% had civil service as their major occupation, among others (Table 1). This indicates that farming is a predominant occupation of the rural women in the study area. This will also help to ensure household food security.

i. Non-farm Occupation

Results in Table 1 reveal that 40.7% of the respondents were involved in hairdressing, 25.4% were not involved in any non-farm occupation, while 24.6% were involved in tailoring, among others. This implies that the respondents were also involved in non-farm occupation in order to obtain additional income to be economically stronger to meet up with family responsibilities.

j. Membership of Organization

Table 1 shows that 41.5% of the respondents were members of Women Development Association, 31.4% belonged to Women Farmers Association, among others. This implies that interaction they get from being members of organization could enhance access to information on credit facilities which will boost their productivity.

k. Estimated Annual Income (naira)

Data in Table 1 show that 71.2% of the respondents earned ₦ 150,001- ₦ 200,000, 12.7% had ₦ 50,000-₦ 100,000, while 8.5% made above ₦ 200,000, among others. This implies that

the respondents obtained reasonable amount of money from the sales of their farm produce for the upkeep of the family.

Table 1: Distribution of socio-economic characteristics of the respondents (n=118)

Socio-economic characteristics	Frequency	Percentage	Mean Score
Age (years)			
20-30	62	52.5	
31-40	29	24.5	
41-50	21	18.1	
Above 50	6	4.9	32.31
Marital status			
Single	5	4.2	
Married	105	89.0	
Divorced	2	1.7	
Widowed	6	5.1	
Level of education (years)			
Non-formal education	12	10.1	
Primary education	62	52.4	
Secondary education	42	35.6	
Tertiary education	2	1.9	8.58
Household size (numbers)			
1-5	56	47.5	
6-10	52	44.0	
Above 10	10	8.5	5.89
Farming experience (years)			
1-10	44	37.1	
11-20	54	45.7	
21-30	15	12.6	
31-40	4	4.5	15.68
Above 40	1	0.8	
Farm size (hectares)			
1-2	16	13.6	
3-4	74	62.7	
5-6	28	23.7	2.10
Type of farming			
Crop Production	94	79.7	
Mixed Farming	22	18.6	
Livestock Production	2	1.7	
Major occupation			
Farming	109	92.4	
Civil Service	7	5.9	
Trading	2	1.7	
Non-farm occupation			
Hair Dressing	48	40.7	
Tailoring	29	24.6	
Catering	5	4.2	
Making of confectionaries	2	1.7	
Trading	4	3.4	
None	30	25.4	
Membership of organization			
Women Development Association	49	41.5	
FADAMA	6	5.1	
Women Farmers Association	37	31.4	
None	26	22.0	
Estimated annual income (naira)			
50,000 - 100,000	15	12.7	
100,001 – 150,000	9	7.6	
150,001 - 200,000	84	71.2	
Above 200,000	10	8.5	

1. Contributions of Rural Women in Family Farming

Major contributions of rural women to family farming include harvesting of crops such as maize, cowpea, vegetables (M = 4.84), clearing of farm land (M = 4.81), staking of crops such as yam, beans, etc (M = 4.70), detuberization (M = 4.68), marketing of farm produce (M = 4.62), making of ridges, seed

beds (M=4.42), gathering of fruits (M=4.41), mulching of young seedlings (M=4.40), storage of crops in silos, cribs etc (M=4.40), thinning of seeds (M=4.28), processing of crops at farm gate (M=4.22), supplying of seeds (M=3.99), milling of cereals crops, (M=3.97), transplanting of seedlings (M=3.92), application of organic manure (M=3.69), application of

inorganic manure (M=3.56), and cleaning of pens (M=3.26) (Table 2). This implies that rural women make a significant contribution to family farming. The findings are in agreement with Soubh (2006) who stated that rural women's contribution to family farming cut across various sub-sectors such as

planting of seeds, weeding, harvesting, processing and marketing of farm produce such as cassava, maize, yam, etc as well as keeping livestock.

Table 2: Mean score of contributions of rural women to family farming

Contributions	Mean Score	Std. Deviation
Clearing of farm lands	4.81	0.52
Making of ridges, seed beds, etc	4.42	0.95
Sowing of seeds/seedlings/planting materials	4.46	0.58
Transplanting of seedlings	3.92	0.86
Watering of seedlings	2.91	1.10
Mulching of young seedlings	4.40	0.93
Application of organic manure	3.69	1.19
Application of inorganic manure	3.56	1.16
Supplying of seeds	3.99	0.90
Thinning of seedlings	4.28	0.94
Harvesting of crops such as maize, cowpea, vegetables, etc	4.84	0.45
Processing of crops at farm gate level	4.22	0.99
Storage of crops in silos, cribs, etc	4.40	0.74
Milling of cereal crops	3.97	0.93
Marketing of farm produce	4.62	0.72
Staking of crops such as yam, beans, etc	4.70	0.70
Gathering of fruits	4.41	0.85
Cleaning of pens	3.26	1.08
Collection of eggs in poultry farm	2.36	0.81
Brooding of chicks in poultry farm	2.22	0.85
Detuberization of yam tubers	4.68	0.74

m. Factor analysis of contributions of rural women to family farming

Table 3 shows the factor analysis of the contributions of rural women to family farming. Based on the items loading, factors 1, 2, 3 and 4 were named land management, livestock management, post-planting and processing operations, respectively. These factors represent the major contributions of rural women to family farming.

Factors which loaded high under land management operations were detuberization of yam tubers (0.83), making of ridges, seed beds, etc (0.79), staking of crops such as yam, beans, etc (0.79), mulching of young seedlings (0.66) and sowing of seeds/seedlings/planting materials, (0.62), staking of yam and mulching of young seedlings improves the growth and quality of crops produced. The findings are supported by Mybada (2000) who states that rural women are also known to be fully

involved in all operations of farming such as planting, thinning, weeding, fertilizer application, harvesting, storing, processing and marketing. Ajani and Mgbenka reiterated that rural are involved in various economic activities, such as production of crops like cassava, cocoyam, yam, maize and vegetables, among others. Livestock management operations comprised brooding of chicks (0.89), collection of egg in poultry farm (0.83) cleaning of pens (0.62) and application of inorganic manure (0.43). Brooding of chick in poultry farm is required to hasten the growth of chicken and to reduce the occurrence of poultry diseases. The eggs are collected and sold to generate income for the family and can also be used for home consumption. Post planting operations include marketing of farm produce (0.72), harvesting of crops such as maize, etc (0.70), thinning of seedlings (0.64) and storage of crops in silos, cribs, etc (0.59). Thinning of seedlings is

required to avoid wastage of soil nutrients and to allow proper spacing for the normal growth of crops.

Processing operations comprised gathering of fruits (0.83), milling of cereal crops (0.79) and processing of crops at farm gate level (0.73). Gathering of fruits is done during harvesting

of fruit crops. Fruits are gathered to avoid wastage and loss. This is in agreement with Olawoye (2000) who states that rural women have virtually taken over the production and processing of arable crops being responsible for as much as 80% of the staple food crops produced in Nigeria.

Table 3: Factor analysis of contributions of rural women to family farming

Contributions	Factor 1(land management operations)	Factor 2 (livestock management operations)	Factor 3 (post planting operations)	Factor 4 (processing operations)
Clearing of farm lands	0.204	0.100	0.282	0.077
Making of ridges, seed beds, etc	0.790	0.128	0.202	-0.151
Sowing of seeds/seedlings/planting materials	0.623	0.014	0.283	-0.167
Transplanting of seedlings	0.425	0.379	0.072	0.066
Watering of seedlings	0.639	0.427	-0.093	-0.100
Mulching of young seedlings	0.661	-0.039	0.256	0.160
Application of organic manure	0.272	0.342	0.390	0.063
Application of inorganic manure	0.286	0.434	-0.005	-0.067
Supplying of seeds	0.031	-0.009	0.116	0.133
Thinning of seeds	0.285	0.120	0.643	0.168
Harvesting of crops such as maize, cowpea, vegetables	0.154	-0.084	0.702	0.236
Processing of crops at farm gate level	0.065	0.050	-0.110	0.736
Storage of crops in silos, cribs, etc	0.021	0.003	0.589	-0.027
Milling of cereal crops	-0.003	0.017	0.129	0.793
Marketing of farm produce	0.134	-0.187	0.718	-0.302
Staking of crops such as yam, beans, etc	0.790	-0.001	0.046	0.169
Gathering of fruits	0.106	-0.036	0.018	0.818
Cleaning of pens	0.089	0.616	-0.038	0.236
Collection of eggs in poultry farm	-0.090	0.830	-0.070	-0.060
Brooding of chicks in poultry farm	0.025	0.885	0.086	-0.087
Detuberization of yam tubers	0.833	-0.070	0.099	-0.041

CONCLUSION AND RECOMMENDATIONS

The study revealed that majority of the respondents was young and in their productive age, married, had formal education with a mean household size of 6 persons. Major contributions indicated by rural women in family farming were harvesting of crops such as maize, cowpea, vegetables, clearing of farm land, staking of crops such as yam, beans,

etc, detuberization, marketing of farm produce, making of ridges, seed beds, gathering of fruits, mulching of young seedlings, storage of crops in silos, cribs, etc, among others. These contributions were further grouped into land management, livestock management, post-planting and processing operations. The study highlights that non-governmental organizations and development partners should be encouraged to establish banks in the rural areas to enable

women obtain loan for purchasing farm inputs such as improved seeds and fertilizer to increase yield and enhance optimum productivity for economic empowerment. Rural women should be encouraged through the use of female extension agents to form cooperative societies to enhance easy access to farm inputs for agricultural development.

References

- [1] Ajani, E.N. and Igbokwe, E.M. (2012). Analysis of Occupational Diversification among Rural Women in Anambra State, Nigeria. *International Journal of Agricultural Sciences*, vol.3 (2), 418-427.
- [2] Ajani, E.N. And Mgbenka, R.N. (2013). Socio-Economic Activities of Women Farmer Groups in Rural Communities of Anambra State: Implications for Agricultural Development in Nigeria. *Journal of Applied Agricultural Research*, vol. 5(1), pp. 29-36.
- [3] Ahmed, S. and Maitra, P. (2010). Gender wage discrimination in rural and urban markets of Bangladesh. *Oxford Development Studies*, vol. 38 (1), pp. 83–112.
- [4] Damisa, M. A. Samdi, J.B. Yohanna M. (2007). Women Participation in Agricultural Production: A probit analysis. *Journal of Applied Sciences*, vol. 7 (3), pp. 412-414.
- [5] Food and Agriculture Organization (FAO) (2011). *Women in Agriculture - Making a Strong Case for Investing in Women*. Rome: FAO, pp. 56-60.
- [6] Karl, M. (2005). Inseparable: The crucial role of women in food security revisited. *Women in Action*, vol. (1), pp. 1-12.
- [7] Mybada, J.U. (2000). Production of staple crops by rural women in Enugu and Ebonyi States. Lessons for enhancing poverty alleviation programs.
- [8] National Population Commission (NPC) (2006). National population census figure, Abuja, Nigeria.
- [9] Olawoye, J.A. (2000). Difficulties for Rural African Women to Secure Access to Resources for Agricultural Production; Two case studies from Oyo State, Nigeria. vol. 3, (2) pp.60-75.
- [10] Soubh, S. (2006). Women's role in Agriculture and gender related issues in Syria. National Agricultural Policy Centre (NAPC) Working paper No.18, pp. 50-55.
- [11] World Bank (2003). *World Development Report on Agricultural Development*. Washington, D.C: The World Bank.