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Relative Contributions of Farm and Non- Farm Activities of Rural Women to Household Quality Of Life in Edo and Delta States, Nigeria

Belonwu, N. E[1]., Prof. E.A.Onemolease[2]., Nwabeze, G. O[3]., Moseri .B.[1], Igene C. A[2]., Egieme.C1. Idiake-Ochei,O[4].

[1]*Department of Agricultural Science, College of Education, P.M.B 2090, Agbor. Delta State.*
[2]*Department of Agricultural Economics and Extension, Ambrose Alli University, Ekpoma. Edo State*
[3]*Extension Programme, National Institute for Freshwater Fisheries Research (NIFFR), P.M.B. 6006, New Bussa, Niger State.*
[4]*Department of Agricultural Economics and Extension Services, University of Benin. Edo State*
Corresponding Author: Belonwu, N. E

Abstract: *The study assessed the relative contributions of farm and non-farm activities of rural women to household quality of life in Delta and Edo States of Nigeria. Data was collected from 278 respondents, randomly selected from 8 local government areas in two agricultural zones of the states. Data collected were analyzed using descriptive statistic tools of frequency count, percentage, mean, while Anova, Friedman and Probit regression tests were used to analyse the hypothesis. The socio-economic characteristics revealed that the women were young (average age was (40-48years), educated with 74.46% having formal education, experienced in farming (average was 9years), Married (70.14%) household size (5persons), high percentage (43.88%) engaged in both activities and (56.12%) of the respondents were not diversified in their economic engagement. Marketing and trading of agricultural produce (53.6%) and (42.1%) were the major farm and non-farm enterprise of the respondents respectively. The rural women believed their income generating activities had contributed to family welfare. Household regular feeding (mean=3.06), good health care (mean=2.92), quality food (mean=2.89), Land ownership (mean=2.69), Attendance of good sch=2.62), Comfortable housing (mean=2.62), Means of transportation, (mean=2.59), Quality household facilities, (mean=2.42) and sufficient savings for future (mean=2.32). Major constraints faced by rural women in the pursuance of their farm enterprise include: pest and diseases (mean=2.64), high cost of transport (mean=2.63), bad road network (mean=2.61), lack/inadequate improved planting materials (mean=2.58), and inadequate capital (mean=2.50). The major constrains faced in non-farm enterprise include, high competition from other entrepreneurs (mean=3.51), job insecurity(mean=3.19), lack of information on how to start a business(mean=2.87), inadequate capital (mean=3.11), government high tax mean=2.54), low salary/remuneration (mean= 3.16), and low pricing (mean=3.23).Probit regression test result revealed that education (b = -o.465) house hold size (b= -0.312) and farm size (b= 0.709), had significant influence on the women economic diversification decision. Anova result (F=0.379) revealed that though the mean income of those engaged in farm and non-farm enterprises was the highest (₦ 361,713.12) and this was not significantly different from those who were engaged in farm enterprise only (₦ 330,258.82) and those engaged in non-farm enterprise only (₦ 298,450.70). Anova result (F =0.739) also revealed that respondents engaged in both farm and non- farm activities had the highest welfare score (122), indicating a higher quality of life. Freidman's test revealed that significant difference existed in the seriousness of the constraints faced by the respondents in their farm activities. Constraints like high cost of transportation (mean=7.37), pest and diseases (mean= 7.36), bad road (mean= 7.33), lack of improved planting materials (mean= 7.26), and inadequate capital (mean= 6.82) were the most significant. Friedman test result (x^2 =243.80) equally showed that high business competition (mean = 5.89) was the most significant constraint faced by the respondents in their non-farm enterprise. The general results show that rural women actually engaged in both economic and non-economic enterprises and that they derived more income from the farm and non-farm (₦ 361,713.12) which is their major source of income since farm activities do not sustain them adequately. it also showed or revealed the fact that where women are not diversified, they tend to have a higher level of investment in their sole enterprise be it farm or non-farm but regardless of whatever activities they are into, the women appear to be faced with certain constraints which affected their enterprise and the contribution to household quality of life. It is recommended that government should seriously consider formulating Policies that recognize the diversity and heterogeneity of women's income generating activities and must seek to enable each type of IGAs to earn more income. This can be achieved through assurance of adequate access to credit facilities on reasonable terms for acquisition of necessary inputs. Alternatively the*

government and AID agencies should try to reach women so that they could have direct access to the information of any available assistance.

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I. Introduction

In an attempt to alleviate poverty in the developing countries of the world, efforts should be directed towards the promotion of rural well-being and this requires an integrated plan that goes beyond mere agricultural development. UNDP (2014) reported that the world attained the first Millennium Development Goal target (to cut the 1990 poverty rate by half at the end 2015) five years ahead of schedule, in 2010. Despite this progress, the number of people living in extreme poverty remains unacceptably high. Persistent increase in rural poverty, under-employment and exodus of labour has strengthened the importance of non-farm economic activities for rural households in recent times. At the aggregated level, the rural non-farm economy is playing important role both in terms of generated employment and boosting means of livelihoods. Non-farm employment accounts for a large percentage of the total employment in the rural economy of most developing countries of the world.

In Nigeria, the incidence of poverty has been on the increase, the National Bureau of Statistics reported that it increased from 28.1% in 1980, 44% (1992), 65.6% in 1996(NBS, 2014) to 71.5% in 2014 (NBS, 2014). Despite poverty-reduction strategies adopted in Nigeria, the incidence of poverty in rural areas still remains high (UNDP, 2014). The reason might be attributed to the wrong approach to rural poverty reduction, which is centered on production of crops and livestock without consideration for a holistic approach which embraces not only agriculture but also infrastructural facilities. Moreover, knowledge of rights and information about the way government function is notably lacking among the large illiterate groups. This makes it hard for rural people to exert pressure or proposals for changes in the system which has often actively discriminated against them in the allocation of resources. This has actively hindered the level of their livelihood (Ademola, 2011). Given the multitude of constraints faced by households and the heterogeneity of non-farm employment opportunities available to them, livelihood diversification strategies vary widely. This heterogeneity can make generalizations problematic and is a reason for lack of sufficient knowledge about non-farm rural economy.

In rural areas, given the constraints on farm expansion and continuing growth of the rural population, greater attention is being given to non-farm activities in view of their potential for economic development and poverty reduction (Murgai, 2009). A number of factors account for the recent interest in the rural non-farm economy. Firstly, as stated, employment growth in the farm sector has not been in consonance with the employment growth in general, implying that agriculture alone cannot sustain growing rural communities. Secondly, even if productivity and incomes in some non-farm activities are not higher than those in farming, the former as an option makes a difference, as it facilitates income diversification. Diversifying into non-farm activities could be a response to insufficient farm income or a means to decrease the vulnerability associated with volatile agricultural incomes due to, for example, exogenous shocks such as rainfall. Given the high likelihood of seasonal unemployment in agricultural economies, total household income is likely to increase if there are more choices for workers or self-employed to work in non-farm activities that are less affected by, say, seasonality. Thirdly, a planned strategy of rural non-farm development may prevent many rural people from migrating to urban industrial and commercial centers. Although migration to urban areas may be the most appropriate route out of poverty for some groups, rural non-farm economy could also have the potential to slow down rural-to-urban migration and the process of rural poor merely becoming urban poor. Two major factors that act as incentives for households to diversify into rural non-farm enterprise can be classified as 'incentives that pull' and 'incentives that push'. The capacity variables that allow households to diversify into non-farm activities include human capital (level of education), physical capital (size of land holdings), financial capital, social and organizational skills. In addition, availability of infrastructure, such as roads and electricity, enables diversification of rural households into non-farm activities.

Women are a crucial factor in the life of any nation, especially now that most of them are breadwinners of their families. In Africa, women are often "courageous mothers" who have economic acumen for survival and they are the ferment of development in secluded rural areas (Steunou, 2009). Rural women are not only isolated from economic opportunities, they also tend to have less access to social services such as health, sanitation, education and economic services like electricity and safe water supplies (Adebayo and Okuneye, 2011) Women are highly involved in agriculture and other income generating enterprises to raise their quality of life. They are found in nearly every sector of the economy where they derive income for the survival of the house hold. Oseni and Winters (2009) posited that the surplus cash generated from non-farm enterprise directly influences the purchase of agricultural inputs. West African women play important role as farmers, traders and entrepreneurs, and these roles are of central importance to their families and the economy of West Africa. However, the degree

of women participation in non-farm enterprises and farm enterprises vary according to customs in different regions and countries. In sub-Saharan Africa, women produce 80.0% of basic food stuffs. In Nigeria, women produce about 60.0% - 80.0% of agricultural food in the country. They direct their earnings to meet the needs of their families. The rural women combine their roles as wives, mothers, housekeepers with their invaluable tasks as farmers, farm labourers etc. They work longer hours at home and in farms using labour intensive and primitive farm implements for output and income generation. Incentives and capacity for undertaking non-farm enterprises may diverge; thus resource poor women farmers may very well have strong incentives to participate in rural non-farm enterprise but lack the financial or technical capacity to do so because of various constraints. Incentives to participate in rural non-farm enterprise differ according to women's wealth (Escobal, 2001). Thus, decisions made by women concerning the farm and extent of their involvement in non-farm enterprise (either starting enterprise or entering the wage labour market) may be constrained due to inadequate capital and formal education (Oko, 2005).

Agriculture, the main source of livelihood in Nigeria, especially in the rural areas, is plagued with various problems. Most Nigerians who dwell in the rural areas of the country have hardly improved. Most of the rural dwellers live in deprived and disadvantaged conditions with particular regards to their various social and economic endeavours. As a result, most of the rural households are poor and are beginning to diversify their livelihoods into farm and non-farm activities as a relevant source of income in enhancing household quality of life.

The rural non-farm sector has traditionally been viewed as a low-productivity sector which produces low quality goods. It is often expected to wither away as a country develops. Recent years have seen a shift away from this position towards recognition that the rural non-farm sector can, and often does, contribute to economic growth, rural employment, poverty reduction, and a more spatially balanced population distribution. Non-farm economy in the rural area has a potential to absorb surplus rural labour to overcome seasonal income variability of agricultural activities and to provide income in case of droughts and the loss of livestock (Haggblade *et al*, 2010). Some perceive non-farm activities as potential areas of growth that can link agriculture to the non- agricultural sector, others treat them with reservation or consider them as mere survival strategies at best (Mulatu and Teferi, 2012). Therefore, doubt still lingers on the contribution of rural non-farm enterprise to overall household quality of life

Thus, the role of rural farm and non-farm activities in the development process therefore still remains inconclusive, which motivates the present study. Thus, this study seeks to address the following questions:

(a) What are the socio-economic characteristics of rural women in the study area?
(b) What are the farm and non-farm activities of rural women?
(c) what is the income realised from the women farm and non-farm activities in the last season?
(d) What are the relative contributions of farm and non-farm activities to women's income and household quality of life?
(e) What are the constraints faced by the women in their farm and non-farm activities

Objectives of the study

The overall aim of the study is to assess the relative contributions of farm and non-farm activities of rural women to household quality of life in Delta and Edo States of Nigeria. The specific objectives include or are to:

(a) examine the socio-economic characteristics of rural women in the study areas;
(b) identify farm and non- farm economic activities of the women;
(c) estimate the income realised from the women farm and non-farm activities in study area;
(d) determine the contributions of farm and non-farm economic activities of the rural women to household quality of life in the study area.
(e) examine the constraints faced by the women in their farm and non-farm activities;

II. Methodology

This study was carried out in Delta and Edo States of Nigeria. The States are in the south-south geopolitical zone of Nigeria. Delta state lies roughly between longitude $5^0.00$" and $6^0.45$" and shares common boundaries with Edo, Ondo, Anambra, Rivers and Bayelsa State to the North, North-West, East, and South-East respectively (Delta State Agric Policy, 2007). It is generally low-lying and has a deep coastal belt inter-laced with rivulets and streams which form the Niger- Delta. While Edo State is an inland state in central southern Nigeria which is part of the nucleus of Niger Delta Region. It is low lying except towards the north axis where the Northern and Esan plateaus range from 183 meters of the Kukuruku Hills and 672 meters of the Somorika Hills.

Sampling procedures and technique

A multi-stage random sampling method was used in the selection of the respondents .

Stage 1: The first stage was the purposive selection of one agricultural zone from each state. The criteria for selection was the high farm and non-farm activities taking place in such zone. These include Edo Central zone and Delta North agricultural zone in Edo and Delta state respectively.

Stage 2: The second stage was the purposive selection of five LGAs out of the nine LGAs in Delta North Senatorial District and three of the five LGAs in Edo Central zone , which represented 50% of the LGAs in the selected zones. Thus, a total of 8 LGAs were selected. The names of the LGAs are provided in table 1

Stage 3 : The third stage was the random selection of two villages from the selected LGAs in the selected States, to give a total of 16 villages.

Stage 4 : In the fourth and final stage, stratified random sampling was used to sample women engaged in farm and non-farm activities while snow ball sampling technique was used to select 20 respondents in each category per community. The total respondents sampled were 320 . However, only 278 responses were retrieved and finally used for data analysis.

Data Analysis Techniques.

Descriptive statistics (frequencies, means, and percentages) as well as inferential statistics was used to analyse the data for the study. Frequency counts, means and percentage wereused to analyse data collected on the socio-economic characteristics of the respondents. Anova, Friedman, mean, SD and Probit regression tests were used to test the hypotheses formulated. Computer software used is the Statistical Package for Social Sciences (SPSS), version 23.

Operationalisation of Variables

(a) Socio-economic characteristics or respondents

The following characteristics of respondents were measured as follows:

i Age: Chronological age of the respondents was measured in years.
ii Marital status: Respondents were required to indicate if they are married, single, divorced or widowed
iii Household size: Number of persons physically living within the immediate family unit.
iv Educational status: This describes the level of respondents' level of formal education. i.e no formal education, primary education, secondary education and tertiary education
v Farm size: This was measured in hectares cultivated by the women whether as sole owners or in partnership with their spouses.
vi Farming experience: This was measured in years of active farming
vii Income: This was measured in terms of the income, in naira, that earned to the women from their farm and non-farm enterprises in last season.

(b) Farm Activities of rural women: This was captured as the farming activities that women participate in which generate or earn income for them.

(c) Non-farm activities: These are the activities that the women carryout in conjunction with or independent of their routine farm work, where applicable, and which provide opportunities for additional income.

(d) Farmers' perception of enterprise contributions to household quality of life: Farmers perception of enterprise contributions to household quality of life, was measured on five point rating scale as follows: Strongly Agreed (5), Agreed (4), Disagreed (3), strongly disagreed (2), Undecided (1). The level of agreement was determined using the weighted mean score of 2.50.Thus, a quality of life indicator with a mean of $\geq$ 2.50, implies an agreement among respondents that the economic enterprise has made contribution.

(e) Constraints to women's engagement in economic activities – A 4 Point likert scale was used to determine the seriousness of the constraints. The rating scale includes very serious (4), serious (3), little serious (2), and not serious (1). A weighted mean score of 2.50 was used to determine the seriousness of a constraint by assuming $\geq$ 2.50 as not serious.

III. Results and Discussion

Although a total of three hundred and twenty respondents were administered the questionnaire, only 278 responses were eventually used for the analysis. This represents a response rate of 92.6 %. Subsequent data analysis and discussion are based on this response.

Socio-economic characteristics of respondents

Age of respondents

The pooled data of Table 1 shows that a higher proportion of the women sampled (43.53%) were 46-55 years of age, 31.3% were 36-45years of age, 21.58% were 26-35 years old, while 10.43% were 56-75 years. The average age was 40.8 years. An examination of the state's results reveals that, while a higher proportion of Delta state respondents were 36-45 years old (34.50%), with an average age of 40.48 years, the highest proportion of Edo state respondents were 46-55 years old (42.31%) with an average age of 41.9 years. The average age of the respondents implies that they were in their productive age. Olaleye (2008) had noted that if provided with appropriate technology recommendations, these able bodied persons will have the capacity to produce food and other agricultural products for both household consumption and commercial purpose, thus, catering for the household welfare

Marital status

The pooled result of table 1 reveals that the majority (70.14%) of the respondents were married, 5.76% were single while widows represented 17.99 %. Similar trend was observed in both Delta (68%) and Edo (75.64%) states in which the married predominates. Similar result has been reported by Akinwumi *et al* (2006), who noted that majority of rural women farmers were married. The fact that majority of the respondents were married, suggest a sense of family responsibility and the need for them to engage in economic enterprise in order to contribute to their family quality of life.

Educational level

The pooled results of Table 1 show that 29.86% of the respondents had secondary education, 25.54% had no formal education, 23.02% had primary education while 21.58% had post-secondary education. The result reveals that the respondents possessed different educational background, but most (74.46%) had formal education. This is likely to affect the quality of life their household would have since a higher educational attainment might promote economic diversification, which will improve their welfare. This finding is consistent with that of Babatunde and Qaim (2009).Onemolease (2004) reported that education enhances farmers understanding and application of modern technologies in their enterprise engagement, be it farm or non-farm which, consequently can enhance their contribution to household quality of life.

Household size

The aggregate household size distribution of the respondents, as presented in Table 1, reveals that 57.91% had a size of 5-8 members, followed by 35.61% with 1-4 members, 5.76% with 9-12 members, and 0.72% with a size of more than 12 members. The average household size of respondents was 5 persons. At the state level, an household size of 5-8 predominate in Delta (54.00%) and Edo (67.95%) states, with the average being 5 and 6 respectively. The finding suggests the respondents had a fairly small family size. This might affect the supply of family labour to assist the respondents in their enterprise, compelling them to resort to other forms of labour such as hired labour. This will further constrain the women economically, considering their poor status. Similar household size was reported by Edokpa (2014) for households in Edo state**.**

Enterprise status

Table 1 shows that a higher percentage of the pooled respondents (43.88%) engaged in farm and non-farm activities, 30.58% engaged in farm enterprise only, while 25.54% engaged in non-farming economic activities only. The result shows that some of the non-farm income generating activities was carried out simultaneously during farming season while others were carried out only during off-season periods. The findings support the view of Oladeji (2007) that even though farming was the predominant activity in most rural areas, farmers usually engaged in non-farm activities to improve their household quality of life. The state level result shows that engaging in both farm and non-farm enterprise predominate in both Delta (47.00%) and Edo (35.90%) states.

Enterprise diversification

The pooled data of Table 1 shows that 56.12% of the respondents were not diversified in their economic engagement while 43.88% were diversified. The result revealed that a few of the respondents were diversified in Edo state (35.90%) compared to Delta state where the higher percentages (47.00%) were diversified. Delta state is known as an 'oil state' being one of the major oil producing state in the country. Thus, the standard of living is generally higher in such state, and this may account for the higher enterprise or income diversification by the households in order to enhance their quality of life. Their decision to diversify may arise from insufficient land holdings, soil degradation, unattractive producers' price for agricultural products and lack of infrastructural facilities in the rural areas (Corral and Reardon, 2001).

Farming experience

As shown in Table 1, the non-response rate of 26.98% among the respondents suggest that these respondents were not engaged in farming, 5.76 % had 1-5 years farming experience, while 26.62% and 15.83% had 5-9 years and 10-14 years experience respectively. The average experience was 9 years, which suggest that the respondents had some level of experience in their farm enterprise. Such an experience among the farming respondents places them in a better opportunity to cater for and contribute to their household quality of life. Okwuokenye and Onemolease (2011) confirms the finding, indicating that having good farming experience in enterprise activities will enable the farmers to be better positioned to know the needs and problems associated with farming activities with farming activities.

Table 1: Socio-economic characteristics of respondents

Characteristics	Categories	Delta (n=200)		Edo (n =78)		Pooled	
		Freq	%	Freq	%	Freq	%
Age (years)	25 & below	5	2.50			5	1.80
	26 – 35	43	21.50	17	21.79	60	21.58
	36-45	69	34.50	18	23.08	87	31.29
	46-55	63	31.50	33	42.31	96	43.53
	56 -65	19	9.50	10	12.82	29	10.43
	66 -75	1	.50			1	.36
Marital status	Single	16	8.00			16	5.76
	Married	136	68.00	59	75.64	195	70.14
	Divorced/sepa rated	14	7.00	3	3.85	17	6.12
	Widow (er)	34	17.00	16	20.51	50	17.99
Educational	No formal	48	24.00	23	29.49	71	25.54
Level	Primary education	41	20.50	23	29.49	64	23.02
Secondary	56	28.00	27	34.62	83	29.86	
Post secondary Education		55	27.50	5	6.41	60	21.58
Household Size	1- 4	80	40.00	19	24.36	99	35.61
	5 – 8	108	54.00	53	67.95	161	57.91
	9 -12	10	5.00	6	7.69	16	5.76
	13 -16	2	1.00			2	.72
Enterprise status							
Farm only	16	30.50	24	30.77	85	30.58	
Non-farm only	45	22.50	26	33.33	71	25.54	
Farm & Non- farm only	94	47.00	28	35.90	122	43.88	
Enterprise	Not diversified	106	53.00	50	64.10	156	56.12
Diversification	Diversified	94	47.00	28	35.90	122	43.88
Statues							
Farming	No response	45	22.50	30	38.46	75	26.98
Experience (years)							
	1 -5	11	5.50	5	6.41	16	5.76
	5 -9	51	25.50	23	29.49	74	26.62
	10 -14	32	16.00	12	15.38	44	15.83
	15 -19	43	21.50	8	10.26	51	18.35
	20 -24	5	2.50			5	1.80
	25 -29	9	4.50			9	3.24
	30 -34						
	35 -39	4	2.00			4	1.44

Source: field survey, 2015

IV. Enterprise Activities and Income

Farm enterprise activities and income of respondents

Table 2 shows the farm enterprises of the respondents and their associated income in the last season. The pooled data shows marketing (53.6%) was the major farm enterprise of the respondents followed by arable cropping (44.2%), tree crop production (29.1%), processing (29.1%), farm labour service (23.0%) while the least was livestock rearing (20.1%). In terms of earnings, the findings revealed that tree crop production earned the highest mean income (₦ 124,981.00), followed by arable cropping (₦ 112,748.00), produce of marketing (₦111,732.00), processing (₦ 51,235.00), and livestock rearing (₦ 47,643.00), while the least earning activity was paid farm labour (₦ 29,167.00). Arable crop production was the highest income (₦ 93.037.00) source for the respondents in Delta state while in Edo state, marketing of agricultural products (₦ 256,667.00) constituted the highest source. From the pooled data (Table 4.2), the aggregate mean annual income from the various farm activities of the respondents was ₦ 264,410.00 with Delta state having ₦ 204,687.00 and Edo state ₦ 463,489.00. This finding suggests that Edo state rural women earned, an average, higher than their Delta State counterpart. This could be as a result of the women in Edo focusing more on farming compared to those in Delta focusing more on other businesses rather than farming. Consequently, some farmers were delayed or denied access to these materials thereby impacting negatively on their farm output, income and household quality of life.

Table 2: Farm enterprise activities and income of respondents

Enterprise	Delta			Edo			Pooled		
	Freq	%	mean (₦)	Freq	%	mean (₦)	Freq	%	mean (₦)
Marketing	116	58.0	70,500.00	33	42.3	256,667.00	149.0	53.6	11,732.00
Arable cropping	86	43.0	93,037.00	37	47.4	159,706.00	123.0	44.2	112748.00
Tree crop production	55	27.5	84,779.00	26	33.3	239,630.00	81.0	29.1	124,981.00
Processing	80	40.0	50,417.00	1	1.3	120,000.00	81.0	29.1	51,235.00
Paid farm labour	60	30	25,806.00	4	5.1	81,250.00	64.02	3.0	29,167.00
Livestock keeping	55	27.5	47,745.00	1	1.3	42,000.00	56.0	20.1	47,643.00
Total	150		204,687.00	45		463,489.00	195		264,410.00

Source: Survey data, 2015

Non-farm enterprise and income of respondents.

Table 3 revealed the non-farm activities engaged by the respondents and the income they derived from it in the last one year. The pooled data shows that trading was the major activity engaged by 42.1% the respondents, followed by hair dressing (12.6%), civil service (9.76%), interior decorator (9.4%), confectionaries (4.7%), tailoring, house helps/ cleaning and private organisation with 2.2% each respectively.

The study reveals that hair dressing earned the highest income (₦ 332,857.14) for the respondents in last season. This was followed by civil service job (₦ 268,400.0), interior decoration (₦192,142.86), trading (₦138,290.60), work in private organisations (₦120, 00.00), confectionaries (44,545.45), tailoring (₦ 37,500.00) and house helps/cleaning (₦12,666.67). The aggregate state level results shows that rural women farmers in Edo state had the highest income (₦281,077.59) compared to Delta state (₦182,346.43).These findings support the views of Reardon et al. (2001) that non-farm activities seems to offer a pathway out of poverty and improving household quality of life if non-farm opportunities could be seized by the rural households.

Table 3: Non- Farm enterprise activities and income of respondents

Enterprise	Delta			Edo			Pooled		
	Freq	%	mean (₦)	Freq	%	mean (₦)	Freq	%	mean (₦)
Trading	83.0	41.5	121,295.18	34.0	43.6	17,779.41	117.0	42.1	138,290.60
Hair dressing	21.0	10.5	299,047.62	14.0	18.0	383,571.43	35.0	12.6	332,857.14
Civil service	23.0	11.5	213,809.52	4.0	5.1	555,000.00	27.0	9.7	268,400.00
Interior decor	16.0	8.0	154,444.44	10.0	12.8	260,000.00	26.0	9.4	192,142.86
Confectionaries	13.0	6.5	44,545.45				13.0	4.7	44,545.45
Tailoring	6.0	3.0	37,500.00				6.0	2.2	37,500.00
House help	6.0	3.0	12,666.67				6.0	2.2	12,666.67
Private Organisation	6.0	3.0	120,000.00				6.0	2.2	120,000.00
Labourer			80,000.00						80,000.00
Total	140		182,346.43	58		281,077.59		198	211,267.68

Source: field survey, 2015

Perception of enterprise contributions to household quality of life.

The perception of enterprise contribution to household welfare or quality of life by the respondents is presented in Table 4. In specific terms, the pooled data showed the major areas the respondents believed their income generating activities had contributed to family welfare include: household regular feeding at 3 square meal daily (mean= 3.06), good family health care (mean= 2.92), quality food taken by family (mean= 2.89), land ownership (mean= 2.69), good schools for the children (mean=2.62), comfortable housing (mean= 2.62),and means of transportation (mean= 2, 59). Quality of household facilities (mean= 2.42) and sufficient savings for future use (mean= 2.32) were not considered important areas in which their enterprise engagement had effectively contributed to.

In comparative terms, the aggregate means reveals that the respondents believed their economic pursuits have, in a generally sense, contributed to improvement in household quality of life. Relatively, respondents who engaged in both farm and non-farm enterprises had the highest perception of the contribution of their enterprise engagement to household quality of life with a mean of 2.69, followed by those engaged in farm enterprise only (mean= 2.64) and non-farm enterprise only (2.63). This finding indicates and suggests that economic diversification tend to contribute the most to household quality of life. This finding agrees with the findings of Onemolease (2004) who reported that income diversification enhances rural household or family welfare as it increases the source of income flow.

Table 4: Respondents' perception of enterprise contribution to household quality of life

Non-Farm & Welfare indices	Farm enterprise Only		Farm enterprise Only		Non-Farm		pooled Enterprises		
		Mean*	SD	Mean*	SD	Mean*		SD	Mean*
Household regular feeding (3 square meals daily)	2.86	64	3.17	.38	3.15	.88	3.06		.72
Good health care	2.85		.57	3.06	.23	2.90	.85	2.92	.66
Quality food		2.93		.59	2.58	1.34	3.05	.83	2.89
.95									
Land ownership		2.82		.54	2.69	.58	2.61	.92	2.69
.74									
Attendance of good school	2.80		.59	2.17	1.43	2.75	.92	2.62	1.03
Comfortable house type	2.47		1.08	2.70	.46	2.66	.81	2.62	.84
Means of transportation		2.69		.64	2.70	.46	2.44	.95	
2.59 .76									
Good furniture		2.38		1.11	2.51	.92	2.55	.88	2.49
.97									
Quality household		2.35		1.13	2.11	1.38	2.65	.92	2.42
1.13									
Facilities/accessories									
Sufficient savings	2.28		1.10	2.63	.49	1.16	.98	2.32	.94
Average score		2.64		0.80	2.63	0.77	2.69	0.89	2.66
0.87									

*Agreed (mean ≥2.50)

V. Enterprise Constraints

Farm enterprise constraints

Table 5 shows the constraints the rural women farmers faced in the pursuance of their farm enterprises. The most serious constraints included pest and diseases (mean= 2.64), high cost of transportation (mean= 2.63), bad road network (mean= 2.61), lack / inadequate improved planting materials (mean= 2.58) and inadequate capital (mean= 2.50). The pest and diseases and others considered as the most serious constraints have significant effect on the growth, yield and quality of the farm produce which invariably can affect income. Constraints like lack of credit facilities (mean=2.37), low pricing of farm produce (mean= 2.36), lack of inputs (mean= 2.35), small farm size (mean= 2.33), inadequate market or poor sales (mean=2.23), lack of information (mean= 2.15) and theft (mean=2.09) were considered not serious since their mean score were less than 2.50.

A comparison of Delta and Edo states reveals that pest/diseases (mean=2, 85), bad road network (mean= 2.84), and high transport cost (2.79) were considered the most serious constraints in Delta state, while inadequate capital (mean= 2. 31) and inadequate access to improved planting materials (2.28) has the highest mean rating in Edo state.

Inadequate Capital as one of the identified serious factors in the pooled result constitute a constraints. This may be as a result of the fact that most women farmers do not have access to formal credit (Lawal, 2000). Since the lack of credit was not seen as a serious challenge , it therefore suggests that the woman had limited access,since inadequate capital was considered serious..Pest and diseases have been identified as a major impediment to agricultural productivity as they generally reduce the productivity and crop quality, thereby reducing the income of farmers. Most of the farming communities are not easily accessible due to the bad nature of roads leading to them. Infact, noted that most vehicles plying these rural roads suffer from neglect and roads to these farming communities are often limited or not available at all making the cost of transportation very high. Lack of /Inadequate improved planting materials also affect the farmers in a way that the women farmers do find it difficult to have access to these improved planting materials because this sometimes are been diverted or sold without the knowlegde of these farmers.

Table 5: Farm Enterprise constraints

Constraints	Delta Mean*	SD	Edo Mean*	SD	pooled Mean*	SD
Pest and diseases	2.85	1.30	2.13	1.21	2.64	1.31
High transport cost	2.79	1.27	2.21	1.26	2.63	1.29
Bad road	2.84	1.34	2.03	1.25	2.61	1.36
Lack of improved materials	2.70	1.23	2.28	1.22	2.58	1.24
Inadequate capital	2.58	1.29	2.31	1.36	2.50	1.31
Lack of credit facilities	2.46	1.12	2.14	1.26	2.37	1.17
Low pricing	2.45	1.06	2.14	1.20	2.36	1.11
Lack of inputs	2.40	1.19	2.23	1.29	2.35	1.22
Small farm size	2.38	1.06	2.22	1.21	2.33	1.11
Lack of market to sell	2.30	.97	2.05	1.09	2.23	1.01
Lack of information	2.24	1.08	1.94	1.04	2.15	1.08
Theft	2.24	1.25	1.72	.88	2.09	1.18

***Serious (mean>2.50)**

Non-farm enterprise constraints

Table 6 shows the constraints that the respondents experienced in their non-farm enterprise engagement. The major constraints included high competition from other entrepreneurs (mean= 3.51), job insecurity (mean= 3.19), lack of information on how to start a business (mean=2.87), inadequate capital (mean=3.11), government high tax (mean= 2.54), low salary/remuneration (mean= 3.16), low pricing (mean=3.23). Theft (mean=2.26) was not considered a serious constraint. A comparison of the aggregate mean score for Delta (2.99) and Edo (2.98) states indicate that non-farm entrepreneurs share similar level of constraint in their enterprise. The most critical was competition from other business.

High competition from other entrepreneurs as the leading constraint, is not surprising, several persons may share similar business activity, thereby generating stiff competition. This finding agrees with the assertions of Onemolease (2011). Job insecurity is a serious concern especially for those working as employees. Most employers in the informal private sector easily terminate the services of their employee without any form of compensation. Fear losing one's job is another constraints that the women are facing, looking at the situation of the economy where major source of revenue is declining this causes a lot of company folding up, some unable to pay their workers while are retrenching. Since majority of the women are not business oriented and have little or no knowledge on some of the enterprise activities, they find it difficult to start up business which will contribute to household quality of life. Women also find it difficult to get hold of capital to start up business since they are unable to get link to financial institutions or sometimes capital meant for these farmers are been diverted to million farmers, thereby making it difficult for women to get involved in income generating activities that suppose to improve household quality of life. High taxation from the government also poses big constraint to these women farmers as well as low salary and low pricing of agricultural produce from buyers.

Table 6: Non- Farm enterprise constraints

	Delta		Edo		Pooled	
Constraints	Mean*	SD	Mean*	SD	Mean*	SD
High completion from others	3.53	.65	3.46	.50	3.51	.62
Job insecurity	3.18	.88	3.21	.41	3.19	.78
Lack of information on how to start business	2.80	.97	3.06	.73	2.87	.91
Inadequate capital	3.05	.81	3.27	.60	3.11	.76
High taxation	2.40	.98	2.90	.66	2.54	.93
Low salary / remunerations	3.17	.83	3.15	.80	3.16	.82
Theft	2.47	1.21	1.71	.85	2.26	1.17
Low pricing of service/ products	3.28	.79	3.10	.69	3.23	.77
Average	**2.99**		**2.98**		**2.98**	

***Serious (mean≥ 2.50)**

VI. Test of Hypotheses

Relationship between respondent's socio-economic characteristics and economic diversification decision

Ho: The hypothesis tested is stated as follows: Socio–economic characteristics of rural women are not significant determinants of their decision to diversify their economic activities.

Probit regression was use to analyze the hypothesis and the result presented in Table 7. The model statistics indicates as follows: The likelihood ratio ($_x^2$ =113.92, P < 0.050) indicates that the combined influence of the independent variables on the respondents' economic diversification decision is significant. The goodness –of- fit test ($_x^2$ = 416.71, df = 42, P > 0.050) indicates that is not significant, which means that the model is a good representation of the observed data. The coefficient of determination (0.451) indicates that the independent variables in the model explained 45.1% of variation observed in the respondent's economic diversification decision. The test result shows that three explanatory variables had significant influence on the respondent's economic diversification decision. The results are discussed as follows:

Education: The coefficient for education is negative (b= -0.465) and significant, indicating that the rural women having lower education were more likely diversify their income sources compared to those with higher education. The odd ratio (1/0.628= 1.59) implies that the less educated rural women were 1.6 times or 60% more likely to diversify their economic activities. A reason for this may be that the more educated women are engaged in professional jobs or other formal paid employment, which may not afford them opportunity to engage in other income activities. It is equally possible that women with less education receive little remuneration / salary, unlike the more educated ones, which is grossly inadequate, and therefore prompts them to seek for alternative economic activities to cater for their household welfare. Onemolease (2004) who noted that the farmers with higher education earn higher income or higher paying job.

Household size: The coefficient for household size is also significant and negative (b= -0.312). The negative sign implies that rural women farmers with smaller household size are more likely to diversify their economic activities compared to those with larger families. The odd ratio (1/0.732 = 1.366) implies that rural women farmers with smaller household size were 1.4 times or 40% more likely to diversify their economic activities compared to those with larger household size. This is contrary to aprior expectation since it is expected that women with larger families would tend to diversify their income sources in order to cater for their large families. It is possible that women with larger household have members who are economically independent, and so there may be no need for them to diversify economic pursuits. Thus, it is possible that the smaller families have more of the household members as dependents, and as such, do not contribute to the income portfolio of the household. This finding is consistent with that of Asmah (2011), who noted that having smaller household to cater for will definitely give an opportunity to save more for future purpose. This also agrees with the study of Adepoju and Obayelu (2013) who reported that household size was found to be significant at 1% probability level and was positive.

Size of land: The coefficient for size of land was positive (b= 0.709) and significant. The implication of this is that rural women with larger farm size tend to diversify their economic activities, compared to those with smaller farm size. A possible explanation for this could be that as size of farmland increases, more income is generated, use to invest in other economic pursuits. The odd ratio is 2.03, which means that rural women farmers were 2 times more likely to diversify their economic activities compared to those with smaller farm size. Age, farming experience are not significant.

Table 7: Relationship between respondent's demographic characteristics and economic diversification decision (Probit Regression)

Parameter	Coefficient (b)	Chi-square*	DF	prob. level	Odd ratio
(Intercept)	-0.278	0.349	1	0.555	0.758
Age	0.168	3.192	1	0.074	1.183
Education	-0.465	26.265	1	0.000	0.268
Household size	-0.312	4.651	1	0.031	0.732
Farming experience	0.033	0.226	1	0.635	1.034
Size of land	0.709	39.294	1	0.000	2.032

Model Statistics:
Likelihood Ratio Chi-Square (Omnibus Test) = 113.92; df = 5; P<0.001
Goodness of Fit = 416.709; df = 42; P>0.050
Pseudo R-Square = 0.451
**Critical $_x^2$ (5% ;df = 1)*

Test of difference in enterprise incomes of respondents

The hypothesis tested states as follows; there is no significant difference between the enterprise incomes of women in the study area.

Analysis of variance was used to test for the difference in income earnings of the women based on enterprise status namely; those that are engaged in non –farming only, those engaged in farming only, and those engaged in farming and non- farming enterprises (Table 8). The mean result shows that those engaged in farm and non- farm enterprise earned the highest income averaging ₦ 361,713.12 followed by those engaged in farming only with a mean income of ₦330,258.82. The least was those engaged in non- farming with a mean income of ₦ 298,450.70. The calculated F ratio (0.739) which is not significant at the 5% probability level, indicating that there is no significant difference in the income earned by the women from the different enterprise status. This suggest that being engaged in multiple enterprises, though having positive effect on income, may not necessary be significantly different from those engaged in a mono- economic activity in a single enterprise. Possible explanation for this could be that those engaged in single enterprise are into it at a higher scale while those that are engaged in multiple enterprises may engage in the activities at a lower operational scale. However, literature has shown that diverse income portfolio creates more income and distributes income. This result

corroborates the findings of Babatunde and Quaim (2009), who observed that single enterprise may offer greater revenue to a person, particularly when such constitutes the full- time occupation of the practioner or he/she has large capital investment.

Table 8: Difference in enterprise incomes of women (ANOVA)

Enterprise status	N	mean income (₦)	F value	DF	probe level	Decision
Non- farm only	71	298,450.70	0.739	2.275	P>0.050	non significant
Farm only	85	330,258.82				
Farm and Non-farm only	122	361,713.12				

F ratio =0,739; DF= 2.275; p>0.050

Test of difference in contribution of farm and non-farm economic enterprise to household quality of life

The hypothesis tested states as follows: There is no significant difference between the contribution of farm and non-farm economic activities of women on their quality of life

Analysis of variance was use to test this hypothesis and the results presented in Table 9. The quality of life or welfare index results show that farm and non –farm enterprise, with welfare index of 0.769, contributed most to household welfare followed by farm enterprise only (0.755), while the least was non- farm enterprise (0.752). The F value (0.212), is not significant at the 5% level, implying that there is no significant difference in the contributions of the different enterprises to women household quality of life or welfare. This suggests that regardless of the enterprise nature the women are engaged in, such is believed to enhance household quality of life.

Table 9: Test of difference in the contributions of women economic activities on household quality of life (ANOVA)

Enterprise status	N	Welfare index	F value	DF	probe level	Decision
Non- farm only	71	0.752	0.212	2.277	P>0.050	non significant
Farm only	85	0.755				
Farm and non-farm only	122	0.769				

F value =0.212; DF= (2.277); p>0.050

VII. Test of difference in enterprise constraints facing women

Test of difference among the farm enterprise constraints facing women

This section examines the test of difference among the enterprise constraints faced by the women, both for the farm and non-farm related enterprises.

The hypothesis tested states as follows: Ho_2: Test of difference among enterprise constraints faced by rural women in the study area.

Table 10 shows the Friedman test for the test of difference among the farm enterprise constraints experienced by the respondents. The Friedman test (x^2 243.80; df = 11; P> 0.050) is significant. This means a significant difference existed in the seriousness of the constraints facing the respondents in their farm activities. The post – hoc test reveals that such constraints like high cost of transportation (mean=7.37), pest and diseases (mean= 7.36), bad road (mean= 7.33), lack of improved planting materials (mean= 7.26), and inadequate capital (mean= 6.82) were not significantly different, from each other but , except for inadequate capital, were significantly more serious relative to such constraints as lack of credit facilities (mean= 6.29), small farm size (mean= 6.22) and low pricing (mean = 6.21). The least constraint was theft (mean = 5.16), but it was not significantly different from such constraints as lack of inputs (mean =6.15), inadequate markets to sell (mean = 5.75) and lack of information on modern farm technology (mean =5.62).

Table 10 Test of difference among farm enterprise constraints facing women

Constraints		Mean rank*
Theft		5.61^{d}
Lack of information		5.62^{cd}
Lack/inadequate markets to sell	5.75^{cd}	
Lack of inputs		6.15^{bcd}
Low pricing of farm produce		6.21^{bcd}
Small farm size	6.22^{bc}	
Lack of credit facilities	6.29^{bc}	
Lack or inadequate capital	6.82^{ab}	
Lack of improved planting materials		7.26^{a}
Bad roads		7.33^{a}
Pest and diseases	7.36^{a}	
High transport cost		7.37^{a}

$_{\chi}2$ =243.80; df=11,p<0.001
*Mean with different superscripts is significantly different

Test of difference among non-farm enterprise constraints of women

Results of Table 11 ($_{x}^{2}$= 243.80, P < 0.050) indicates that there is a significant difference among the constraint faced by the respondents in their non-farm enterprise in the study area. The post –hoc result shows that such constraints as high competition from others (mean = 5.89) was the most significant constraints. There was no significant difference in the seriousness of the following constraints: low pricing (mean= 4.97), job insecurity (mean= 4.90), low salary (mean=4.84) and inadequate capital (mean= 4.82). These constraints were however more significantly serious to lack of information on how to start a business (mean= 4.20) and government high tax (mean= 3. 50). The least significant constraint faced was theft (mean= 2.88).

Table 11 Test of difference among non-farm enterprise constraints facing women

Constraints		Mean rank*
Theft		2.88^{e}
Government high tax		3.50^{d}
Lack of information on how to start a business	4.20^{cd}	
Lack/inadequate capital	4.82^{bc}	
Low salary/ payment		4.84^{b}
Job insecurity		4.90^{b}
Low pricing		4.97^{b}
High competition from others		5.89^{a}

X2 = 243.80; DF = 11, P<0.00
*Mean with different superscripts is significantly different

VIII. Conclusion and Recommendations

The study concluded that women are actually engaged in both economic and non-economic enterprise. But an examination of both enterprises gives the impression that women tend to derive more income from the non-farm average income. Non-farm income appears to be the major income source for the rural women. This calls for concern regarding the farm related activities of women, it seems that women properly are getting more or that farm only activities is not sustaining the women adequately.

The study did established also that even though women are engaged in different economic enterprise, many of them actually diversified in their economic activities and such diversification seen to add more to the women income which contribute and also appear to contribute more to the household welfare or quality of life. Even the advance statistic shows that there was not much significant difference in the income of those that actually diversified, it also reveals the fact that where women are not diversified, they tend to have a higher level of investment in their sole enterprise be it farm or non-farm but regardless of whatever activities they are into, the women appear to be faced with certain constraints which affected their enterprise and the contribution to household quality of life namely for farm related activities as well as for non-farm related activities. It was recommended that Putting into consideration the limited capability of the agricultural sector in providing gainful employment and sustenance to increasing rural women household quality of life, it is therefore crucial for policy makers to inform and adjust policies in the Non-farm domain. It is necessary to provide infrastructure, legislation, incentives and training for non-farm businesses.

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