

Managing the Nigerian Rural Environment through Women Empowerment in Non-Farm Activities in Kajuru Local Government Area of Kaduna State

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Authors' contributions

This work was carried out in collaboration between both authors. Author ON designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author YOU managed the analyses of the study and the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

The study was carried out to identify the types of non-farm activities engaged in by rural women in Kajuru LGA of Kaduna State and the type of activity that substantially improves their income as an indicator of empowerment. Data obtained through questionnaire were analysed using descriptive and inferential statistics. Results show that non-farm activities engaged in by the women were mostly informal including services, trade and commerce and arts and crafts. When total mean income of the women were calculated, the income of women who were tailors had the highest percentage (11.75% compared to other non-farm opportunities. The findings of this study, showed that government should institute a well-equipped skills acquisition center with greater emphasis on tailoring (clothing and textiles) towards increasing the participation of women in high non-farm activities like tailoring which usually required acquisition of skills and the income return is high.

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1. INTRODUCTION

In many parts of the world, the number of poor people in rural areas exceeds the capacity of agriculture alone to provide sustainable livelihood opportunities. For many decades now, agriculture has remained the main source of income and employment in rural areas of developing countries Nigeria inclusive. However, the non-farm sector is becoming increasingly important [1]. Growing interests in rural non-farm incomes reflects increasing evidence that rural people's livelihoods are derived from diverse sources and are not overwhelmingly dependent on agriculture as previously assumed. Women play an important role in generating non-farm income, although women entrepreneurs often run enterprises that exhibit low productivity, they provide important supplements to household income.

In rural Africa, Nigeria inclusive, many ecosystems are on the verge of collapse [2]. The interplay of social, ecological and economic forces has compromised the ability of farmers to sustain their precious soil. As a result farmers and especially women farmers face a constant struggle to survive. Soil degradation in part is not simply a function of population pressure and ignorance rather it is embedded in gender relations and complex struggles in Africa. Full time housewife practice died as a result of poverty, the substandard socio-economic conditions coupled with constraints from fluctuating farming activities have made income diversification a necessity for women.

Given the multitude of constraints facing women in farming, such as: inadequate access to farm land, improved seedling, fertilizers, pesticides, agricultural finance, to long absence from the farm due to maternal as well as household responsibilities, there is more than ever before the need to understand the non-farm engagement of rural women if they would be adequately empowered. This supposition provides the need for this study. In this paper, the aim therefore is contributing to the discourse on rural women's empowerment by exploring the non-agriculture, nonfarm components of the rural economy, their growing importance in Nigeria in the livelihood strategies of rural people, the new opportunities they provide, the changes they bring to the rural landscape, and how and where rural nonfarm employment can be a significant driver of rural women's empowerment.

This paper is organized in five sections. The first is on the introduction, followed by review of related literature. Section three is on the materials and methods then the results and discussions, conclusions and recommendations.

2. REVIEW OF RELATED LITERATURE

2.1 Conceptual Issues

Empowerment can be defined in many ways, the World Bank, defining its approach to empowerment for economic growth and poverty reduction, describes empowerment as "... the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives" [3].

The Organisation for Economic Corporation and Development (OECD) views empowerment as the capacity of women and men to participate in, contribute to and benefit from growth processes in ways that recognize the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth [4]. However, when talking about women's empowerment, empowerment means accepting and allowing people (women) who are on the outside of the decision-making process into it. It is the ability to obtain a voice and choice that enables participation in economic decision-making [5].

There have been different definitions of what could be termed sustainable development. The basic implication of the concept of sustainable development as embraced by International Institute for Environment and Development (IIED) is that – such development should leave to the next generation "a stock of quality of life" assets no less than those previous generations have inherited. Sustainable development thus occur at individual, household and community level, and so also is empowerment and entrepreneurial advancement of women that rely on nonfarm activities.

Ellis [6] views non-farm activities as activities undertaken away from the households own farm, referring exclusively to agricultural laboring on someone else's land, therefore off-farm used in this sense would not fall within the normal definition of non-farm. Reardon (2000) defines non-farm as activity outside agriculture, referring

to those activities that are not primarily agriculture, forestry or fisheries. Other authors [7,8,9] have also conceptualized non-farm activities. This paper having viewed different authors viewpoints, conceptualizes non-farm as those activities outside agriculture (farming and rearing of Livestock) distributed across commerce, manufacturing (cottage) and service which are mostly informal but from which income can be generated, however, non-farm does include trade or processing of agricultural products. The term non-farm should not be confused with off-farm.

2.2 Theoretical Review

The theoretical foundation of this paper is income diversification which generally refers to income strategies of rural households involving an increase in their number of economic activities, regardless of the sector or location [10]. The income strategies may involve diversification of farm activities only, combining both farm and nonfarm activities, or completely diversifying out of farming. Rural households generally diversify their activities based on their capacity, as determined by access to different types of assets [11]. The incentives for diversification are categorized into “push” and “pull” determinants [12,13]. The push-pull theory of diversification is based on principles of neoclassical economics of utility maximization, rational choice, factor-price Patterns and determinants of household Income diversification in Rural Senegal and Kenya reveal differentials between regions and countries, and labor mobility [14,15]. The assumption is that increases in nonfarm incomes provide incentives for farm households to diversify their income sources [11].

Reardon et al. [16] call the factors behind this differentiation a *distress-push versus a demand-pull* while Lay et al. [17] call it *Survival-led versus opportunity-led*. Drivers of a voluntary diversification can be higher returns in the nonfarm economy, potentials through a movement along the supply chain or the potential of cash generation and investment opportunities. However, in rural areas of poor countries, involuntary diversification often dominates [18]. The major reasons are the seasonality of agricultural activities, climate variability, changes in the household structure, declining returns to farming, external shocks (economic crisis, crop or input price variations), lack of access to markets (sale and input) etc. All these factors are especially severe if agriculture is the only income

source of households. Hence, a major reason for rural households to diversify is due to the volatility of agricultural activities. Risk strategies and coping mechanisms are diverse in developing countries such as Nigeria since formal insurance mechanisms are often not available or insufficient. Income diversification is one tool to reach the goal of smooth consumption and income patterns. The works of Reardon [19,20], Ellis and Freeman [21], Fafchamps and Lund [22] and Barrett, Reardon and Webb [12] provide evidence that diversification is an important way by which households protect themselves against adverse shocks. This paper thus anchors its theoretical position on this theory.

2.3 Empirical Review

Empirical evidence on the relationship between nonfarm employment and income inequality is abundant and varied. Results of research since the mid 1990s in Latin America have shown that some 40% of rural income and rural employment is nonfarm related [23]. These studies also calculate the share of rural household income that stems from non-agricultural sources to range from 35% in Asia to 45% in Sub-Saharan Africa [24,25] provide a fairly complete overview on this research of the mid 1990s). More recently, Dirven [26] estimates that at present, 45% of rural workers in the Latin American region are involved in some nonfarm activities as their main occupation, and that this proportion is growing fast with some groups more strongly represented than others, such as women, people with a higher level of education and the middle-aged group. Data from economic commission for Latin America and the Carribeans [27] already strongly suggested that RNFE in the late 1990s had become dominant in the case of rural women's employment. In the ECLAC study covering eleven countries, with the sole exception of Bolivia, rural women's share of RNFE was much higher than that of rural men. In nine of the eleven countries, between 65% and 93% of rural women participating in the labor market did so in non-agricultural activities. By contrast, in most countries, with the exception of Costa Rica and the Dominican Republic, agricultural employment was predominant. Adams and He [28] found that sources of nonfarm incomes decrease income inequality; others have found that nonfarm employment is inequality- increasing [29,30].

Haggblade, Hazell and Brown [31] found services, commerce and restaurants as the

fastest growing non-farm activities. Lanjouw and Feder, [32] commented that the decisions by rural households concerning involvement in rural non-farm activities to depends on two main factors; Household capacity and incentives offered. Reardon's [20] study findings, show that the relationship between non-farm activities and poverty reduction is the poor distribution of non-farm earnings in rural areas, despite the importance of these earnings to food security and farm investments. Reardon also found that RNF income was more important to the higher income households. Mwabu and Thorebecke, [33], agreed that asset poor households tend to engage in low return activities that ensure food security without increasing income. In many of the rural areas examined by authors, rural women have similar nonfarm endeavours and (dis)empowerment circumstances with Kajuru LGA. This paper therefore uses this empirical analogy to examine the nature of these issues in Kajuru LGA of Kaduna state.

3. MATERIALS AND METHODS

3.1 Study Area

Kajuru LGA is located in Kaduna State of Nigeria. It was carved out of Chikun Local Government Area in March 1997 by the then General Sani Abacha military regime. It is located between Latitude 9^o59' and 10^o35' North of the Equator, and Longitude 7^o34' and 8^o13' east of the Greenwich Meridian. The study area is found on the southern flank of Kaduna state along Kaduna – Kachia road, some 39km from Kaduna metropolis. The 2006 population census put the population figure of the study area at approximately 110868 people with an estimated growth rate of 2.8% and a population density of 55 per square kilometer. This population comprised of 55712 males and 55156 females [34]. The major ethnic group is known as Adara. The main traditional occupation in the study area is agriculture in form of crop production. The people in the area therefore, are predominantly small scale farmers, who lived mainly on rain fed crop production, and in addition, irrigation farming in the dry season.

3.2 Data Source and Sampling Techniques

The primary data sources were field observations, interview and structured

questionnaires. Data was collected on socio-economic characteristics, non-farm activities and incomes. A sample frame of women in non-farm activities in the area was collected from the Local Government HQ with a total of 573 women. Based on the acceptable standard of using one-third of the population as acceptable representation, 191 women were systematically selected. Women were selected from their households, being the unit of observation, based on the principles of availability and consented participation. From the sampling frame, the first woman was solicited to participate in the study, but if she declines, another is chosen till the sample size was achieved. The primary data are complemented by materials from secondary information such as, journals, conference papers, and existing literature that are related to the research problem.

3.3 Analytical Technique

According to Hejase and Hejase [35], "descriptive statistics deals with describing a collection of data by condensing the amounts of data into simple representative numerical quantities or plots that can provide a better understanding of the collected data." Therefore, this study analysed data collected with descriptive statistics such as frequencies and percentages supported with diagrams for clarity. Moreover The study analyzed data collected with descriptive statistics such as frequencies and percentages supported with diagrams for clarity. Moreover descriptive statistics were used to analyse the socio-economic characteristics of the households. In addition inferential statistics (bar graph and pie chart) were used to draw out the activity that substantially improves the income of the women.

4. RESULTS AND DISCUSSION

The socio-economic characteristics of the respondents in the study area are shown in Table 1 , where age of 35-39 years constitute the highest proportion of respondents with 22.5%, followed by those aged between 40-44 years (19.1%) while those with 45 and above, 25-29, 30-34 and 20-24 years, constitutes 18.8%, 16.2%, 15.9% and 7.6% respectively. 80.4% were married, with the resultant effect on increased number of household size which is needful both for farm and non-farm labour. A small proportion of 6.5% never married.

Table 1. The socio-economic characteristics of the respondents

Age	Frequency (N=191)	Percentage (%)
20-24	14	7.3
25-29	31	16.2
30-34	31	15.9
35-39	50	22.5
40-44	34	19.1
45 and above	31	18.8
Total	191	100
Marital Status		
Never Married	12	6.5
Married	154	80.4
Separated	5	2.9
Divorced	4	1.8
Widowed	16	8.1
Total	191	100
Educational Qualification		
No formal education	14	8.1
Qu'aranic education	23	11.5
Primary education	37	19.3
Adult education	20	10.4
Secondary education	71	36.8
Tertiary	26	13.6
Total	191	100

Source: Field Work, 2016

4.1 Socio-Economic Characteristics

The socio-economic characteristics of respondents examined included age, marital status, level of education, non-farm employment status and level of income.

4.2 Non-Farm Activities of Women

Non-farm activities have become an important component of livelihood strategies among rural households in most developing countries. The types of non-farm activities engaged in by

respondents include; tailoring; trading; Basketry-weaving; potter; rope-making; restaurant and food-vending, sales of GSM airtime vouchers, poultry keeping and hairdressing.

Table 2 shows that trading accounted for the highest percentage of women participation in non-farm activities with 31.4%, Restaurant and food vending ranked second with 19.9%, Ranking the least is Rope-making, with only 1.0%, it was observed in the area that rope-making was a male dominated trade.

Table 2. Frequency distribution of non-farming activities

Non-farming Activity	Frequency	Percentage (%)
Tailoring	33	17.3
Hair dressing	15	7.9
Trading	60	31.4
Basketry	4	2.1
Restaurant and food-vending	38	19.9
Rope making	2	1.0
Pottery	8	4.2
Sales of airtime vouchers	7	3.7
Poultry	18	9.4
Others	6	3.1
Total	191	100

Field Survey, 2016

Table 3. Reasons for engaging in non-farm activities

Reasons	Frequency	Percentage (%)
To cope with farming related shocks	35	18.3
To generate more income	152	79.6
Leisure	-	-
Others	4	2.1
Total	191	100
Source of start-up fund		
Income from farm produce	69	36.1
Money lender	11	5.8
Loan from family and friends	101	52.9
Others	10	5.2
Total	191	100
Amount for Initial investment		
5,000-10,000	84	44
11,000-15,000	47	24.6
16,000-20,000	19	9.9
Above 20,000	38	19.9
Others	3	1.6
Total	191	100
Barrier to non-farming activities		
Inadequate capital	118	61.8
Competition from external market	39	20.4
None	30	15.7
Others	4	2.1
Total	191	100

Source: Field Work, 2016

4.2.1 Reasons for engaging in non-farm activities

The results of the reasons adduced by the respondents, as to why they take up non-farm activities are presented in Table 4. 79.6% engaged in non-farm activities to generate more income, 18.3% represents those who do so to cope with farming related shocks. This agreed with Ellis and Bahiigwa [36] that the reason for income diversification includes declining farm income and the desire to insure against agricultural production and market risks.

79.6% engaged in non-farm activities to generate more income, 18.3% represents those who do so to cope with farming related shocks. The source of start-up capital for non-farm activities as revealed by the women is largely between loan from family and friends and income from farm produce with 52.9% and 36.1% respectively. As regards the amount of initial startup capital, the highest number of respondents representing about 44% started their businesses with less than eleven thousand naira (#11,000), underlying the fact that women have limited access to credits, Table 3 also indicate that 68.1% of the respondents find inadequate capital to be the

most challenging barrier of engaging in non-farming activities, while 20.4% were of the view that competition from external market was their main problem.

4.3 Age and Participation in Non-farm Activities

The age of women to a large extent affects their productivity; this is because physical strength declines with age. It also affects the level of adoption of innovations and the ability to manipulate.

Table 4, shows that the highest frequencies of women participation in non-farm activities occur within the age bracket of 35 – 46, meaning that there was at least one woman within this age bracket participating in all the activities engaged in by respondents.

4.4 Education and Participation in Non-farm Activities

Table 5 shows the influence of education in the participation of respondents in non-Farm activities. The highest occurring frequency were women with secondary education (30.80%),

which may be due to the fact that educational facilities are still far from adequate in the rural areas. Also those with higher education tend to engage in more lucrative activities which also require skills than those with lower educational qualifications as shown in the table.

Table 4. Age and participation in non-farm activities

Activity	Age				
	<25	26-34	35-46	47-58	59&above
Tailoring	4	13	14	1	1
Hair dressing	-	6	8	1	-
Trade	6	11	32	10	1
Basketry	-	2	-	2	-
Food vending	1	3	22	12	-
Rope making	1	-	1	-	-
Pottery	1	1	5	1	-
Sale of airtime	-	3	4	-	-
Poultry	-	10	8	-	-
Others	1	3	2	-	-
%	8.2	26.2	51.3	13.0	1.0

Source: Field work, 2016

Table 5. Education and participation in non-farm activities

Activities	Educational status					
	No formal education	Adult education	Primary education	Quaranic education	Secondary education	Tertiary education
Tailoring	4	-	4	2	18	5
Hair dressing	-	1	3	-	4	7
Trading	9	9	16	3	20	3
Basketry	-	2	2	-	-	-
R/foodvending	5	-	8	18	2	5
Rope making	1	1	-	-	-	-
Pottery	2	3	-	-	3	-
S/airtime	-	2	-	2	3	-
Poultry keeping	-	2	-	1	9	6
Others	-	2	-	3	-	1
%	10.9	11.5	17.2	15.1	30.8	14.1

Source: Field Work, 2016

Table 6. Non-farming activity and income contribution

Non-farm activity	Average yearly income					Freq	Percentage (%)
	2012	2013	2014	2015	2016		
Tailoring	31481.48	37379.31	30827.59	39068.97	33637.93	33	11.75
Hair dressing	23281.25	37343.75	24055.56	36500.00	30777.78	15	10.36
Trading	27331.25	35375.00	30625.00	36931.25	38046.20	60	11.47
Basketry	10000.00	25250.00	30250.00	35500.00	37750.00	4	9.46
R/food vending	27592.60	33046.30	31379.63	33129.63	33342.59	38	10.80
Rope making	10000.00	25250.00	15250.00	15250.00	42750.00	2	7.39
Pottery	22333.33	23444.44	23444.44	32111.11	33722.22	8	9.20
Sales of airtime	23000.00	35035.71	20750.00	36533.33	27066.67	7	9.70
Poultry keeping	28454.54	33923.08	29730.77	40153.85	38884.62	18	11.66
Others	20000.00	21750.00	23416.67	25166.67	30083.33	6	8.21
Total							100.0

Source: Field Work, 2016

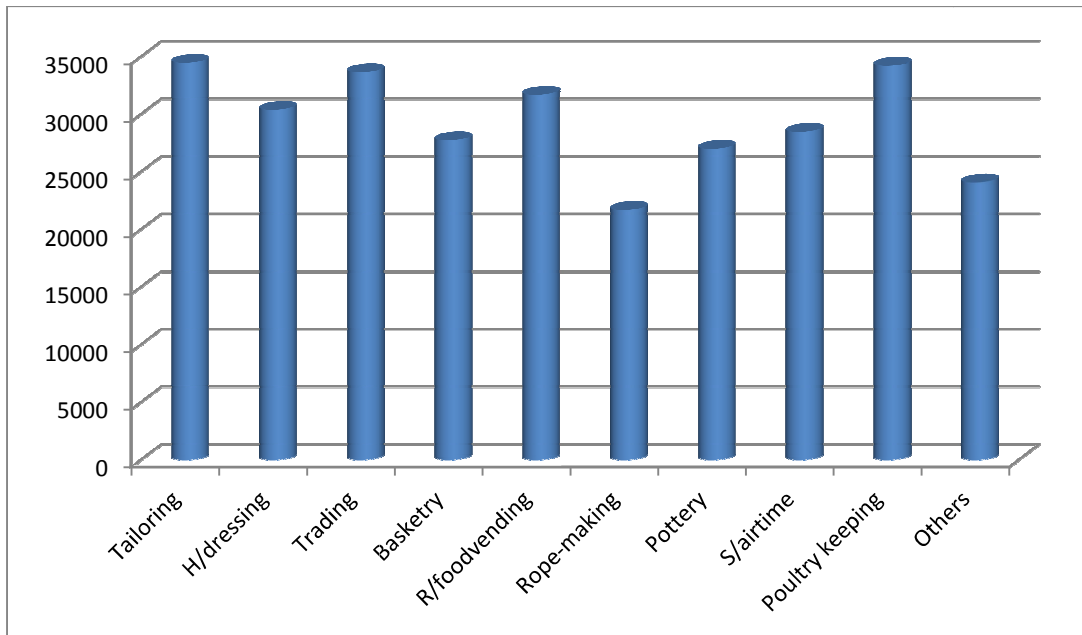


Fig. 1. Income contribution of non-farm activities

Source: Field Work, 2016

4.5 Non-farming Activity Type and Income

There are several processes that reinforce the effect of education on incomes: education increases skills level, which are required for some rural non-farm activities, or contribute to increased productivity, or may be an employment rationing device; education can entrench processes that increase confidence, establish useful networks or contribute to productive investments that could stimulate the education of other members of the household. Tovo [37] studied women receiving small business training in Tanzania. Her findings suggest a positive impact from training and extension services, she puts forward that those putting themselves forward for such services may be more dynamic and entrepreneurial, the implication being that they would in any case show a greater degree of success in their enterprise with or without assistance. The income contributions of each type of non-farm activity is shown in Fig. 1.

Table 6 shows the contribution of the various non-farm activities to the annual income of the rural women in the study area. 11.75% of the annual incomes generated from non-farming activities were from those who engage in tailoring although the number of the women engaged in trading was the highest. This was followed by

poultry (11.66%), the women revealed that though their trade was sometimes marked by seasons, they normally make enough cash to cover for the lean periods.

Fig. 1 shows that the activity with the highest income is tailoring and so tailoring is found to substantially improve women income.

5. CONCLUSION AND POLICY RECOMMENDATION

The rural non-farm (RNF) economy was found to be heterogeneous with women participating in several income generating activities, and some of them taking up more than one type of activity at the same time, although RNF incomes are important as an offseason, part-time or home based income supplement. In assessing the contribution of non-farm income generating activities to women income. Attempts have also been made to test predetermined hypothesis in order to understand whether incomes generated from women in farm and non-farm activities are significantly different from income of women in farming only. Also the effect of Age and Level of education on participation in non-farm activities, were discussed.

Both low-return and high-return nonfarm activities are important for rural income

generation. Yet policy measures aimed at improving the income generation of the rural poor through expanding their access to the nonfarm sector will differ depending on the type of nonfarm activities. In the case of low-return nonfarm jobs, policy makers should be alert to their distributional impact and take measures that would strengthen their potential safety-net role. For example, rural works programs with “self-targeting” schemes could be cost-effective interventions for providing nonfarm employment opportunities.

The idea that rural areas are synonymous with agriculture is widespread; however there is a growing recognition that the rural non-farm activities play a vital role in the economies of rural dwellers. Field observation showed that one of the risk-reducing strategies of many rural people, who are primarily farmers, is for one or more members of the household to take up employment outside farming. This paper used women income to analyze participation and returns from different types of non-farm activities. At the aggregate level, the rural non-farm activities have played important role both in terms of generated employment and income generation. Interviews conducted during the work reveals that participation in non-farm activities instead of pure farming can be driven by very precarious nature of agriculture, lack of price control of agricultural products and ever decreasing farm size due to increasing population and construction works. These determinants point to a ‘Push’ nature of the rural non-farm economy where a poor asset base, insufficient agricultural income and market imperfections make individuals resort to non-farm activities to supplement their meager agricultural income or to smooth intra-seasonal cash flows.

Different policy measures are needed to expand access of women to the high-income nonfarm sector. The emphasis here should be on removing constraints to enter these high- return activities through measures such as investment in rural education and addressing infrastructure bottlenecks. The contribution of rural non-farm income illustrated in this study should not be taken to mean that rural non-farm activity represents an alternative to addressing agricultural development problems.

CONSENT

As per international standard or university standard written participant consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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