



Time utilization on farm, non-farm and leisure activities by rural women in Jos East, Plateau State, Nigeria

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Abstract

This study analyzed the time utilized on farm, non-farm and leisure activities by rural women in Jos East Local Government Area of Plateau State. The study employed two stage sampling technique in the selection of respondents. One hundred and twenty respondents were proportionately selected for the interview and questionnaire was the main instrument for data collection. The data collected were analyzed using descriptive statistics and OLS regression. The result of the descriptive statistics showed that the daily average amount of time spent by rural women on farming activities, non-farming activities and leisure were 4.56 hours, 4.42 hours, and 1.59 hours respectively. The result of the regression analysis revealed that there is a relative significant difference in the amount of time spent on farming activities, non-farming activities, and leisure activities by rural women. The result of regression analysis also showed that age of the women, marital status, educational level, farm income and distance to market positively and significantly affected the amount of time spent on farming activities. In the case of non-farming activities, farm income negatively and significantly affected the amount of time spent by rural women on non-farm income generating activities. Age, household status, educational level, occupation and non-farm income positively and significantly affect the amount of time spent by rural women on non-farm income generating activities. Age, household status, educational level, and non-farm income positively and significantly affected the amount of time spent by rural women on leisure activities. Household size, farm income, and source of finance negatively and significantly affected the amount of time spent by rural women on leisure. This study therefore concludes that time resource allocation and utilization of rural women is significantly dependent on their socioeconomic characteristics. The time utilized on farming non-farming and leisure activities differ from each other. The study also revealed that rural women were faced by the challenge of too much farming and non-farming activities.

Keywords: Time Utilization; Farm; Non-Farm Activities; Leisure; Rural Women

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1. Introduction

Time is a valuable and consumable resource. Women, especially rural women spend so much time taking care of their homes, farms and also engage in non-farm activities. It has been observed that notwithstanding the prevailing land tenancy in their communities, women farmers provide 14 to 18 hours of productive physical labor in different chores, thus reflecting the enormous responsibility carried out by them day-in, day-out (Borgohain and Akand, 2011). Hitherto, women's work has often gone unnoticed and rarely a topic of discussion among scholars and development planners (Lodha, 2006). Women in the developing world are the major drivers of the primary sector of the economy (Verma and Malik, 1984).

In Africa, estimates of the time contribution of women to agricultural activities ranges from about 30 percent in The Gambia to 60-80 percent in different parts of Cameroon. In Asia, estimates range from 32 percent in India to over 50 percent in China. The range is lower in Latin America, but exceeds 30 percent in some parts of Peru (FAO/GSO/MoP, 2010). Women make up almost 50 percent of the agricultural labour force in sub-Saharan Africa, an increase from about 45 percent in 1980. The averages in Africa range from just over 40 percent in Southern Africa to just over 50 percent in Eastern Africa. These sub-regional averages have remained fairly stable since 1980, with the exception of Northern Africa, where the female share appears to have risen from 30 percent to almost 45 percent. The sub-regional data for Africa conceal wide differences between countries both in the share of female labour in agriculture and the trend (FAO/MAF, 2010).

The International Labour Organization (ILO) Action Guide (1996) in buttressing the status of women and to support poor and working women argued that in developing countries women spend 31 to 42 hours per week in unpaid work in contrast to 5 to 15 hours spend by men in such work. Research evidences revealed that women perform very important roles in agricultural development and related fields including livestock production, horticulture, crop production, post-harvest operations, agro-social forestry etc. (Lodha, 2006). Women play a pivotal role in agricultural and rural economies in all developing countries. The role played by rural women in mitigating the challenges of agricultural production and development is quite dominant and prominent (Ogunlela and Mukhtar, 2009). Their roles of women in the primary sector of the economy especially in developing countries vary by family, clan, communities and districts. The interplay of economic and social forces is however changing this narrative in no small measure in many parts of the world. For example, vocations and livelihoods that were regarded as complex and the exclusive reserve for men and are being taken up by women. Rural women's activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes (Doss, 2010).

Rural women play immense roles in the agriculture sector. They work with full passion in the production of crops right from the soil preparation till post-harvest activities and even marketing (Ahmed and Hussain, 2004). They are integrated into the rural economy. Consequently, their relevance and significance in agriculture cannot be overemphasized (Rahman, 2008). Women produce most of the food in developing countries and yet they are among the vulnerable groups. Studies have shown that Nigerian women like their counterparts elsewhere, play major roles in key farming operations such as planting, weeding and harvesting to the extent that some crops are designated as female crops in some areas (Ajani, 2000). Notwithstanding all of these, the challenges faced by women farmers in Nigeria (both in rural and urban areas) are quite

monumental with resultant effects of decrease in agriculture production per measured space (Olaoye, 1999). Enete and Amusa (2010) reported that in line with the patriarchal systems in most of Nigerian communities, men are vested with the responsibilities of taking decisions even in areas where women are the largest providers of farm labour. The multiple roles played and the productive inputs made by women in terms of work hours contributed and equivalent income generated in the family are neither recognized nor recorded (Varma, 1992), despite the fact that they contribute about three fourth of the labour required for agricultural operations (Lodha, 2006). This study therefore attempts to profile and analyzed factors that influence the time spent by rural women on farm activities, non-farm activities and leisure (rest) in Plateau State.

2. Methodology

2.1. Study area

The study was carried out in Jos East Local Government Area of Plateau State, Nigeria. It has a land area of 1,020km²; it is bounded by Jos North in the western part, Barkin-Ladi in the South-West and Mangu in the southern Area.

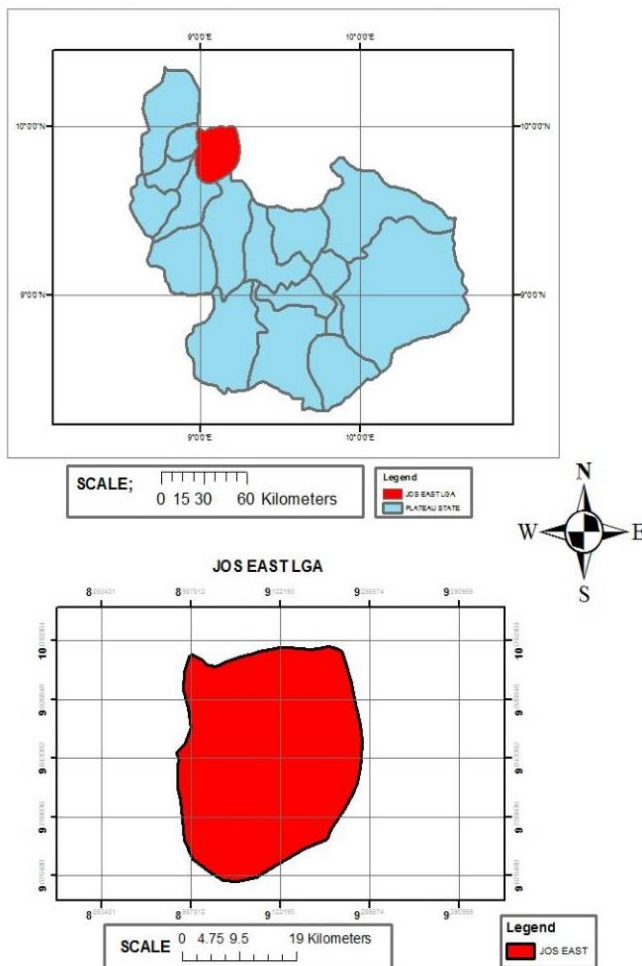


Figure 1. Plateau State showing Jos East LGA (Source: Azi Haggai Isha Plateau State University, Bokkos Geography Department 400L)

The East and Northern Area are bounded by Bauchi State. Jos East Local Government Area is located on latitude 9° 55'N and longitude 9° 06' E. It has an estimated population of 112,136 (NPC, 2006 projected to 2015) with annual rainfall average of 1,317.5mm and temperature range of between 18°C -22°C. The crops grown are maize, millet, sorghum, fonio, sweet potatoes, cucumber, cabbage, tomatoes, and soya beans among others. Livestock reared include goat, cattle, sheep and poultry. Jos East is made up of six districts namely; Fobur, Maigemu, Maijuju, Fursun, Federe and Shere. These districts are divided into village. Those in the rural areas engage in farming as their main occupation while those in the semi-urban areas are either artisans or civil servants working in government establishment.

2.2. Sampling procedure and sample size

The study employed two stage sampling technique in the selection of respondents who were all women. In the first stage, 3 districts were selected out of the 6 districts in the Local Government Area. In the second stage, 2 villages were selected from each of the selected 3 districts making a total of 6 villages. In each village a proportionate number (10%) of respondents were selected from the sample frame as shown in Table 1. Consequently, 120 respondents were arrived at as the sample size for the study.

Table 1. Distribution of sample frame and sample size

District	Village	Sample frame	Sample size
Shere	Shere Jankasa	250	45
	Shere Ekan	200	
Federe	Tudun Barrow	250	40
	Kurimimg	150	
Fobur	Kerker	100	35
	Sabon Gari	250	
Total			120

2.3. Data analysis

Primary data was used for this study. Primary data was generated from a set of well-structured research questionnaire in line with the stated objectives of this work. This was administered to women in the selected households in the study area. Data generated was analyzed using descriptive statistics and multiple regression analysis.

Time spent was the dependent variable while socio economic variables that served as independent variables are marital status, educational level, income from sales of agricultural produce, income from non-agricultural activities, access to market, access to productive land, and labour were the independent variables. The implicit form of the model is $Y = f(X_1, X_2, X_3, X_n, + e)$, while the explicit form of the model for farm and non-

farm activities is $Y = f(X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + X_7 + X_8 + X_9 + X_{10} + X_{11} + e)$, where the dependent variable is $Y =$ Time spent (hours), and independent variables ($X_1 - X_{11}$) are: $X_1 =$ Age, $X_2 =$ Marital status (dummy where 1=married, 0=others), $X_3 =$ Household status (1 = head, 0 = spouse), $X_4 =$ Household size (No of people), $X_5 =$ Educational level (No of years spent in school), $X_6 =$ Occupation, $X_7 =$ Farm size (Hectares), $X_8 =$ Farm income (₦), $X_9 =$ Non-farm income (₦), $X_{10} =$ Source of finance (dummy), $X_{11} =$ Distance to market (Kilometers), and $e =$ Error term.

3. Result and discussion

3.1. Women involvement in farm, non-farm and leisure activities

The result presented in Table 11 clearly depict that rural women in the study area were relatively full time farmers judging by the amount of time utilized on farming activities. The result of this investigation revealed that on the average, a rural woman spent 4.56 hours daily working on farms. The hours worked by a rural woman can be translated to 27.38 hours in a week excluding Sundays. In order words, the women in the study area utilized 43.1% of the total day time for agricultural production. The women in the area also engage on non-farm activities. This non-farm activities include; processing, crafting, trading, artisan wage labour, civil service and home management.

Table 2. The average daily time utilization for farm, non-farm and leisure activities

Week days	Farming activities mean daily time utilization (hours)	Non-farming activities mean daily time utilization (hours)	Leisure activities mean daily time utilization (hours)
Monday	4.57	4.42	1.45
Tuesday	4.58	4.37	1.64
Wednesday	4.55	4.50	1.69
Thursday	4.55	4.36	1.54
Friday	4.56	4.39	1.66
Saturday	4.57	4.45	1.55
Total	27.38	26.49	9.53
Average	4.56	4.42	1.59
Percentage of daily average	43.14 %	41.81 %	15.04%

Source: field survey data (2016)

The result clearly depicts that the average daily time spent on non-farm activities by women was 4.42 hours per day and 26.49 hours weekly. This represents 42% of the total time available to the rural women to utilize in a day. When added with the average time utilized on farm activities, the total time utilized on productive work by rural women per day adds to 8.98 hours. This is less than the findings of Borgohain and Akand (2011) who stated that all women farmers irrespective of land status of their family provide 14-18 hours of productive physical labour in different chores. This is because the major work that takes much of women time on the farm

was (manual weeding) but with the present technology of using herbicides, the hours spent on the farm has been greatly reduced.

This study therefore reveals that women in the study area spent more time on productive activities (farming and non-farming work). The rural women also spent little time on leisure; the leisure activities majorly include attending church activities and sometimes little sleep. The result on the table below clearly showed that women spent 1.59 hours daily on the average for leisure and a total of 9.53 hours in a week which represents 15.04% of the total time available to the women to utilize in a day.

3.2. Socioeconomic determinants of time utilized on farm, non-farming and leisure activities

In order to ascertain the socio-economic determinants of the time utilized in farming, non-farming and leisure activities, three multiple regression analyses were run for farming, non-farming and leisure activities respectively. Each regression was subjected to four functional forms: linear, semi-log, double-log and exponential forms. The linear form was selected for Leisure Activities while double-log was selected for farming and non-farming activities based on statistical and econometric criteria.

Table 3. Multiple regression estimate of the socio-economic determinant of time utilization in farming, non-farming and leisure activities

Variable	Farming Activities	Non-farm Activities	Leisure Activities
Constant	32.765 (5.41)	17.703 (2.42)	7.689 (1.56)
Age _(x1)	0.209 (2.26)**	0.185 (2.01)**	0.134 (2.09)**
Marital Status _(x2)	11.303 (1.76)*	0.114 (0.32)	3.106 (0.95)
Household Status _(x3)	0/476 (0.11)	5.861 (1.65)*	1.369 (5.10)***
Household Size _(x4)	0.768 (1.18)	-0.353 (-0.58)	-0.628 (-1.66)*
Education _(x5)	0.582 (2.08)**	0.885 (2.80)***	0.457 (2.21)**
Occupation _(x6)	-1.828 (-1.31)	4.557 (2.92)***	0.070 (0.07)
Farm Size _(x7)	0.265 (0.18)	0.287 (0.19)	-0.162 (-0.17)
Farm Income _(x8)	0.000 (2.02)**	-0.17 (-7.70)***	-0.000 (-1.69)*
Non-farm Income _(x9)	-5.04e (-0.16)	0.006 (2.03)**	0.000 (1.72)*
Source of Finance _(x10)	-0.013 (-0.27)	0.493 (1.37)	-0.089 (-3.90)***
Distance to Market _(x11)	0.216 (4.20)***	-0.059(-2.40)**	
R ²	0.923	0.812	0.592
F – Value	0.000	0.000	0.000

The values in parenthesis are the T value; ***significant at 1% level; **significant at 5% level; *Significant of 10%

The result of the regression showed that age of the women influences, the time spent on farming activities positively and significantly. Marital status, educational level, farm income and distance to the market positively affected the amount of time spent on farming activities. In case of the non-farming activities; age, household status, education level, occupation and non-farm income positively affected the amount of time spent by rural women on non-farm income generating activities. Farm income negatively affected the amount of time spent by rural women on non-farm income generating activities. Age, household status, education level, and non-farm income positively affected the amount of time spent by rural women on leisure while household size, farm income, and source of finance negatively affected the amount of time spent by rural women on leisure.

3.2.1. Age

The result of the linear regression of the socioeconomic determinants of time utilization in farming, non-farming and leisure activities revealed that age of the respondents was positively significant at 5%. This implies that an increase in the age of the respondents will lead to an extension of the time utilized on farming, non-farming and even leisure activities in the study area. This holds true because the respondents were mostly spouses of full-time farmers who reside in rural areas.

3.2.2. Marital status

The result of linear regression indicated that marital status of the respondents was positively significant at 10% for farming. This implies that the marital status (being married) of the respondents will lead to an increase in time utilized on farming activities. In most of the rural communities in Africa, men own the farms and give directives on what is to be done, how and when it is to be done. In short men hold the final decision about agricultural activities.

3.2.3. Household status

The result of the linear regression based on household status showed that the household status of the respondents was positively significant at 10% for non-farm activities and was positively significant at 1% for leisure activities. This implies that as long as women remain spouses in marriage, they are likely to spent time on farm and activities as directed by the household heads (men). They also have to find time to engage in non-farm activities so they could earn income for themselves.

3.2.4. Household size

The result of the regression depicts that household size of the respondents was negatively significant at 10% for leisure activities. This implies that an increase in household size will lead to a decrease in time spent on leisure activities. This is only natural for the rural women to content with a lot responsibilities to the family including household chores, social activities etc.

3.2.5. Education

The result of the regression based on education depict that educational level of the respondents was positively significant at 5% for farming activities and leisure activities. This implies that an increase in educational level of the respondents will lead to an increase in time utilized on farm and leisure activities of the respondents. In the case of non-farming activities, the result showed that educational level of the respondents was positively significant at 1%. This implies that an increase in educational level of the respondents will lead an increase in the time spent on non-farm activities. When women are educated there is likelihood that they will consider farming and non-farming activities as a vocation thus, handling it with all seriousness. Time is therefore utilized to push these objectives.

3.2.6. Farm income

The result of regression based on farm income revealed that farm income positively and significantly affects the time spent on farming activities at 5%. This implies that an increase in farm income will lead to an increase in time spent on farming activities. In the case of non-farming activities, the result showed that farm income negatively and significantly affects the time spent on non-farming activities. The result also revealed that farm income negatively and significantly affects the time spent on leisure activities at 10%. This implies that an increase in farm income will lead to a decrease in time spent on leisure activities. This gives credence to the theory of primitive wealth accumulation, the more you have, the higher the desire for more.

3.2.7. Non-farm income

The result of regression based on non-farm income depicts that non-farm income positively and significantly affects the time spent on non-farm activities at 5% and at 10% for leisure activities. This implies that an increase in non-farm income will lead to an increase in the time utilized on non-farm and leisure activities of the respondents.

3.2.8. Distant to market

Distant to market positively and significantly affects the time spent on farming activities at 1% which implies that an increase in distance to market will lead to a decrease in the time spent on farming activities. In the case of non-farming activities, distance to market affected the time spent on non-farming activities at 5%, this shows that an increase in distance to market led to a decrease in time spent on non-farm activities.

4. Conclusion and recommendation

The result of this study revealed that the mean time spent on farming activities is relatively greater than the mean time spent on non-farming activities and leisure activities. The result of the regression showed that age of the women influences the time spent on farming activities positively and significantly. Other variables that significantly determine the amount of time devoted to farming by the women are marital status, educational level, farm income and distance to the market. In case of the non-farming activities; age, household status, education level, occupation, non-farm income and distance to market positively affected the amount of time spent by rural women on non-farm income generating activities. Farm income negatively affected the amount of time spent by rural women on non-farm income generating activities. Age, household status, household size, education level, and non-farm income positively affected the amount of time spent by rural women on leisure while household size, farm income, and source of finance negatively affected the amount of time spent by rural women on leisure.

Based on the result of this research, rural women can be more productive than they are if they are made to be aware of the importance of leisure (rest) to sound human health. Leisure activities are important to bring about a positive flow of energy in a person. These activities help to refresh the mind. To encourage the culture of leisure, simple time saving farming technologies, credit, land and other resources should be made available to the women farmers.

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