

ROLE OF WOMEN IN SUGAR CANE FARMING IN MUSERE DISTRICT OF BOKKOS LOCAL AREA OF PLATEAU STATE, NIGERIA

¹Ishaku Asukudu Peter, ¹Parah Ezra Yunana ²Dakat Nehemiah

¹Department of Geography, Plateau state University, Bokokos, Nigeria

²Department of Geography, Nasarawa State University, Keffi, Nigeria

*Corresponding Author's email: ishakuasukudupeter@gmail.com

<https://orcid.org/0009-0000-9883-4772>

ABSTRACT

Agriculture continues to play an important role in most non – industrial economies as a major contributor to individual earnings, employment and livelihood. Official statistics often underestimate the value of women's work and their contribution to national wealth. Food and Agricultural organization estimates show women represent a substantial share of the total agricultural labor force. Thus, the focus of this study is on the role of women in sugar cane farming in Muserere District of Bokokos Local Government Area of Plateau State. A total of 100 questionnaires were administered to respondents via a systematic simple random sampling technique. The data collected were analyzed using SPSS. The result of the study was presented using descriptive statistics such as tables, percentages to show the pattern of distributions of the variables and multiple regression to show the relationship between socio – economic and demographic characteristics and the role of women in sugarcane farming in the study area. The results show that 100% of respondents own their farmland, many were educated, young and had long years of farming experience. Furthermore, the majority of the farmers used traditional seeds, and their major roles were land clearing, processing and marketing of the sugarcane. Challenges faced by the farmers were lack of machineries and inconsistency of government policies. The result of multiple regression shows a strong relationship between socio – economic and demographic characteristics and the role of women sugarcane farming. Finally, the study recommended that governments should encourage mechanized farming and stabilize agricultural policies.

Keywords: Agriculture, employment, Labor force, production, Role, Women.

1. INTRODUCTION

Globally, women play a major role in agricultural activities (Gandahi, 2016). Female farmers represent more than a quarter of the world's population. An average of 43% of the agricultural workforce in developing countries is women. Their roles vary considerably among and within regions and are changing rapidly in many parts of the world where economic and social forces are transforming the agricultural sector (FAO, 2010; FAO, 2011).

The Philippines is one of the top sugarcane producing countries in the world and it is the fifth largest crop in the country based on output value (Briones, 2020). In Philippines Sugar cane plantation farming remains culturally perceived as a male occupation (Tunpalan, 2016), but women are still an important part of its agricultural work force although sometimes they are paid below standard wages or even unpaid (Dankelem & Davidson, 2013). The sugar cane industry in India is an important contributor to the national economy through the production of multiple

products for national and international consumption. The production and processing of sugar cane is a major source of employment in the country. Women form the backbone of its cultivation, although still tend to exist as hidden farmers with almost negligible access to land resources, technologies, financial services, markets and even education. With the growing feminization of agriculture there is the need for specific strategies for women in sugarcane agriculture to develop skills and strengthen their capacity as it significantly contributes to domestic production and employment (singh, 2013).

Africa women are an integral part of the agricultural value chain (Behera & Behera, 2013). They represent up to 52% of the agricultural labor on farms in sub - saharan Africa. Women contribute up to 60 to 80% of the continent's food (World Bank, 2003; Dekens, 2014; Simperegui, Miassi and Dossa, 2019). They participate in sowing, weeding, harvest, and storage of crops (Diouf, 2013). As much as 73% were involved in cash crops, arable and vegetable gardening, while postharvest activities had 16% and agroforestry 15% (Abdullahi, 2015).

Agriculture can be an important engine of growth and poverty reduction (Wuyep, and Rampedi, 2018). But the sector is underperforming in many countries in part because women, who are often a crucial resource in agriculture and rural economy, have less access than men to agricultural services (Behera and Muktar, 2009). With the numerous contributions to agriculture, women have less access to assets, inputs, credit, services markets and information on new technologies. This limited access reduces their development opportunities (FAO, 2011; Patiland and Babus, 2018) the same access to productive resources as men, women could boost yield by 20 - 30%, raising the overall agricultural output in developing countries by 21/2 to 4%. This gain in production could lessen the number of hungry people in the world by 12 to 17%, besides increasing women's income (FAO, 2011).

However, in Nigeria due to legal, traditional and cultural constraints, only about 20% of women can be land holders (FAO, 2012). Men seem to take more of the farming decisions (Rahman, 2008). The decision - making process in agricultural policies, which aim at increasing food security and food production tend to either underestimate or ignore women's role in both production and general decision making. This is a major constraint to women access to productive resources, thereby causing Poor yields and low productivity among women on the African continent (Njobe and Kaaria, 2012)

Based on the above evidence, the role of women in agricultural production and the challenges they face in the study area cannot be trivialized. The findings of this study are intended to draw the attention of key stakeholders, political and business leaders, multilateral development organizations, the donor community and civil society to a fundamental rethink of what transformational change in agriculture means for women so as to come up with better ways in which they can be supported.

2. MATERIAL AND METHODS

2.1 Study Area

Bokkos lies on latitude 9°17'5.16'' and longitude 8°59'40.81'', while Mushere lies on latitude 9°9'26'' and 9°2'25''. Bokkos local government area is one of the seventeen (17) local government areas of Plateau in Nigeria It is about 76.5km from Jos the State capital. It was first created in 1980, scrapped in 1983 and reinstated in 1991. It is bounded to the west by Barkin –

Ishaku A. P., Parah E. Y. & Dakat N.

Ladi local government area, to east by Mangu local government area and to the south by Quanpan. It has a landmass of 3.053km².

Bokkos has an average annual rainfall of 1350mm, a minimum temperature of 22.5°C and a maximum temperature of 35.2°C, thereby making it one of the coldest local government areas in Plateau State. Its vegetation is the (savannah type) and climate is favorable for crop and animal rearing. It is under laid by igneous rocks mostly young granite and is blessed with abundant solid minerals such as; tin, columbite, kaolin gemstone, quartz feldspars and amatzaz among others. Its soil varies from coarse to medium fine gravels, sandy, loamy and clay soils and are greyish and reddish in color in some places (Mailumo, 2021).

The people of Bokkos practice both subsistence and commercial farming which has over the years been their source of food, employment and income (Amah, Ajibade and Joel Dada, 2022). Some of their popular agricultural crops are; irish potatoes, sweet potatoes, yam, maize millet beans, tomatoes carrots guinea corn and cabbage among others (Nannim, 2009; Wuyep, Daloeng, and Williams, 2021).

2.2 METHODOLOGY: The goal of this study is to determine the role of women in sugarcane farming in Mushere district of Bokkos local government area of Plateau State, Nigeria. However, to achieve the said objective primary data were obtained from the administration of questionnaires. A systematic simple random sampling technique was used to administer questionnaires to 100 respondents in the study area out of which 99 were returned. Simple descriptive statistics such as; frequencies, percentages, and tables were used to analyze and present the results, as well as multiple regression to show the relationship between the socio – economic characteristic of the respondents and their role in sugarcane production in the study area.

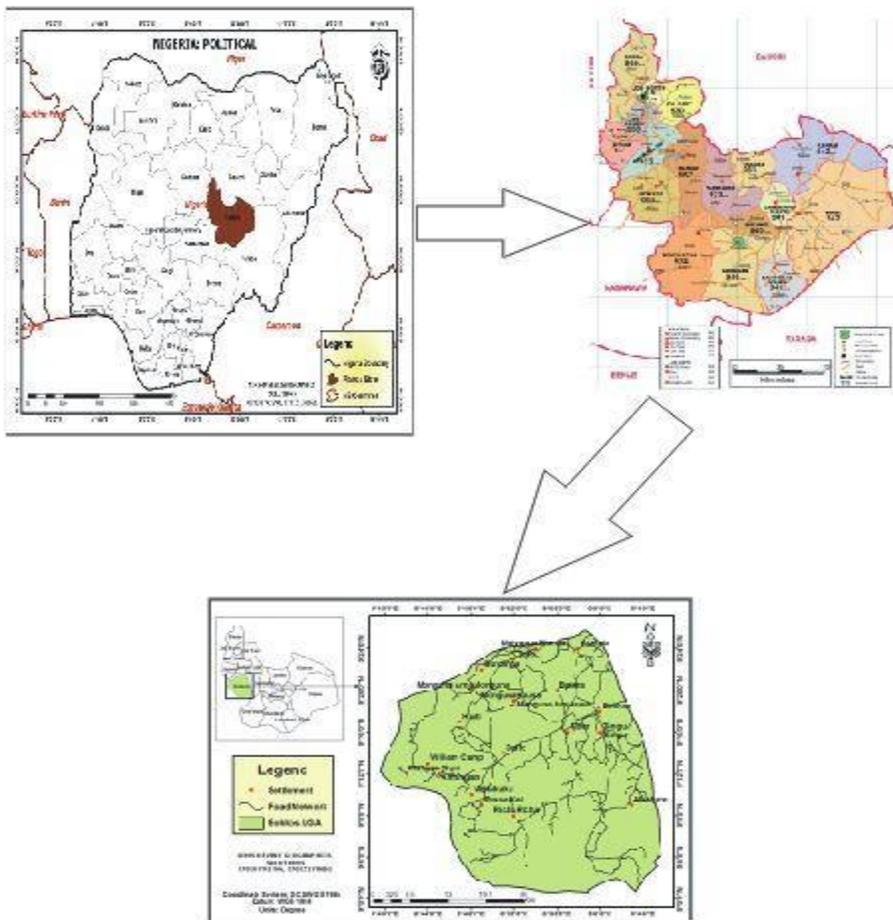


Figure 1: Bokkos Local Government Area (Study Area)

Source: Department of Geography and Planning. University of Jos

3. RESULTS AND DISCUSSION

3.1 Socio – economic and demographic characteristics of respondents

Women form an integral part of human society. The human development index reports states that they form half of the world population. Women play a pivotal role in agriculture but still defied equal status with their male counterparts (wuyep, Samuel and Mwanja, 2015). Table 1: shows that (19.8%) of the respondents in the study were between the ages of 19-29 years, (46.0%) were between the age bracket of 30-39 years and (34.1%) were between the ages of 40 years and above. The highest percentage of 46.0% was of those between the ages of 30-39. This implies that the majority of the respondents in sugar cane farming in the study area were young women. Thereby disagreeing with Yemisi and Aisha, 2009) that said women participation in the farm management decisions making process is said to increase with age that is older women participate more in decision making in different areas of agriculture than their younger counterparts but disagree with Kantor (2009) who said women have limited – decision making

ability within the household or low access to resources and household income and therefore are more likely to accept lower paying wages.

Table 1: Socio – economic and demographic characteristics of respondents

Variable	Characteristics	Frequency	Percentage
Age	29 – 30	25	19.8
	30 -39	58	46.0
	40 and above	43	34.1
	Total	126	100,0
Marital status	Married	81	64.3
	Single	45	35.7
	Divorce	0	0
	Total	126	100
Educational status	Non – formal	28	22.2
	Formal	98	77.8
	Total	126	100.0
Land ownership	Yes	126	100
	No	0	0
Farming experience	2-5	12	9.5
	6-10	20	15.9
	11 and above	94	74.6
	Total	126	100
Source: Field Survey	2023		

Furthermore, (64.3%) of the respondent were married while (35.7%) were single, implying that majority of the respondents were married which can impact on their productivity positively, concurring with (Agada and Ameh, 2017) Who asserted that marriage makes the supply of labor stable, hence making the practice of agriculture easier.

Furthermore, (77.8%) had formal education, while (22.2%) of them had no formal education. Implying that the majority of them were in the right position to explore the potential of the sugarcane industry effectively. Thus, agreeing with Damisa and Yohanna (2007) who opined that the level of knowledge of farmers about improved farming practices acquired by educated women farmers has a positive influence on agricultural production. This also agrees with Wuyep, Samuel and Mwanja (2015) who also opined that literacy level of farmers is a significant factor that determines farmers’ ability to comprehend agricultural programs and policies.

The result also indicated that all respondents had access to farm land for the cultivation of sugarcane, implying that all the respondents own farm lands for sugar cane farming. Finally, 9.5% of the respondents had between 2 to 5 years of sugarcane farming experience, 15.6% had between 6 to 10 years of experience and 74.6% had 11 years and above experience. This implies that most women in the study area had sufficient experience and have gained the necessary skills required for increased production. This finding validates the result of Alabi et’al., (2005) that farmers who had many years of experience achieve improved food security, because experience is important to successful farming thus reducing losses.

3.2 Role of Women in Sugarcane Farming System

The global average of women in agriculture is dominated by Asia. Within Asia the sub regional averages range from about 35% in South Asia to almost 50% in East and Southeast Asia. The Asian average is dominated by China where the female share of the agricultural labor force has increased slightly during the past three decades. Female share in India remains steady at just 30%, while other Asian countries like Malaysia have seen a declining female share in agriculture, Food and Agricultural Organization (FAO, 2011). In central and South Eastern Europe and in Latin America women are much more concentrated in the service sector (FAO, 2011).

Table 2 however, shows the various roles played by women in sugarcane farming. Their participation levels differ and include various activities such as; Land clearing (20%), Sowing (10%), Weeding (15%), Marketing (15%), and Storage (15%). However, the table also shows that the activities like processing, Harvesting and transportation are done mostly by men, because these activities are laborious and cumbersome agreeing with Mishera et'al., (2017) findings in Philippines that female farmers although participate in farming activities assume less laborious task which are likely to be decided by male farmers. Drawing from the result above Mushere women work in most sphere of the sugarcane farming sector therefore, their contribution to food production is immense, thus, agreeing with (Damisa et'al, 2007; Rahman, 2008 and Diouf, 2013) who noted that women participate much more in sowing, weeding, harvesting and storage and concurring.

Table 2: Role of Women in Sugarcane Farming System

Activities	Frequency	Percentage
Land clearing	25	20
Sowing	13	10
Weeding	20	15
Harvesting	13	10
Transportation	6	5
Processing	13	10
Marketing	18	15
Storage	18	15
Total	126	100

Source: Field survey 2023

with the assertion of National Agricultural Extension and Research liaison Service (NAERLS, 2000) that women in Nigeria contribute more to labor input in farming than men and Patil and Patil (2018) who noted that 60% of employed women in sub – Saharan Africa work in the agricultural sector, thereby also agreeing with Porter and Philip – Howard (1997), observe that in 70% of sugarcane contracting farming in South Africa farming work all year round on sugarcane farms are done by women.



Plates 1 & 2: Showing women in a sugar cane market in Mushere

3.3 Farm sizes and farming practices of respondents

Table 3 shows that (9.5%) of the respondents have less than 3 acres of sugarcane farmlands while (15.9%) had between 4-6 acres, and (74.6%) own more than 7 acres farmlands. In terms of farming methods most of the respondents (87%) practice subsistence farming, while few practices commercial farming (13%) implying that majority of Mushere women are subsistence sugar cane farmers. This agrees with Lamontagne – Godwin et’al, (2019) who opined that apart from inequality from an economic perspective, female farmers often require permission to access opportunities that enhanced their capabilities in managing the farm.

Table 3: Farm sizes and farming practices of respondents

Variable	Frequency	Percentage
Farm sizes (acres)		
<3	7.0	9.5
4- 6	20.0	15.9
7 and above	94.0	74.6
Total	126	100
Farming practice		
Subsistence farming	110	87
Commercial farming	16	13
Total	126	100
Source of labor		
Family labor	50	40
Hired labor	37	29
Family and labor	21	17
All of the above	18	14
Total	126	100
Type of seed		
New variety	36	29
Traditional variety	90	71
Total	126	100

Source: Field Survey 2023

The Table above also shows that the majority (40%) of the respondents make use of their Family members as a source of labor. While (29%) pay money to get their work done, (16%) use family members and workers, and (14%) use all of the above methods. Furthermore, most of the respondents (71%) use the old traditional variety of sugarcane seeds for cultivation, while only (29%) use improved variety, making yield grossly marginal.

3.4 Relationship between the socio – economic and demographic characteristics of respondents and some of their roles in sugarcane farming in the study area.

Table 4 the result of the multiple regression shows a positive relationship between the socio – economic and demographic characteristics and the role of women in sugarcane farming in Mushere district of Bokkos L. G.A of Plateau State.

Table 4: Relationship between the socio – economic and demographic characteristics of respondents and some of their roles in sugarcane farming in the study area.

Model		Unstandardized B Error	Std. Std. Error	Standardized Coefficients Beta	T	Sig
1	constant	.193	.102		1,897	.059
	Age group	.521	.068	.524	7.624	.000
	Level of education	.485	.060	.591	8.091	.000
	Land ownership	.396	.087	.614	4.541	.000
	Years of experience	.307	.089	.455	3.460	.000

a. Dependent variable: Role of women in sugarcane farming

The P values of age group, level of education, land ownership and years of experience are; 0.000, 0.000, 0.000 and 0.000 respectively, all of which are less than 0.05 significant level in dictating that there is a significant relationship between socio – economic and demographic characteristics of the respondents and their role in sugarcane farming (level of knowledge and years of experience determines the productivity of the women) in the study area.

3.5 Challenges faced by Women in Sugarcane Farming

Table 5 indicates that (24%) of the respondents had the challenge of lack of access to agricultural machinery, while (18%) lack access to farmland. Thus, agreeing with the findings of a World Bank report (2003) that said land shortages are among the challenges faced by women in sub – Saharan Africa. They are also less likely to hold land title, secure tenure or have right to use, improve or dispose of land and the Nigeria 2012 ‘Gender report by the British council, that opined just 4% of women own land in the north east and 10% in the southeast and south – south.

Table 5: Challenges faced by Women in Sugarcane Farming

Challenges	Frequency	Percentage
Lack of access to land	10	8
Lack of access to input	15	12
Lack of access to credits	19	15
Lack of access to agricultural machineries	30	24
Lack of access to education	12	10
Lack of access to storage facilities	17	13
Inconsistency to government policies	23	18

Source: Field Survey 2023

The lack of land by women significantly reduces their chances of access to finance because of the need for collateral (Sahel Capital Field Research (SCFR), 2014). Furthermore, 15% of the

Ishaku A. P., Parah E. Y. & Dakat N.

respondents lack access to credit facilities, 13% lack access to storage facilities, 10% have little or no knowledge of agricultural techniques, thus, also agreeing with (SCFR, 2014) that opined that Women's participation in farming training is low due to lack of awareness, social barriers and transportation facilities. Cultural norms restrict women from accessing computer education and finally 8% of the respondents were of the opinion that inconsistency in government policies hampered the farming activity. However, drawing from the analysis above, the majority of the women in the study area were challenged by lack of machinery which its availability will launch them into commercial sugarcane farming like the present situation of low productivity rate.

4. CONCLUSION

The result of the study is clear that women play a very vital role in augmenting family income and the general wellbeing of their homes. But the persistent gender gap in access and control of agricultural resources remains a great concern that has not only kept women in a circle of low productivity and poverty but has also raised the pertinent question of their low economic growth and development.

5. RECOMMENDATIONS

The empowerment of female farmers should as a matter of urgency be prioritized by providing them with modern machineries, credit facilities, access to farm input, enhance security of farming communities and educational training in modern farming techniques, so as to promote efficient agricultural production in the study area, Plateau State and Nigeria at large.

REFERENCES

- Abdullahi, M. R. (2015) Women in Agriculture: *The Role of African Women in Agriculture*. National Agricultural extension and Research Liaison Service, Ahmadu Bello University Zaria, Nigeria.
- Alabi, O. O., Adebayo, O A., Akunyemi O., Olumiwiya., S. A. & Adewiyi, O. (2005).
- Agada, M.O. & Ameh, E. (2017). Rural women' involvement in agriculture in Okpo District, Kogi State, Nigeria. *Global Journal of Science Frontier Research: Agriculture and Veterinary*, 17(4), 26 – 35.
- Briones, R.M. (2020). Competition issues in sugar cane industry in the Philippines. <http://www.phcc.govh/wp-content/uploid/2020/09/policynote-2020-03-industry-in-the-Philippines>
- Dekens, J. & Vivek, V. (2014). *Rural Women, Shadow Women: Key Development partners. The International Institute for Sustainable Development (IISD)*, pp6.
- Damisa, M.A. & Yohanna, M. (2007). *Role of rural Women in Farm Management Decision Making Process: Ordered Probit Analysis. Trends in Applied Research*, 2(3), 241 – 245.
- Dankelman, I, & Davidson, J. (2013). *Women and the environment in the third world: Alliance for the future*. Earth scan.

- Diouf, N. A. (2013). *Women and local development in Senegal: The role of women' Associations in the peanut Basin: The example Diour bel* (PhD. Thesis). University of Michel de montaigne – bordeaux3, pp. 527.
- Gandahi, R. (2016). Role of Women in Agriculture. *Pakistan Observer*, 17(111), 16 – 19.
- Food and Agricultural organization, (2012). *Agricultural cooperatives and gender Equality, International Year of Cooperatives, Issues Brief Series*. Retrieved Fromm <http://www.fao.org/docrep/017/ap669e/ap669e.pdf>.
- Food and Agricultural organization, (2011). *World Census of Agriculture: Analysis and International Comparison of Result (1996 – 2005)*. FAO Statistical Development Series No 13, Rome.
- Food and Agricultural organization, (2011). The role of Women in Agriculture. Prepared by the SOFA Team and Chernyl Doss. ESA working Economy Paper No. 11 - -02, March, 2011. Agricultural Development Economic Division, the Food and Agricultural Organisation of the United Nations. www.Fao.org/economic/esa
- Kantor, P. (2008). *Women's Exclusion and Unfavorable Inclusion in Informal Employment in Lucknow, India: Barriers to voice and livelihood security*. World Development, Vol. 37(1), 194 – 207.
- Lamontaque – Godwin, J., Cardy, S., Williams, F.E., Dormard, P.T., Aslams, N.J. & Almas, M. (2019). *Identifying gender responsive approaches in rural advisory service that contribute to gender in Pakistan*. Journal of Agricultural Education and Extension, 25, 267 – 288.
- Mailumo, S. S. (2021). *Women Involvement in Agricultural Innovation Adoption Decision among Potato Farming Households in Bokkos, Plateau State, Nigeria*. Value, Building Business, Transforming Community. Sahel Capital Field Resources, p34.
- Mishera, A.J., Khanal, A.R.J & Mohanty, S. (2017). Gender differentials in farming efficiency and orifits. The case of rice production in the Philippines. *Landuse policy* 63, 461 – 469.
- NAERLS. (2000). *An assessment of the contribution of women to family farming in North – Eastern Nigeria. Report of a Research Sponsored by the National programme Abuja, Nigeria*. National Agricultural Extension and Research Liason Service, Ahmadu Bello University, Zaria, Nigeria.
- Nannim, N. (2009). *The Economic importance of Maize Production in Mangu L. G. A. Plateau State, Nigeria*. Unpublished PGD Thesis Faculty of Agriculture, Shabu, Lafia Campus, Nasarawa State Unversity, Keffi.
- Njobe, B. & Kaaria, S. (2012). *Women and Agriculture. The Untapped Opportunity in the Wave of Transformation, Mckinsey Global Institute – The power of Global Gender Parity*.
- Porter, G. & Philip – Howard, K. (1997). *Contracting farming in South Africa: A case study of Kwazulu – Natal Geography*. *Journal of Geographical Association*, 82(354),1 – 38.

- Singh, R., Singh, R. K., Singh, S., Singh, V. & Singh, A. K. (2013). *Participation and performance of Women in Sugarcane agriculture*. Proceedings of National Conference on Women in Sugarcane Agriculture and Industry at ILSR, Lisknow. August 29 – 31 , 2013, p95.
- Simpergui, Y. B., Miassi, Y.E.S. & Soassa, F.K. (2019). *Role of Women in Agricultural and Rural Development in West Africa*. Current Investigation in Agriculture and Current Research, 6(1), 777 – 778.
- Patil, B. & Babus, V. S. (2018). Role of Women in agriculture. *International Journal of applied Research*, 4(12), 109 – 114.
- Sahel Capital Field Research (2014). *The role of women in Nigeria agriculture*. Sahel – Newsletter – volume, 7.
- Sahel Capital Field Research (2014). *Creating, Value, Building Business, Transforming Community*. Sahel Capital Field Research, 7, p.1.32.
- Tungpalan, M.T. V. (2016). *Children’s stories on occupational risk in sugar farms in the Philippines*. *Journal of Social Development*, 8, 64 - 82
- Wuyep, S. Z. & Rampedi, I. T. (2018). Urban Fish farming in Jos, Nigeria: contributions towards Employment Opportunities, income Generation and Poverty Alleviation for improved livelihood. Nigeria. *Agriculture*, 8(110), 7 - 16.
- Wuyep, S. Z. Daloeng, H.M. & Williams, J. J. (2021). Role of Women in Agricultural Activities in Mangu Halle, Plateau State, Nigeria. *NSUK-Journal of Environmental Science* 2(1), 61-72.
- Wuyep, S. Z., Samuel A. A. & Yakubu, P. M. (2015). Farmers’ Awareness of the Effects of Climate on Growth and Yield of Potato (*Solanum Tuberosum*) in Jos-South Local Government Area of Plateau State, Nigeria. *Journal of Agriculture, Forestry and Fisheries*, 4 (4), 179-183.
- World Bank (2019) World Bank African Development Indicator. In: *Bank W, editor. Washington, USA.*
- Yemisi I.O. & Aisha, R. (2009). Gender Issue in Agriculture and Rural Development in Nigeria. *Human & Social Sciences Journal*, (1), 19 – 30.