



## EMPIRICAL REVIEW OF WOMEN PARTICIPATION IN SOME AGRICULTURAL SUB-SECTORS OF THE GLOBE

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### ABSTRACT

The study reviewed empirical studies on women participation in some agricultural sub-sectors of the globe. The sub-sectors considered in the study were crop production, livestock production and aquaculture. The study expressly disclosed that women are great assets for agriculture and if given adequate opportunity could be of great help in the achievement of food and nutrition security furthering in the adaptation and mitigation of climate change. Despite the prospects of women, their participation in the various agricultural sub-sectors is hindered by inadequate access to finance, inputs, extension services, market linkages, training and workshop amongst others. The study observed that women participated in crop, livestock and aquaculture enterprises but on a small scale producing mainly for household consumption, even though majority of the women studied by the researchers lacked formal education. The study, therefore, concluded that agricultural productivity can be improved if the gender gap between men and women was closed. The study recommended that women farmers should be involved in the decision-making processes and they should actively participate in the establishment of agricultural policies and programs both at the State, national and international levels.

**Keywords:** Farmers, Food, Participation, Production, Rural women.

### INTRODUCTION

Agriculture is the main alternative for rural women, and it should come with better access to land and resources for the prevention, adaptation and mitigation of climate change, combined with rural women learning how to deal with cultural resistance and adapting to various manifestations of this phenomenon. The agricultural sector is one of the major sectors that employ labour in its various sub-sectors that is the crop, livestock, fisheries and aquaculture and forestry. State, farming is a family enterprise (Nnadi and Amaechi, 2004). The farm family is closely-knit that trodden lines cannot be easily drawn to distinguish definite roles and responsibilities of members in agricultural production. Three major stakeholders unequivocally exist in a rural household's agriculture-father, mother and children, who invariably constitute the youths (Akwiwu *et al.*, 2005). Women are great assets for agriculture although for cultural, religious, or other reasons, women do not always possess the necessary means to successfully carry out these tasks (FAO, 2017).

Women work on the family farm and supply labour for a wide variety of activities thereby complementing family income. According Food and Agriculture Organization [FAO] (FAO, 2012), women are involved in animal production and they represent the main guardians of livestock diversity. Women play essential roles in agriculture; providing inputs, working in the farm, generating off-farm income and doing the unpaid house chores, but often the gains goes to the husband and children. In many developing countries, women are responsible for improving food security for their families and therefore, play a significant role in agricultural



production (Ahmed *et al.*, 2012). According to FAO (2012), women make up almost 50% of the agricultural labour force in sub-Saharan Africa, this has increased from about 45% in 1980.

### **Empirical Studies**

Researchers have conducted studies on the role of women in different field of agriculture such as their participation in crop production, animal production and aquaculture.

#### **Women Participation in Crop Production**

Galadima *et al.* (2018) assessed women's participation in crop production activities in Nguru Local Government Area of Yobe State, Nigeria. The findings of the study revealed that 45% of the respondents were within the age bracket of 16 - 20 and 49% of them acquired farm land through inheritance. The study showed that women farmers were mostly engaged in activities such as land preparation (32%), weeding (28%) and planting (24%). Majority (56%) of the respondents had between 2-5 hectares of farm land for the cultivation of crops. The study further revealed that 59% of the respondents obtained their credits from farmer's organization and 50% had difficulty in farm acquisition.

The review shows that land was acquired through inheritance; this encourages fragmentation of land and hinders mechanization. The fact that women farmers obtained credit from farmer's organization implies that is probably easier to obtain loan from cooperatives than from the commercial banks.

Nahusenay (2017) investigated gender division of labor in Ethiopia using Delanta District, South Wello as a case study. It has assessed the various ranges of activities that are performed by women and identified the overall drawbacks encountered by women. The results have showed that women predominantly performed equally with men weeding (53%), harvesting and collecting crops to threshing field (52%), threshing ground preparation (80%) and keeping crops from wild life (37%). They were also involved with storage preparation (84%) and post-harvest processing (81%), milk processing (83%), barn cleaning (61%) and care of new born animals (52%), cooking (94%), grinding (88.5%), fetching (80%) and collecting fuel-wood (75%). Despite their crucial roles in agricultural sectors, women have been marginalized for so long. They have limited access and control of agricultural products, extension services and information. This is due to social, cultural and work discrimination.

The result from the review reveals that women participated equally with men in production and storage in addition to the domestic chores of collecting and fetching of fuel wood. This suggests the need to devise innovations like cheaper and efficient cooking stoves.

Tologbonse *et al.* (2013) studied the factors influencing women participation in agriculture (WIA) programme of Kaduna State Agricultural Development Project, Nigeria. The mean age of participants was 39 years and non-participants were 46 years. The mean farming experience was 11 years for participants and 10 years for non- participants. The mean farm size by participants was 1.4ha and 0.9ha for non-participants. The result further shows that 42.7 % of the participants were involved in 4 enterprises, and 28.7% participated in 6 enterprises. This implies that about 71% of respondents participated in at least 4 programmes. The result indicated that all participants (100%) cultivated food crops ranging from maize, soyabean, groundnut, sorghum, sweet potato, rice and tomato, while all participants reared one type of animal of the other. These included goats, sheep, cattle and pig. Only about 29% of the participants were engaged in poultry and fish culture and these respondents were mostly regarded as the elite farmers. The participants opined that the cultivation of groundnut and soyabean, served as special savings. The small farm size of the women could probably be due to the nature of land ownership which is by inheritance and the fact that most women depend



on their husbands for small portion of lands or hired farm land. The fact that women participate in different enterprises further indicates the need for gender equity in agricultural sector.

According to Damisa *et al.* (2007), the level of the disposable income, perception, tenure rights and the level of the contribution of the women to agriculture had significant impact on the women participation in agricultural production. The mean age of the respondents was 39 years. The mean household size was 5 and the farming experience of the women was 15 years. There was high rate of involvement of the women in agricultural production in the study area. Women had high expectations on agriculture and, therefore, see the occupation as their major source of income and livelihood.

Gender participation in crop production activities was examined by Saghir *et al.* (2005) in district a hock, Pakistan. Fifty five percent (55%) of the respondents were in the age group of 30 - 44 years. The mean age was 37 years, 77.5% of the respondents were illiterates, and 19.2% had primary education. The land holdings for majority of the respondent were 25 acres which implies that the women are small landholders. The findings show that the major activities related to crop, vegetable and fruit production performed by women were seed cleaning, binding and threshing, and vegetable production including irrigation, pest management and picking of vegetables (mean < 0.87). The women are heavily involved in the activities related to the production of wheat and vegetables which are the main sources of food among the rural families in Pakistan. All the activities were mainly for domestic consumption of food and the survival of the family with special reference to food requirement. In other words women participate in agricultural activities to ensure that their families are food secured. Women produce vegetables and fruits in keeping with the nutrient requirement of the farm family.

Anon (2003) reported that women contribute to food security not only through processing and preparation of food but also through indigenous practice of storing the food. According to Effiong *et al.* (2015), 81.43% of the women rice farmers in Abia State, Nigeria were at least 40 years old. Majority (71.43%) of the women farmers had at least 10 years of farming experience. About 60% of the women had household size ranging between 4 - 6 members. About 77% of the respondents were married and 82.9% had access to credit this implies that the farmers could obtain credit to purchase farm inputs which will lead to higher productivity and income. Also, about 54% had at least 1.0ha of farmland. This implies that the women were small scale farmers. Small farm lands limit mechanization in agriculture. The authors reveals that 71% of the women are involved in rice production. The result of the level of participation of women in rice production depicts that the majority of the respondents participate in the production. The variables that were significant in influencing the participation of women farmers in rice production were household size, access to credit, output, total cost and membership of cooperatives. The authors further stated that the constraints to rice production were inadequate land, inadequate finance, shortage of farm inputs, and low level of infrastructure and climate change. Women who are members of cooperatives and who have access to credit are more likely to participate in agriculture. The constraints identified by the researchers are as a result of discrimination against women.

Bayu (2017) examined the expansion of cash cropping implication on gender division of roles: A case study from Gedeo community – Southern Nation Nationalities and peoples Region, Ethiopia. The findings from the study revealed that women contribute a large share of labour in the agricultural sector particularly in coffee production. The involvement of women seems to have increase in the sector. Despite the contribution of women in the sector, women have limited access to and control over the dominant cash crop in the community, which is



coffee production, this in turn limit their access to capital. The fact still remains that there is no gender equity even in the farming households as men take control of every asset in the home.

### **Women Participation in Livestock Production**

Women raise a wide variety of livestock such as poultry, sheep and goats both in rural and urban areas. The livestock are usually raised under intensive or extensive management system. The livestock serve as assets that can easily be converted into cash in order to meet family needs and also supply protein to the family. Women participate in all the livestock management activities as it is evident in the empirical literature reviewed.

Chizari *et al.* (1997) analyzed the participation of rural women in rice production activities and extension education programs in the Gilan province, Iran. The researchers reported that more than 75% of rural women in the Gilan province are engaged in agricultural activities. The age range of the women was 16 to 69 years. More than 90% of the respondents were married. About 66% of the farmers had 3 or more children, and 10 % of the women had greater than 3ha of land. Majority of the women were illiterates. The result further depicts that over 40% of the farmers indicated that sifting and cleaning was done solely by women and 34% reported that it was done equally with men, and 65% of the women indicated that harvesting was done equally by women. The pulling of seedlings from nursery plots was done solely by women, as reported by 35% of the respondents. The factors that affected women's participation in rice production activities were; the size of rice field, income and educational level. Women who are educated and have higher income are more likely to participate in agricultural activities and produce more efficiently than the illiterates.

Lo (2007) studied the socio-economic analysis of the milk market chain in the IFAD-financed western Sudan resource management programme area. The researcher reported that women are typically responsible for milking ewes, processing and selling milk products providing feed/fodder and water, caring for new born lambs/kids and sick animals. Young girls are also involved in the grazing of goats and sheep whereas married and young women are responsible for household activities.

FAO (2012) reported that woman make up the majority of poor livestock keepers, representing two-thirds of the estimated 600 million poor livestock keepers in the world. Despite woman's participation in livestock production, woman were severely disadvantaged with respect to land ownership, locally adapted breeds that can access and utilize common-property resource represented an enormous asset playing a role that cannot be fulfilled by improved breeds.

The out-migration of men to urban areas have turned women into their main keeper and therefore, conservers of locally adapted livestock breeds, even if this is by default rather than a conscious decision. Woman use livestock to build asset that are deployed to educate their children who in turn have no interest in livestock keeping (FAO, 2012). Livestock are not only kept for taking care of children's education but also for ceremonies and other family needs. Hence parents can encourage their children to raise livestock. In some parts of Northern Nigeria many parents buy livestock for every child as a means of savings.

Zahoo *et al.* (2013) studied the participation of rural women in crop and livestock activities in Tehsil Tounsa Sharif of Southern Punjab (Pakistan). The study revealed that women participated in all types of crops production (32%) and livestock management activities (48%), but participation in livestock management was higher. Tibbo *et al.* (2009) found similar results. Zahoo *et al.* (2013) reported that watering, milking, cleaning of animals, preparation of ghee, fodder collection, grazing, egg collection, marketing the produce, marketing live animals and vaccination of sick animals were the livestock management activities that women



participated in. On the other hand, picking of cotton, cotton lint cleaning, harvesting, transplanting manure transportation and application, weeding, ploughing, transporting the produce, marketing the produce and harrowing irrigation of land were the major crop activities carried out by women. How can women do all these activities with less stress? Policy makers and agricultural stake holders should provide innovations so that women can do all mentioned activities with less stress.

India is an agricultural based country and livestock sector is an integral component of it and it is generally considered as a key asset for rural livelihoods. Patel *et al.* (2016) stated that in India, livestock production is largely in the hands of women. In fact animal husbandry is becoming feminized. Women constitute about 69% of work force engaged in livestock sector. The importance of livestock management cannot be overemphasized. Such benefits include provision of income, creation of employment opportunities and provision of food and nutrition security across different production system along different value chains. Besides the involvement of women, considerable inequalities also exist in Indian villages. There is need to correct gender unfairness in the livestock sector. Heffernan and Misturelli (2000) opined that the vulnerable groups particularly women and the landless, frequently engaged in livestock production, thus highlighting the multifaceted virtues of livestock promotion as a pathway out of poverty. Heffernan and Misturelli (2000) added that livestock production plays an important role in household food security through;

- i. sales of livestock in order to purchase other foods such as cereals and legumes when there is a food shortage.
- ii. income from regular livestock and livestock product sales used for food purchases to supplement household food production and to diversify diets.
- iii. livestock and livestock products consumed to provide protein diets for households

### **Women Participation in Aquaculture**

Aquaculture is the farming of diverse kinds of aquatic plants and animals of different species in water (FAO, 2014). Women participation in aquaculture is not as popular as their participation in crop and livestock production. This is due to social, cultural and political factors. However, women can be encouraged to venture into aquaculture considering the financial benefits of the sub-sector. The aquaculture sector has the ability to create wealth and sustain the rural communities (FAO, 2016).

Mutale and Chisango (2017) examined the current trends on women's participation in aquaculture/fish farming and future prospects; the Zimbabwean perspective: a case of Siabuwa Community in Binga district; Matabeleland North province, Zimbabwe. The researchers found that women had the ability to contribute meaningfully to fish farming industry in Zimbabwe's rural communities. The most important areas women contributed significantly were in management 20%, production 25%, marketing 32% and security 20%. The results showed that women had capabilities in motivation 14%, delegating 10%, trustworthiness 16%, creativity 18% and taking responsibilities (16%). The findings further indicated that women exhibited good leadership skills and when given equal opportunities they would perform better than their male counterparts. Women were also found to be good managers of time despite the multiple roles they play in the home front. The authors pointed out that segregation has become the main source of gender disparity and has fueled social and economic injustices. Gender mainstreaming in policies would help in addressing the issue of gender discrimination. One of the major challenges faced by the women is inadequate access to information. Training in fish



production technology, marketing and post-harvest management were perceived to be the challenges faced by the women farmers in the study area.

The Participation of Women in aquaculture in three Coastal districts of Bangladesh: Approaches toward sustainable livelihood was investigated by Ahmed *et al.* (2012). The results revealed that 45% of the women were aged between 30 and 39 years. About 36.36% were female headed households. The involvement of the women in the project has resulted in more productive activities and hence increased the income of the households. In terms of capital only few women had access to credit from the local money lenders (*dadon*) and most households spend their maximum income to meet their basic needs. Obtaining credit from local money lenders is risky, because the creditor can demand for his or her money any time; thereby exposing the borrower to psychological stress which could affect the farmer's productivity. The study also showed that fish/prawn farming was a single category of occupation of the women. Other occupations are farming vegetables, gardening, fish seed trading and off-farm activities. The production of vegetables definitely has a positive impact on providing good diet to the farming households. Findings from the study also revealed that the households owned cattle or goats. The ownership of livestock serves as an alternative source of income especially during emergency period. Women integration in agricultural projects is vital for agricultural growth. About 80% of the labour work force under aquaculture in Ukerewe district, Tanzania is constituted by women (Luomba, 2013). Women participate in the construction of ponds, feeding the fish, cleaning of pond environment and fish harvesting. Sorting of fingerlings and pond stocking are other activities women were involved in. The women together with their male counterparts work for an average of 18 hours a week.

On the potentials of women in fish farming, the author reported that women within the Lake Victoria basin communities in Tanzania face discrimination. For capture fishery women were restricted to post-harvest activities (mainly processing and trading). About 64% of women were also involved in other activities related to agriculture besides their normal household chores.

According to Luomba (2013), the participation of women in aquaculture has made them to be self-employed, improve their socio-economic condition, increase fish availability, increase the respondent's skills in fish farming and also reduced socio-cultural taboo against women involvement in fishery. The author further stated that the major constraints faced by the fishing women were; lack of land ownership right, inadequate access to credit. Women most times lack access to credit because they do not have collateral. Other constraints faced by the farmers are inadequate extension services, training and illiteracy.

### **Prospects and Challenges**

Following the empirical review, it is evident that most of the women involved in agriculture were small scaled farmers having between 1-3ha of land. In addition, most of them produced mainly for consumption in order to ensure their families were food secured. The evidences have shown that there is a huge prospect for women participation in agriculture and there are gains derived from crop, livestock and aquaculture farming. The involvement of women in agriculture does not only ensure food availability and balanced diet to the farming households but also income to cater for other family needs.

Despite the prospects mentioned above, women participation in agriculture has several challenges which include the following: inadequate access to finance, inputs, extension services, market linkages and training and workshop. The empirical studies (Galadima *et al.*,



2018; Tologbonse *et al.*, 2013; Damisa *et al.* 2007; Effiong *et al.* 2015; Bayu, 2017; Mutale and Chisango, 2017; Ahmed *et al.* (2012); and Luomba, 2013) recommended the following:

- i. The involvement of women farmers in decision making programmes on agricultural development.
- ii. Further studies to examine the utilization of resources and the obstacles to gender mainstream in extension services should be conducted by researchers. The technological needs of women in agriculture should be demand driven.
- iii. Stakeholders should harness gender disparity and inequality in agriculture.
- iv. Significance of women participation in agricultural development growth should be recognized in agricultural development plans and policies.
- v. Loans should be provided to rural women involved in agricultural and livestock activities n relaxed conditions through microfinance banks.
- vi. There should be training programmes for rural women involved in agricultural activities through the assistance of NGOs.
- vii. Needs to increase the capacity of women to negotiate with confidence and meet their strategic needs.
- viii. There should be provision of agricultural extension services to rural women and extension programs should take proper care of the interests of rural women.
- ix. Rural agricultural women should be facilitated with financial assistance to seek new skills relate with agricultural activities.
- x. The burden of household activities should be lessened by innovations and by encouraging men to assist their women.
- xi. Agricultural woman should have participation in planning and implementation phase of agricultural policies.
- xii. Educated woman should be encouraged to participate in agricultural and livestock activities by creating job opportunities in agricultural sectors for females.
- xiii. There should be provision of agricultural inputs to rural woman by government at subsidized rates.
- xiv. Woman should be encouraged and appreciated by the government and non-governmental agencies for their participation in agricultural development.

## **CONCLUSION AND RECOMMENDATIONS**

Women play indispensable roles in agriculture; providing inputs, managing production and generating off-farm income, but often benefit less than men. Most women own or cultivate small farm lands which limit mechanization in agriculture. Majority of the women farmers studied by the researchers are illiterates, yet they participate in crops, livestock production and aquaculture. Productivity in the agricultural sector can be enhanced if women are given equal opportunities with men. From the review, the following recommendations were made:

1. Women farmers should be involved in the decision-making processes.
2. They should actively participate in the establishment of agricultural policies and programs both at the state, national and international levels.
3. Demand driven technologies should be targeted at women so that the drudgery of their involvement on multiple tasks can be reduced.



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