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#### ABSTRACT

This paper investigated women's participation in agricultural cooperative activities and rural development in terms of increased food production, poverty reduction, increase in level of income, availability of food and improved standard of living. Ex-post facto design was used for the study. The questionnaire was the only instrument used for the study. The split-half reliability was used to ascertain the reliability of the instrument. The population for the study was 8,190 out of which a 10% sample was drawn for the study giving a total of 819 women cooperators, from 80 women Agricultural Cooperatives across the state. After the administration of the instrument only 800 copies of the questionnaire were retrieved and used given a working sample of 800. Pearson Product Moment correlation coefficient was the statistical instrument used for analysis. The result reveals that, indeed there is a positive significant relationship between women's' participation in Agricultural cooperative activities and rural development in all the indices used. It was therefore recommended that women in the rural areas should embrace and join the different cooperative types operating in their rural communities in order to reduce incidences of abject poverty, hunger and improve their standard of living and self-worth.

Keywords: Agriculture, Cooperatives, Poverty reduction, Food production, Rural development.

#### **INTRODUCTION**

Women are known generally to play vital roles in the development of the economies of the nations and mostly in agriculture as shown in many research studies carried out in the recent past mostly in Asia-pacific regions and Africa.

Women in Nigeria mostly in the rural areas are known for their hard work in agriculture/farm work to make food available, affordable/cheaper in order to reduce hunger, malnutrition, extreme poverty and to build a healthy generation. Despite their efforts in farm work, they sometimes find it difficult to meet their farm needs alone in areas like access to loans, access to micro-credit, farming implements, right information on planting, harvesting and marketing individually. These conditions necessitated the formation of only women agriculture/farming cooperatives in most of the local communities (rural areas) to boost farming and bring development nearer to the rural communities where they dwell, as noted by Obi (2015), and supported by Beshel (2016).

Cooperative activities generally have remained the most viable instrument for rural development in almost all the developing countries of the world. Women's active participation in various cooperative types around the world as reported by Okumadewa (1998) and supported by Okanya (2009) has gingered more rapid development of the rural areas using their distinctive God given talents of hard work and total commitment to pursuing a justifiable cause.

Akinwumi and Abdulahi (2000) stated that the most common cooperative societies with the highest women membership in the rural areas in the 1990s were the farmers' multi-purpose societies. They were formed in virtually every village in almost all the rural communities and catered for various needs of the farming members who were more of women than their men folk. Their activities ranged from yam and cassava farming to cocoa farming, piggery, poultry, fish farming and garri processing, rice farming and milling, palm oil processing, tomatoes and pepper farming, fruits and vegetable farming, bee farming, snail and rabbit

farming, cocoa-yam farming etc. The different farming societies liased with the government to obtain loans at minimal interest rates for their members to boost crop production and for the purchase of fertilizers and farming tools for higher yields to increase food crops and make them available and affordable thereby making food cheaper for the common man in the rural areas. Beshel (2016) also found in a study carried out in Northern Senatorial district of Cross River State on employing thrift savings cooperatives as alternative source of funding economic activities by traders that, 86% of the women also were members of agricultural cooperatives and get their money from the sales of crops and food items from their farms. They also agreed that their income levels have improved drastically as a result of the sales of food items.

Mason (2001) stated that women's participation in agricultural cooperatives in Eritrea has led to large scale production of variety of food crops, boosted food production in the country and provide employment for young school leavers, men and women alike in their rural areas. Consequently, this is has led to improved life styles and standard of living of the rural dwellers. This also was supported by Abang (2014) who reported that the economic status of the Mbube people in Ogoja in Cross River State improved drastically through their investment in agricultural cooperative. They agreed that their farms produce has increased through the training received from cooperative on better farming methods and use of improved seedlings and this has led to increase foal production in the area.

(1998)reported Manuh that. women's participation in agricultural cooperatives has not only increased food production in Cameroon, but has also provided women access to resources and cottage industries such as the corn mill in Cameroon. She also stated that the "Six S" (six savings) associations in Burkina Faso and the general Union in the cooperatives in Mozambique were growing stronger because of the active women participation in the cooperative affairs of these countries. Manuh (1998) stated that most of the cooperative societies mostly those of farming associations are women-only, meaning that the membership of those societies are only women. Furthermore, she continued by stating that women farming cooperatives supply most of the Maputo's fruits and vegetables in Mozambique and some that are exported to

neighboring countries. In support Ebube (2016) reported that participation of women in Agricultural cooperatives in Ihela has led to increase in food production and improved standard of living of the women and their family members.

In a survey of women's participation in cooperative activities in Benin Republic, Manuh (1998) found that 8% of rural women belonged to formal cooperatives, 90% of the rural women participated in traditional women's saving and credit groups and farming associations. Women's participation in farming cooperatives at the rural levels in this country, she stated has led to increase food production and its availability as well as provide income and employment to most women.

Manuh (2000) supported by Obi (2015) and Onega (2017)observed that women's participation agricultural cooperatives provided the backbone of the rural economy in much of sub-Saharan Africa. Manuh stated that about 80% of the economically active female labour force is employed in agriculture and women comprise about 47% of the total agriculture labour force. Food production is the major activity of the rural women who usually form themselves into cooperative societies at this level for ease of work and easy access to government incentives and loans. It is usually observed that women's responsibilities and labour inputs often exceed those of men in most African countries. They also provided labour for men's cultivation of export crops. The UN food and Agriculture Organization (FAO) found in survey of nine African countries in 1996, that women's contribution to the production of food crops ranged from 30% in Sudan to 80% in the Republic of Congo, with estimates for other countries tending toward the higher end of the scale. The study revealed that women were responsible for 70% of food production, 50% of domestic food storage, 100% of food processing, 50% of animal husbandry and 60% of agricultural marketing which was usually through cooperatives.

Women have also taken advantage of new opportunities to produce vegetables and fruits for urban markets as can be found in some parts of Nigeria, Ethiopia and Zimbabwe. Women have, through their participation in agricultural cooperative societies benefited from technological advances in food processing, such as cassava processors, fish smokers and oil

pressers. Cassava processors, introduced by the International Institute of Tropical Agriculture (IITA) in some Nigeria villages, have reduced labour time through more efficient processing, bringing gains in women's incomes and made food available and affordable to the rural dwellers. This was also collaborated by Okamya (2009) who reported that the Cross River State Government through the office of the first lady procure and distributed some oil dresses, cassava, processors, fish smoked and rice harvesters to most women cooperatives in the state to reduce labour hours and boost food production on the state. the From the above, it is therefore clear that about 80% of food production in Africa is handled by women in agricultural cooperatives asserting the fact that Africa women are the backbone of Africa's rural economy, accounting for about 70% of food production. It is in this connection that Marie Randri-amamonjy, the director of the women in development service of Food and Agriculture Organization (FAO) pointed out that food security in Africa cannot be assured without improving the situation of women in producers cooperative. Women have shown themselves to be ready to take advantage of new opportunities and so should be encouraged to do their best to ensure food security in every country most especially in Africa and Cross River State in particular.

Sah (1998) stated that women participated more in primary agricultural cooperative societies at the grass-root levels in India and they were the foundation of the cooperative credit system and were striving to become a major developmental force for the rural communities in India. The total number of women in agricultural cooperatives she said, was 88,000 and were catering for the developmental needs of the rural population, particularly farmers, by providing credit, inputs, storage and processing and marketing facilities. They constituted cooperative system which aimed at improving the welfare and standard of living and quality of life of the rural farmers and other segments of the population.

Sah (1998) further stated that 1944 was a year of growth for the 35 women milk cooperatives in India. The cooperatives provided employment to 598 women in the rural areas and made milk available to almost every household in their region of operation. The existing women agricultural cooperative also increased in sales of milk, especially by including many new

women under the poverty line. This was accomplished by helping 190 women get loans for cattle under IRDP. The women milk cooperatives also tried to work towards more managerial self-reliance. including active member participation by organizing 61 training programmes covering 1025 members at different levels. Erring (2017) also reported that women in agricultural cooperatives have produced means of livelihood to most people both in urban and the rural areas mostly in vegetable and fruit farming. Most of the women and youths buy their gardens in a relatively low price, they harvest and take to the market for sales to the teeming population, thereby serving the needs of the people and at the same time earn a living from it.

Okanya (2009) reported that in recognition of the role of Women in Agriculture and rural development, the then first lady of Cross River State Mrs. Obioma Livel Imoke while inaugurating the State Executives of Women in agricultural cooperatives in 2007 called on women to rise up to the challenges of feeding their local communities and the state at large, through their participation in cooperative societies. She stated that women are the back bone of rural economy and so must work hard as a group to ensure availability of food in the rural areas and food security in the nation. She stated that through the formation of agricultural cooperatives, women can access micro finance facilities from the government and other farm inputs such as fertilizer, improved seedlings, oil presser/ extractors, cassava processors, milling machines etc. for better harvest. She donated some farming equipments and machines to about 150 women Agricultural Cooperatives covering the 18 local government councils in the state.

In 2008, the gesture by the wife of the Cross River State Governor led to the establishment of an ultra-modern cassava processing centre at Okpudu in Yala Local Government Area. The facility as presented in the report is now producing cassava flour, garri, odourless fufu as well as starch in commercial quantities. It has created job opportunities for women and youths in that local community. The women agricultural cooperative societies in Abi, Akpabuyo and Ogoja have set up snail and bee farming, providing the local communities with honey and snail in large quantities. These cooperative societies have also acquired cassava processors thereby making cassava product available and much cheaper in the rural areas. The report

quoted the first lady by saying that "this gesture is targeted at women to help empower them financially, boost their income generating avenues, increase food production at the rural level and to make food available and affordable for the rural people and to improve their standard of living."

Ntia (2005) stated that as a result of its tremendous benefits to rural development, agricultural cooperative have continued to be promoted through the activities of agricultural development programmes in all the state, through the River Basin and Rural Development authorities. Governments' recognition of the contributions of agriculture and cooperatives in rural development, have continued to make policies that encouraged the use of cooperatives in all areas of rural development. Such recognition also led to the establishment of FADAMA I and II by the Nigerian Government in 2013 and FADAMA III and IV as a continuation in 2015. The programme was to bring all registered agricultural cooperatives together under the secondary cooperative level in order to ease the speed of technological advancement in Agriculture through the use of new technologies to boost food production in the country and to tackle food security.

#### **STATEMENT OF THE PROBLEM**

Women are largely represented in difference cooperative societies that exist and operate in Cross River State and most prominently in Agricultural cooperatives following the lunch of the state executive body of Women in Agriculture by the then First Lady of the State Mrs. Obioma Livel Imoke in 2007. The lunch led to an upsurge in the massive turn-out and formation of only-women farmer cooperatives across the state, engaging in such farming activities like, cassava farming, plantain farming in larger scale, cocoa yam and water-yam farming, bee farming, fish farming, palm oil processing, rice milling, cocoa farming, snail keeping, rabbit farming and groundnut farming as well as vegetable farming. This was with the aim of increasing food production, making food crops affordable and making the women self-reliance as well as increasing their income levels and standards of living. The present government also boosted these activities with a lunch of Micro-Credit Scheme for all women farmers to increase their farm lands and have access to fertilizers and pesticides; all in a bid to increase

food production and reduce poverty and hardship in the state.

Despite all these efforts to attract development to the rural areas by the women through their participation in agricultural cooperatives, the researchers observed noticeable incidents of poverty which manifest in hunger, poor feeding, low income, unimproved quality of life which the existing Women in Agricultural cooperative societies and their activities have actually made significant impact in rural development across the eighteen local government areas of Cross River State. It is based on this that this research work investigated the extent to which women's participation in agricultural cooperative societies in Cross River State enhanced rural development focusing on such rural development indices like, poor feeding, poverty, hunger, low income and low quality of life.

#### **PURPOSE OF THE STUDY**

The purpose of this study was to investigate the extent to which women's participation in agricultural/farming cooperatives relates to rural development with regards to; increase in food production, availability of food, poverty reduction, increased in income and improved standard of living of the women and other people in the rural areas of Cross River State.

#### Hypothesis

To achieve the purpose of this research, it is hypothesized that:

Women's participation in agricultural cooperative society's activities in Cross River State does not significantly relate to rural development in terms of Increase in food production, Availability of food, Poverty reduction, Increase in income level and Improved standard of living of the women and others in the rural areas.

#### Methodology

The research design adopted for the study was the ex-post facto and the instrument for data collection was a questionnaire. The population for the study was 8190 out of which a simple random sampling technique of 10% was used during their meetings to draw out 819 women cooperators from 80 women agricultural cooperative societies in the three senatorial districts of Cross River State, but only 800 copies of the questionnaire were filled and returned resulting into a working sample of 800.

The instrument used for data collection was the modified Likert scale questionnaire containing 48 items. The main variables of the study were women's participation in agricultural cooperative activities which measured the different agricultural activities undertaken by the women and were the independent variable. Rural development was the dependent variable that measured the rural development indices such as; increase in food production, availability of food, increase in income, poverty reduction and improved standard of living.

The instrument was face validated by three research experts. The split-half reliability estimate was employed and the Pearson Product Moment Correlation Coefficient between the scores was computed and Spearman was further used to correct the resulting index. The estimate of the reliability index yielded from moderate high correlation from 0.52-0.70 figures which were considered appropriate enough to have

capacity of measuring effectively the intending variables.

#### Data analysis

The null hypothesis stated that women participation in agricultural cooperative society do not significantly relate to rural development in Cross River State. In the hypothesis women's participation in agricultural cooperative activities is the independent variable, while rural development in terms of (increase in food production; availability of food, poverty reduction, increase in income and improved standard of living) are the dependent variables.

To test this hypothesis, the Pearson Product Moment Correlation analysis statistics was used to test the relationship between women participation in agricultural cooperative activities and increase in food production, availability of food, poverty reduction, increase in income and improved standard of living. The results are presented in Table below.

**Table1.** Pearson Moment Correlation analysis of the relationship between women participation in agricultural cooperative activities and rural development in Cross River State (n=800)

Variables	X	SD	r
Women participation in agricultural cooperative activities (X)	23.67	.64	
Rural development in terms of: increase in food production food (Y1)	23.47	.87	.25*
Availability of food (Y2)	23.58	.85	.28*
Poverty reduction (Y3)	23.51	.78	.09*
Increase in income (Y4)	23.57	.87	.23
Improved standard of living (Y5)	23.58	.85	.28

\**p*<.05; *df*= 798, *critical r*= 0.06

The result of the Pearson Correlation analysis of the relationship between women participation in Agricultural cooperative activities and rural development in Cross River State showed that there was a significant positive relationship between women participation in agricultural activities and rural developments in terms of increase in food production (r=0.25; p<.05), availability of food (r=0.28; p<.05); poverty reduction (r= 0.09; p<.05), improved standard of living (r=0.17; p<.05), and increase in income (r= 0.18; p<.05).

The null hypothesis was rejected while the alternate hypothesis was retained. This is because the calculated r-values of .25, .26, .09 .17 values were found to be far greater than the critical r-value of 0.06 at .05 level of significance and with 798 degrees of freedom. This finding implies that participation of women in agricultural cooperative activities significantly relate to rural development in terms of increase

in food production; availability of food, poverty reduction, improved standard of living and increase in income. The positive r in the result means that the higher the women participation in agricultural cooperative activities the higher the rural development in terms of increase in food production, availability of food, poverty reduction, increase in income and improved standard of living tends to be.

#### **DISCUSSION OF FINDINGS**

Based on the analysis of the hypothesis which revealed that there is a significant relationship between women's participation in agricultural cooperative activities and rural development in terms of increase in food production, availability of food, poverty reduction, increased in income and improved standard of living in Cross River State. It implies that, women's participation in agricultural cooperative activities increases rural development in the state. This findings is in consonance with Mason (2001) who stated that

women's participation in agricultural cooperative in Eritrea has led to large scale production of food crops and has boosted food production in that country and also provided employment opportunities for young school leavers, men and women alike in the rural areas as well reduces the poverty level in these people. It has also led to improved life styles and standard of living of the people in the rural dwellers, as reported by Obi (2015) and supported by Beshel (2016).

This finding is also supported by the findings of Manuh (1998) which revealed that 90% of rural women who participated in farming cooperatives, increase in food production and availability of food stuff, poverty reduction and job opportunities at the rural level. Manuh (2000) Obi (2015 and Onega (2017) also observed that, women's participation in agricultural cooperatives provided the backbone of the rural economy in much of sub-Saharan Africa. For instance, she found out that about 80% of the economically active female labour force is employed in agriculture and that, in summary women comprised about 47% of the total agriculture labour force. She stated that food production is the major activity of the rural women who usually form themselves into cooperative societies at the rural level for ease of work and easy access to government incentive and loans. These women according to Manuh (2000) also provided labour for men's cultivation of export crops. She reported further that the UN Food and Agriculture Organization (FAO) found in a survey of nine African countries in 1960 that women's contribution to the production of food crops ranges from 30% in Sudan to 80% in the Republic of Congo, with estimates for other countries tending toward the higher end of the scale. The study revealed that women are responsible for 70% of food production, 50% of domestic food storage, 100% of food processing, 50% of animal husbandry and 60% of agricultural marketing which is usually through cooperative societies.

The findings of this study is further supported by those of Akinwumi and Abdulahi (2000) who stated that women formed the highest membership in Agricultural cooperatives in Nigeria in the 1990s, and that they are virtually found in every village in almost all the rural communities in Nigeria and they catered for various needs of the family members, where women were more than their men folk. Akinwumi and Abdulahi (2000) further reported that:

- the activities of these Women in Agriculture ranged from yam and cassava farming to cocoa farming, garri processing, rice farming and milling, palm oil processing, tomatoes and pepper farming, fruits and vegetable farming snail and rabbit farming, bee farming, cocoa yam farming,
- the different women farming societies liase with the government to obtain loans at minimal interest rates for their members to boost crop production and for the purchase of fertilizers and farming tools for higher yields to increase food production and make them available and affordable thereby making food cheaper for the common man in the rural areas,
- that the farming activities of these women equally provided employment opportunities for other people and help reduce poverty level. This implies that the more the women participated in agricultural cooperatives the more they will help to bring development to the rural areas by helping to employ more people and thereby reducing their poverty level for a better standard of living.

#### RECOMMENDATION

Based on the findings of this study, it is then recommended that, more women should take advantage of the cooperatives in their localities and bail out of poverty and hardship and to better their lives. The leaders of cooperative societies should carry out more awareness campaigns on the gains of cooperatives to encourage more patronage most especially by women in order to increase the tempo of rural development and to improve the standard of living of women in particular and other rural dwellers in general.

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