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Entrepreneurship Skill for Empowering Women in Cocoyam Production in Abia and Imo States, Nigeria Lake Basin, Nigeria

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ABSTRACT

The study adopted survey design to determine the entrepreneurial skills for empowering women in cocoyam production in Abia and Imo States of Nigeria. Objectives of the study were to determine the entrepreneurship skills available that are utilized for empowering women in cocoyam production and determine the extension strategies for empowering women in cocoyam production. The hypothesis of the study states that there is no significant mean difference between the available entrepreneurship skills and strategies utilized for empowering women in cocoyam production. Questionnaire was the instrument for data collection constructed on a 4-point measuring scale which has ($\overline{X}$=2.50) as the cut of point. Instrument was validated by peer review of two experts in agricultural extension and statistics. The reliability was achieved by subjecting the data collected from pre-survey to Cronbach's Alpha which yield a reliability co-efficient rα = 0.83 which affirmed high reliability index. Multi-stage simple probability and disproportionate sampling technique was used to select sample size of 250. In Abia, 100 women cocoyam farmers were sampled while 150 were sampled from Imo State. The instrument was administered and retrieved by the help of research assistants such as extension agents and executives of women development union in the sampled areas. The data collected were analyzed using descriptive statistics of frequency, mean and inferential statistics as t-test at 0.05 level of significance. The findings revealed that entrepreneurship skills were available in empowering women with the pooled mean scores of (2.78) for Abia and (3.13) for Imo State. The Imo women were better than Abia cocoyam farmers. It was also indicated that strategies for empowering women cocoyam farmers were used more in Imo State with $\overline{X}_2$=2.07 than Abia State $\overline{X}_1$=1.97. The hypothesis of no significant mean difference was not rejected because t = -0.003 at P $\geq$ 0.05 indicated no mean difference between the strategies utilized in Abia and Imo State for empowering women on entrepreneurship skills in cocoyam production. It was concluded that women cocoyam farmers were less empowered and had less access to land, fund and extension services in both Imo and Abia State. But the Imo cocoyam farmers were marginally better than their Abia women cocoyam farmers counterpart on the strategies used on empowering women on entrepreneurship skills in cocoyam production. It was concluded that cocoyam farmers were less empowered on entrepreneurship skills, hence, they had less access to land, fund and extension services. The study recommended that more women should be employed into the WIA arm of the ADP to enable them sufficiently empower women to get access to entrepreneurship skills such as agronomic and business skills to enhance cocoyam production.

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1. Introduction

Agriculture is the pillar of socio-economic development in Nigeria. Majority of the farmers operate at the subsistence small holder level. The subsistence agriculture show case women as major player in providing household food security. Food and Agriculture organization (FAO), (2011) observed that women play dominant role in agriculture and constitute a major ingredient for both economic growth and development especially in the rural areas. It was also revealed that women constitute 60-90% labour force in agriculture and produce 70-80% of household food and nutrition security. Women now have been involved in doing most of the men work roles in farming activities such as bush clearing related activities in food production generally and specifically regarding cocoyam production in Abia and Imo States respectively. These activities include; farm site selection, bush clearing, mounding, ridging, planting, weeding, earthen-up, harvesting, sorting (Dike, 2016). Cocoyam production is entirely women business and training and educating them in this regard will be socially and economically beneficial to the society.

The entrepreneurship skills cannot be appropriately acquired and utilized in cocoyam production by women if they are not informally and formally trained. The extension service has the sole responsibility to empower women to acquire the required entrepreneurship skills through her arm of women in agriculture (WIA). Yemisi and Mukhtar (2009) noted that establishment of WIA programme ensured that extension service in each state of Nigeria has female extension workers at every level of operation from the state headquarters to the grass roots. The formation of WIA farmers group is meant to facilitate the dissemination of agricultural innovations and provide women farmers with better access to farm inputs and credit than they would have as individuals which is some form of empowerment.

It should be noted that any empowerment of the rural women whose majority (68.1%) had no formal education should start with writing, reading and numeracy training (Acha, 2014). Acha (2014) said that the surest way in educating women in cocoyam production is by using extension strategies and methods and sharpening their entrepreneurship powers and insight in both agronomic and business and information and communication skills. Agbarevo (2010) and Asiabaka (2002), enumerated the extension strategies that can be utilized in empowering women as follows: individual strategies which include: individual demonstration, individual farm and home visits, office and telephone calls. The group strategies include: group demonstration, workshops, seminars, conferences, excursions and field trips, symposia, field days and agricultural shows. They pointed out that mass strategies are radio, television, internets, newspapers magazines, newsletters, bulleting and pamphlets.

Burk and Major (2014) contented that empowering women should not end in empowering them in acquisition of basic literacy and agronomic skills but should gear toward granting them access to basic economic resources for cocoyam production. In addition, market networks and connections in educating consumers on the nutritional values of cocoyam to increase demand and profit margin of women respectively.

Entrepreneurship is the ability of the individual to identify business opportunity, establishing that enterprise by risking and managing his resources to run the business profitably. Iheonunekwu (2012), defined entrepreneurship as the capacity and willingness of establishing and management of business enterprise successfully by making profit. The venture of women to involve cocoyam production and making profit is the product of empowering them to acquire entrepreneurship skills in cocoyam production. Entrepreneurship can as well be defined as the capacity and willingness to develop, organize and manage business venture along with any of its risks in order to make profit (Armi, 2015). Schumpter (1976) saw entrepreneurship as employment of gale of creative destruction to replace in whole or part inferior offerings across market and industries, simultaneously creating new products and new business. This involved a paradigm shift from old method of agronomic and business strategies where value are added and new method used in the production, processing and marketing of cocoyam.

Cocoyam production in Nigeria is dominated by women and is commonly described in Abia and Imo States as the women crop. Chukwu (2014) revealed that cocoyam is a generic name for Colocasia esculenta (Tara) and Xanthosoma mafafa (Tennia) which is cultivated for its corms and cormels which are used as edible aroids. Chukwu and Simsek (2015), observed that cocoyam has more food value than yam and cassava in terms of percentage crude protein and essential minerals. Cocoyam corms and cormels are recommended as edible starch for diabetic patients due to its high glycemic property. Cocoyam as food can be eaten for control, prevention and reduction of some incidence and prevalence of health risks associated with high blood pressure, cardiac problems, prostrate and breast cancers.

The major problems associated with empowering women in entrepreneurial skills in cocoyam production are related to some socio-cultural and institutional

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factors. The women are highly discriminated and marginalized against in almost every facets of development efforts in agriculture because, in extension system, the WIA arm are short-staff of women, notwithstanding that the ratio of extension staff to farm families is very low (Yemisi, and Mukhtar, 2009). Food and Agricultural Organization (FAO) (2011) observed that only 5% of women receive agricultural extension service from 15% women extension agents worldwide. Women cocoyam farmers experience gender specific constraints such as access to land where the land tenure arrangement favours their men counterpart. When the land is available their access amount to little economic rate of return. Ekong and Olowu (2002) indicated that most of the time, women farmers are denied access to funds and agro-inputs because they cannot provide collateral for loan neither have they been sufficiently trained to utilize the entrepreneurship skills in both agronomic and business activities in cocoyam production. Similarly, Ogbimi and Williams (2014) assessed the availability of productive assets such as land, credit facilities, improved farm inputs and technology, extension services, transportation and storage facilities and found out that women are marginalized by men in accessing productive assets. Kimenju et al., (2015) observed that the decision to participate in the production of a particular crop is normally influenced by market-driven and socio-cultural concomitants. The men and women were differentially affected in both pre-planting and post-planting operations, productive resources, socio-cultural factors and decision to participate in relation to market-driven forces. Ogbonna and Orji (2013) pointed out that cocoyam production has suffered serious neglect due to low yield per hectare and low economic return. The study seeks to answer the questions that borders on entrepreneurship skills for empowering women to enhance cocoyam production in the study area.

2. Objective of the Study

The general objective is to determine the extent entrepreneurial skills are utilized in empowering women in cocoyam production in Abia and Imo States. Specifically to:

i. identify available entrepreneurship skills utilized for empowering women in cocoyam production in the study area;

ii. determine strategies utilized for empowering women on entrepreneurship skills in cocoyam production in the study area; and

iii. ascertain the constrains for empowering women in Abia and Imo States cocoyam production

Null hypothesis

H_0: The null hypothesis of this study states that there is no significant mean difference between the strategies utilized for empowering women on entrepreneurship skills in cocoyam production in Abia and Imo States.

Methodology

This study adopted descriptive survey to assess the entrepreneurship skills for empowering women in cocoyam production in Abia and Imo states.

The population of the study is all the women cocoyam farmers in three (3) agricultural zones in Abia and Imo States. Purposive and multi-stage simple probability and disproportionate sampling technique was used to select the sample size of 250. In the first stage three (3) agricultural zones in Abia and Imo States thus; Ohafia, Umuahia and Aba from Abia State and Owerri, Orlu and Okigwe zones were purposively sampled from Imo State.

Secondly, five (5) local government areas each were sampled from Abia State out of 17 and 5 out of 27 from Imo.

Thirdly, 2 communities in Abia and 3 communities in Imo were selected from the sampled Local Government Areas respectively. Finally, 10 women cocoyam farmers each were sample from the 10 selected communities in Abia and 15 selected communities in Imo States respectively which gave 100 women cocoyam farmers from Abia and 150 from Imo state.

The instrument for data collection was the questionnaire which was the source of the primary data. This instrument was constructed on a 4-point measuring scale of Strongly Agreed [SA] = 4; Agreed [A] = 3; and Disagreed [D] = 2 Strongly Disagreed [SDA] = 1.

The instrument was validated by peer review of research experts in Agricultural Extension and Statistics in Michael Okpara University of Agriculture, Umudike. The reliability of the instrument was established by analyzing the data collected from a pilot survey using Cronbach's Alpha which yielded a co-efficient r $\alpha = 0.83$ which showed that the instrument was highly reliable. The instrument was administered by the help of research assistants such as women union development executives in order to ensure prompt distribution and retrieval of the completed questionnaire. The data was analysed by descriptive statistics such as frequency, mean and inferential statistics such as t-test.

Model specifications

$$\text{Mean } \overline{X} = \frac{\sum FX}{\sum F} = \frac{4+3+2+1}{4} = \frac{10}{4} = 2.50$$

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$$t_{cal} = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_1}}}$$ At 0.05 level of significance

Specifications:

$\overline{X}$ = Mean responses based on each item of questionnaire for Abia and Imo States.

$\overline{X}_1$ = Pooled mean responses for Abia based on all items in the tables.

$\overline{X}_2$ = Pooled mean responses for Imo based on all items in the tables.

$\sum F$ = Summation frequency of the number of respondents.

$\sum FX$ = Cumulative frequency of responses from the rating scale on each item of the questionnaire.

S^2_1 = Variance of the strategies used for empowering women in cocoyam production in Abia State.

S^2_2 = Variance of the strategies used for empowering women in cocoyam production in Imo States.

n_1 = Number of respondents sampled in Abia State.

n_2 = Number of respondents sampled in Imo State.

t_{cal} = t calculated.

3. Results and Discussions

Table 1. Cumulative frequency and mean ratings based on the available entrepreneurship skills utilized for empowering women in cocoyam production in Abia and Imo States

Available entrepreneurship skills utilized by women in cocoyam production (N = 250)	Abia State ∑FX	$\overline{X}$	Imo State ∑FX	$\overline{X}$	Remarks
1. Pre-planting skills such as bush clearing and clearing, ridge and mound making	285	2.85	419	2.79	A
2. Planting of cocoyam set sets/cormels	348	3.48	533	3.55	SA
3. Post-planting skills such as mulching, weeding and harvesting	353	3.53	582	3.88	SA
4. Skills in application of agro-chemicals such as fertilizer, herbicides, insecticides and pesticides	223	2.23	369	2.46	DA
5. Post-harvesting skills such as transportation, sorting and grading and storage of cormels in barns	369	3.69	572	3.81	SA
6. Business management skills such as identification of opportunities, record keeping, financial and human management and marketing skills	212	2.12	347	2.31	DA
Pooled Mean	$\overline{X}$=2.78		$\overline{X}$=3.31		SA

Source: Field Survey, 2016

The Table 1 result above shows that entrepreneurship skills were available for empowering women in Imo State than Abia State judging from the pooled mean ($_1$ for Abia State and Imo State ($_2$. Discrepancies were also found on the entrepreneurship skills in the available agrochemicals used for empowering women for Abia State (and Imo State (for business management skills (for Abia State and (for Imo State. These results showed that women cocoyam farmers in Imo State were marginally better than their counterparts in Abia State and these results were based on the benchmark of 2.50. The implication is that women in Abia State receive less empowerment in agronomic and business entrepreneurship skills in cocoyam production than their Imo counterpart. This result is in agreement with FAO (2011) which indicated that only 5% of women received extension services worldwide indicating that women are poorly empowered not only in Abia and Imo States but across the borders of agricultural communities in Nigeria.

Table 2. Cumulative frequency and mean ratings based on the extension strategies utilized for empowering women on entrepreneurship skills in cocoyam production in Abia and Imo States

Available entrepreneurship skills utilized by women in cocoyam production (N = 250)	Abia State ∑FX	$\overline{X}$	Imo State ∑FX	$\overline{X}$	Remarks
1. Individual extension teaching such as farm, home and office visits, demonstration in farmers farm and the use of contact farmers.	158	1.58	263	1.75	SDA
2. The group extension teaching such as demonstration, seminars, workshops, field days and field-trips, discussions, role-play and exhibit of specimen, samples, models and charts.	166	1.66	236	1.57	SDA
3. The mass media methods like radio, television, tape recorder, films, videos, land and cell phones, posters, hand bills, and pamphlets.	222	2.22	362	2.41	DA
4. Extension training and teaching using individual, group and mass media on both agronomic and entrepreneurship commercialization skills in cocoyam production and processing and marketing.	215	2.15	342	2.28	DA
5. The use of WIA, NGO and government, access to credit, land and linkage to cocoyam markets in production and processing of cocoyam.	224	2.24	348	2.32	DA
Pooled Mean	$\overline{X}$=1.97		$\overline{X}$=2.07		DA

Source: Field Survey, 2016

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In Table 2, the result shows strong disagreement in the use of extension strategies for empowering women farmers in cocoyam production considering the pooled mean (for Abia and (for Imo cocoyam farmers and the results were based on the benchmark of 2.50. Hence farm, home, and office visits, and demonstration were not so much utilized as strategies for empowering women in cassava production for Abia = 1.58 and Imo 75. The implication was that extension services were not very concerned in empowering women cocoyam farmers generally but extension services were better in Imo State using extension strategies than their counterpart in Abia State. This result agreed with the finding of Ekong and Oluwu (2002) that women were denied access to extension services. One would wonder how they will utilize entrepreneurship skills when they were not properly trained, educated and informed in cocoyam production.

Table 3. Cumulative frequency and mean ratings based on respondents opinions on constrains for empowering women in cocoyam production

Available entrepreneurship skills utilized by women in cocoyam production (N = 250)	Abia State ∑FX	$\bar{X}$	Imo State ∑FX	$\bar{X}$	Remarks
1. Low level access to extension education for empowering women on entrepreneurship skills in both pre and post planting operation.	280	2.78	398	2.65	A
2. Low level of extension education for empowering women in the processing of cocoyam corms into flour, chips and flex.	325	3.25	422	2.81	SA
3. Poor access to farm inputs such as land, credits and machines for production and process of cocoyam corms	289	2.89	348	2.56	A
4. Poor yield and small holding associated with cocoyam production limit extension activities due to low rate of return.	295	2.95	416	2.77	A
5. Lack of entrepreneurship education relating to record keeping, advertizing, marketing and accounting	273	2.73	402	2.68	A
Pooled Mean	$\bar{X}$=2.92		$\bar{X}$=2.69		A

Source: Field Survey, 2016

Table 3 indicated that Abia women cocoyam farmers were more constrained with the pooled mean ($_2$ than their counterpart in Imo State ($_2$ these results were based on the benchmark of 2.50. Specifically respondents agreed that women had low level to extension education and in pre-planting operations with the mean of 2.78 for Abia and 2.65 for Imo. Women cocoyam farmers had limited access empowering them on entrepreneurship skills in processing of cocoyam corms into chips flour among others with for Imo State. The implication was that women were neglected and discriminated against being empowered in getting access to extension education, inputs, land and credits among others. This result is in terms with Chukwu (2015) who revealed that because cocoyam production was neglected these days and government and extension delivery system thought that giving access to women cocoyam farmers would be a waste of resources by implication constraining women access to education and input (empowerment) in cocoyam production.

Hypothesis testing

Table 4. The t-test of no mean significant difference between the strategies utilized for empowering women on entrepreneurship skills in cocoyam production in Abia and Imo States

Category	N	$\bar{X}$	SD	DF	t-cal	t-crit	Level of Significance	Remark
Abia	100	1.97	.46					
Imo	150	2.07	.63	248	-0.003	1.96	0.05	Not Significant
Total	**250**							

Source: Field survey, 2016

Table 4 indicated that there is no significant difference between the strategies used for empowering women in entrepreneur skills on cocoyam production in Abia and Imo States, because, the t-cal = -0.003 was less than t-crit. @ $P \geq 0.05$ and the null hypothesis was not rejected. By implication extension strategies were not fruitfully used for empowering women in entrepreneurship skills in cocoyam production in the study areas.

4. Conclusion

The study design was survey which determined the entrepreneurship skills for empowering women in cocoyam production in Abia and Imo states, Nigeria. The instrument for data collection was the questionnaire which was used to realize the objectives of the study. Descriptive and inferential statistics were used for data analysis. It was shown that most of the entrepreneurship agronomic skills were utilized for empowering women in cocoyam production except for the use agrochemicals. The study also found out that the extension strategies were not normally used in empowering women entrepreneurship skills in cocoyam production in the study areas. The women cocoyam farmers were found to face a lot of constrains such as access to land, credit and extension service. Com-

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paratively, Imo women cocoyam farmers were marginally better than Abia women cocoyam farmers in terms of empowerment in the use and constrains of entrepreneurship skills in cocoyam production.

5. Recommendations

The recommendations made based on the findings were as follows:

i. The women cocoyam farmers should be empowered by the extension officers to form co-operative societies to enable them gain access to land, credit to boost their production capacity and income;

ii. The women in Agricultural arm of the Agricultural Development programme should collaborate with the governments of Abia and Imo States to employ more women extension officers to enable them reach out to more women cocoyam farmers on the use of entrepreneurship skills for cocoyam production in Abia and Imo States; and

iii. The extension system should empower women cocoyam farmers in business entrepreneurship skills to enable them discover opportunities to market their cocoyam corms and cormels and their products in Abia and Imo States.

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