



## **Entrepreneurial Skills Required by Women Farmers in Processing Tiger nut Tuber into Milk for Poverty Reduction in Benue State, Nigeria**

<sup>1</sup>ASOGWA, V.C., <sup>2</sup>ISIWU, E.C & <sup>1</sup>AMONJENU, A

<sup>1</sup>Department of Agricultural Education,  
Federal University of Agriculture,  
PMB 2373, Makurdi Benue State, Nigeria

<sup>2</sup>Department of Agricultural Education,  
Michael Okpara University of Agriculture, Umudike  
Abia State, Nigeria

### **ABSTRACTS**

This paper identified entrepreneurial skills required by women farmers in processing of tiger nut tuber into milk for poverty reduction in Benue State, Nigeria. Three research questions were answered and three null hypotheses were tested for the study. The study made use of survey research design. The population for the study was 151 made up of 106 teachers of Agriculture and 45 teachers of Home Economics in Benue State, Nigeria. A 34-skill item questionnaire titled 'Tiger nut Processing Entrepreneurial Skills Questionnaire' (TPESQ) was used for data collection. The TPESQ was validated by three experts. Cronbach alpha reliability method was used to determine the internal consistency of the instrument. A reliability coefficient of 0.89 was obtained. Mean was used to answer the research questions and t-test statistics was used to test the null hypotheses at 0.05 level of alpha. It was found that women farmers required 10 skills in planning for tiger nut tuber processing enterprise, 14 skills in processing tiger nut tuber into milk and 10 skills in marketing of tiger nut milk. It was recommended among others that the identified entrepreneurial skills be developed into a training manual and utilized by skill acquisition centers for training of women and youths who wish to engage in tiger nut processing enterprise.

**Keywords:** Poverty, Women farmers, Tiger nut, processing, Planning, marketing entrepreneurial skills

### **INTRODUCTION**

Poverty in Africa has become a subject of national concern in the last two decades. The prevalence of mass poverty in Nigeria that claims to be the giant of Africa reflects the poor management and performance of the economies of the various states in Nigeria. There are many over-crowded settlements in major urban centres in Nigeria today such as Ajegunle, Oshodi, Ketu, Lagos Island, Agege (all in Lagos), Ibadan, Kano, Onitsha, Benin etc. The rural areas of most Nigerian states especially Benue state are also hit with absence of basic social infrastructures such as light, water and good roads. One wonders whether the people in these neglected areas did not take part in electing the ruling government functionaries. Yet, each successive government since Nigeria's independence in 1960 pledged to better the lives of the citizenry and put smiles on the faces of the governed through provision of better and improved infrastructures; implementation of poverty reduction policies and strategies that will put perpetual smiles on the faces of the governed.

Poverty has been conceptualized by different scholars based on their understanding of the concept. Poverty in the opinion of Lypton and Ravallion (as cited in Adeyemo and Alayande, 2001) is said to exist when one or more persons fall short of a level of economic welfare deemed to constitute a reasonable minimum either in some absolute sense or by the standard of a specific society. The World Bank report of (2003) stated that poverty is an unacceptable deprivation in terms of economic opportunity, education, health and nutrition as well as lack of empowerment and security. Poverty according to Ewetan (2005) is a situation of low income or low consumption. Poverty therefore, is the general scarcity, dearth, or the state of one who lacks a certain amount of material possessions or money or lack of physical necessities, assets and income to sustain one's life. The poor

in most instances are unable to have access to basic necessities of life such as food, clothing, and decent shelter, unable to meet social and economic obligations, they lack skill, gainful employment, have inadequate possession of economic assets and sometimes lack of self-esteem. Due to the unacceptable nature of poverty, several measures were put in place by the World Bank for poverty reduction.

Poverty reduction according to Ukwu (2002) is the promotion of various measures, both economic and humanitarian, that will permanently lift people out of the condition of low income or the lack of means necessary to meet basic needs such as food, clothing and shelter. Poverty is a universal phenomenon that affects socio-economic and political well being of its victims whether in a developed or underdeveloped country, however, available statistics shows that poverty in developing countries like Nigeria and Benue state in particular, is absolute and more pronounced among women in the rural areas where most of the inhabitants are farmers (Bekouin, 2002).

A farmer in the opinion of Iwena (2008) is a person who grows plants or rears animals for the benefit of mankind. It is an individual who owns or manages a crop or an animal farm. In this study, a farmer is a female individual who owns or grows tiger nuts for the benefit of mankind and to enhance their living standard. In Benue state, the farmers produce tiger nut in small quantities and sell at the farm gates to middle men who process them and make multiple gain from the efforts of the farmers leaving the later at the same state of poverty. Hence women in the state depend solely on their husbands for their daily meal and other basic necessities like shoes and uniforms for their monthly women meetings. This dependency on their husbands has resulted in increased level of poverty in the State since the men are often subjected to rigorous and menial jobs in order to meet up with the pressing and unending needs and demands from their wives, children and other relatives which most times are difficult to satisfy. Hence, poverty among women can be reduced through engagement in viable agricultural production activity like production and processing of tiger nut.

Tiger nut, *Cyperus esculentus* (also called chufa sedge, nut grass, yellow nut sedge, or earth almond) is a crop of the sedge family *Cyperaceae* and is widespread across the world. It is native to most of the western hemisphere as well as southern Europe, Africa, Madagascar, the Middle East and the Indian Sub-continent. It has become naturalized in many other regions, including Ukraine, China, Hawaii, Indochina, New Guinea, Java, New South Wales and various oceanic islands (Sanchez, Fernandez and Angel, 2012). Tiger nut is an annual or perennial plant, growing to 90 cm (3 feet) tall, with solitary stems growing from a tuber. The plant is propagated by seeds, creeping rhizomes, and tubers. The stems are triangular in section and bear slender leaves 3–10 mm (1/8 to 1/2 inches) wide. The spikelet of the plant are distinctive, with a cluster of flat, oval seeds surrounded by four hanging, leaf-like bracts positioned 90 degrees from each other. They are 5 to 30 mm (about 3/8 to 1 1/8 inches) long and linear to narrowly elliptic with pointed tips and 8 to 35 florets. The color varies from straw-colored to gold-brown. They can produce up to 2420 seeds per plant. The plant foliage is very tough and fibrous and is often mistaken for a grass. The roots are an extensive and complex system of fine, fibrous roots and scaly rhizomes with small, hard, spherical tubers and basal bulbs attached. The tubers are 0.3 – 1.9 cm (1/8 to 1/2 inches) in diameter and the colors vary between yellow, brown, and black (Pascual, Bautista, López, Maroto and Pascual, 2012).

Nutritionally, Rita (2009) reported that the nuts are valued for their highly nutritious starch content, dietary fibre, digestible carbohydrate (monosaccharide, disaccharides and polysaccharides). The nut is reported to be rich in sucrose (17.4 to 20.0%) and fat (25.50%) which are resistant to per oxidation, and protein (7-8%) (Kelley, 2008; Mokady and Dolev; 2010 and Facciola, 2011). The authors further enunciate that the nut is also fairly rich in mineral content (Sodium, Calcium, Potassium Magnesium, Zinc and traces of Copper. Tiger nut has been cultivated as a livestock food and for human consumption; it can be eaten raw, roasted, grated, baked or used for ice cream and beverage making and many other useful benefits (Rita, 2009; Belewu and Abodunrin, 2008). Tiger nut taste best when dried. It is generally dried out (mostly in the sun), which takes one or more months with occasional turning over to ensure uniform drying to preserve them and to eliminate prevailing rot or any microbial infection. Drying secures the nutritional quality although; they become wrinkled as they dry up. Once dry, it can be kept for several years, to be reconstituted by soaking overnight or by boiling when ready for consumption (Belewu and Abodunrin, 2008).

Tiger nut has been reported to be a “health” food, since its consumption can help prevent heart disease, thrombosis, activate blood circulation and reduce the risk of colon cancer (Arafat, Gaafar, Basun, and Nassef, 2009). The tuber is rich in energy content (starch, fat, sugar, and protein), minerals (mainly phosphorus and potassium), and vitamins E and C thus making this tuber also suitable for diabetics. Tiger nut tubers contain

almost twice the quantity of starch as potato or sweet potato tubers. The oil of the tuber was found to contain 18% saturated (palmitic acid and stearic acid) and 82% unsaturated (oleic acid and linoleic acid) fatty acids (Belewu and Abodunrin, 2008). The moderately high content of phytosterols further enriches the quality and value of tiger nut oil as a food source. The nutritional value of tiger nut derivatives like oil and milk arises from the very composition of the tiger nut. Oladele, Osundahunsi and Adebowale (2009) asserted that, the level of anti-nutrients such as tannins, alkaloids and polyphenols is drastically reduced by soaking in water for 6 hours; thereby making it free of unwanted elements especially in processing it into different forms such as milk.

Processing according to Hornby (in Mama, Asogwa and Ukonze, 2012), is the act of putting a raw material through a manufacturing process in order to change it. In the context of this study, processing is the act of putting raw tiger nuts tubers through a manufacturing process in order to obtain tiger nut milk. Belewu and Abodunrin, (2008) clarified that processing of tiger nut has the potential to increase earnings, create jobs and increase exports. This implies that processing of tiger nut could increase earnings for women farmers for poverty reduction, but for the women farmers to embark on tiger nut processing enterprise, they require entrepreneurial skills for the operations.

Entrepreneurial skill is the ability to manipulate input resources efficiently within a particular enterprise to achieve the production goal (Uko, 2003). Etor (in Asogwa., Mama and Ukonze, 2013), expressed that it is necessary for workers to improve their entrepreneurial skills in various occupations or professions. Entrepreneurial skills in tiger nut processing are those related step by step activities or operations which women farmers need to perform in transforming tiger nut tuber into milk for the purpose of generating income to reduce poverty. Such operations includes; planning and marketing of the processed tiger nut milk.

Planning is the process of setting goals, developing strategies, and outlining tasks and schedules to accomplish set goals. According to Montana, Charnov and Patrick (2010), planning is the process of thinking about and organizing the activities required to achieve a desired goal. With reference to this study, planning is an orderly step-by-step and systematic arrangement of the activities required in processing and marketing of tiger nut milk to generate income for poverty reduction. Good planning helps an individual to clarify, focus, and research into their business; it provides a considered and logical framework within which a business can develop and pursue business goals among others (Montana; Charnov and Patrick, 2010). Planning would help women farmers to elucidate the necessary material resources (inputs) capital involvement, labour cost and target audience for proper marketing of tiger nut milk in Benue state.

Marketing is a means through which products are made available and sold to buyers at an agreed price. Marketing according to Hoyt (in Ugwoke; Onu; Agboeze and Asogwa, 2013) refers to the various activities by which products are supplied, advertised and sold to the consumers. Iwena (2008) explained that marketing of agricultural products does not only involve the disposal of agricultural produce to consumers but also the purchasing of farm inputs such as seeds, fertilizers and so on. Andrew (2009) stated that agricultural marketing covers the services involved in moving an agricultural product from the farm to the consumer. It includes numerous interconnected activities such as packaging, advertising, fixing of appropriate prices, transport, distribution, and sale of farm produce. George (2007) maintained that marketing is the most critical consideration in a crop production enterprise. The author cautioned that growers should not grow what they cannot sell. Marketing, in this study, involves all the activities in sourcing, packaging, advertising, fixing of appropriate prices, transport, distribution, and selling of tiger nut milk to consumers or wholesalers for poverty reduction.

In Benue State, a lot of tiger nut tubers are produced annually but it is largely unexploited, cheap and eaten without much knowledge of its benefits. A market survey was carried out by the researchers involving 17 women from Otukpo, Gboko and Makurdi local government area in the state. The survey report revealed that a substantial gap exist between the amount of the quantity of tubers supplied and the amount of milk obtained from the same quantity of tuber by the processors. This wide gap is what keeps the farmers poor every year without any expansion or improvement in their standard of living. While the farmers produce the tubers, the processors process the tubers into milk and make more gain than the farmers. Therefore, the farmers could maximize their profits to reduce poverty if they acquire entrepreneurial skills in processing of tiger nut tuber into milk. Unfortunately, a visit to skill acquisition centres in the state by the researchers ascertained that there is no identified skill package in tiger nut processing enterprise but there were skill package in cassava, yam, maize and rice. This indicates that for women farmers to be trained in tiger nut processing, there is need to

identify the entrepreneurial skills that could be packaged to train women farmers in skill acquisition centres in the state hence the need for this study.

### **Purpose of the Study**

The purpose of this study is to identify entrepreneurial skills required by women farmers in processing of tiger nut tuber into milk for poverty reduction in Benue State. Specifically, the study sought to identify entrepreneurial skills required by women farmers in:

1. planning for tiger nut processing enterprise;
2. processing of tuber into tiger nut milk; and
3. marketing of tiger nut milk.

### **Research Questions**

1. What are the entrepreneurial skills required by women farmers in planning for processing tiger nut tuber into milk?
2. What are the entrepreneurial skills required by women farmers in processing of tuber into tiger nut milk?
3. What are the entrepreneurial skills required by women farmers in marketing of tiger nut milk?

### **Hypotheses for the Study**

The following null hypotheses were formulated and tested at 0.05 level of alpha.

There is no significant difference in the mean ratings of the responses of female teachers of agriculture and home economics in secondary schools on the skills required by women farmers in:

1. planning for tiger nut processing enterprise;
2. processing of tubers into tiger nut milk; and
3. marketing of tiger nut milk.

### **Scope of the Study**

The study was restricted to identification of entrepreneurial skills required by women farmers in processing of tiger nut tuber into milk for poverty reduction in Benue State. The study covers entrepreneurial skills required in planning for tiger nut processing enterprise, entrepreneurial skills required in processing of tuber into tiger nut milk and entrepreneurial skills required in marketing of tiger nut milk. It was also restricted to female teachers of agriculture and home economics in secondary schools in the three agricultural zones; A, B and C of Benue State. The study was also delimited to the use of a structured questionnaire developed from literature review to collect data from the respondents.

## **METHODOLOGY**

The study adopts questionnaire survey research design. This design was considered suitable because the opinion of a representative sample of respondents was sought using questionnaire and the finding was generalized on the entire population of women farmers in Benue state. The area of the study is Benue State. Tiger nuts are predominant grown in Benue south (Ohimini), Benue north- central (Gwer west) and Benue north- West (Ushongo) all year round. Benue State is naturally endowed with good ecological and environmental conditions favorable for tiger nut production. This makes tiger nut tuber easily available for processing by women farmers in the state. The population for the study was 151 consisting of 106 registered female teachers of agriculture teaching crop production to students in secondary schools in Benue state and 45 teachers of home economics in secondary schools in Benue state. There was no sampling because the population is small and can be effectively handled by the researchers therefore; the entire population constitutes the sample for the study. The instrument for data collection was a skill structured item questionnaire titled 'Tiger nut Processing Entrepreneurial Skills Questionnaire' (TPESQ). The instrument had 10 skill items in planning, 14 skill items in processing and 10 skill items in marketing of tiger nut milk summing up to 44 skill items. The questionnaire had a four-point response options of highly required (HR), average required (AR), slightly required (SR) and not required (NR) with a corresponding nominal value of 4, 3, 2 and 1 respectively. Three experts validated the instrument, one from the Department of Agricultural Education and two from the department of Home Science Management all from Federal University of Agriculture, Makurdi. Their corrections and suggestions were used to produce the final copy of the questionnaire. Cronbach alpha reliability method was utilized to determine the internal consistency of the instrument which yielded a reliability coefficient of 0.89, indicating that the instrument is reliable for the study. Three research assistants were involved and given orientation on how to administer the questionnaire to the respondents. One hundred and fifty one copies of the questionnaire were administered to the respondents but

149 copies were retrieved representing a retrieval rate of 98.7 percent. Mean was used to answer the research questions, while t-test was used to test the hypotheses of no significant difference at 0.05 level of significance. An arithmetic mean with a mean less than 2.50 was regarded as not required while any item with a mean greater than 2.50 was regarded as required. The null hypotheses of no significant difference was rejected for any item whose p-value was less than the alpha value of 0.05 while it was not rejected for any item whose p-value was greater than the alpha value of 0.05.

## RESULTS

The results of the study were obtained from the research questions answered and the hypotheses tested through data collected and analyzed.

### Research Question 1

*What are the entrepreneurial skills required by women farmers in planning for processing tiger nut into milk for poverty reduction in Benue State?*

### Hypothesis 1

There is no significant difference in the mean ratings of the responses of female teachers of agriculture and home economics in secondary schools on the skills required in planning for tiger nut processing enterprise

**Table 1: Mean Ratings and t-test Analysis of the Responses of Female Teachers of Agriculture and Teachers Of Home Economics on Skills Required in Planning for Tiger nut Processing Enterprise (N = 149: 104 teachers of agriculture and 45 teachers of home economics)**

S/N	Items	X	SD	Sig.	Remarks
1	Formulate specific objectives for tiger nut processing enterprise	3.01	0.81	0.85	*N.S
2	Survey the market for tiger nut processing business.	3.13	0.79	0.49	*N.S
3	Review the objectives periodically to meet the economic or business situation such as changes in demand and supply.	3.72	0.90	0.25	*N.S
4	Decide on the location of the tiger nut processing enterprise	3.63	0.76	0.32	*N.S
5	Schedule programme to cover different stages of tiger nut tuber processing into milk.	3.49	0.74	0.54	*N.S
6	Identify other relevant inputs resources required for the enterprise.	3.72	0.81	0.42	*N.S
7	Identify market outlet for tiger nut milk	3.63	0.71	0.19	*N.S
8	Identify sources of fund to establish the enterprise	3.11	0.95	1.02	*N.S
9	Identify relevant records to keep for the enterprise	3.42	1.02	0.23	*N.S
10	Identify relevant records to keep for the enterprise	3.04	0.57	0.49	*N.S

X = Weighed mean of teachers, SD=weighted standard deviation, Sig. = P-value, significant at  $P \geq 0.05$ , S=significant, NS = not significant, \* = required, \*\* not required.

The data presented in Table 1 revealed that all the 10 skill items in planning had their mean values ranged from 3.01 to 3.72. This showed that the mean value of each item was above the cut-off point of 2.50 which indicates that all the 10 skill items were required by women farmers in planning for tiger nut processing enterprise. The Table also showed that the standard deviation (SD) of the items ranged from 0.71 to 1.02, indicating that the respondents were not too far from the mean and from the opinion of one another in their responses. The Table also revealed that all the items had their calculated p-values ranged from 0.19 to 1.01 which were greater than the alpha value of .05 indicating that there was no statistical significant difference in the mean ratings of the responses of the two groups of respondents on the skills required by women farmers in planning for tiger nut processing enterprise. Therefore, the hypothesis of no significant difference was not rejected for the 10 skill items in planning for tiger nut processing enterprise.

### Research Hypothesis 2

*What are the entrepreneurial skills required by women farmers in processing of tuber into tiger nut milk for poverty reduction in Benue State?*

### Hypothesis 2

There is no significant difference in the mean ratings of the responses of female teachers of agriculture and home economics in secondary schools on the skills required in processing of tubers into tiger nut milk.

**Table 2: Mean Ratings and t-test Analysis of the Responses of Female Teachers of Agriculture and Teachers of Home Economics on Skills Required in Processing of tubers into Tiger nut milk (N = 149: 104 teachers of agriculture and 45 teachers of home economics)**

S/N	Item statement	X	SD	Sig.	Remarks
1	Source/purchase and sort dry tiger nuts from the market	3.83	0.81	0.85	*N.S
2	Pour the sorted dried tiger nuts inside a bowl, add water, cover with a cheese cloth and allow it to soak for at least 8 hours	3.02	0.11	0.79	*N.S
3	Drain the soaked water and rinse	3.71	0.87	0.69	*N.S
4	Pour the water and tiger nut in a high powered blender	3.72	0.90	1.25	*N.S
5	Blend in a ratio of 3 litres of water for each kilogram of tiger nut and the mixture is allowed to macerate for 10 minute	3.63	0.76	0.32	*N.S
6	Turn the nut bag inside out and keep seams on the outside	2.97	0.89	0.13	*N.S
	For easier straining.				
7	Place the nut milk bag in the center of a large bowl	3.72	0.90	0.25	*N.S
8	Drape fine meshed- cheese cloth over the edges of the bowl and pour the milk through it to filter through the meshed holes in the cheese cloth	3.49	0.73	0.61	*N.S
9	Gather the cheese cloth around the almond meal and twist close	3.63	0.71	0.19	*N.S
10	Squeeze the nut pulp with your clean hand to extract as much milk as possible	3.42	1.02	0.23	*N.S
11	Add vanilla ,cinnamon or any other flavoring after the pulp has been removed	2.97	0.95	0.59	*N.S
12	Add up to 1Table spoon of Lecithin, butter/ mann or Nut butter thickener and emulsifier per 2-3 cups of water used	2.98.	1.01	0.73	*N.S
13	Store the milk in an air-tight glass container such as a mason jar	3.04	0.57	0.49	*N.S
14	Freeze in 1 1/2 pint freezer safe jars	3.72	0.81	0.42	*N.S

X = Weighed mean of teachers, SD=weighted standard deviation, Sig. = P-value, significant at  $P \geq 0.05$ , S=significant, NS = not significant, \* = required, \*\* not required.

The data presented in table 2 revealed that all the 14 skill items in processing had their mean values ranged from 2.97 to 3.83. This showed that the mean value of each item was above the cut-off point of 2.50 which indicates that all the 14 skill items were required by women farmers in processing of tubers into tiger nut milk. The tables also showed that the standard deviation (SD) of the items ranged from 0.11 to 1.02, indicating that the respondent were not too far from the mean and from the opinion of one another in their responses. The table also revealed that all the items had their calculated p-values ranged from 0.13 to 1.01 which were greater than the alpha value of .05 indicating that there was no statistical significant difference in the mean ratings of the responses of the two groups of respondents on the competencies required by women farmers in processing of

tubers into of tiger nut milk. Therefore, the hypothesis of no significant difference was not rejected for the 14 skill items in processing of tubers into tiger nut milk.

### Research Hypothesis 3

What are the entrepreneurial skills required by women farmers in marketing of tiger nut milk for poverty reduction in Benue State?

### Hypothesis 3

There is no significant difference in the mean ratings of the responses of female teachers of agriculture and home economics in secondary schools on the skills required in marketing of tiger nut milk

**Table 3: Mean Ratings and t-test Analysis of the Responses of Female Teachers of Agriculture and Teachers of Home Economics on Skills Required in Marketing of Tiger nut milk**

(N = 149: 104 teachers of agriculture and 45 teachers of home economics)

S/N	Items	X	SD	Sig.	Remarks
1	Make market survey for tiger nut milk	3.82	0.81	0.85	*N.S
2	Sort milk into groups using volume of milk in the jars or container	3.78	1.03	0.72	*N.S
3	Fix price for each group of milk	3.36	0.77	0.09	*N.S
4	Identify distribution channels for marketing of tiger nut milk	3.68	0.86	0.63	*N.S
5	Advertise the product locally or through the media	3.72	0.90	0.73	*N.S
6	Sell to buyers at the farm gate or in the market	3.63	0.76	0.32	*N.S
7	Seek promotion strategies for tiger nut milk	3.22	0.98	0.33	*N.S
8	Review all the marketing strategies to meet the current condition	3.62	0.69	0.21	*N.S
9	Keep appropriate record of sales	3.49	0.74	0.54	*N.S
10	Calculate the expenditure and income to determine profit	3.57	0.64	0.27	*N.S

X = Weighed mean of teachers, SD=weighted standard deviation, Sig. = P-value, significant at  $P \geq 0.05$ , S=significant, NS = not significant, \* = required, \*\* not required.

The data presented in table 3 revealed that all the 10 skill items in processing had their mean values ranged from 3.22 to 3.82. This showed that the mean value of each item was above the cut-off point of 2.50 which indicates that all the 10 skill items were required by women farmers in processing of tubers into tiger nut milk. The tables also showed that the standard deviation (SD) of the items ranged from 0.69 to 1.03, indicating that the respondent were not too far from the mean and from the opinion of one another in their responses. The table also revealed that all the items had their calculated p-values ranged from 0.09 to 0.85 which were greater than the alpha value of .05 indicating that there was no statistical significant difference in the mean ratings of the responses of the two groups of respondents on the competencies required by women farmers in marketing of tiger nut milk. Therefore, the hypothesis of no significant difference was not rejected for the 10 skill items in marketing of tiger nut milk.

### DISCUSSION

The result of the study revealed that 10 skills in planning, 14 skills in processing of tubers into tiger nut milk and 10 skills in marketing of tiger nut milk are required by women farmers for success in tiger nut processing enterprise. The findings are in agreement with the findings of Akwaji (2006) in a study on work skills required by secondary school graduates for success in cassava processing enterprise in Cross River State, where it was found out that 11 skills are required in planning for processing cassava into chips. The skills include set goals for processing cassava into garri, flour, chips and starch; review the goals periodically; decided on the location of the enterprise on so on.

The findings of this study are in lined with the findings of Olaitan, Asogwa and Umeh (2010) in a study carried out on competencies in bee-keeping required by teachers of agricultural sciences for enhancing their income for

sustainable living in Enugu State, where it was found out that teachers of agricultural science required 10 competencies in planning activities, 17 competencies in construction and location of bee hive, 25 competencies in stocking and management of bees and 8 competencies in marketing of bee products.

The findings of this study are in consonance with the findings of Mama, Asogwa and Ukonze (2012) in a study on entrepreneurial competencies required by secondary school graduates for processing of cashew nuts into kernel for poverty reduction in Enugu State, where it was found out that secondary school graduates required 9 competencies in planning, 11 competencies in processing of cashew nuts into kernel and 7 competencies in marketing of cashew kernels.

The findings of this study are in agreement with the findings of Asogwa, Olaitan and Asouzu (2013) in a study on entrepreneurial skills required by women retirees for processing of pineapple fruit into juice as a sustainable business in Enugu State, where it was found out that 16 skills were required by woman retirees in processing of pineapple fruit into juice. The skills include sources for pineapple fruit, sort out spoiled pineapple fruit and discard them, wash the pineapple fruit thoroughly and so on.

The result of the hypotheses tested showed that there was no statistical significant difference in the mean ratings of the responses of the female teachers of agriculture and home economics in secondary schools on planning, processing of tubers into tiger nut milk and marketing of tiger nut milk. The implication of these findings was that the professional differences of the two groups of respondents did not significantly influence their responses on the entrepreneurial skills required by women farmers in planning, processing and marketing of tiger nut milk. This added validity to the findings of this study.

## **CONCLUSION**

In Benue State, the researchers observed that a lot of tiger nut tubers are produced annually but it is largely unexploited, cheap and eaten without much knowledge of its benefits. Farmers produce tiger nut and sell at the farm gates to middle men who process them and make multiple gain from the efforts of the farmers leaving the farmers in the same state of poverty. The researchers also observed that women in the state depend solely on their husbands for their daily meal and other basic necessities like shoes and uniforms for their monthly women meetings. This dependency on their husbands which has resulted in increased level of poverty in the State could be reduced if women engage in processing of tubers into tiger nut milk to increase earnings. Based on these observations, this study was carried out identify the entrepreneurial skills required by women farmers in processing tubers into tiger nut milk for poverty reduction.

## **RECOMMENDATIONS**

Based on the findings of this study, the following recommendations were made by the researchers.

1. The identified entrepreneurial skills should be developed into a training manual and utilized by skill acquisition centers for training of women and youths who wish to engage in tiger nut processing to enable them acquire the required entrepreneurial skills in tiger nut processing enterprise for income generation
2. The identified skills in tiger nut processing should be included in the curriculum of agricultural science to enable students engage in tiger nut processing enterprise after graduation.
3. The government should through media campaign, encourage youths to undertake training in tiger nut processing in skill acquisition centres for self employment.

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