

**ECONOMIC ANALYSIS OF HORTICULTURAL ENTERPRISES IN YENAGOA METROPOLIS OF BAYELSA STATE, NIGERIA**

**KAINGA, P.E. AND O.G. JOHNSON**

**Department of Agricultural Economics and Rural Sociology,**

**Niger Delta University, P.M.B. 071, Wilberforce Island, Bayelsa State, Nigeria**

**Corresponding author: P.E.Kainga. Email: princekainga@yahoo.com**

**ABSTRACT**

*The study was on Economic analysis of horticultural enterprises in Yenagoa metropolis of Bayelsa State, Nigeria. A total of 8 horticultural enterprises were chosen through a pilot survey to form the sample size. Results show that horticultural farming is an activity for both males and females. A greater number of the horticultural farmers, who were married with an average household size of 5, fall within the age range of 31 – 40 years, which inferred that horticultural farming is not an activity of the teenage and also not for the aged. Majority of the horticultural farmers acquired formal education in order to meet the technical demands of the business. Results also show that majority of the horticultural farmers engage in full time farming with 1-5 years experience. They do not have access to extension services and formal borrowing of capital in spite of the existing commercial banks in the study area. Most of them do not belong to farmers co-operative or association. They acquired land by lease and employ both hired and family labour. They engage in nursing and pinning propagation methods and involve mainly floriculture and ornamental plant practices. The result shows that horticultural enterprises incurred fixed cost of ₦34,012.50, variable cost of ₦74,297.56, with a total cost of ₦108,310.06, and realised a total revenue of ₦366,813.00 and an estimated Net Farm Income of ₦258,502.94, which implies that horticultural farming in Yenagoa metropolis of Bayelsa State is a profitable venture.*

**Keywords:** Economic Analysis, Horticultural Enterprises, Yenagoa Metropolis, Bayelsa State

**INTRODUCTION**

Attempts towards employment, wealth creation, agricultural growth and development in Nigeria have witnessed the mobilisation and adoption of various agricultural development strategies. Yet, there exist the dilemma in the horticultural business particularly in states such as Bayelsa, as the State is still at its nascent stage of development. In places such as Britain, many of horticulture jobs are in the rural areas, and horticulture sustains many additional jobs, in industries such as fertilizer and compost production, and in supply chain industries such as food packaging and processing (Stiegert, 2008). Horticulturist are employed not only in the more typical plant nurseries, green house, public parks, vegetable fields and golf courses, but also in hospitals (horticultural therapy), aerospace, food and recycling in space labs and zoos (managing environments for animals and visitors). According to Stiegert (2008) and UWCAL, (2009) horticulturists are responsible for the cultivation of vegetable fruits, and salad crops that contributes to the quality of our diet, and flowers, bulbs, shrubs, and trees to enrich our environment. According to Hansel, (2011), horticulturist maintains the parks and open spaces in our towns and cities, providing the much needed space away from the pressure of urban living. Horticulturists construct and manage the landscape around office, Business Park, retail areas, and road development, improving the environment in which we live and work. The Horticultural industry is estimated to worth 1.2 billion pounds to the British Economy. It provides regular employment for over 37,000 people in the United Kingdom and 20,000 people in the United States of America (USA) and 6,000 people in

Ireland. Horticulture as a science, has four components or branches such as; pomology, oleiculture, floriculture and ornamentals. Notwithstanding, the Horticultural industry has never had the kind of Government support available to Agriculture to buffer it from the ups and downs of the economy (Brenda, 2009). The Nigerian agro-economy is not an exception. The Horticultural industry in the Nigerian agro-economy has great potentials and if positioned properly, will meet the government policy on environment and beautification of the Yenagoa metropolis of Bayelsa State as well as an avenue for employment and wealth creation for investors and would-be investors. Thus, it is important to view comprehensively the characteristics of these enterprises which include examining their level of operation and practices, costs and returns status and problems affecting the industry. However, there is dearth of information on the economics of horticultural enterprises in the state. Hence this study becomes relevant.

**RESEARCH METHODOLOGY**

The study was carried out in Yenagoa metropolis of Bayelsa State, located within latitudes 4°45 N and 5°23 S and Longitudes 5°15 E and 6°45 E. Yenagoa Local Government Area constitutes a population of 353, 344 (National Population Census 2006). The State however lies within the rainforest zone, with a humid equatorial climate and mean annual rainfall ranging from 2,000mm to 4,000mm and alternating rainy (March-November) and dry (December to February) season, featuring a short dry period between July and September (August break). Maximum average temperature is 30°C with a relative humidity between 55 and 90 percent, depending on season and location. The major occupation of the people are fishing, farming and trading. Other means of livelihood includes hunting, lumbering, distillation, palm oil milling, building, weaving and salt production (Alagoa 1999).

A pilot survey was carried out in Yenagoa metropolis of Bayelsa State and eight (8) horticultural firms which formed the sample frame were selected to form the sample size for the purpose of this study. The data collected for this study were analyzed by means of descriptive statistical tools and budgetary analysis. Budgetary analysis involves estimation of gross revenue and total cost of production. The difference between these two estimates gives a measure of the net income. Mathematically, the budgetary model was expressed as:

$$NAI = GAR - TC \dots\dots\dots(1)$$

Where: NAI= Estimated Net Annual Income from horticulture production;  
 GAR= Estimated Gross Annual Revenue accruing from horticulture production;  
 TC= Estimated Total Cost of horticulture production;

$$\text{But } TC = TFC + TVC \dots\dots\dots(2)$$

Where: TFC = Total Fixed Cost, TVC= Total Variable.

From (1) and (2);

$$TC = a + P^1_1 X_1 + P^1_2 X_2 + \dots\dots\dots + P^1_n X_n = a + \sum_{i=1}^n P^1_i X_i \dots\dots\dots(3)$$

$$GAR = P_1 Y_1 + P_2 Y_2 + \dots\dots\dots + P_n Y_n = \sum_{i=1}^n P_i Y_i \dots\dots\dots(4)$$

a= Average annual fixed costs;

P<sup>1</sup><sub>i</sub> = Average unit price of given production input employed per annum by the ith horticulture enterprise;

X<sub>i</sub>= Average amount of given production input employed per annum by the ith horticulture enterprise;

P<sub>i</sub>= Average unit price of horticulture produced per annum by the ith horticulture enterprise;

Y<sub>i</sub>= Average amount of horticulture produced per annum by the ith horticulture enterprise.

**RESULTS AND DISCUSSION**

Results show that horticultural farming is an activity for both males and females. A greater number of the horticultural farmers, who were married with an average household size of 5, fall within the age range of 31 – 40 years, which inferred that horticultural farming is not an activity of the teenage and also not for the aged. Majority of the horticultural farmers acquired formal education in order to meet the technical demands of the business. Results also show that majority of the horticultural farmers engage in full time farming with 1-5 years experience. They do not have access to extension services and formal borrowing of capital in spite of the existing commercial banks in the study area. Most of them do not belong to farmers co-operative or association. The farmers acquired compound plot size by lease and employ both hired and family labour. They engage in nursing and pinning propagation methods and involve mainly floriculture and ornamental plant practices. The result shows that horticultural enterprises incurred fixed cost of ₦34,012.50, variable cost of ₦74,297.56, with a total cost of ₦108,310.06, and realised a total revenue of ₦366,813.00 and an estimated Net Farm Income of ₦258,502.94, which implies that horticultural farming in Yenagoa metropolis of Bayelsa State is profitable. Major problems include Flooding, weed disturbance and shortage of water during dry season.

**Table 1: Socio-economic Characteristics of Respondents.**

<b>Social characteristics</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>		
Male	5	62.5
Female	3	37.5
<b>Age (Years)</b>		
≤ 20	-	
21 – 30	2	25.0
31 – 40	6	75.0
41 – 50	-	-
≥51	-	-
<b>Marital status</b>		
Single	3	37.5
Married	5	62.5
Divorced	-	-
<b>Educational status</b>		
No formal Education	1	12.5
Primary Education	1	12.5
Secondary Education	5	62.5
Tertiary Education	1	12.5
<b>Experience ( Years)</b>		
≤ 5	5	62.5
6 – 10	2	25.0
11- 15	-	-
16- 20	-	-
≥ 21	1	12.5
<b>Source of capital</b>		
Personal Savings	8	100.0
Cooperation loan	-	-
Friends/Relatives	-	-

**Extension service**

No	1	12.5
Yes	7	87.5

**Type of Labour**

Hired	4	50.0
Family	1	12.5
Both	3	37.5

**Farmer Association**

Yes	3	37.5
No	5	62.5

**Horticultural Plants Practices**

Floriculture	4	50.0
Ornamental	4	50.0
Pomology	-	-

**Method of Cultivation**

Nursing	2	25.0
Nursing & Pinning	5	62.5
Pinning	1	12.5

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Source: Field Survey Data, May 2011

**Table 2 Cost and Returns per Annum**

	<b>Cost Items</b>	<b>Qty</b>	<b>Unit Cost</b>	<b>Total Cost</b>
A.	Fixed Cost			
(a)	Rent on compound plot		1,250.00	1,250.00
(b)	Improvised Store/green house 1		14,437.50	14,437.50
	Sub-Total			15,687.50
(c)	Cost of tools			
	Cutlass	2	812.50	1,625.00
	Knives	2	206.25	412.50
	Watering can/bucket	2	962.50	1925.00
	Hoes	2	175.00	350.00
	Rakes	1	393.75	393.75
	Shovels	2	1,562.50	3,125.00
	Spades	1	373.00	373.00
	Scissors	4	318.75	1,275.00
	Wheelbarrow	3	1,743.75	5,331.25
	Cutters	2	1,012.50	2,025.00
	Watering hose	1	1,587.50	1,587.50
	Sub-Total			18,325.00
B.	Variable Cost			
(a)	Seedlings	1,787	24.38	43,567.06

(b)	Hired Labour	2	9,437.50	18,875.00
(c)	Family labour	–	–	–
(d)	Cost of Manure or top soil 2 tippers		11,837.50	11,837.50
	Sub-Total			74,297.56
C.	Total Cost (A + B)	=	108,310.06	
D.	Total Revenue	=	366,813.00	
E.	Net Income	=	258,502.94	

Source: Field Survey Data May 2011

**Table 3: Estimated Cost/Prices of Types of Seedlings or Flowers**

<b>Types of Seedlings</b>	<b>Quantity</b>	<b>Unit Price</b>
Queen Sago	10	250.00
Tropical Rose	41	50.00
Ixoria	144	162.50
Lady Palm	50	125.00
African Violets	1	50.00
Centipede grass	4	62.50
Habiscus	18	187.50
Step tree	103	425.00
Beauty palm	63	125.00
Double Azura	378	87.50
Golden Palm	114	437.50
Christmas Tree	8	187.50
Royal Palm	46	300.00
Masqueraade	308	162.50
Coconut tree	2	187.50
Ice plant	12	300.00
Togo Fucus	138	31.25
Kings Palm	100	312.50
Queens Palm	269	200.00
Sycah Palm	26	106.25
Living Forrie	10	125.00
Green Bush	100	12.50
Tugar	6	25.00
Lautena	14	75.00
Yellow bush	4	62.50
Gardenia	13	62.50
Queen of the night	6	187.50
Livistonia Palm	4	100.00
Pride of babados	1	37.50
Queen of phillipines	3	187.50
Murayer	38	25.00
Flames of forest	19	62.50
Fan plant	13	125.00
Alava Caria - excelsa	1	3,125.00
Bouganivillea -Glabra	5	187.50
Cucas – Circinals	1	250.00
Dombey – Xseminole	38	25.00
Dervis – Trifolia	25	62.50

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Eremodiba-Aphlodies	3	62.50
Rhapis – Excelsa	63	12.50
Roystone – elate	38	187.50

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Source: Field Survey Data, May 2011

**CONCLUSION AND RECOMMENDATIONS**

Since horticultural farming is a profitable business in Yenagoa metropolis of Bayelsa State, government should encourage public enlightenment on importance of compound and street beautification, construction of drainage systems, proper irrigation measures, provision of weedicide, and extension services on modern techniques and innovation. Government and other financial institutions should as a matter of policy assist by providing loans or subsidy to investors.

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