



Full Length Article

Profitability Assessment of *Borassus aethiopum* (Mart) Marketing in Adamawa State, Nigeria

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ABSTRACT

The continued squeeze in the supply of natural resources for human sustenance and the burgeoning rise in human population is a great concern for human development. To address these issues, the present study covered three production and consumption Local Government Areas of *Borassus aethiopum* (Mart) in Adamwa State of Nigeria. The profitability of the palm was investigated using structure questionnaires to conduct personal interviews. The result revealed that turnover volume of 372 jute bags (100 kg) of hypocotyls, 78 dozens (936 pieces) of mats and 40 jute bags of fruits weekly. The net income (NI), rate of return to investment (RORI) and gross ratio (GR) values show that *B. aethiopum* products' marketing is a profitable venture worthy for investment considerations. Edible hypocotyls were more profitable and efficient than mats and fruits. The regression model results show revenue as the most significant factor explaining variations in profit from *B. aethiopum* products.

Key Words: *B. aethiopum*; Marketing cost; Profitability

INTRODUCTION

Borassus aethiopum (mart) is a dioecious palm tree of African origin, which belongs to the family of Palmae or Arecaceae. Its synonymous is *B. flabellifer* L. var *aethiopum* warb: *B. flabelliformis* (Murr); *Lontarus domestica* (Gaertn). It is known in Nigerian, among the Yoruba, Igbo, Hausa and Ga'anda people as Agbon-eye, Ubiri, Giginya and Kengera, respectively. Although it was described first in India in 1753 and only much later in Africa, botanists believed that it originate in Africa (UNDP & ICRAF Agroforestry Data base). Its dispersal is motivated by elephants, which are so fond of the fruit. In fact the migration of elephants as well the slave traders introduce the current existing grooves of *B. aethiopum* in most of the West African states (FAO, 1988). In terms of ecological requirements, it grows very well in the transitional and savanna areas of the semi-arid and sub-humid tropics in West Africa, from Senegal to Nigeria and the belts south wards from Sudan to Mozambique and Transvaal. Thus, it is common in: Kenya, Burkina Faso, Mali, Congo, Cote-Ivoire, Ethiopia, Gambia, Guinea, Guinea Bissau, Liberia, Benin, Sierra-Leon, South Africa, Tanzania, Togo, Uganda, Zambia and Zimbabwe (ICRAF Agroforestry Data Base; Kasper, 1995; Ayaekwa, 1997). *B. aethiopum* is a multi-purpose palm, providing multi-functional uses in the areas of: shelter, food supply, improvement of economic status (Income & employment) of rural people and the protection of the environment from degradation and biodiversity

depletion. Every part of the tree can serve any of the socio-cultural, economic and environmental needs of human kind. The tree is an attractive palm and has been planted for amenity purposes. It is suitable for amenity purpose along highways and is recommended for strategic places such as government buildings, libraries, schools, parks and museums, (Fairchild Tropical Garden reports; FTB, 2002). In FTB (2002) *B. aethiopum* was described as a unique and stately. The roots, shoots and fruits are also utilized for medicinal purposes. The Roots' power mixed with sheep butter is used to treat sore throat and bronchitis; palm wine is considered an aphrodisiac and stimulant (FAO, 1988). However, for these benefits to be properly met by the people, there most be means for moving the producer/products from the producers to the consumers at prices and conditions, which are remunerative and affordable to both the producers and consumers, respectively. Usually, an efficient and well-organized research can coordinate these activities (Lintu, 1995; Popoola & Rahji, 2001). Available information has shown that, very little research has been carried out on the marketing of *B aethiopum* (Mart) in the country. Richard (2005) in a socio-economic survey of non-timber forest products in Adamawa state mentioned in brief some economic and financial benefits of *B. aethiopum* in that state. This information is insufficient to trigger any meaningful decision that will popularize and encourage the development of the species so as to impact more positively on the welfare of the people. Indications and recent surveys

have shown that poverty is on the increase in Nigeria, with well over 67 million people (about 66% of the population) living below the poverty level in 1996, compared to 18.4 million people (about 27%) in 1980 (Okunmadewa, 2002). Thus there is a persisting paradox of a rich country inhabited by poor people. World Bank (1996) in her poverty assessment report tagged Nigeria as “poverty state in the midst of plenty”. This by implication means we have sufficient resources, yet we are poor largely, because of poor exploration of resources, their underutilization and mismanagement. These will provide the basis for development, promotion and expansion of the benefits from this species and also enhance its recognition locally and abroad. The study examined the turnover volumes of selected *B. aethiopum* products in Adamawa state, Nigeria, and also analyzed their economic returns to ascertain profitability.

MATERIALS AND METHODS

The study area. Adamawa State is Located in North Eastern Nigeria, it has a Total Land Area of 38,741 Km² it lies between latitude 7° and 11° North of the equator and longitude 11° and 14° East of the Greenwich meridian, sunshine hours ranges from 2500- 300 h/annum, relative humidity 27% to 79%, temperature 18.1°C to 39.6°C and mean annual rainfall is 910 mm.

Data analysis. To enhance this investigation, structured questionnaire and interview schedule on two categories of respondents at three markets in Adamawa State. The respondents were sellers and buyers, located at Hong, Toungo and Ganye local government areas.

Three basic economic tools for measuring efficiency are utilized in this analysis. They are Net Income (NI), Gross Ratio (GR) and Rate of Return to Investment (RORI). Other descriptive statistic such as mean, frequency and percentages were utilized where appropriate. The multiple linear regression models were used in explaining the relationship between profits form *B. aethiopum* products and factors affecting the level of profit derived from it.

Model Specification/Tools for Economic Analysis

i. Net income (NI). Net income (NI) is defined as gross income (GI) less Gross cost (GC) Olukosi and Enabor (1988).

$$\text{Mathematically: NI} = \text{GI} - \text{GC} \dots\dots\dots (1).$$

The NI for *B. aethiopum* is determined for both seller and buyers. These were deduced as follows:

Seller: Net income

$$\text{NI} = \text{GI} - \text{GC} \dots\dots\dots (2).$$

Where

GI = Total quantity of products sold in a week x unit selling price

GC = Total quantity sold in a week x unit cost of producing or purchase.

Similarly: for buyer

GI = Weekly Quantity of purchases sold x market retail price/unit.

GC = Weekly Quantity of purchases sold x producers’ unit costs) + (marketing costs).

ii. Gross ration (GR). This is the total expenses or gross cost (GC) divided by the gross income (GI), given as:

$$\text{GR} = \text{GC}/\text{GI} \dots\dots\dots (3).$$

The ratio shows the percentage or proportion of total physical cost that constitutes the gross income. Less than 1 ratio is desirable for any production business. The lower the ratio, the higher the return per Naira invested. The gross cost and gross income values calculated above are applied in this equation for the determination of the gross ratio.

iii. Rate of return on investment (RORI). The RORI depicts the level of profitability of an investment and is an important criterion in determining the choice of investment. According to McCarthy (1968); Adeyokunnu (1973) and Arene (1998) it is given by:

$$\text{RORI} = \frac{\text{TR} - \text{TC}}{\text{TC}} \times 100 \dots\dots\dots (4).$$

Where

TR = Total revenue, an equivalent of Gross Income (GI)

TC = Total cost, an equivalent of Gross Cost (GC). Thus equation (4) becomes:

$$\text{RORI} = \frac{\text{GI} - \text{GC}}{\text{GC}} \times 100 \dots\dots\dots (5).$$

Multiple linear regression models. This model was used in explaining the relationship between profit from *B. aethiopum* products and factors affecting the level of profit that is derived from it as specified below following Owen and Jones (1994), Ola (1999).

$$Y = a + b_1X_1 + b_2X_2 + \dots\dots\dots + b_nX_n + e_i \dots\dots\dots (6).$$

Where: Y = Dependent variable (profit)

X₁.....X_n = Independent variables and this include, revenue, transportation cost, commission, storage handling, loading and off-loading charges:

a = Intercept

b₁.....b_n = Regression coefficient or estimators

e_i = error.

RESULTS AND DISCUSSION

Cost and returns analysis of *B. aethiopum* products. The availability and utilization of products from *B. aethiopum* vary in magnitude and intensity from location to location. In view of this, *B. aethiopum* products, which have more organized market structures, were considered for cost and returns analyses. These are products that were regularly seen in the market and for which ownership was also exchanged. With the available information from *B. aethiopum* products traders, coupled with personal observations and inferences

Table I. Cost and Returns Analysis of *B. aethiopum* products for Sellers

Market location	Gross Income(₦)	Gross Cost (₦)	Net Income (₦)	Rate of Returns on investment	Gross Ratio
	Hypocotyls	Hypocotyls	Hypocotyls	Hypocotyls	Hypocotyls
Hong	12692(34.94)	3076.63(34.39)	9614.38(35.12)	312.50	0.24
Toungo	11691(32.20)	2797(31.27)	8897.69(32.50)	318.10	0.24
Ganye	11938(32.86)	3072.25(34.34)	8866.50(32.38)	288.60	0.26
Total	36324.62(100.00)	8946.04(100.00)	27378.57(100.00)	306.04	0.26
	Fruits	Fruits	Fruits	Fruits	Fruits
Hong	5088.89(38.56)	1320.56(33.93)	3768.33(40.50)	285.36	0.26
Toungo	4108.33(31.13)	1150.56(29.55)	2958.33(31.79)	257.25	0.28
Ganye	4000.00(30.31)	1421.02(36.52)	2578(27.71)	181.48	0.36
Total	13197.22(100.00)	3891.61(100.00)	9305.61(100.00)	239.12	0.30
	Mats	Mats	Mats	Mats	Mats
Hong	3054(39.77)	722.86(36.39)	2331.43(40.94)	322.53	0.24
Toungo	2325(30.27)	578.00(29.10)	1747.00(30.68)	302.25	0.24
Ganye	2301(29.96)	685.71(34.51)	1615.72(28.38)	235.63	0.30
Total	7680.72(100.00)	1986.57(100.00)	5694.15(100.00)	286.63	0.26

NB. Values in parenthesis are percentages of the columns

Table II. Cost and Returns Analysis of *B. aethiopum* Products for Buyers

Market location	Gross Income (₦)	Gross Cost (₦)	Net Income (₦)	Rate of Returns on investment	Gross Ratio
	Hypocotyls	Hypocotyls	Hypocotyls	Hypocotyls	Hypocotyls
Hong	24685.29(31.04)	19468.71(31.23)	5216.58(30.33)	26.80	0.79
Toungo	34833.33(43.79)	27651.48(44.36)	7181.85(41.75)	25.97	0.79
Ganye	20020.00(25.17)	15218.40(24.41)	4801.60(27.92)	31.55	0.76
Total	79538.62(100.00)	62338.59(100.00)	17200.03(100.00)	27.90	0.78
	Fruits	Fruits	Fruits	Fruits	Fruits
Hong	29400(49.49)	20580.00(58.84)	8820.00(36.11)	42.86	0.70
Toungo	14000(23.57)	7095.00(20.28)	6905.00(28.28)	97.32	0.51
Ganye	16000(26.94)	7302.14(20.88)	8697.86(35.61)	119.11	0.46
Total	59400(100.00)	34977.14(100.00)	24422.86(100.00)	69.83	0.59
	Mats	Mats	Mats	Mats	Mats
Hong	6908.57(29.25)	5427(38.82)	1481.15(15.37)	27.29	0.79
Toungo	8866.67(37.55)	4837.50(34.60)	4029.17(41.82)	83.29	0.55
Ganye	7840.00(33.20)	3716.00(26.58)	4124.00(42.81)	110.98	0.47
Total	23,615.24(100.00)	13980.92(100.00)	9634.32(100.00)	68.91	0.59

NB. Values in parenthesis are percentages of the columns

from the available data collected, three products namely; edible hypocotyls, mats and fruits were considered for cost and return analysis. The primary focus for these analyses is to determine the efficiency of the financial benefits accruing to buyers and sellers of *B. aethiopum* products from their transactions. Efficiency here implies the extent to which the financial returns are capable of offsetting costs. Three basic economic tools for measuring efficiency are employed. These are: Net Income (NI), Gross Ratio (GR) and Rate of Return to Investment (RORI). The following section provided the analyses.

Seller's costs and returns analysis. Net income (NI) measures the level of profit generated from a business or any production activity, after all expenses are deducted. Weekly Net income (NI) was calculated for the raw edible hypocotyls, fruits and mats. These were derived from the differences between weekly Gross Incomes (GIs) and weekly Gross Costs (GCs) of the commodities, respectively. The product of respective weekly quantity of a commodity sold and its corresponding producers unit-selling price, produce GI. Similarly, the product of respective weekly quantity of a commodity sold and its corresponding unit cost of production produce GC. The results from the analysis, as presented in Table I, revealed

that trading activities in edible hypocotyls, fruits and mats in Northeastern Nigeria is profitable. At the end of every week of trading, the sellers go home on average with NIs of ₦9614.38, ₦8897.69 and ₦8866.50 from edible hypocotyls in Hong, Toungo and Ganye, respectively. Similarly, sellers of fruits also go home on average with ₦3768.33, ₦2958.33 and ₦2578.95 in Hong, Toungo and Ganye markets, respectively. In a similar manner, sellers of mats smile home with ₦2331.43, ₦1747.00 and ₦1615.72 every week in Hong, Toungo and Ganye, respectively.

Based on the magnitude of NIs and their trends in all the commodities traded, Hong market is more efficient followed by Toungo and Ganye last. This means, producers in Hong generated higher profits from their sales compared to traders in other markets. RORI and GR values also support the above conclusion. Close observation of the results of RORI and GR values, while RORI is measuring the speed at which the capital invested is able to yield dividends or profit, GR measures the proportion of the total capital in hand that is utilized in off-setting production costs. In essence, RORI measures profit level; GR measures the entrepreneur or producer's ability to minimize costs or efficiency in inputs utilization and other costs in production

Table III. Regression Results of Profit Model for sellers and buyers of *B. aethiopum* products

Variables	Functional Linear Regression Model		
	Hypocotyls	Fruits	Mats
Sellers			
Constant Terms	-235.095	-376.716	-49.0625
Reg. Coefficient			
X ₁ = Revenue	0.872 (14.686)*	1.001(21.797)*	0.7681(14.508)*
X ₂ = Transportation cost	-0.178 (0.262)	0.198(-.475)***	0.7327(1.254)
X ₃ =Packaging cost	-0.234 (0.462)	0.307(0.546)	-0.1198(0.062)
X ₄ = Loading/offloading	-0.046(0.339)	0.577(1.849)**	-0.3152(0.950)
X ₅ = Commission	-0.262(0.898)	-0.921(1.386)***	0.3588(0.307)
X ₆ = Supply source	-0.758 (0.726)	0.064(0.116)	2.0957(1.243)
R ² ,	0.66;	0.94;	0.84;
F- stat	39.677	121.29	45.86
Buyers			
Constant Terms	-107.164	109.572	5.7580
Reg. Coefficient			
X ₁ = Revenue	0.2259(21.22)*	0.133(10.064)*	0.3236(26.563)*
X ₂ = Transportation cost	0.0759(0.056)	-42.682(6.482)*	-4.9978(-1.142)*
X ₃ =Packaging cost	2.8289(0.376)	221.131(6.482)*	-22.8096(3.375)
X ₄ = Loading/offloading	-2.917(0.316)	318.00(5.393)*	-
X ₅ = Commission	6.107(0.434)	463.329(-5.925)*	-
X ₆ = Supply source	-	-6.119(1.356)***	-
R ² ,	0.92	0.88	0.9542
F- stat	131.51	76.057	404.46

Note: * = Significant at 1%, ** = Significant at 5% and *** = Significant at 10%
Values in parenthesis are t-ratios

to improve profit. The lower the GR the better is the business, conversely, the higher the GR the worse up the business.

In Table I, a GR of 0.24 for Hong hypocotyls market for instance means 24% of the total income generated is used in offsetting production and marketing costs. By implication the profit made from edible hypocotyls in Hong market is 76% over the capital invested. That is one Naira invested will generate seventy-six kobo or 0.76 Naira as profit thus raising the earlier Naira invested to ₦1.76. Similarly explanations can be extended to other GR values. Now, based on the GR, RORI and NI concepts and in collaboration with their observed values in Table IV, one can safely conclude that, the observed differences in the level of profit generated and hence efficiency in marketing across the three markets – Hong, Toung and Ganye is due to the interaction between/among quantities of products supplied, producer prices or bargaining power and marketing cost components. These factors are the parameters that can affect returns from any marketing activity. Any policy issue that has to address marketing efficiency should first capture marketing cost components namely; transportation, loading and off-loading, processing packaging and commission charges. These factors influence technical efficiency of marketing and can as well affect price efficiency hence economic efficiency.

Having established that *B. aethiopum* products trade is profitable in Northeastern Nigeria, one would like to know, which commodity traded is more profitable. The use of Gross ratio becomes powerful in this respect. Since GR measures the expensiveness of a business activity, it is adjudged a better instrument for measuring efficiency of an enterprise. Thus, from the data on Table I, Edible

hypocotyls market on aggregate has a total GR of 0.25; fruits have 0.30 and mats 0.26, respectively across all the market. Edible hypocotyls marketing is therefore, more profitable and efficient than all the other commodities. Similarly mat follows and fruits last. This is expected, because fruits are bulky and could attract more marketing costs in terms of transport, loading and offloading, storing among others.

Buyers cost and returns analysis. Similar to cost and returns analyses for sellers, NI, GR and RORI are employed. The cost components that added up to produce gross cost (GC) were transportation cost, commissions, loading and off-loading/handling, storage costs and the producer or purchase costs. Gross income was calculated as a product of quantity marketed and the prevailing retail prices. Calculations were done on weekly bases. Three commodities of *B. aethiopum* were considered. These include: edible hypocotyls, fruits and mats. The results as recorded in Table II showed that, the weekly NIs of the buyers from hypocotyls is ₦5216.58, ₦7181.85 and ₦801.60 for Hong, Toungo and Ganye markets respectively; those from fruits are ₦8820.00, ₦6905.00 and ₦8697.86 for Hong, Toungo and Ganye; while those from mats are ₦1481.15, ₦4029.17 and ₦4124.00 in the same order. Gross ration analysis recorded the lowest value of 0.46 from fruits in Ganye to as high as 0.79 from edible hypocotyls in Hong and Toungo; also mats in Hong. Similarly the highest Rate of returns 119.11 corresponds with lowest GR (0.46) as shown in Table II. The results generally show un-usually high values of GR and low values of RORI. All the NI values are positive, but not high. The implication of these results is that, buyers of *B. aethiopum* products do not sufficiently benefit from the marketing of their products. The values of the GR implies that too much expenses were

incurred in off-setting marketing costs such as transportation, loading and off-loading, commissions, purchasing costs, storage costs, among others. These costs gulp as high as 79% of the gross benefits, buyers of the products like edible hypocotyls and mats realized. The rough terrain and the inaccessible nature of the buying location, where the producers are residing could account for the high cost of marketing as indicated by Gross ratio.

Generally, the buyers have a fair profit margin from their sales, but comparatively, sellers enjoyed their transactions more than the buyers. They enjoyed more profit. These finding therefore negates the general believe that farmers (farmers) of forestry products are usually marginalized or exploited in the course of marketing their produce. From the combined result of cost and returns for both buyers and sellers, the result revealed that *B. aethiopum* products marketing are profitable. However, sellers enjoyed more benefits than buyers, due to excessive marketing cost, on the part of buyers.

Regression analysis of profit from *B. aethiopum*. Profit is the margin or benefit accruing to an individual or group of persons from a business activity. Every rational being in business always strive towards optimizing benefit from the resources committed in to the business. The level of profit realized from the business is truncated by many factors and especially in marketing business. It has been hypothesized in this study that revenue (X_1), transportation cost (X_2), packaging cost (X_3), loading and off-loading cost (X_4), commission (X_5) and supply source (X_6), significantly influence the level of profit realizable from *B. aethiopum*. To establish the explanatory power of these independent variables on the level of profit, a multiple regression analysis was conducted. The results are presented on Table III.

Profit model for edible hypocotyls. As shown in Table III, buyers' and sellers' profit models are expressed below:

(a) **Sellers.** $Y_{phs} = 235.09 + 0.872X_1 - 0.178X_2 - 0.234X_3 - 0.046X_4 + 0.262X_5 - 0.758X_6$ (7)
 $R^2 = 0.66; F = 49.679.$

(b) **Buyers.** $Y_{phb} = -107.164 + 0.2259X_1 - 0.0759X_2 - 2.829X_3 - 2.917X_4 + 6.107X_5$ (8)
 $R^2 = 0.92; F = 131.51.$

It could be inferred from the above models that, for sellers of hypocotyls, (second column of Table III) all the independent variables explained 66% of the total variations in the dependent variable (profit). The statistical test of significance revealed that none of the independent variables (except X_1 , which is revenue) had any significant explanatory power at 10%, 5% and 1%.

Similarly, for buyers, 92% of the total variations in profit (the dependent variable) was explained by the dependent variables, however, the statistical test of significance revealed that it is only X_1 (i.e., revenue) that has significant explanatory power on the dependent variable (profit) at 1% significant level.

The remaining variables were not significant even at 5% and 10% levels. The implication of the result of the

statistical test above is that more profit will be realized as the revenue generated from trade of *B. aethiopum* hypocotyls increases. This is indicative of the positive sign of the X_1 coefficient in the equations.

Profit models for fruits. The models are extracted from Table 9 and are represented below:

(a) **Sellers.** $Y_{PFs} = 376.716 + 1.001X_1 - 0.198X_2 + 0.307X_3 - 0.577X_4 + 0.921X_5 - 0.064X_6$(9)
 $R^2 = 0.94; F = 121.29$

(b) **Buyers.** $Y_{PFb} = 109.572 + 0.133X_1 - 42.682X_2 + 222.131X_3 + 318X_4 - 463.33X_5 - 6.11X_6$ (10)
 $R^2 = 0.88; F = 76.057.$

The models specify that coefficient of determination (R^2) is 0.94 and 0.88, respectively for sellers and buyers of fruits. This implies that, 94% and 88% of the variation in the level of profit made from fruits is explained by the independent variables. The test of statistical significance of the explanatory or independent variables revealed that, in the case of sellers revenue (X_1) was significant at 1%, transportation cost (X_2) and commission (X_5) were significant at 10% and loading and off-loading cost at 5%. From this outcome, it means that, revenue and loading and offloading cost, which are significant at 1% and 5%, respectively have higher explanations on the level of profit that could be generated, while X_1 and X_5 can have lesser explanations. From the buyers' side, revenue (X_1), transportation cost (X_2), packaging cost (X_3), loading and offloading cost (X_4) and commission (X_5) were all significant at 1%, while the distance of the supply source (X_6) was significant at 10%. Consequently, the first five variables have higher explanatory powers on the variation or level of profit generated. The distance of the supply source has less explanatory powers. The un-explained variation on the profit is accountable by error term and the influence of left out variables.

Profit Models for Mats

(a) **Buyers.** $Y_{PMS} = 49.06 + 0.768X_2 + 0.733X_2 - 0.1198X_3 - 0.3152X_4 + 0.3588X_5 + 2.0975X_6$(11)
 $R^2 = 0.84; F = 45.86.$

(b) **Sellers.** $Y_{PMB} = 5.758 + 0.3236X_1 - 4.998X_2 - 22.810X_3$ (12)
 $R^2 = 0.95; F = 404.46.$

The equation 11 and 12 above have coefficient of determination of 0.84 and 0.95, respectively. This means that, the levels of profit (Y_{PMS} & Y_{PMB}) are explained 84% and 95% by the respective independent variables stipulated in the models.

For sellers of mat, the statistical test of significance revealed that only X_1 (revenue) that is significant at 1%, all the other explanatory or independent variables are not significant in explaining variations in the level of profit made from mat. Similarly, for buyers the statistical test of significance shows that revenue (X_1), transportation (X_2) and packaging cost (X_3) were all significant at 1%. This implies that, the variables have high and significant explanatory power in the variation of profit accruable to the buyers of mat.

The general outcome of the regression analysis of the

profit from *B. aethiopum* products revealed that, revenue is consistently the only significant variable or factor in explaining fluctuations in the levels of profit generated by the buyers and sellers of *B. aethiopum* products. However, in the case of fruits, the greater proportion of the explanatory variables was significant in explaining variations in profit levels.

CONCLUSION

The general conclusion is that even though; revenue, transportation cost, commission cost, loading and off-loading, handling cost/packaging cost and the distance of supply source explained the variation in the levels of profit from marketing *B. aethiopum* products, they are not sufficient in the exhaustively explaining profit variations. The inclusion of the other variables such as number of buyers and sellers, consumers' preferences, seasons and income of consumers among others could be tried.

There is sufficient evidence from cost and returns analysis, that *B. aethiopum* products business is profitable. Relatively, sellers obtained more profit than buyers. The outcome of the regression model revealed that, although revenue, transportation cost, commission, loading and off-loading cost, handling cost/packaging cost, explained the variation in the level of profit generated from *B. aethiopum* products, they are not exhaustive. Based on the findings above, investing in *B. aethiopum* product with the view of adding value to the existing products is recommended.

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(Received 23 November 2007; Accepted 26 May 2008)