

# MPRA

Munich Personal RePEc Archive

## **Cost Return Analysis of Cocoyam Production at NRCRI, Umudike**

Okoye, B.C, Asumugha, G.N and Mbanaso, E.N.A  
National Root Crops Research Institute, Umudike, Abia  
State

March 2006

Online at <http://mpra.ub.uni-muenchen.de/17363/>  
MPRA Paper No. 17363, posted 17. September 2009 / 18:26

## **Cost Return Analysis of Cocoyam Production at NRCRI, Umudike.**

B.C. Okoye, G.N. Asumugha and E.N.A. Mbanaso

National Root Crops Research Institute, Umudike, Abia State. [okoyebenjamin@yahoo](mailto:okoyebenjamin@yahoo)

### **ABSTRACT**

A cost return analysis of cocoyam production at the National Root Crops Research Institute Umudike showed that the enterprise is profitable. Labour constituted about 50% of total variable cost of production, which is the most important resource in cocoyam enterprise. A hectare cost of cocoyam production was N140, 114 while total revenue was N257, 400 and net return was N117, 286. The study showed that small-holder cocoyam enterprise is profitable by returning N1.27 for every N1.00 spent.

### **INTRODUCTION**

Cocoyams (*Colocasia esculenta* and *Xanthosoma mafafa* (L) Okeke) are important carbohydrate staple food particularly in the southern and middle belt areas of the country (Asumugha and Mbanaso, 2002). Cocoyam ranks third in importance after yam and cassava in extent of production among the root and tuber crops of economic value in Nigeria (FAO,2005).Nigeria is the largest producer of cocoyam in the world, accounting for about 37% of total world output of cocoyam (FAO,2006).

Resource allocation to cocoyam is significantly low when compared to crops such as yam and cassava (Okorji and Obiechina,1995; Okoye,2006).Production has not been given priority attention probably because of cocoyam's inability to earn foreign exchange and its unacceptability to the high income groups for both consumption and other purposes (Nweke, 1987; Onyenweaku and Eze,1987).The production is labour intensive with most operations carried out manually at the traditional level (Okoye,2006). Zuhair and Hunter, (2000) reported that the cultivation of cocoyam is declining. To meet the demand for cocoyam, there is need to increase its production (Okorji and Eze,2003).The study will therefore serve as a basis for information to the farmers on cocoyam profitability which is expected to drive increased cultivation of the crop.

### **MATERIALS AND METHOD**

Four cocoyam cultivars NCe 000, NCe 004, NCe 003 and NCe 002 of the *Colocasia* spp. were used for the study which was carried out at NRCRI, Umudike in 2004 and 2006 planting seasons. Data, such as resource allocation which includes labour in mandays, inputs, cost items as well as output (yield) and value of produce were taken. Data was analyzed using the Cost and Returns analysis procedure on per hectare basis.

### **RESULTS AND DISCUSSION**

Table 1. shows that output per hectare was 4,845.2kg. The total value of production was N257, 400 at the cost of N60 and N30 for cormels and corms respectively. Variable cost of production was N127, 740 while total cost of production was N140, 114. Labour constituted about 50% of total variable cost of production, which implies that production is labour intensive because most operations are carried out manually (Okoye ,2006; Okoye *et al.*, 2004).

### **CONCLUSION**

The results of the profitability analysis showed that cocoyam production is profitable by returning N1.80 to every N1.00 spent. Farmers should be encouraged to go into cocoyam production since it is a highly profitable venture. Given that cocoyam is an important staple food in Nigeria, any attempt to increase its productivity would be a right step towards the resolution of the food crisis.

## REFERENCES

- Asumugha, G. N and Mbanaso, E. N. A (2002). Cost Effectiveness of Farm gate Cocoyam Processing into Frizzles. In Agriculture, a basis for poverty eradication and conflict resolution. Proc. of the 36<sup>th</sup> Annual Conference of Agricultural Society of Nigeria (ASN) ,Federal University of Technology Owerri (FUTO), Imo state, Nigeria: 94-97.
- FAO Statistics (2006). Food and Agricultural Organisation, Data base results.
- Nweke, F.I. (1987). Marketing and Export of Cocoyam and its potential for food sufficiency and future Economic Recovery in Nigeria. In: Cocoyams in Nigeria, Production, Storage, Processing and Utilization. 1<sup>st</sup> Nat. Workshop on Cocoyam Umudike, Umuahia, Nig: 49-51.
- Okorji,E.C and Obiechina,C.O(1985). Bases for Resource Allocation in the Traditional Farming System. A comparative study of productivity of farm Resources in Abakaliki area of Anambra State, Nigeria.Agricultural systems, vol.17.pp197-210.
- Okoye, B. C., Okorji, E. C and Asumugha, G. N (2004) Outlook on Production Economics of Paddy Rice under Resource constraints in Ebonyi State. Proc. of the 38<sup>th</sup> Annual conference of the Agricultural Society of Nigeria. (ASN), 17- 21 Oct. 2004, Lafia Nasarawa State. Pp 337-342.
- Okoye, B.C. (2006). Efficiency of Small Holder Cocoyam Production in Anambra State, Nigeria. An Unpublished M.Sc Thesis, Micheal Okpara University of Agriculture, Umudike, Abia State, Nigeria
- Okoye, B. C., Tanko, L., Onyenweaku, C. E and Igbokwe, N. U (2005) Econometric Assessment of the Trend in Cocoyam Production in Nigeria, 1960/61 – 2003/2004. Paper presented at the 2005 Annual Conference of NAAE, RUST Port- Harcourt. 10<sup>th</sup> Oct. 2005
- Onyenweaku, C. E. and Ezeh, N. O. A (1987). Trends in Production, Area and Productivity of Cocoyams in Nigeria 1960/61 – 1981/84: In Cocoyams in Nigeria, Production, Processing and Utilization, NRCRI Umudike. Pp 94 – 100
- Zuhair, M and Hunter, D.G. 2000. Taro cultivation and use in the Maldives. 1PGRI session. 12<sup>th</sup> Symposium of International Society of Root and Tuber Crops (ISTRAC), Tsukuba Japan: 97.

**Table 1. Net return per Hectare of Cocoyam in Umudike.**

<b>Item(value)</b>	<b>Unit</b>	<b>Quantity</b>	<b>Price/unit(N)</b>	<b>Total</b>
Output	kg	(Cormels)3,734.8	60	224,088
		(Corms)1,110.4	30	33,312
<b>(A) Variable Costs</b>				
Cocoyam setts	kg	988	30	29,640
Fertilizer	kg	400	50	20,000
Bags	No	18	100	1,800
Baskets	No	7	130	910
<b>Total</b>				<b>52,350</b>
<b>(B) Labour inputs (Mandays)</b>				
Land preparation (slashing, ploughing and Harrowing)				15,000
Sett preparation	MD	6	250	1,500
Planting	MD	11	250	2,750
Weeding	MD	(39x2)	250	19,500
Fertilization	MD	11	250	2,750
Harvesting	MD	36	250	9,000
Carriage and other expenses				3,600
<b>Total</b>				<b>54,100</b>
<b>(C) Opportunity cost of variable cost at 20%</b>				21,290
<b>(D) Total Variable Costs (TVC)=A+B+C</b>				<b>127,740</b>
Gross Margin (GM) = TR-TVC				129,660
<b>Fixed Costs</b>				
Provision for depreciation of fixed assets				10,312
Opportunity cost of fixed capital at 20%				2,062
<b>Total Fixed Costs (TFC)</b>				<b>12,374</b>
<b>Total Cost (TC) = TVC + TFC</b>				<b>140,114</b>
<b>Net Returns (NR) = TR - TC</b>				<b>117,286</b>
<b>Benefit Cost Ratio (BCR) TR/TC</b>				<b>1.80 : 1.00</b>