ECONOMICS ANALYSIS OF MUSHROOM PRODUCTION IN IBADAN, OYO STATE, NIGERIA

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Abstract
The study was carried out to analyse the economics of mushroom production in Ibadan, Nigeria. Data were collected by the use of questionnaire. A total of 22 respondents were sampled from three institutions involved in mushroom production in Ibadan. They are Forestry Research Institute of Nigeria (FRIN), National Horticultural Research Institute of Nigeria (NIHORT) and ZATECH. The results shows that 40.9% of the respondents were between 25 and 30 years of age, 36.4% were below 25 years of age. It was found that, 54.5% of the growers were married and 40.9% were single. The study further revealed that fly and cockroach, inadequate cultivation house, inadequate spawn, hot temperature were the constraints faced by mushroom production in the study area. Other constraints include; inadequate capital, high price of raw materials, fungi infection, and inadequate loan facilities. It was found that the net profit per annum was estimated at ₦732,500.00 showing that mushroom production business is a profitable venture hence an investment into mushroom production can be said to be a worthwhile exercise.
Keywords: *Economic, Analysis, Mushroom. Production, Ibadan*

INTRODUCTION

Chang and Miles (2004) defined mushroom as a macro fungus with a distinctive fruiting body which can be either epigeous or hypogenous and large enough to be seen with the naked eye and can be picked with hand. They lack chlorophyll and consequently cannot use solar energy in manufacturing their food. They have been part of fungal diversity for centuries. Their mode of nutrition is by producing a wide range of enzymes that can break down complex substances after which they are able to absorb the soluble substances so formed.

Mushroom is an important vegetable usually grows in the forest with its nutritive and medicinal value. It can also be cultivated domestically in a small scale by landless people. (Imtiaj and Rahman, 2008).

Mushrooms have long been recognized as food items, delicacy and for their medicinal values. The mineral contents in mushroom are higher than those of meat, fish, eggs, cheese and most vegetables (Patra and Pani, 1995). Mushroom production has a good potential in Nigeria, because there are cheap and available substrates, man – power and ready market. The major substrates for cultivation are lignocellulosic wastes while the minor substrates (additives) are nutritional supplements which are added in small quantities.

Many species of mushrooms in Nigeria are edible, although none appears to be deliberately cultivated for that purpose until recently. The realization of the nutritive therapeutic potentials of mushrooms has awakened interest in this regard and individuals, private companies and government are poised to cash in on this potential revenue earner. In Nigeria, mushroom production in natural forests is under threat as most of the indigenous species of mushrooms are endangered. This is a serious problem because mushrooms occur naturally in narrow ecological niches within the tropical forests. The substrates used in mushroom production are usually by-products from industry, households and agriculture.

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(World Bank, 2004). Mushroom production, which is reported to represent the only economically viable bio-technology process for conversion of waste plant residues from forests and agriculture (Wood and Smith, 1987), fits very well into this category. Mushroom cultivation technology is environmentally-friendly. Recently, it has been revealed that mushroom mycelia can play a significant role in the restoration of damaged environments through *myco-filtration* (Stamets, 2006 ../AppData/Local/Durojaiye/Documents/Mushroom 3.html - CR21).

MATERIALS AND METHOD

The study was carried out in the Ibadan. The study area falls in the rain forest region. With the vegetation made up of trees and other forest products, there is a suitable organic matter from woods and stubbles for the growth of mushrooms, particularly the local varieties such as button mushrooms. The sample size was 22, comprising seven from ZARTECH (7), NIHORT (7) and FRIN (8). The growers were interviewed using a pretested interview schedule that was made up of close and open ended questions. The data obtained were analysed using descriptive statistics, and Gross Margin Analyses.

RESULTS AND DISCUSSION

The socio-economic characteristics of the respondents are captured in table 1. The analysis shows that 90.9% of the respondents having tertiary education, and this indicate that mushroom production may be taken as an 'elites' venture. This is likely to improve the techniques of production, since research information on the enterprise would be more likely adopted. Studies have found a significant relationship between level of education and level of adoption of innovations (Alfred *et al*., 2003; Okunlola *et al*., 1998).

Costs and Returns of Mushroom Production in the Study Area

The average total cost of mushroom production was about estimated at ₦467,500.00 of which total fixed cost was determined at ₦ 55,000.00. This represents about of N 11.76% of the average total cost. The study shows that average profit margin of mushroom production in the study area was ₦732,500.00, meaning that the business of mushroom production is a profitable venture.

Constraints faced by mushroom production in the study area

Mushroom is a new crop in Nigeria and most of the farmers are facing many constraints (Table 3). About 95.45% of the sampled producers expressed that fly and cockroaches destroy mushroom spawn. The main reason is that dark place is required for mushroom production and fly and cockroaches also like that environment and thus they eat mushroom spawn. All the sampled respondents (100%) mentioned that high temperature hinders mushroom production. Also, all the respondents reported virus, fungus and germ problems. All the respondents further expressed that inadequate capital has been their major constraint. In addition, the producers also faced with some constraints such as; high price of raw materials, difficulty in obtaining loan due to long process associated, land scarcity and lack of good mother spawn of mushroom.

CONCLUSION

Despite the several constraints faced in mushroom production in the study area,

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mushroom production is very profitable as revealed by the results obtained. Total revenue of ₦ was realized. The Benefit Cost Ratio (BCR), Return on Investment (ROI), Gross Ratio (GR) , Operating ratio (OR), Fixed ratio (FR) were all computed at ₦ . ₦ , ₦ , ₦ , respectively and they were all positive. These further affirmed that mushroom production is profitable in the study area and could be considered as one of the fastest employment generation and poverty reduction in the area that will improve the social and economic well-being of the respondents. Over all, mushroom production can be said to be a worthwhile exercise.

RECOMMENDATIONS

Based upon the findings from the study, it is hereby recommended that

• Since a larger percentage of the present producers are highly educated, efforts should be geared towards sensitization and mobilization of the rural farmers on the benefits of mushroom production.

• Change agent should also educate and create awareness of the sources of inputs and marketing opportunities associated with mushroom production.

• The producers and would-be-producers could be formed into cooperatives for the purpose of pooling their resources together so as to be able to afford some infrastructure such as storage facility, since the facility was found to have significant relationship with output

• Micro processing enterprises be facilitated and established by relevant stakeholders such as Government, Non-Governmental Organization, Framers group so as to facilitate the processing of the produce into various product for improved acceptability by all.

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Table 1: Socio-Economic Characteristics of the respondents

Variables	**Frequency**	**Percentage**
Sex:		
Male	15	68.2
Female	7	31.8
Total	**22**	**100**
Marital status		
Single	9	40.9
Married	12	54.5
Widowed	1	4.5
Total	**22**	**100**
Age (years)		
Below 25	8	36.4
25-30	9	40.9
31-35	2	9.1
36-40	3	13.6
Total	22	**100**
Educational background		
No formal education	0	0.0
First school leaving certificate	0	0.0
SSCE	2	9.1
Tertiary education	20	90.9
Total	**22**	**100**

Source: Field survey, 2018

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Table2 : Analysis of costs and returns of mushroom production in the study area

ITEM	PRICE (₦)	Percentage
Bamboos	3,000.00	0.64
Polythene	8,000.00	1.71
Cloth	2,000.00	0.43
Plastic pipes	1,000.00	0.21
Water supply pipes	4,000.00	0.86
Water supply machine	15,000.00	3.21
Woods	5,0000.00	1.07
Jute bag	3,000.00	0.64
Rent	4,000.00	0.86
Land preparation	2,000.00	0.43
Transportation	8,000.00	1.71
Total variable cost	55,000.00	11.76
Spawn Bags	10,000.00	2.14
Permanent Hired labor:		
Male	180,000.00	38.5
Female	180,000.00	38.5
Total fixed cost	370,000.00	79.14
Sub total cost	425,000.00	90.90
Contingency (10%)	42,500	9.10
Total cost	467,500.00	100
Revenue from Mushroom	1,200,000	
Gross margin	830,000.00	
Net profit/annum	732500.00	

Source: Computed from field survey, 2018

Table 3: Production constraints faced by mushroom production

Problems	Frequency	Percentage
Infestation by Fly and cockroach	21	95.45
Inadequate/poor cultivation house	20	90.91
Poor and inadequate availability of spawn	18	81.82
Hot temperatures	22	100
Inadequate capital	22	100
High price of raw materials	18	81.82
Infestation by Virus, fungus and germ	22	100
Long process in obtaining loan	17	77.27
Total	160*	

Source: Field survey, 2018 *Multiple responses

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