

Analysis Of Incidences Of Hazards Among Rubber Budders: An Implication To Revenue Generation In Rrin

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Abstract: Budding is the technological processes of merging scions and buds of plants, usually of different genetically make up but of the same species with the aim to achieve specific target(s); such as high yield, diseases resistance and other desirable qualities. In Rubber Research Institute of Nigeria (RRIN), *Knuth. Mull, Hevea brasiliensis* is used to bud the local species of rubber by specialist called rubber budders. Data on budding activities between 2002 and 2015 were collected and analyzed using descriptive statistics. The study revealed total of 696,251 quantity of budded stumps was produced and N13, 754,554.50 was realized as revenue. The paper examined the factors of hazards that the budders were exposed to which could have affected the performance of the budders during the cause of budding. The study revealed that 86.36% of the respondents were hazardously affected by sharp objects, ants bit, honey bee attack, snake bit and road accident. Also, only 31.54% of the victims' hospital bill was paid by RRIN Management. Majority (45.45%) of the victims used native medicine to treat themselves. The paper recommends that in order to improve on the quantity of budded stumps production and revenue generation, RRIN Management should take care of the welfare of the budders including medical services.

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Introduction

Rubber Research Institute of Nigeria (RRIN) was established in 1961 by the then Mid-Western Region of Nigeria government, became federal government of Nigeria Research Institute in 1973 with the mandate to develop and improve the production, processing and marketing of natural rubber and gum arabic in the country (RRIN, Annual Report, 2008 and 2009).

Natural rubber (*Hevea brasiliensis*) is a perennial tree crop belonging to the family *euphorbiacea*. The plant is essentially grown for its latex content which is used in the manufacture of elastic substances such as tyre, tubes, condom, etc. ((Umar & Ugwa, 2006; Umar, 2011). The production of natural rubber (NR) is believed to have started in about 1876 with the exploitation of local variety, *funtumia elastic*. This variety has challenges of poor latex yield (340kg/ha/yr.) and bark regeneration after tapping (Idoko *et. al.*, 2007). These factors put great threat to natural rubber (NR) industry as farmers were discouraged in the production of NR despite its increasing demands of the produce due to the world's galloping technological industries.

The discovery of exotic variety of rubber (*Knuth. Mull, Hevea brasiliensis*) from Kew Garden in England, which yields up to 3600 kg/ha./year, came to Nigeria in 1895. The high latex yielding capacity of *Knuth. Mull, Hevea brasiliensis*, renewed the hope

and zeal among the rubber farmers. The scientists on the other hand seek to improve the local variety by cross breeding it with *Knuth. Mull, Hevea brasiliensis* in order to get even a better quality NR than *Knuth. Mull, Hevea brasiliensis*. This cross breeding essentially involves Budding Technology which the merging of scion of a low quality plant with a bud of a superior quality plant of the same species in order to improve the low quality type genetically.

There are many factors that influence the production process and budding success of budded rubber stumps. The paper thus carefully examined the major factors such as the socio-economic status of the respondents, budding experience and the incidences of hazards and sickness/deaths of rubber budders that could have affected the production of the budded stumps and revenue generation in RRIN during the period of study.

Methodology

The study was carried out in Rubber Research Institute of Nigeria, Iyanomo, near Benin City, Edo state-Nigeria. Records on the budding activities in the Nursery Unit were obtained for the period between 2000 and 2014 and supplemented with questionnaire administered on 40 rubber budders in 2015. Out of the 40 questionnaire administered, 22 were retrieved and

used for this study. Information were solicited from the respondents on hazards and injuries they encountered during their cause of budding activities. Also, data on the total budded rubber stumps (rubber planting materials) produced and total budding success within the period (2000 and 2015) in the Institute were obtained. Similarly, the rates of accidents, absenteeism from budding activities, cost of treatment of ailments and deaths were evaluated using descriptive statistics such as percentage and means to analyze the yearly percentage changes in budded stumps production. Gross percentage change for budded stumps production and the revenues obtained from sales of budded stumps during the period of study were calculated in order to determine the impacts of the incidences of hazards on the budders and revenue to the Institute.

Results And Discussions

Table 1 reveals the production trend and revenue generation from rubber budded stumps between 2002 and 2015. The Table depicts that a total of 696,251 rubber budded stumps were successful and sold out to farmers which generated total revenue of N 13,754,554.50 during the period. The result also shows that the more the budded stumps produced the higher the revenue.

This implies that production of budded stumps in RRIN is in stage one of the production function – an irrational stage of production. Although there was inconsistency in revenue generation from the sales of the budded stumps, the mean change in revenue generated was however positive (N 1,485.57). the economic advice is therefore that the production inputs for budded stumps production should be increased to a level until when the demand for it by farmers begins to decline which will implies an optimal production level is reached (stage two of production function) – a rational stage of production.

Table 1: Production/Revenue generated from budded rubber stumps in RRIN

Year	Successful budded rubber	Cost per budded rubber stump(₦)	Revenue from sales of budded rubber stump(₦)	% Change in Revenue (₦)
2002	29,316.00	10.40	304,886.40	-
2003	21,329.00	12.00	255,948.00	-16.06
2004	48,856.00	12.00	586,272.00	129.06
2005	38,628.00	12.40	478,987.20	- 18.30
2006	44,580.00	12.40	552,792.00	15.41
2007	62,472.00	12.40	673,816.00	21.90
2008	96,000.00	12.40	1,14,080.00	- 83.07
2009	86,755.00	50.00	1,523,450.00	1,235.43
2010	72,390.00	50.00	3,189,600.00	109.37
2011	---	50.00	-	-
2012	59,646.00	50.00	-	-
2013	74,612.00	50.00	2,069,271.00	-
2014	60,702.00	57.00	3,965,262.00	91.63
2015	965 [⊙]	57.00	-	-
Total	696,251	-	13,754,554.50	1,485.37μ

⊙ = data between January and May, 2015. μ = mean % change in revenue.

Source: Calculated from field survey, 2015.

Table two shows the statistic of the hazard incidences among rubber budders in RRIN during 2015 season.

The analysis indicated that majority (86.36%) of the respondent were affected in one way or the other, and only 13.64% of the total respondents that were not affected by any type of the hazard incidence considered in this study. As a result of the hazardous incidences, a budder lost his life.

Table 2: Level of Hazard experienced/exposed to by the respondents

Variables/Incidence Type	Freq.☺	%
Total respondents = 22		
a. Number bitten by snake	1	4.55
b. Number stung by scorpion	2	9.09
c. Number bitten by ants	7	31.82
d. Number stung by honey bees	3	13.64
e. Number had road accident	1	4.55
f. Number cut by sharp objects	14	63.64
g. Number affected by a - f	1	4.55
h. Number not affected by any (a-f)	3	13.64
i. Number gone to hospital for treatment	10	45.46
j. Number Management paid their medical bill	7	31.84
k. Number Management didn't pay their medical bill	12	54.55
l. Average number of days absent from work/month	6	27.28
m. Total cost of self-treatments bills (₹)	31,000.00	-
n. Number died due to the hazard exposed to	1	4.55

☺ = multiple choice

Source: field Survey, 2015

The incidence of cut by sharp objects (63.64%) recorded the highest risk factor, followed by giant ant bit (31.82%). This calls for a cleaner nursery farm devoid of harmful factors to provide a conducive budding environment. On the treatment of ailments, the Table shows that only 31.84% of the affected budders had their medical bills paid by their employer (RRIN) leaving majority (68.16%) to treat themselves. This is an act of disincentive to the budders. No doubt providing free medical services to these low income earners will go a long way motivating them to put in their best and consequently, a more budded stumps production and higher revenue to the Institute.

Table 3: Types of treatments received by the affected budders

Type of treatment	Freq.	%
a. Native medicine	10	45.45
b. Orthodox medicine	4	18.18
c. Both a and b	6	27.27
d. No treatment	2	9.09

Source: Field Survey, 2015

Table 3 depicts the kinds of treatments received by the affected budder with the identified hazardous factors in this study. The study revealed that majority (45.45%) of the affected budders went for native medicine. This is not unconnected with RRIN Management unable to pay the hospital bill for most of the sick budders as earlier seen in this study. The lack of treatment by qualified medical personals might have led to the death of one of the budders in 2015.

Conclusion

The hazardous factors that the rubber budders in RRIN were exposed to had not however, showed significant impact on the budded stumps production and revenue generation based on the fact that the average change in revenue over the years was positive and there was also gradual annual increase in the quantity of rubber budded stumps production in the Institute.

Recommendations

The output of rubber budded stumps and revenue generation from RRIN could be improved by employing more budders, providing the budders the basic necessary incentives such as free medical services.

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