International Journal of Research in Economics and Social Sciences (IJRESS)
Available online at: http://euroasiapub.org
Vol. 9 Issue 5, May - 2019
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

Impact of Rubber Plantation on Employment in Nagaland

N. Renthungo Patton and Dr. Zarenthung Ezung

Abstract:

Nagaland, which became the 16th state of Indian Union on 1st December 1963, is still under developed and the economy is a dependent one. It is often stated that the state economy is a salaried economy fully dependent on the central funds for development. Nagaland even after more than five decades of statehood, still it has higher percentage of people living below poverty line. In 2011-12 the people living below poverty line was 18.88 percent. Moreover, the unemployment rate was 159 per thousand (according to current daily status) as on 2009-10. The government in order to overcome this mess has been implementing certain policies year after year and they too have dedicated certain years as years of farmers and entrepreneurs in order to encourage people in this activities. The latest initiation taken by the government to increase the level of income and employment of the people in particular and the state economy in general was the introduction of rubber farming 5 to the people. Thus, this paper tries to look into the employment aspect from rubber farming in Nagaland by taking 60 Rubber Farmers as a sample from two districts. The results of the analysis reveals that on an average of 2978.55 man days labour per hectare per year has been generated for a period of 34 years. Among the farm size it was also found that there is a positive relationship between farm size and employment generation.

Keywords: *Rubber plantation, farm size and employment*.

Introduction:

Natural rubber is considered to be one of the most resourceful industrial raw materials of plant origin. The first rubber plantations were set up in 1895 in Kerala however the first commercial rubber plantations were established at Thattekadu, Kerala only in 1902. India ranks 4th in global rubber production producing on an annual average of about 7.5 lakhs tonnes covering an area of about 6 lakhs hectares in total plantation. Kerala is the largest contributor to the overall rubber production in India followed by Tripura. Size of holding is normally categorized as small, medium and large size holding. According to Rubber Board of India, small-size holdings accounts for 91 per cent of area under rubber plantation and 92 per cent of rubber production in India with an average size of holding of about 0.57 hectares. About 105,500 hectares of land mass of Northeastern states comes under rubber cultivation. Under the aegis of the Land Resources Department and the Rubber Board extensive plantations have been carried out in Nagaland. Majority of the plantations concentrated in the district of Dimapur, Wokha, Mokokchung and Peren district. However, gradual extensions are also being done in the districts of Mon, Longleng, Zunheboto and Tuensang districts. Nagaland has a potentiality of about 3.80 lakh hectares of rubber plantation, out of which the present area covered is about 10,000 hectares consisting about 40 lakh standing trees at various stages of growth.

Rubber plantation is vital for economic growth especially for rural areas as it provides means of earning livelihood and generation of employment. Over 37,083 farmers in Ghana are being employed in rubber plantation through the Rubber Out-grower Scheme (Mathews 2017). As Nagaland have been identified as potential rubber producing state the state government have been given much emphasis on rubber plantation with an aim to promote sustainable livelihood in the rural areas. Thus this is an attempt to study the relationship between employment and rubber production in Nagaland. This paper makes an attempt to study the impact of rubber plantation on employment generation in Nagaland.

Methodology:

The study is based on data collected from a sample of 60 rubber farmers consisting of 30 farmers each from Wokha and Mokokcung districts through personal and questionnaire methods. Books, journals and websites are used as secondary data in this study.

Results and discussion

From table no. 1 we see that, in the first year, a total of 14829 labours were employed, out of which 73.67 percent were male and 26.33 percent were female labours. The activity that contributed the highest to employment generation during the first year was clearing (45.59 percent) followed by jungle cutting, mulching and burning (32.69 percent) , digging (12.66 percent) and plantation (9.06 percent).

Between the 2nd and 3rd year, the field is cleaned 3 times in a year for which about 17700 mandays labours were employed, out of which 70.54 percent were male and 29.46 percent were female.

From 4th to 7th year, a total of 11636 man days labours were employed, where 69.68 percent were male and 29.46 percent were female. The rubber trees starts tapping from the 8th Years onwards, the tapping period for any rubber trees is upto 31 years, As such the longevity of a rubber trees is 31 Years old. It is to be noted that during this tapping period, no female labours are employed as it is inconvenient and not practical for female labours for the job.

From the 8th to 31st year, the field is cleaned only one time in a year for which a total of 22848 man days labours (male) were employed, followed by another 338400 mandays labours (male) employed for tapping.

Further from 32nd and 34th year, 1348 man days labour (male) were employed for cleaning and a total 23640 mandays labour (male) for tapping.

The grand total of employment generated from rubber plantation for the State from 1st to 34th year is about 430401 man days where male labour accounts for 417755 (97.06 percent) mandays and female labour accounts for 12646 (2.94 percent) mandays.

In terms of average employment per hectare, an average of 102.62 mandays labours consisting of 75.61 male and 27.02 female were employed. For the 2nd and 3rd year 122.49 mandays labour with 86.41 males and 36.08 females were employed. For the 4th and 7th year 80.53 mandays labour were employed consisting of 56.11 male and 24.42 female.

The average employment per hectare between 8th – 31st year for cleaning the field is 158.12 mandays labour and for tapping is 2341 mandays labour consisting of only male labours.

While during the period of 32nd to 34th years 9.32 and 163.59 male labours were employed for clearing and for tapping.

The overall average employment per hectare between the 1st to 34th year is found to be 2978.554 where male labours accounts for 2891.038 (97.06 percent) and female labours accounts for 87.51 (2.94 percent).

Table: 1 Total Employment (Hectare Wise) Total Hectare = 144.5.

Year	Activity	Male	Female	Total Employment	APH Male	APH Female	APH
1	Jungle cutting mulching and burning	3367 (69.45)	1481 (30.55)	4848 (32.69)	23.3	10.25	33.55
	digging	1672 (89.08)	205 (10.92)	1877 (12.66)	11.57	1.42	12.99
	planting	1166 (86.76)	178 (13.24)	1344 (9.06)	8.07	1.23	9.3
	clearing 2 times	4720 (69.82)	2040 (30.18)	6760 (45.59)	32.66	14.12	46.78
	Total	10925 (73.67)	3904 (26.33)	14829 (100)	75.61	27.02	102.62
2 to 3	Clearing 3 times	12486 (70.54)	5214 (29.46)	17700 (4.11)	86.41	36.08	122.49
4 to7	Clearing of the field 2 times	8108 (69.68)	3528 (30.32)	11636 (2.71)	56.11	24.42	80.53
8 to31	Clearing of the field 1 time	22848 (100)	0 (0)	22848 (5.31)	158.12	0	158.12
8 to31	Tapping	338400 (100)	0 (0)	338400 (78.62)	2341.87	0	2341.87
32 to34	Cleaning of the field 1 time	1348 (100)	0 (0)	1348 (0.31)	9.32	0	9.32
32 to34	Tappers	23640 (100)	0 (0)	23640 (5.49)	163.59	0	163.59
	Grand Total	417755 (97.06)	12646 (2.94)	430401 (100)	2891.03 (97.06)	87.51 (2.94)	2978.55 (100)

Source: Field Survey 2016-2017.

Note: APH = Average Per Hectare

The overall correlation between size of farming per hectare and employment is found to be highly positive (r = 0.96). Since the value of r is more than six times the probable error

(P .Er = 0.0069), the co-efficient of correlation between farm size and productivity is significant which shows that as the size of farm increases, the productivity of rubber also increases. The co-efficient of determinants on r^2 value shows that 92 percent of the variation in employment is explained by the farm size X, the regression values of employment(Y) on farm size(X) gave us.

Y= a+bx

Y= 966.4361+ 2577.265X

Table No. 2 Correlation and Regression analysis between Employment and farm size.

Employment	Coefficients	Std Error	t Stat	P-value
Intercept	966.4361	296.3375	3.261	0.002
Farm Size	2577.2653	93.9225	27.440	0.000

The result shows that the regression co-efficient is 2577.265. This explains that a unit change in farm Size will lead a change in employment by 2577.265. The p-value is found to be 0.000 which is less than 0.05. Therefore, the regression co-efficient is significant at 5 percent.

Conclusion

Rubber plantation has been an important source of livelihood for the farmers in Nagaland, the above study reveals that there is a positive relationship between farm size and employment generation. The larger the size of the plantation, the greater is the prospect of employment generation in the state. It is also found that male employees are lager in number than the female employees as the nature of the work demands for more physical labour. However, there is a need for intervention of the government to provide adequate infrastructural facilities in the form of better power supply, sufficient water supply, all weather roads connecting the spot market, financial and technical assistance to enhance the productivity of the farmers in order that the production capacity and employment generation of the farmers are being augmented.

Bibliography

- Bhowmik, I (2006). Imapct of Rubber Plantations on the Environment of Tripura, *SSRN Electronic Journal*. Available at (online): https://www.researchgate.net/publication/318001660_Impact_of_Rubber_Plantations_on_the_Environment_of_Tripura.
- Government of India Rubber Board (2018). *Natural Rubber*. Available at (online): https://rubberboard.org.in/menuview (Accessed 8 May 2019).
- Binitha, M. and Mano Raj, J. (2018). A Study on Socio-Economic Condition of Rubber Plantation Labourers in Kanyakumari District, *IOSR Journal of Business and Management (IOSR-JBM*). Available at (online): http://www.iosrjournals.org/iosr-jbm/papers/Vol20-issue3/Version-8/D2003083540.pdf (Accessed 8 May 2019).
- Rubber Asia. (2019). *UNTAPPED AFRICA - Rubber Asia*. Available at (online): https://www.rubberasia.com/2017/05/22/untapped-africa/ (Accessed 27 Apr. 2019).
- Thenewsminute. (2018). *The News Minute*. Available at (online): https://www.thenewsminute.com/article/output-fall-almost-15-cent-because-kerala-floods-rubber-board-chief-88547