

KNOWLEDGE OF RECOMMENDED CULTIVATION PRACTICES OF RUBBER CROP IN WOKHA DISTRICT OF NAGALAND

Mhayamo M Humtsoe¹ & Dr. Syed H. Mazhar²

¹Research Scholar, Department of Agricultural Extension and Communication, Sam Higginbottom University
of Agriculture, Technology & Sciences, Prayagraj, Uttar Pradesh, India

²Professor, Department of Agricultural Extension and Communication, Sam Higginbottom University of Agriculture,
Technology & Sciences, Prayagraj, Uttar Pradesh, India

ABSTRACT

The present study entitled “*Knowledge and Adoption Behaviour of Recommended Cultivation Practices of Rubber Crop In Wokha District of Nagaland*” was carried out during the session 2021-22. The investigation was conducted in Ralan block of Wokha district of Nagaland. A total number of 120 respondents from 4 villages were selected using proportionate random sampling procedure. It was observed that the majority (67.50%) had medium knowledge level regarding improved rubber cultivation technology while 15.00 and 17.50 per cent respondents possessed low and high knowledge level, respectively. In respect of correlation analysis between knowledge level and the independent variables, it shows that age, education, annual income, mass media exposure and source of information had positive and found to be significant. Whereas, family type, family size land holding and extension contact was found to be non-significant.

KEYWORDS: Rubber, Wokha, Nagaland

Article History

Received: 26 May 2022 | Revised: 27 May 2022 | Accepted: 02 Jun 2022

INTRODUCTION

Rubber (*Hevea brasiliensis*) is the conclusive yield factor towards the available tapping trees on the rubber growing areas. The situation in managing the productivity in the rubber areas can lead the enterprises and growers can estimate the production capability. The demand for Natural Rubber arises in all the countries and is highly correlated to the levels of industrialization and the standard of living. China is the world largest consumer of NR followed by USA and Japan and India. An India rank 4th in consuming the natural rubber in the world and the production of Natural Rubber is limited to certain countries owing to the requirement of specific agro-climatic conditions.

India is the 6th largest producer in the world of natural rubber and also the 2nd largest consumer which dependently need to import a huge range of rubber because of the consumption level based on the uses of various field for processing the outputs. The forward and backward linkages of the NR helps the local economies in the country as well as the ASEAN region. The dependency on natural rubber is more than the produce, the rubber board addresses that 40% of consumption is depended on the imports from other countries majorly the ASEAN region. Therefore, the industry has to bring more export output by recommending the tube and tyre industry for formulating more targeted policies. (Joseph and Hari, 2019).

The perspectives on rubber monoculture in Nagaland, North-East India attains sustainability and legal aspects of past and prevalent rubber monoculture, a Himalayan foothill state in the South-western part of North-East India. The state being in the sub-tropical region with humid climate, has been proven to be suitable for Rubber (*Hevea brasiliensis*) cultivation. Favourability of climate and success from earlier trials by the Rubber Board in early 1960s with support from various agencies in the state, witnessed extensive rubber cultivation in the last five decades. Rubber cultivation is seen as an opportunity to provide livelihoods to the farmers and the rural mass in general.

Rubber farming has become a major source of employment and income generation for the rural people in Nagaland. Over the years, there has been a visible improvement in the economic condition of the rural farmers through rubber plantation in Nagaland. This was stated in the Annual Administrative Report 2019-2020 of Land Resources department tabled on the floor of the House today by Transport, Civil Aviation and Railways and Land Resources Minister P. Paiwang Konyak. During 2019-20, an area of 46.5 ha has been developed bringing the total area under rubber plantation to 19, 123.3 ha which is just 1.15% of the total geographical area of the state.

RESEARCH METHODOLOGY

The study is to be conducted in Wokha district of Nagaland. The Wokha District is situated in the mid western part of Nagaland State, adjacent to Sibsagar plain of the Assam State. Out of total twelve districts in Nagaland, Wokha district is selected for the study. Wokha consists of 7 RD blocks viz. Wokha, Chukitong, Wozhuro, Ralan, Changpang, Bhandari, Sanis. Out of these blocks, Ralan block is selected through purposive sampling because it has the largest area under rubber cultivation in comparison to other blocks. From Ralan block, six villages will be included in the survey as sample villages. Thus, the sample survey will cover 6 (six) villages. From each selected village, 10% of the household will be selected which will include both progressive and non-progressive farmers, thus the total sample comprised of 120 respondents.

RESULTS AND DISCUSSION

Distribution of Respondents According to their Knowledge about Improved Cultivation Practices by the Respondents

The data in Table 1 shows that out of 120 respondents, majority of respondents 67.50 per cent fell in medium level knowledge group whereas 15.00 per cent rubber growers were observed in low level knowledge group and remaining 17.50 per cent respondents possessed high level of knowledge about recommended production technology of rubber.

Table 1: Distribution of Respondents on the Basis of Level of Knowledge about Improved Rubber Cultivation Practices by the Respondents

Knowledge Level	Knowledge Score	Frequency	Total percent
Low	Below 70	18	15.00
Medium	70 to 80	81	67.50
High	Above 80	21	17.50
Total		120	100.00

Individual practice-wise knowledge of rubber growers was also worked out. For this, mean percent scores were calculated and the findings about the same have been presented table 2.

Table 2: Extent of Knowledge of Farmers about Improved Rubber Cultivation Practices by the Respondents

S. No.	Aspects/ Practices	Knowledge Level		
		Fully Know F (%)	Partially Know F (%)	Not Know F (%)
1.	Recommended varieties of Rubber for cultivation	32 (26.67)	65 (54.16)	23 (19.17)
2.	Method of propagation(seedlings/budded plantlets)	45 (37.50)	58 (48.33)	17 (14.17)
3.	Planting time	38 (31.66)	63 (52.50)	19 (15.83)
4.	Seedlings/budded plantlets treatment	45 (37.50)	50 (41.66)	25 (20.83)
5.	Method of planting	52 (43.33)	60 (50.00)	8 (6.66)
6.	Recommended quantity of FYM to be applied	36 (30.00)	56 (46.66)	28 (23.33)
7.	Fertilizer per acre	28 (23.33)	45 (37.50)	47 (39.16)
8.	Inter cultivation	41 (34.16)	57 (47.50)	22 (18.33)
9.	Weed management	26 (21.66)	63 (52.50)	31 (25.83)
10.	Pest control	29 (24.16)	61 (50.83)	30 (25.00)
11.	Disease control	32 (26.66)	60 (50.00)	28 (23.33)

N=120

It stated that 54.16 % of the respondents having medium level of knowledge regarding recommended varieties of rubber for cultivation, 26.67 % of the respondents are having fully knowledge and followed by 19.17% of the respondent are having not known. From the above table 48.33 % of respondents having medium level of knowledge regarding method of propagation (seedlings/budded plantlets), 37.50 % of the respondents are having fully knowledge and followed by 14.17 % of the respondents having not knowledge. It observed that 52.50 % of the respondents having partially knowledge regarding planting time, 31.66% of the respondents are having fully knowledge and followed by 15.83 % of the respondents are having not knowledge. It revealed that 41.66 % of the respondents having partially knowledge regarding the seedlings/budded plantlets treatment, 37.50 % of respondents are having fully knowledge and followed by 20.83 % of respondents are having not knowledge. It started that 50.00 % of the respondents having partially knowledge regarding method of planting, 43.33 % of the respondents are having not knowledge and followed by the 6.66 % of the respondents having fully knowledge.

It stated that 46.66 % of the respondents having medium level of knowledge regarding recommended quantity of FYM to be applied, 30.00 % of the respondents are having fully knowledge and followed by 23.33 % of the respondent are having not known. From the above table 37.50 % of respondents having medium level of knowledge regarding fertilizer application, 23.33 % of the respondents are having fully knowledge and followed by 39.16 % of the respondents having not knowledge. It observed that 47.50 % of the respondents having partially knowledge regarding inter cultivation, 34.16 % of the respondents are having fully knowledge and followed by 18.33 % of the respondents are having not knowledge. It revealed that 52.50 % of the respondents having partially knowledge regarding the weed management, 21.66 % of respondents are having fully knowledge and followed by 25.83 % of respondents are having not knowledge. It started that

50.83 % of the respondents having partially knowledge pest control, 24.16 % of the respondents are having not knowledge and followed by the 25.00 % of the respondents having fully knowledge.

It revealed that 50 % of the respondents having partially knowledge regarding the disease control, 26.67 % of respondents are having fully knowledge and followed by 23.33 % of respondents are having not knowledge.

Table 3: Relationship between Selected Variables of Rubber Growers and their Level of Knowledge of Recommended Package of Practices

S.No.	Independent variables	Correlation coefficient (r)
1.	Age	0.097**
2.	Education	0.110**
3.	Annual income	0.075**
4.	Land holding	0.256NS
5.	Family size	0.223NS
6.	Family type	0.198NS
7.	Extension contact	0.158**
8.	Social participation	0.359NS

Correlation is significant at the 0.05 level of probability NS= Non-significant

The values of coefficient of correlation furnished in Table 3 clearly shows that level of knowledge of recommended package of practices were positively and significantly related at 5% level of significance with age, education, annual income, and extension contact.

CONCLUSION

It was concluded that, the socio economic status of the respondents found to be moderate with primary education, well economic back ground and greater access to all the assets. Majority of respondents i.e. 60 per cent of the total respondents were in the medium level of adoption group, whereas 13.33 per cent respondents were in low adoption group and remaining 26.67 per cent rubber growers were observed in the category of high level of adoption about rubber cultivation technology.

It is concluded from results, State Department of Agriculture provide knowledge about improved rubber cultivation practices by organizing training programmers possibly at their own villages to the rubber growers which will help them to update their knowledge and increase their level of adoption which will result in higher rubber production.

The findings of the study indicated that farmers had adequate knowledge regarding recommended varieties of rubber for cultivation followed by planting time, weed management, pest control, whereas they had less adoption regarding fertilizer per acre, seedlings/budded plantlets treatment.

REFERENCES

1. Joseph, J. and Hari, K.S. 2019. Market Orientation and Export Performance under ASEAN- India Free Trade Agreement: The Case of India's and Rubber Products, *Journal of Asian Economic Integration*. 1(2) 242-259.
2. Chaudhuri, P.S. Nath, S. Pal, T.K. and Dey, S.K. 2009. Earthworm Casting Activities under Rubber (*Hevea brasiliensis*) Plantations in Tripura (India). Department of Zoology, Maharaja Bir Bikram College, Agartala, Tripura, India Rubber Research Institute of India, Regional Research Station, Agartala, Tripura, India. *World Journal of Agricultural Sciences*.5(4)515-521.

3. Deb, B. J. and Ray, B. D. 2004. *Changing Agricultural Scenario in North-East India*. Concept Publications, New Delhi, 63-64.
4. Muthusamy, A. and Sundararajan, S. 2009. *Export- Import performance of Natural rubber in India*, *International journal of Recent Technology and Engineering*. 8(4). 4974-4977.
5. Rao, K. Jagannadha, and Mohammed Abdul Mujeeb. "Effect of crumb rubber on mechanical properties of ternary blended concrete." *Research and Development (IJCSEIERD)* 3.3 (2013): 29-36. *International Journal of Civil, Structural, Environmental and Infrastructure Engineering Research and Development (IJCSEIERD)* ISSN 2249-6866 Vol. 3, Issue 3, Aug 2013, 29-36
6. Salleh, Zulzamri, and M. Yuzri M. Yusop. "Design and fabrication of silicon rubber mould (SRM)." *International Journal of Mechanical Engineering* 2: 63-68. *International Journal of Mechanical Engineering (IJME)* ISSN 2319-2240 Vol. 2, Issue 3, July 2013, 63-68
7. Deshpande, Neela, et al. "Experimental investigation on strength characteristics of concrete using tyre rubber as aggregates in concrete." *Int. J. Appl. Eng. Res. Dev* 4.2 (2014): 97-108. *International Journal of Applied Engineering Research and Development (IJAERD)* ISSN(P): 2250-1584; ISSN(E): 2278-9383 Vol. 4, Issue 2, Apr 2014, 97-108
8. Al-Shammari, Mohsin Abdullah A., And Sadoon A. Al-Gaffar. "Experimental And Theoretical Study In Rubber Reinforced With Carbon Fillers Under Tension–Cyclic Load." *International Journal Of Mechanical And Production Engineering Research And Development (Ijimperd)* ISSN(P): 2249-6890; ISSN(E): 2249-8001 Vol. 5, Issue 1, Feb 2015, 25-34

