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A PRELIMINARY STUDY ON THE IMPACT OF MARKETING NATURAL RUBBER THROUGH RUBBER PRODUCERS' SOCIETIES

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The Rubber Board has been promoting voluntary organization of small growers registered under the Charitable Societies Act namely Rubber Producers' Societies (RPS) in an attempt to bring the small growers under the umbrella of a sound management system. These societies have been supported initially to carry out various activities of relevance to the plantation sector. The major activities undertaken by the RPS are primary processing and marketing. Apart from these, the societies are also engaged in distribution of inputs and providing support services in close liaison with the Rubber Board. Impact of the RPS on the small holding sector though known to be significant, has not been quantified. The present paper describes the analysis of performance of selected RPS involved in marketing of latex/sheets and assesses the impact of marketing NR through these RPS. The study also had the objective of analyzing the evolution of these societies into self reliant and viable units in the field. The study was carried out in the Thiruvananthapuram district where the RPS have not attained the same level of growth as in other parts of the state. An exploratory and analytical study compiling both quantitative and qualitative methods have been employed. The results of the study indicate that marketing/group processing through RPS has helped in improving the quality and also could limit exploitation of middlemen to a great extent. The stages of exploitation by middlemen in the marketing channel has been assessed and the gross revenue to the growers as a result of their participation in the RPS activities quantified. The difference in price realized by the growers in the RPS compared to non members has been statistically significant. Quantification of the impact of the RPS on adoption of cultural practices and organizational development has been carried out. The role of RPS in capacity building at the grass roots level also has been elucidated.

INTRODUCTION

Rubber Board's attempt in promoting group approach among small growers of rubber, especially, in processing and marketing of Natural Rubber (NR) was initiated since the formation of Rubber Marketing Societies during 1960s. These were organized with a view to providing an opportunity to the small growers, the dominant category of rubber producers, for a collective bargaining in the trade and avoiding exploitation by middlemen. By 1985 the number of smallholdings increased to 4,12211 from 75374 in 1960. Though the rubber marketing societies had made some impact they could not assess the local situation effectively to identify the 'felt needs' at the grass root level and develop strategies accordingly. The rubber marketing cooperatives also could not ensure effective participation of the growers and could not involve in areas like transfer of technology, especially quality upgradation which had been closely associated with the further growth of the rubber industry. This situation led to the formation of Rubber Producers' Societies (RPS) registered under the Charitable Societies Act as the village level association of small growers.

Small growers had accepted the concept of Rubber Producers' Societies with wide enthusiasm and at present more than 2100 RPS are registered. In the beginning, the activities of majority of these RPS were confined to conducting of group meetings and seminars, training programmes in crop exploitation etc. However, the societies, which were in constant contact and service to the growers in the locality, gained a prominent status at the village level. Beginning with collection of latex for the processing factories the RPS slowly got involved in the processing by building infrastructure availing of assistance from the Rubber Board. The Board implemented a scheme for setting up model RPS in 1999 with the objective of demonstrating the function of RPS in various regions. The model RPS built up facilities not only for group processing but also for transfer of technology and distribution of agro inputs. There has been a significant change in the functioning of RPS after the implementation of the scheme for model RPS and a large number of RPS has started group processing and marketing. However, of the 2100 RPS, only a few are working efficiently and a large number of them have to improve significantly if they are to be of service to the growers.

A study on the evolution of the RPS would point out that the self reliant approach based on the concept that community management and local self reliance are key organizing themes and recognizing that development is ultimately achieved by individuals and families that have the freedom and opportunity to create a future of their own choosing through a moulding of local and external knowledge and resources, has been recognized by only a few. The societies, which had knowingly or unknowingly embraced the idea are gradually emerging in the direction of self reliance. Lack of sustained activities and several peculiarities in the production as well as marketing sector at the regional level have adversely affected the evolution of these societies as vibrant self-reliant groups.

Self-reliance is a term attributed to the stage of highest level of participation, where there is self-mobilization and collective action to use external resources. It is a 'mature' stage reached by an organization, after passing through the stages such as 'embryonic', 'emerging', 'growing' and 'well developed' stages of its organizational development. The Rubber Producers' Societies should strive to achieve this stage. The deficiencies not withstanding, the RPS have emerged as a powerful grass roots level organization in the rubber sector.

The impact of RPS in the development of small holding sector is known to be significant. One of the reasons for the unsatisfactory performance of the RPS is lack of program/activity, which will ensure year round functioning of the RPS. Wherever RPS have been able to engage itself in marketing, their performance have been satisfactory. The present study is an attempt to analyze the performance of some RPS and also to quantify the impact of marketing of NR through RPS. The objectives of the study are (i) to analyse the performance of selected Rubber Producers' Societies in Thiruvananthapuram District; (ii) to assess the impact of marketing of NR through selected RPS as latex /sheets; and to assess how far marketing has helped the organizational development of these RPS.

MATERIALS AND METHODS

The study is exploratory and analytical, combining both qualitative and quantitative methods. Purposive sampling is done selecting five RPS involved in marketing. Three RPS which are in the field of marketing for more than five years, two of which are

Model RPS namely Karikuzhy RPS and Vamanapuram RPS and the third one, Kulappada RPS have been selected for the study. Two more RPS recently formed and involved in marketing for the last two years, namely Haritha RPS and Pangode RPS have also been selected for the analytical study. The performance of these RPS is compared to another RPS (Kuttimood RPS) which is not involved in marketing of the produce yet. The population for the study on the impact of marketing includes the members of two Model RPS, who had been involved in marketing and a 10% sample has been drawn selecting a sample of 30 growers from the two Model RPS and ten respondents from non- RPS sector. Also several non members and dealers near Pangode and Haritha RPS and Venjaramood had been interviewed to obtain data on price realization of the crop for a comparison with the price realized by members of RPS.

Primary data have been collected qualitatively. Questionnaire survey method was employed to generate primary data. This was conducted through focussed group discussions involving members of RPS who market their produce through RPS. Semi structured interviews or discussions with Presidents of RPS, executive committee members or members of the selected RPS and Model RPS., non- members and private dealers, were also utilized to generate primary data. Data available from the RPS records, registers, audit reports, records of companies jointly promoted by Rubber Board and Rubber Producers' Societies (Ponmudi Rubbers Ltd. and Ananthapuri Rubbers Private Ltd.), statement and registers of Rubber Board Regional Office, Nedumangad, Rubber Board Statistics etc. were the main source of secondary data. Quantitative analysis was done using SPSS package for computer aided data analysis. Using cross tabulations, percentages mean etc. the data was analysed Non parametric test like t-test was also used to test the significance of the findings. Qualitative analysis was done using impact diagram, time line, activity matrix and viability analysis.

The first phase of the study included the exploring of secondary data to analyse the activities of the selected RPS namely Vamanapuram RPS, Karikuzhy RPS and Kulappada RPS, which were in the field of marketing for the last eight to ten years. Two recently formed RPS which are in marketing, namely, Haritha RPS and Pangode RPS were also included for analysis of the performance, to study the trend of organizational development. No single indicator could be identified to show the impact of marketing. The previous studies had pointed out that organizations such as RPS can be defined as a system of inter related social behaviour of a number of persons who are participants of the organization. The impact diagram on marketing of NR through RPS was prepared, which served as a conceptual model for the study (Figure 1).

Based on the conceptual model, a questionnaire has been drawn for collecting primary data from the respondents to assess the impact of marketing. Marketing of grade sheets is mainly done through the two Model RPS (Karikuzhy and Vamanapuram) under Nedumangad Taluk. To ensure the correctness of data, group meetings were conducted under the two RPS and collected data qualitatively; administering participatory tools such as focused group discussions and brainstorming. The meeting was conducted as a participatory evaluation session to analyse the activities of the RPS, economic benefits derived from RPS activities, further scope for ancillary activities, adoption of cultural practices by the members and socioeconomic impact of marketing of

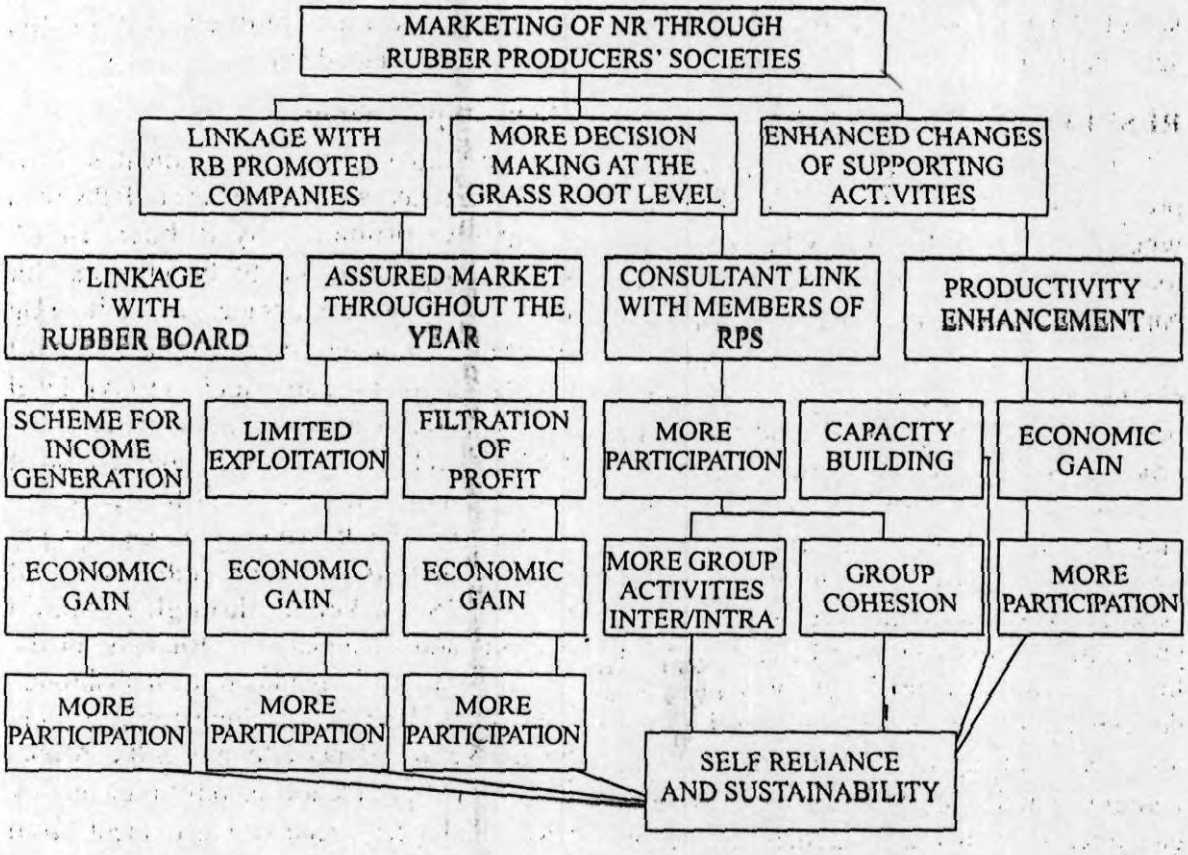

Figure 1. A conceptual design on the impact of marketing of NR through RPS

NR through RPS. Thus all the variables selected for the study including technological, economic and social were analysed by the respondents and questionnaire were filled up by them in the most active manner. Also group discussions had been conducted at Melattumoozhy and Kathiruvila which are places near to Vamanapuram RPS, ,but without a functioning RPS. There also, the questionnaire survey was conducted in a participatory manner, presenting before them the importance of functioning of RPS. Questionnaire collected from a total of 30growers,15 each from Karikuzhy and Vamanapuram Model RPS and ten non members from Kathiruvila and Melattumoozhy localities were utilized for the study.

The data show that the marketing channel for members of the RPS is through the processing/trading company promoted by Rubber Board and RPS. The non RPS sector finds their market through the local or taluk level private dealers. Higher economic gains derived through marketing of NR is analysed in all the five RPS, by comparing the price given by M/s Ponmudi Rubbers/ Ananthapuri Rubbers Pvt. Ltd. to growers through RPS(excluding the collection charges) for marketing of latex and sheets through RPS and the price of ungraded sheet rubber that prevailed in Nedumangad market. To study the organizational development of the six RPS selected, twenty major activities of RPS have been enlisted, scores were assigned to each activity and the timeline and viability assessment of the

selected RPS have been made using the secondary data.

RESULTS AND DISCUSSION

The main features of the rubber production sector in Nedumangad Taluk, where the RPS selected for the study are located, is the presence of a large number of part-time agriculturists, small and marginal holdings, leading to management of plantations by tappers or other unskilled persons resulting in quality degradation of the produce. Private marketing network comprises of numerous local dealers at the village level and the main dealers functioning at the marketing town nearby or at the taluk head quarters. Due to the peculiarities of the production sector mentioned here, chances of lowering of price, incorrect weighing and downgrading of the produce at the local level extending up to taluk headquarters are common and this led to lowering of the farm gate price of rubber in Nedumangad Taluk. The term 'thekkan' given to low grade sheets from southern region of Kerala has also helped the private dealers to lower the price further for their own interest.

An understanding of the impact of Rubber Producers' Societies in altering this situation is of high relevance, for the development of future strategies for the sustainable growth of NR industry in this taluk. The results obtained through the analysis are detailed below.

Quality upgradation

The impact diagram indicates how marketing necessitates linkage of RPS with companies promoted by Rubber Board. Quality parameters are to be ensured for latex as well as RSS grades in facilitating realization of better price. In the case of latex high Volatile Fatty Acid (VFA) level is considered as a negative parameter. Low VFA level leads to quality upgradation of latex produced in the small holder sector. Table 1 indicates the volume of high quality latex produced in the operational area of nine RPS marketed through Ponmudi Rubbers and Ananthapuri Rubbers for the last five years. In the marketing of RSS through companies, RSS 4 or the higher grades only are marketed. Hence attempts of the Model RPS for the production of only high quality sheets had been successful as evident from Table 2. While the level of production of RSS 4 and higher grades reached 95-98%, low grade sheets were only 2-5%. The analysis of primary data from the growers also indicates that Rubber Board could effectively disseminate the awareness on quality of latex, sheet and scrap through RPS by arranging marketing of the produce (Table 3).

Thus it is evident that group processing

Table 1. **Latex marketed by RPS through Ponmudi/Ananthapuri Rubbers**

RPS	Dry weight of latex marketed (kg)				
	1997	1998	1999	2000	2001
Kulappada	9142	24746	24895	34957	31866
Alumkuzhy	4859	14061	9548	27978	23853
Edavom	17011	20232	17245	33497	49567
Karikuzhy	20870	61105	35004	39961	5722
Kakkanikara	10429	24285	24921	17848	10919
Kothakulangara	17916	35515	22369	22462	17852
Theviarukunnu	11703	9859	11510	21184	-
Pangode	-	-	-	10191	14366
Haritha	-	-	-	11753	18439

Table 2. **Processing/marketing of RSS through Model RPS**

RPS	Quantity of RSS (kg) processed/marketed					
	9/2000 to 3/2001		3/2001 to 3/2002		4/2002 to 8/2002	
	RSS 1 to RSS 4	RSS 5	RSS 1 to RSS 4	RSS 5	RSS 1 to RSS 4	RSS 5
Karikuzhy	2904	677 (20%)	46257	959 (2%)	16659	512 (2%)
Vamanapuram	19110	1109 (5%)	41080	2162 (5%)	13605	717 (5%)

Table 3. **Level of adoption and source of information on cultural practices by members involved in marketing of produce through RPS (%)**

Cultural practice	Source of information					Level of adoption
	Print media	Visual media	Rubber Board official through RPS	Visits	Other farmers	
Planting distance	16.7	0	10.0	30.0	3.3	60.0
Plant density	13.3	0	3.3	20.0	6.7	53.3
Planting material	23.3	0	13.3	56.7	3.3	96.7
RRII 105 & PB clones	23.3	0	13.3	40.0	0.0	76.7
Cover crop	0.0	0	16.7	46.7	0.0	63.3
Pit manuring	13.3	0	20.0	6.7	3.3	43.3
Soil testing	0.0	0	63.3	6.7	0.0	70.0
Disease control	0.0	0	56.7	0.0	0.0	56.7
Tapping	0.0	0	26.7	3.3	0.0	53.3
CUT	0.0	0	3.3	0.0	0.0	3.3
Use of head light	0.0	0	26.7	0.0	0.0	26.7
Plastic cup for collection	0.0	0	63.3	0.0	0.0	63.3
Scrap collection	0.0	0	86.7	0.0	0.0	86.7
Panel protection	0.0	0	100.0	0.0	0.0	100.0
Graded sheets	0.0	0	93.3	0.0	0.0	93.3
Quality of latex	0.0	0	93.3	0.0	0.0	93.3
Quality of scrap	0.0	0	90.0	0.0	0.0	90.0
Rain guard	0.0	0	16.7	0.0	0.0	16.7
Stimulant	0.0	0	0.0	0.0	0.0	0.0

and marketing of NR through RPS could ensure quality upgradation in the small holder sector, which could wipe off the 'thekkan' grade gradually.

Assured market and price

Normally the private dealers in latex keep off the market during peak production season. They even abandon the latex collected, causing heavy loss to the farmers who are completely dependent on them. The collection of latex through RPS could provide an market and price throughout the year. The pattern of payment through companies is also same throughout the year. On occasions when the price went down even below the fixed minimum price, RPS alone could support the farmers, buying NR offering the minimum price. (Figure 2, Table 4). Also, it is observed that wherever latex collection is done through RPS, the dealers nearby are forced to offer a better price for latex. Table 5 shows the price of latex and sheets in the vicinity of RPS and localities away from RPS, as per the data collected from growers and dealers of these localities. Here, the price realization is found to be at least 10% higher in the jurisdiction of the RPS than that prevailing in areas not covered by RPS.

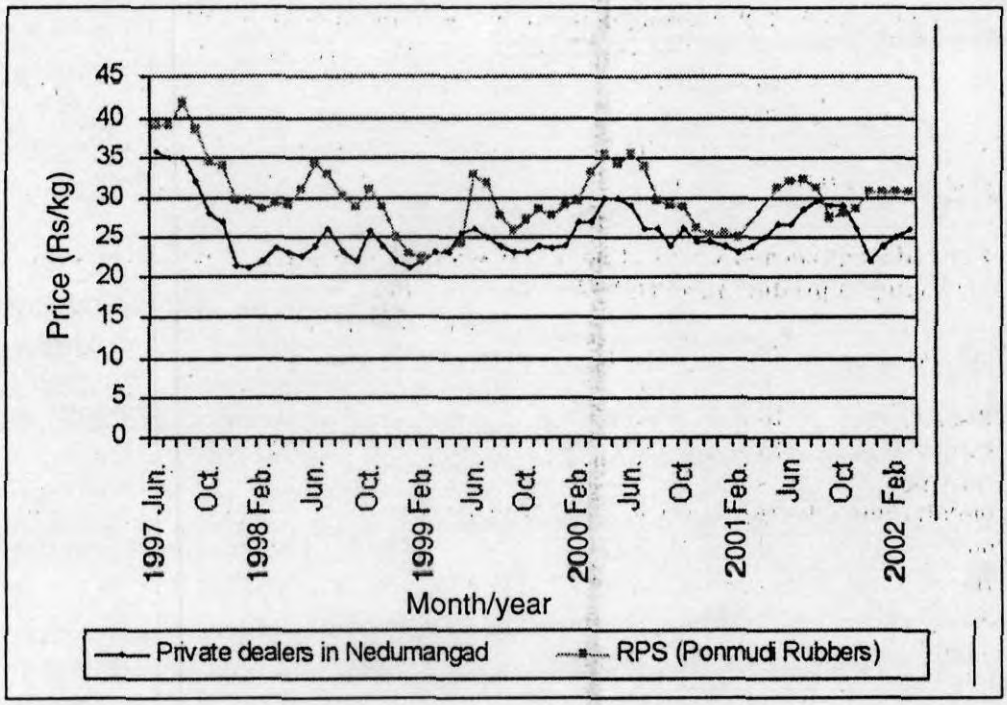

Figure 2. A comparison of price of NR in Nedumangad market and price on marketing through Ponmudi Rubbers

Table 4. **Price realization on marketing rubber as latex through Ananthapuri Rubbers**

Year	Mode of marketing	Marketing channel	No. of respondents	Area (ha.)	Productivity (kg)	Average price (Rs)	
						Realised	Kottayam (RSS 5)
2001-2002	Latex	RPS	24	8.03	2581	32.70*	30.82
1999-2000	RSS	Taluk dealer	24	8.03	2512	24.40	29.55

* Includes Rs. 3/- for processing cost saved

Table 5. **Rubber price realization by non-members in the vicinity of RPS and other localities during 2002**

Month	Average price realized (Rs.)				
	Latex		RSS 5		Price in Kottayam market
	Near RPS	Non RPS	Near RPS	Non RPS	
April	29	27.50	29.0	27	31.01
May	33	29.54	30.1	28	32.99
June	36	32.75	36.0	34	36.25
July	33	32.00	34.0	33	35.49

Limiting of exploitation

Due to the distinct tier system prevailing in the NR market, exploitation by middlemen occurs at different levels in the case of private marketing sector. The marketing channel through RPS and companies limits the exploitation level. Here the loss in price due to downgrading, incorrect weighing etc. are eliminated, helping the growers to realize better price for the for the members of RPS. Data in Table 6 obtained by analyzing the field data indicates the productivity per ha gross revenue per ha and price per kg of the crop (calculated including the scrap also, as the calculation is based on productivity) gained by members of RPS and non members. During 2001-02,the productivity level among the RPS members

Table 6. **Savings on capital cost by the marketing of crop through RPS**

Item	Savings
Roller	20000
Smoke house	25000
Aluminium dishes (45 Nos.)	2475
Froth cutter	15
Total	47490

and non member was 2684 and 2341 kg respectively. There was disparity in the price realized too. While the RPS members could fetch an average of Rs.26.24 per kg that realized by the non members was only Rs.22.36. per kg. (Table 7). Accordingly, while the total revenue among the RPS members was Rs.72842/-that among the non members was only Rs.52499/-. Statistical analysis using t-test has also proved that the difference in price and revenue were significant (at 1% level). Actual price realization per kg including the saving for processing charge for members is Rs.29.24/- and for nonmembers it is Rs.22.36/-. Table 4 indicates the price realization from rubber before and after marketing is done through RPS. Only 80% of the price of RSS 5 was realized when marketing was done through RPS. Group processing also leads to saving of capital cost of Rs.47490/-per grower towards the purchase of assets like roller, smoke house etc.

Higher productivity

Performance of the selected RPS reveals that marketing has provided them chances for more supporting activities leading to easier transfer of technology and the yield data from members of these RPS reveals a higher productivity, especially because techniques such as rainguarding are popularized through RPS. This is evident from the fact that productivity of RPS members is 2683 kg and non members is 2341 kg.

Adoption of cultural practices

Attempt has been made to analyze the influence of the RPS which are involved in marketing, on the level of adoption of cultural practices. The adoption by members and non members were compared and the data shows that the RPS act as a major source through which Rubber Board officials could disseminate scientific practices, especially in the mature phase, in the case of small growers of Nedumangad Taluk. Table 3 indicates the level of adoption and source through which the information was disseminated to members of RPS. Sixteen activities were enlisted in the questionnaire and 26.7% members had participation in all activities. The productivity level shows that these 26% has a productivity level ranging from 2750 kg to 3500 kg. which is almost double the national average.

Organisational development

Twenty major activities undertaken by RPS are enlisted based on which a timeline was prepared for one RPS as an example to asses the activity status. This shows a higher degree of activity once these RPS had entered in to marketing. Kulappada RPS which is one of the best performing RPS in the region and had shown a steady and active

Table 7. **Economic impact of marketing of crop through RPS in Nedumangad Taluk**

Category	Productivity (kg)	Revenue (Rs/ha)	Price per kg*	Processing cost saved (Rs)	Price realization per kg (Rs)	
					Actual	RSS
Members	2684	72842	26.24	3.00	29.24	32.00
Non members	2341	52499	22.36	Nil	22.36	23.95

* Inclusive of the price of scrap. Statistically significant at 1 % level

involvement in all the activities except acquiring their own property and setting up of community processing center, shows a lower score due to this. Pangode and Haritha RPS in their third or fourth year of activity shows a better position in the viability analysis as they have entered into marketing from the initial stage itself. The viability assessment (Gubbels *et al.*, 2000) shows that two model RPS are approaching the status of "well developed" stage, easy to reach the self reliant status. Kulappada RPS has crossed the "growing stage" and Haritha is nearing the "growing stage" and Pangode RPS is just close to Haritha RPS Two RPS, Kulappada and Haritha RPS could reach the well developed stage once they raise funds to acquire land, establish group processing centres and training center and continue their present activities. This establishes the importance of the group processing and marketing as a strategy for attainment of self reliant status of the organization.

Capacity building at the grass roots level

Member growers are engaged in programme implementation and decision making through RPS which are in the field of marketing of NR. Estimation of DRC quality sheet production, packing, bailing etc are done by people in the locality, thus leading to skill development. Proper management of the marketing activities by the executive committee help them build their managerial efficiency thus leading to capacity building at the grass root level. Analysis of the social impact shows that the members are aware of these benefits . Totally, eight social variables had been projected in the questionnaire. Eighty per cent of the respondents are of the opinion that the RPS had been effective in skill development, enhancing/building up leadership qualities, increasing awareness on exploitation and means to overcome this, social mobility through inter group interactions and farmer to farmer participation, and adoption of new ideas and practices.

CONCLUSION

The study has proved that the hypotheses could be accepted and the marketing of NR through RPS has resulted in quality up gradation, limiting of exploitation, assured market and price throughout the year and thus resulted in better price realization and economic gain. Formation of village level association functioning in the style of self help group is a rational approach to socio economic upliftment. Augmented supporting activities led to productivity escalation and resulted in organizational development which could lead to self reliance.

This study is of preliminary nature. Further analysis of various factors is necessary in the field as supporting evidences, based on the conceptual model formulated.

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AN OVER VIEW OF RUBBER PLANTATION DEVELOPMENT IN NORTH EAST INDIA

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History of commercial cultivation of *Hevea brasiliensis*, the source of natural rubber (NR) in India dates back to exactly 100 years, *i.e.*, 1902. Traditionally, the crop was grown in the geographical region falling between 8 to 12° North of equator, *i.e.*, Kanyakumari District of Tamil Nadu and the state of Kerala. Increase in demand of NR prompted the search for other regions which are agro-climatically suitable for establishing commercially viable rubber plantations. The non-traditional regions identified as suitable for planting are in the states of Madhya Pradesh, Andhra Pradesh, Orissa, Goa, Maharashtra and the entire north-eastern region.

This paper attempts to present an overview of rubber plantation development in the north-eastern region comprising the states of Tripura, Assam, Meghalaya, Mizoram, Manipur, Nagaland and Arunachal Pradesh. It also discusses the prospects, constraints, opportunities and threats for large scale expansion of rubber cultivation in the North East (NE) India. Rubber Board's current promotional activities and the future plan of action for the region are also touched upon. An extent of 4,50,000 ha has been broadly identified as potential area for planting rubber in this region of which 49771 ha has been planted. The region produces 15133 t of rubber. This region accounts for 8.77% of the rubber area in the country and 2.40% of the annual production. It provides direct employment of 1000 mandays per ha during immature phase and permanent employment for 7 persons per 10 ha during the mature phase. Influence of the crop on economic development and ecological restoration of the region has also been well proven.

INTRODUCTION

India has been a net importer of natural rubber (NR) in general in spite of the expansion in area under rubber cultivation, increase in production and high levels of productivity attained. Rubber is a long gestation crop necessitating formulation of production strategies well in advance. The gap between production and consumption started widening during the 1980s after a slump in consumption during the previous decade. Considering the indispensability of NR and the drain of foreign exchange due to large scale imports, the government of India has realized that confining rubber cultivation to the traditional rubber growing tracts, where availability of land for further expansion is scarce will not help in meeting the future NR requirements in the country. Exploratory surveys for identifying suitable areas for expansion outside the traditional region was initiated by the Rubber Board in the 1960s itself. North-eastern region comprising of the states of Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland and Tripura with moderate agro-climate suitable for growing rubber was identified as potential regions for extending cultivation. Though this region (20-28° N latitude) lies far away from the traditional rubber growing belt (upto 10° on either side of the equator), rubber has