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Potential for Future Natural Rubber Development

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Natural rubber is an important raw material used in the making of over 30,000 goods indispensable to industrial development and modern life. It is obtained from the latex of para rubber tree, otherwise known as *Hevea brasiliensis*. Though there are reports about bush plants like guayule and *crypstostegia grandiflora* promising to yield natural rubber under poor soils in the arid zones, their economic viability in commercial planting is yet to be established. Hevea brasiliensis is the only dependable source for producing NR at a reasonable price in the world today.

The para rubber tree flourishes in warm equable tropical climate, normally within 10° lattitude on either side of the equator. In India, Kanyakumari District of Tamilnadu and Nicobar Islands in the Andaman & Nicobar group of islands are the only regions falling within this geographic limit. Excessive rainfall, extended drought, drop in temperature during winter etc occurring outside this belt are said to affect the health, immaturity period and yield of rubber plants. But the ability of the rubber plants to tolerate climatic variations is well known. Kerala State lying outside this ideal geographic belt is the major producer of natural rubber in India. Regions with even less favourable climatic conditions also give good growth to rubber plants in our country.

India has today about 350,000 hectares under rubber cultivation, spread over many States and a Union Territory. Kerala, Karnataka and Tamilnadu are the states where rubber is traditionally grown whereas almost all the states in the north-east region, Goa and the Union territory of Andaman & Nicobar Islands form the non-traditional sector. Certain parts of Orissa, Maharashtra and Madhya Pradesh also hold out promise for rubber cultivation. Availability of land in the traditional region for any further expansion of rubber on a large scale is limited. It is to the non-traditional regions that we have to look up in future for the additional supply of this vital elastomer.

The demand for rubber has been steadily growing in the country from the dawn of independence, as can be seen from the table given below:

Though the demand could not catch up with supply of natural rubber during a few years in the 1970s, it was largely due to the sluggish growth rate in the rubber manufacturing sector. In a developing country like India the consumption of rubber is bound to go up substantially. The per capita consumption of rubber in India, as computed from figures of 1984, comes to only 0.36 kg while it is 12 kg in Canada and Japan and 8 kg in USA, France and Germany. Even China has a higher consumption rate, 0.58 kg per person. India is on the threshold of a leap forward in industrial development. It is certain that rubber consumption in our country will go up substantially in the coming years. Projection of natural rubber consumption for the future points to a higher growth rate in demand.

Production and consumption of rubber

	Production		Consumption	
	NR	SR	NR	SR
	(In metric tonnes)			
1950/51	15,380	....	19,854	....
1955/56	23,730	....	28,445	461
1960/61	25,697	....	48,148	7,397
1965/66	50,530	14,741	63,765	21,553
1970/71	92,171	29.791	87,237	33,160
1975/76	137,750	25,119	125,692	32,452
1980/81	153,100	25,293	173,630	47,050
1985/86	200,465	34,758	235,540	70,035

According to the estimation made by the Rubber Board, the demand for natural rubber will go up to 3 lakh tonnes by 1989/90. By 2,000 AD we would require about 5 lakh tonnes of natural rubber.

Prospects

Are we capable of meeting the increased demand? Rubber being a crop with a long immaturity period of seven years, the prospects of immediately bridging the gap between demand and supply is remote. However, the encouraging feature is that we have enough natural resources. By exploiting these judiciously, we would definitely be able to attain near self-sufficiency in natural rubber at least by the turn of the century. We would require about 2.5 lakh hectares to be newly planted upto 2000 AD to attain a production target of 5 lakh tonnes of NR per year. To exploit the natural resources we should proceed with a viable programme to popularise rubber cultivation in the non-traditional region. In recent times the Rubber Board has been labouring hard to systematically plan rubber developments in the non-traditional sector with the co-operation of the State Governments.

Land is the main natural resource required to produce natural rubber. Dearth of land in the traditional region should not give us any sense of despondency. There is plenty of land in the non-traditional belt spread over the States of Assam, Arunachal Pradesh, Meghalaya, Mizoram, Manipur and Tripura in the north-east region and Goa, Maharashtra and Orissa in the central Indian region. The north-east region has gone ahead fairly fast in expanding rubber cultivation; the planted area comes to about 12,000 hectares.

According to an estimate prepared by the Rubber Board in 1980, the avilability of land suitable for rubber cultivation would be about 1.35 lakh hectares in the non-traditional region. Exploratory surveys conducted later point to the possibility of getting suitable lands in much greater measure in Orissa and Madhya Pradesh. Bastar District in Madhya Pradesh with land area a little more than Kerala State, can offer at least a lakh of hectares for rubber cultivation whereas Koraput District in the State of Orissa, which extends to about 2/3 of the Kerala State, has vast stretches of rolling land where rubber can be successfully grown, judged from the physical features, soil and climatic conditions. Though we consider areas above 1500 ft above mean sea level as unsuitable for rubber, even areas at elevation of 2,000 ft are found to have minimum temperature not below 8° to 9°c in Koraput and the maximum temperature at 30 to 35°c. The rainfall is scanty at about 60", but these areas possess potentialities for collecting rainwater by constructing small check dams. Ground water potential also appears to be good.

Developments in Orissa

Rubber has yet to take root as a commercial crop in Orissa. The Forest Development Corporation is giving a lead in this matter. They have already planted rubber in about 25 hectares in Berhampur near Chilka lake. There is good scope for development of rubber plantation in the Dhenkanal and Koraput Districts of the State. Dhenkanal has the advantage of having lands close to river basins with potential for summer irrigation. Though the rainfall here is deficient and there is a fairly long period of dry spell in the year, irrigation could make up for the deficiency. The danger attendant with excessive rainfall in the form of ravaging diseases like the abnormal leaf fall would be absent in this region.

The Rubber Board has recently strengthened its field set up in the north-east by establishing a a Zonal Office under a Joint Rubber Production Commissioner and a Regional Office in Guwahati, and Regional Offices in Silchar and Agartala. In addition to the Regional Research Centre at Agartala, the board has started a Research Complex at Guwahati under a Project Co-ordinator, which is having sub stations in Meghalaya and Misoram. These research stations will look after problems specific to the north-east region and study factors that contribute to the growth parameters of rubber in the region. Nucleus Estate and Training Centres are proposed to be set up in Agartala, Assam and Meghalaya which will provide to the farmers training in rubber culture, crop harvesting and processing in addition to meeting a large portion of the high yielding planting material requirements in the region.

Gains

The States in the north-east would obtain many gains out of rubber cultivation. The most important is that it can be used as a tool to permanently settle the shifting cultivators (jhumias) on the land. The age old practice of shifting cultivation has virtually made the local people nomads and reduced the land into desolate waste. The cleared forest area remaining exposed after cultivation and cropping succumbs to soil erosion with consequent loss of fertile top soil. Rubber grown in association with leguminous cover crops is a sure medium to arrest soil run off, to help the surface water seep deep into the soil layers and to enrich the top soil with organic matter. Rubber farming could be used as a method of providing gainful employment to the educated unemployed; it opens up avenues for new rubber based industrial ventures in the rural sector and adds to the revenue of the public exchequer, in addition to ensuring a regular income to the farmer.

Limitations

However, there are many hurdles to be crossed in making rubber cultivatoin a success in the north-east. Rubber cultivation is entirely new to a vast majority of local farmers. This points to the need for organising

[redacted]otivational campains and training programmes in rubber planting. Extension of crop insurance to the region would help growers come forward to plant rubber with a sense of security. In addition to cash subsidy and technical support, the Rubber Board would supply free, planting material to the tribal region. Almost all the farmers in the region are poor. They cannot afford to plant rubber without credit. Commercial banks should come to their rescue by advancing money for the initial planting operations. At present the banks appear to be chary of advancing credit to the farmers on account of the peculiar nature of land tenure in the north-east. The land in general is owned by the District Council. In the absence of individual ownership commercial banks insist on credit guarantee from the State Government for the money advanced to the farmers. The State Governments should not be hesitant to give this guarantee.

An alternative to credit financing of plantations of individual farmers would be the example of the Tripura Forest Development and Plantation Corporation. In order to permanently settle the shifting cultivators on the land, the corporation allotted 1.5 hectares of land to each jhumia for planting rubber and half a hectare for planting other crops. The Corporation took up the task of planting rubber on the plots allotted to the jhumias. After completing the planting and maintaining the plots through immaturity period, the areas which have reached the production stage are handed over to the beneficiary jhumias. These jhumias would be working on the plantations during the entire immaturity period as wage earners. The crop harvested has to be surrendered for central processing. The cost of setting up the plantation is recovered from the sale proceeds of the crop in easy instalments and the balance is passed on to the jhumias. This pattern has been found to be very effective in permanently settling the jhumias on rubber plantations and has come up for praise from various quarters.

Almost all the State Governments in the non-traditional region welcome joint ventures in rubber planting utilising local labour. The cost of cultivation is comparatively low in these regions as compared to the traditional sector, mainly because of low wage rates and negligible cost on plant protection measures. Well maintained plantations in the north-east sector are found to compare very favourably with plantations in the traditional sector, giving over 1,000 kg of yield per hectare on the average. The crop loss in the traditional region on account of torrential rains and abnormal leaf fall is about 20%. Possibility of such losses in the non-traditional sector is remote. Major diseases occuring in the traditional regions have also not appeared here. There is good scope for experienced plantation companies to utilise their expertise in developing rubber plantations in these states in order to earn good yield returns. The answer to the growing demand of natural rubber lies in the large scale development of rubber plantations in the non-traditional sector. □

RUBBER BUFFER PROPOSED

Rubber goods manufacturers want a buffer stock of at least 20,000 tonnes against the present 2,500 tonnes.

Buffer stocking began recently with an initial 2,500 tonnes with the State Trading Corporation as the manager. But the quantity which works out to less than one percent of the country's consumption is grossly insufficient to maintain the indigenous price level, according to Dr. P. K. Modi, President of the All India Rubber Industries Association.

Addressing the annual general meeting of the association here on Saturday, Dr. Modi pointed out that though natural rubber is a vital and essential raw material accounting for 80 percent of the total new rubber requirements of the industry, its supply continues to be inadequate and high-priced.

During 1985-86, the country imported 41,500 tonnes of rubber to bridge the gap between demand and supply, he said. One redeeming feature has been the decision of the government, to continue imports till the indigenous price of RMA IV stabilises at Rs. 16.50 per kg.

However in spite of imports the price has been ruling at Rs 17.50, Dr. Modi noted, adding that any increase in the cost of natural rubber is ultimately borne by the consumer and it is necessary that rubber prices stabilise at a reasonable level.

During 1985, the consumption of new rubber (natural and synthetic) went up to 9.7per cent from 5.7 per cent in the previous year. The average annual growth rate for the last five years has been around 6.6 per cent.

But in the face of ever increasing raw material costs, Indian rubber goods manufacturers have been finding it difficult to maintain the cost of production, thus adversely affecting the growth rate, Dr. Modi said.