

# Experience in Development of Rubber Plantations in Non-Traditional Areas of North Eastern India

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## Abstract

Traditionally, rubber has been grown in India in the hinterlands of the South West Coast. In the bid for large scale expansion, the vast potential in non-traditional areas in the remote North-Eastern India have been explored and identified.

Naturally, the climatic conditions and physiographic features of this subtropical region are not so hospitable as in the traditional belt. But it has been proved that with special agromanagement

practices and safeguards, economic cultivation of rubber is feasible in extensive selected tracts.

The importance of developing this perennial tree crop in N. E. Region has been duly acknowledged. Ambitious programmes are launched to accelerate development in all sectors, with special stress on the socio-economic upliftment of the small holder sector. Intensive efforts in the fields of promotional activities, extension and research

support, material and financial assistance and training are absolutely essential to achieve the objectives envisaged.

Following is the paper presented by Shri M O Joseph Joint Rubber Production Commissioner, Rubber Board at the workshop and seminar on Small Holder Development under the auspices of the Association of Natural Rubber Producing Countries held at Palembang (Indonesia) from 22 to 26th July 1986.

## Introduction

The equatorial tropics bountifully provides all the congenial environments for optimum growth and yield of *Hevea brasiliensis*. Such areas falling within 10°N and South latitudes are considered as the traditional rubber growing tracts the world over.

## Non-traditional region

In India, rubber has been traditionally grown in the hinterlands of the South West Coast comprising of Kerala State and the adjoining districts of Tamilnadu and Karnataka States. These areas lie between 8° and 13° N Latitude. The mounting pressure on land in this thickly populated region had foreclosed scope for any further large scale expansion of rubber cultivation even years ago. Identification of suitable lands elsewhere in the country had, therefore, become imperative. Surveys carried out from early 1960s revealed that extensive tracts of lands in nontraditional areas could be economically exploited for rubber cultivation. The fact that India has long remained deficit in natural

rubber production and imports of rubber from other countries would not only involve large scale expenditure in rare foreign exchange but also would make landed costs in consuming centres much higher than the world price, prompted the decision to make judicious use of marginally suited non-traditional areas for raising rubber plantations. Amongst such non-traditional areas taken up for development, the most important area in the North Eastern Region of India comprises of the States and Union Territories of Assam, Tripura, Meghalaya, Manipur, Nagaland, Mizoram and Arunachal Pradesh.

## Salient features of North Eastern Region.

The NE Region of India is in the sub tropics covering an extensive geographic area lying between 22° and 29° North Latitude. Barring the high Himalayan mountain ranges on the north and eastern boundaries and the ridges interspersed within, vast tracts of foot-hill areas and plains situated at elevations

upto 450 metres from Mean Sea Level can be gainfully utilised for rubber cultivation. The soil conditions are generally well suited for rubber cultivation. The other salient features are the following:

1. The rainfall obtained in the area is from 250 to 300cm spread over the months of April to November. The remaining months experience dry weather.
2. The dry season also coincides with winter season. During winter, the minimum temperature drops to 10°C. For a week or two during December/January, the temperature might even go down to 6° to 8°C.
3. The Relative Humidity during the winter season is generally low. During the remaining part of the year, it records high levels.
4. The region experiences occasional hail-storms, mostly towards the close of winter or at the out-break of monsoon.

5. Vast areas of the region are situated at elevations above 450 Metre above MSL. In such areas, the winter season is of longer duration and the fall in temperature is more pronounced. At higher altitudes, the atmospheric pressure and consequently the availability of carbon-dioxide in the atmosphere are of lower order than in the plains. Tropical crops can therefore suffer from low photosynthetic activities.
6. The relatively remote situation of the region has resulted in most of the areas remaining backward in development of such facilities such as transport, communication, power supply etc. The population is predominantly tribal.
7. The tribal people resort to the age old practice of shifting cultivation. This in turn results in severe erosion of soil and progressive degradation of land.
8. Availability of labour for plantation development is fair. The wage rates prevailing are at present reasonable.
9. The region lies in fair proximity to Calcutta, which is the second largest rubber consuming centre of the country. It is, therefore, relatively cheaper to transport rubber produced in the region to Calcutta rather than from the traditional rubber growing areas.

#### Advantages of growing rubber in N. E. Region.

North Eastern Region is rich in natural resources. For the socio-economic development of the region, rubber would be a choice crop in view of the following advantages:

1. Being a remunerative and long term crop suitable for development in large estates as well as small holdings, it will provide attractive features for widespread development of the region.

2. The crop can be grown on extensive denuded, fallow or underutilised lands. The tribal communities can be weaned away from the harmful shifting cultivation practices and made to adopt settled cultivation.
3. Being a labour intensive crop, the scope for generation of regular employment potential will be substantial.
4. The weaker sections of the society can be rehabilitated effectively through large scale settlement projects based on rubber plantation.
5. The unit cost for development of rubber plantation in the region will be less than that in the traditional rubber growing areas of the country. Therefore, even if the productivity levels would be lower, the cost of production would be more or less the same as elsewhere.

#### Present state of development

Development of rubber plantations in NE Region was taken up two decades ago. The total extent planted with rubber in the region as of now is 13,000 hectares. Pioneering efforts in this regard were made by various State Government Departments. Subsequently, Government owned Companies were also set up to undertake large scale rubber plantation. Private entrepreneurs, mostly in the small holding sector joined later in plantation activities. The State-wise extents of rubber plantations are presented in the following table:

State/Union Territory	Extent in the Estate sector (in ha.)	Extent in the Small holding sector (in ha.)	Total (in ha.)
Tripura	5000	3200	8200
Assam	950	475	1425
Meghalaya	1000	600	1600
Mizoram	415	305	720
Manipur	450	Nil	450
Nagaland	650	70	720
Arunachal Pradesh	35	Nil	35
<b>TOTAL</b>	<b>8500</b>	<b>4650</b>	<b>13150</b>

(Note: Plantations having extent exceeding 20 hectares are classified as estates in India.)

The earlier plantations were mostly raised with Tjir. 1 clonal seedling material. Budgrafted materials have been planted only during the course of the last 10 to 12 years. The yields obtained from clonal seedling material is in the range of 700 to 900 kg. per hectare per year. Budgrafted trees are yielding well over 1000 kg. per hectare per year.

Plantations now being raised are with modern high yielding clones. The plantation practices adopted are also more scientific and systematic. It could therefore be expected that future yield levels would be of the order of 1200 to 1500 kg.

#### Constraints.

The major constraints hindering widespread adoption of this crop in the small holding sector in NE Region can be summarised as given below:

- 1) Lack of general awareness about the benefits of the crop among the rural farming community.
- 2) Rubber being a new crop to the NE Region, the technical know-how of planting and maintenance has not reached the small holders in adequate measures.
- 3) Difficulties in obtaining supplies of high yielding planting materials and inputs.
- 4) Lack of financial liquidity for investment and during the long gestation period that follows.



- 5) The low level of overall economic and social development, especially among the tribal communities in rural areas.

#### **Institutional support.**

Considering the importance of promoting this unique crop, the Government of India, Ministry of Commerce, has approved the implementation of a scheme for Accelerated Development of Rubber Plantations in NE Region. Accordingly, the Rubber Board has opened up new bases in potential centres for organising research, development and extension activities. A Research Complex of the RRII has been set up in NE Region with regional research stations in representative locations for evolving clones best suited for the Region and also to formulate appropriate technology relevant to the local conditions.

To encourage small farmers to take up rubber cultivation, the Board is implementing a comprehensive scheme which offers a package of assistance in the form of cash subsidies, input supplies, institutional credit, extension support and practical training. As a result of all these endeavours, the Board has aroused very good response amongst the small land owners.

#### **Strategy for future development.**

The strategy for future development should be quite different from that applicable to the traditional areas. The future course of action may be shaped on the following lines:

1. Demonstration, training and extension service centres.

At the State-level, a model plantation and training centre each may be set up with the support of the State Governments for imparting practical training in farm operations and management to skilled workers, field supervisory personnel and also educated entrepreneurs. Further, in

all important districts, small demonstration and training centres may be established to render practical training to the local farmers in all aspects of production and processing. The latter district centres should also serve as the base for extension service and supply of inputs. Group processing facilities would also be established in due course.

#### **2. Planting materials.**

A number of nurseries will be newly opened in all potential centres to supply high yielding budgrafts to farmers. As far as possible, use of plants of advanced growth raised in polybags would be got adopted.

#### **3. Group-planting**

As an area approach will be more effective and easy for operation, especially in tribal belts, group plantings in compact blocks will have to be organised with the extension support of the Board. Common nurseries, extension service centres, group processing and marketing facilities can be organised effectively in such group plantations. Associations of growers or their co-operative societies may manage the plantations with the individual beneficiaries sharing the profit.

#### **4. Schemes for settlement of shifting cultivators**

The State Governments would be encouraged to set up settlement projects for permanent rehabilitation of shifting cultivators and landless labour by allotment of land to individuals and providing common service and facilities. Already two public sector Corporations with the aforesaid objective are in existence.

#### **5. Institutional financing.**

Owing to the particular land tenure system, where land is owned by the community, operation of credit flow poses many problems. The modalities of institutional financing may have to be suitably modified and relaxed.

6. Large involvement of State Governments and local bodies.

To supplement the efforts of the Rubber Board, the State Government machinery also may be utilised for extension/advisory service, publicity, information and communication services and also raising nurseries for distribution of planting materials.

#### **7. Research support.**

Adequate research support for combating the stress situations of the region is highly imperative. The standardisation of agro-management practices such as optimum fertilizer usage based on soil and tissue analysis, appropriate planting techniques, plant protection, gainful intercropping practices etc. will form the major area of research. Besides, clones specially suited for the region are to be evolved by breeding and selection within the shortest span feasible. A few outstanding Chinese clones already obtained on exchange basis could be gainfully used for the breeding programmes.

#### **Conclusion.**

Acceleration and modernisation of rubber plantation development in the NE Region of India are expected to go a long way in increasing domestic natural rubber production on a substantial scale. Besides this main objective, the envisaged development programmes would bring about the much needed upliftment of rural economy of the Region. In the face of the various constraints, innovative and sustained efforts would have to be mounted. Institutional agencies involved in the programme are fully committed to take up the challenge. In this context, it is hoped that the exchange of ideas and sharing of experiences in the fraternity of ANRPC will be of immense help to India in the march towards securing better quality of life for the rubber small holders of the North Eastern Region.