

# **ANNUAL REPORT**

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## **2004-2005**



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**THE RUBBER BOARD**  
Ministry of Commerce and Industry  
Govt. of India

# Contents

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<b>Part-I</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>Part II</b>	<b>CONSTITUTION AND FUNCTIONS</b>	<b>4</b>
<b>Part III</b>	<b>RUBBER PRODUCTION</b>	<b>6</b>
<b>Part IV</b>	<b>ADMINISTRATION</b>	<b>13</b>
	▶ Establishment	
	▶ Marketing	
	▶ Labour Welfare	
	▶ Legal	
	▶ Hindi Section	
	▶ Publicity and Public Relations	
	▶ Vigilance	
<b>Part V</b>	<b>RUBBER RESEARCH</b>	<b>22</b>
<b>Part VI</b>	<b>PROCESSING &amp; PRODUCT DEVELOPMENT</b>	<b>28</b>
<b>Part VII</b>	<b>TRAINING &amp; TECHNICAL CONSULTANCY</b>	<b>31</b>
<b>Part VIII</b>	<b>FINANCE &amp; ACCOUNTS</b>	<b>37</b>
<b>Part IX</b>	<b>LICENCING &amp; EXCISE DUTY</b>	<b>39</b>
<b>Part X</b>	<b>STATISTICS AND PLANNING</b>	<b>44</b>
	<b>STATISTICAL TABLES</b>	<b>45</b>
	<b>LIST OF MEMBERS OF THE BOARD</b>	<b>48</b>

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## Part - I

# INTRODUCTION

The Rubber Board was constituted by the Government of India as a body corporate under the Rubber Act 1947 with the primary objective of the overall development of the rubber industry in the country. Natural rubber often referred to as nature's most versatile raw material is obtained from the latex produced by the tree "*Hevea brasiliensis*". This raw material finds its use in about 35,000 products and contributes substantially to the industrial and economic development of the country. The Board established a strong development and extension network and as a result, the rubber plantation sector achieved an impressive all-round growth in expansion of area and increase in production and productivity. Simultaneously, the Board gave thrust to research also and the Rubber Research Institute of India (RRII) was established in 1955 for carrying out research on biological and technological improvement of rubber.

The Board has been encouraging scientific planting of rubber right from its inception, and since the sixth plan period, an integrated scheme for development of rubber plantations, namely, the Rubber Plantation Development Scheme for promoting both new planting and replanting has been in operation and this is rated by the World Bank as one of the successful schemes. Besides, development and extension support is given to growers for increasing productivity, improving the quality of produce through individual as well as community efforts, facilitating formation of grass roots level organizations of growers and empowering them to ensure sustainable development through rubber cultivation.

The development of rubber plantation in non-traditional region, especially in northeastern states has also achieved significant growth where rubber development is taken up adopting an integrated approach. Special mention needs to be made about the rubber based settlement programmes for tribal shifting cultivators in the north-east and in other states such as Orissa, Andhra Pradesh, Karnataka and Kerala ensuring overall socio-economic development and eco-restoration.

The Board has also been adopting several measures to promote diversified as well as non-conventional uses of natural rubber by supporting rubber products manufacturing sector, extending assistance for skill upgradation and infrastructure development.

The Rubber Research Institute of India has made significant contributions by breeding and releasing the popular clone RRII 105, one of the highest yielding clones in the world. Four new clones under RRII 400 series having a potential yield of more than 2500 kg. per hectare have been released by the RRII. The RRII has also evolved agro-technologies on various cultural practices of '*Hevea*'. The Institute made remarkable contribution in improving the processing of rubber and evolving speciality rubbers, which can effectively substitute synthetic rubbers. Research on special environment protection systems to check pollution in processing factories, energy saving mechanisms for processing, rubber wood processing, ancillary income generation activities and rubber based cropping system have yielded useful results.

## Performance during 2004-05

### Production Sector

The production of natural rubber (NR) in the country was 749,665 tonnes during 2004-05 as against 711,650 tonnes produced in 2003-04. The growth in NR production declined to 5.3 percent during 2004-05 against the growth of 9.6 percent in 2003-04. The reason for the drop in growth is mainly due to the adverse weather condition that prevailed during the first and last quarters of the year. But, the country's average productivity increased to 1705 kg/ha during 2004-05, which is the highest in the world. The increase in productivity was the result of the implementation of the productivity enhancement schemes of the Board.

### Consumption Sector

The performance of the rubber goods manufacturing sector improved significantly with the revival of the industrial sector. The rubber goods manufacturing industry in India showed a growth rate of 5.0 percent with a consumption of 755,405 tonnes during 2004-05 as against 719,600 tonnes during 2003-04 with 3.5% growth. The auto tyre-manufacturing sector improved its growth slightly from 7.1 percent in 2003-04 to 7.4 percent in 2004-05. The non-tyre sector achieved an impressive growth of 2.3 percent during the year against the negative growth of 0.3 percent of the previous year attributed the overall growth to 5.0 percent.

The production, consumption and growth rate of Natural Rubber for the year 2004 - 05 and the preceding three years are furnished below :-

Year	Production (in MT)	Growth rate	Consumption (in MT)	Growth rate
2001-02	6,31,400	0.2%	638,210	1.1%
2002-03	6,49,435	2.9%	6,95,425	9.0%
2003-04	7,11,650	9.6%	7,19,600	3.5%
2004-05	749,665	5.4%	7,55,405	5.0%

### Import & Export of NR

As per the statistics published by the Directorate General of Commercial Intelligence & Statistics(DGCI&S), the imports during 2004-05 upsurges to 68,718 tonnes as against 44,199 tonnes in 2003-04 and 26,217 tonnes during 2002-03. The Govt. of India lifted the port restriction on import of NR on 6<sup>th</sup> August 2004, which had been imposed in December 2001. The reinstatement of advance licence, removal of port restriction and the domestic

price ruled above the international market price are the major factors for the upsurge in import of NR.

The quantity of NR exported by the country during 2004-05 was 46,169 tonnes as against 75,905 tonnes during 2003-04 and 55,311 tonnes during 2002-03. The decrease in the quantity of export was due to the reduction in the rate of incentive and the narrow price difference of the domestic and international market.



**Price of NR**

Natural rubber prices both in the domestic as well as in the international markets witnessed an upward trend during the year 2003-04 and the same trend continued throughout the year 2004-05. There was a hike in the price from April to July 2004 in tandem with the international price. NR prices in the domestic market set an all time high of Rs.67.50 kg in mid July 2004, prior to this the highest ever recorded price was in June 1995, when RSS-4 price touched Rs.65.50 per kg.

The domestic price of RSS-4 declined in August and September 2004 the period being the peak production season. The price moved marginally upward in October 2004 but gradually declined during November and December 2004. Thereafter, the prices improved in the domestic market. The annual average price of RSS-4 was Rs.55.71 per kg during 2004-05 compared to Rs.50.40 during 2003-04.

The international market also showed a steady increase up to June 2004 and then, it declined during July to September 2004. During October 2004, the price improved a little and then declined gradually till January 2005. Thereafter, the price increased during February and March 2005 in the international market. The annual average price of RSS-3 was Rs.57.51 per kg during 2004-05 against Rs.52.78 in the previous year.

The yearly average prices of RSS-4 in the domestic market for the last four years were :-

Year	Price per quintal
2001-02	Rs.3,228/-
2002-03	Rs.3,919/-
2003-04	Rs.5,040/-
2004-05	Rs.5,571/-

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## Part - II

# CONSTITUTION AND FUNCTIONS

### CONSTITUTION OF THE BOARD

As per Section 4 (3) of the Rubber Act 1947, the Board shall consist of :-

- a) A Chairman to be appointed by the Central Government;
- b) Two members to represent the State of Tamilnadu, of whom one shall be a person representing the rubber producing interests;
- c) Eight members to represent the State of Kerala, six of whom shall represent the rubber producing interests, three of such six being persons representing the small growers;
- d) Ten members to be nominated by the Central Govt., of whom two shall represent the manufacturers and four labour;
- e) Three members of Parliament, of whom two shall be elected by the Lok Sabha and one by the Rajya Sabha;
- f) The Executive Director (ex-officio);
- g) The Rubber Production Commissioner (ex-officio).

The position of Executive Director has not been filled so far. List of members of the Board as on 31.3.2005 is given at the end of this report.

### Functions of the Board

The functions of the Board as laid down under Section 8 of the Rubber Act 1947 are-

- (1) to promote by such measures as it thinks fit the development of the rubber industry.
- (2) the measures may provide for-
  - a) undertaking, assisting or encouraging scientific, technological and economic research;

- b) training students in improved methods of planting, cultivation, manuring and spraying;
- c) the supply of technical advice to rubber growers;
- d) improving the marketing of rubber;
- e) the collection of statistics from owners of estates, dealers and manufacturers;
- f) securing better working conditions and the provisions and improvement of amenities and incentives for workers;
- g) carrying out any other duties which may be vested in the Board under rules made under the Act.

(3) It shall also be the duty of the Board-

- a) to advise the Central Govt. on all matters relating to the development of rubber industry, including the import and export of rubber;
- b) to advise the Central Govt. with regard to participation in any international conference or scheme relating to rubber;
- c) to submit to the Central Govt. and such other authorities as may be prescribed, half yearly reports on its activities and the working of the Act;
- d) to prepare and furnish such other reports relating to the rubber industry as may be required by the Central Govt. from time to time.

Eight Committees have been constituted by the Board to review its activities vis-à-vis to monitor the progress of implementation of the functions as laid down under Section 8 of the Rubber Act. These are Executive Committee, Research & Development Committee, Market Development Committee, Planting

Committee, Statistics & Import/Export Committee, Labour Welfare Committee, Staff Affairs Committee and Committee on Rubber Development for North East.

Shri. Ettumanoor V Radhakrishnan (representing 'other interests' in the Board) was the Vice-Chairman for the period upto 19.11.2004. Shri. S Ramachandran, representative of large rubber growers in the State Constituency of Tamil Nadu was elected as the Vice-Chairman on 20.11.2004 for a period of one year.

Shri. SM Desalphine IAS continued as the Chairman of the Board during 2004-05.

## ORGANISATIONAL SET UP

The activities of the Rubber Board are carried out through eight Departments viz. Rubber Production, Administration, Research, Processing & Product Development, Training & Technical Consultancy, Finance & Accounts, Licensing & Excise Duty and Statistics & Planning; headed respectively by the Rubber Production Commissioner, the Secretary, the Director (Research), the Director (P&PD), the Director (T&TC), the Director (Finance), the Director (L&ED) and the Jt. Director (S&P). During the year under report, as the post of Secretary was lying vacant, the Director (L&ED) continued to discharge the non-statutory functions of Secretary.

The Headquarters of the Board along with the Administration, Rubber Production, Finance & Accounts, Licensing & Excise Duty and Statistics & Planning Departments are located at the Board's own premises in Keezhukunnu, Kottayam-686 002. The Departments of Research, Processing &

Product Development and Training & Technical Consultancy are located at the Rubber Research Institute of India campus at Puthupally in Kottayam - 686 009.

There are nine Sub Offices under the Licensing & Excise Duty Department. The Rubber Production Department has 4 Zonal Offices, 2 Nucleus Rubber Estate & Training Centres, 42 Regional Offices, 167 Field Stations, 13 Regional Nurseries including 2 District Development Centres, one Central Nursery and 19 Tappers' Training Schools located at different rubber growing regions.

The Research Department runs two Regional Research Stations in Kerala and a Regional Station each in Tamilnadu, Karnataka, Maharashtra, Orissa, West Bengal, Assam, Mizoram, Meghalaya and Tripura. Besides, the Research Dept. also runs Pilot Block Rubber Factory and the Pilot Plant for Radiation Vulcanisation of Natural Rubber latex located at Kottayam. The Pilot Latex Processing Factory located at the Central Experiment Station at Chethackal and the Model Technically Specified Rubber (TSR) Factory established under the World Bank Assisted Rubber Project are run by the Department of Processing and Product Development.

The Chairman exercises administrative control over all the Departments and Offices of the Board. The total number of Officers and staff under the Board as on 31.3.2005 was 1977 consisting of 319 Group 'A' Officers, 613 Group 'B' Officers, 856 Group 'C' staff and 189 Group 'D' staff. Very cordial relations were maintained between the staff and the executive personnel. Their good work has resulted in taking the Board to greater heights.

The activities of the different departments are summarized in the following pages.

## Part III

# RUBBER PRODUCTION

The Rubber Production Department is responsible for planning, formulation and implementation of schemes for promoting rubber cultivation, production of natural rubber and improving quality of the produce. The major programmes formulated and implemented during the year are as follows.

1. Rubber Plantation Development Scheme
2. Promotion of cultivation of rubber among Scheduled castes / Scheduled tribes through Block planting & Group planting schemes
3. Advisory and Extension services to growers for scientific planting and production
4. Supply of plantation requisites for improving production and processing.
5. Scheme for upgradation of small holders' produce.
6. Promotion of group activities, self help groups etc among small holders.
7. Training of rubber tappers & growers.

### Computerization

The Board has computerized the Rubber Production (RP) functions in both Head office and Regional offices through Rubber Board Information System (RBIS), which was developed by M/s ALIT, Bangalore. All the Regional Offices have started processing applications under Rubber Plantation Development Scheme through RBIS system.

## I. Rubber Plantation Development (RPD) Schemes

### a) RPD Scheme in Traditional area and Non-traditional area other than North East Region

The RPD scheme provides free technical support and financial assistance for undertaking replanting (RP) of old / uneconomic plantations and new planting (NP). The planting target for the year 2004-05 was 4200 ha (NP 1000 ha + RP 3200 ha.). The performance of the RPD Scheme during 2004 - 05 and 2003 - 04 are furnished below :-

Details	2004-2005	2003-2004
1. Number of applications	17302.00	14699.00
2. Area as per applications (ha)	11437.72	10112.16
3. Number of permit issued	11251.00	11396.00
4. Total permitted area (Ha)	6630.37	6909.30*
a) RP Permit Area (ha.)	3605.82	5018.70
b) NP Permit Area (ha)	3024.55	1890.60

\*area as on 31-03-2005.

A total amount of Rs. 8.77 crore has been paid as financial assistance in Traditional and Non-traditional areas (other than NE) under the RPD scheme during 2004 - 05 (including spill over payment of previous year).





*Making of rubber sheets*

#### b) Insurance of Rubber plantations

Rubber plantations are insured against natural calamities. All immature plantations are compulsorily covered under the RPD scheme and mature plantations are insured on a voluntary basis up to 22 years of age. Insurance of immature plantations outside the RPD scheme is optional to the growers. The details of plantations insured, and compensation paid are furnished below :-

Details	Achievement during 2004 - 05	Cumulative Total upto 31-03-2005
Immature area insured(ha)	641.41	101487.92
No of holdings	1187	152136
Mature area insured(ha)	97.95	12887.28
No. of holdings	10	6614
Compensation paid (Rs. In lakhs)	20.56	295.56
No. of beneficiaries	1125	8054

#### c) Planting material generation (Traditional area)

With the twin objective of generating quality planting material and regulating general market price, the Board produces and distributes them to a limited extent every year. The planting materials produced are issued to the needy growers for raising source bush material or for raising plantations.

In Traditional area, the Board owns 7 nurseries with an area of 44.15 ha and the production details are furnished below:-

Item	Units produced and distributed 2003-04	Units produced and distributed 2004-05
Green budded stumps	146136	157394
Brown budded stumps	693326	514551
<b>Total</b>	<b>839462</b>	<b>671945</b>



**d) Block plantation project for SC/ST.**

This special programme is implemented jointly by the Board and the State Governments of Kerala, Orissa, Andhra Pradesh, Karnataka and Tripura. The

project, which adopts an integrated approach, aims at an overall development of SC/ST categories. The concerned State Governments are financially supporting the project. The details are given below :-

State	Cumulative total as on 31-03-2004		Planting area 2004 - 05		Cumulative total as on 31-03-05	
	Area (ha)	No. of beneficiaries	Area (ha)	No. of beneficiaries	Area (ha)	No. of beneficiaries
Kerala	2063	5971	59	159	2122	6130
Karnataka	250	418	Nil	Nil	250	418
Andhra Pradesh	98	70	Nil	Nil	98	70
Orissa	225	328	Nil	Nil	225	328
Total	2636	6787	59	159	2695	6946

**e) Distribution of leguminous cover crop seeds (Traditional & Other Non-traditional)**

The scheme is formulated and implemented by the Extension wing, on a need basis, for providing *Pureria* and *Mucuna* seeds for establishing leguminous cover crop in the field. The physical achievements of the scheme are given below :-

Item distributed in traditional area	Stock as on 01-04-2004	Quantity purchased/ received during 2004-05	Distributed during 2004-05
	Kg	Kg	Kg
<i>Pureria</i>	334.6	86.2	365.3
<i>Mucuna</i>	68.5	359.5	387.95

During the year, training was imparted to 1444 beneficiaries including 235 in SC/ST category in 97 batches against 1387 beneficiaries in the pervious year. An expenditure of Rs.11.33 lakh was incurred for the scheme.

**ii) Short -duration intensive Tapper's Training Programmes**

Apart from the conventional Tappers' Training schools, Board also conducts short-term intensive training courses in various practical aspects of scientific tapping with emphasis on improvement in tapping. During the period under report, 7959 persons were given training in 490 batches under the scheme against 6562 persons in the previous year. An expenditure of Rs. 20.57 lakh was incurred for the scheme.

**f) Tappers' Training****i) Regular Tappers' Training School.**

There are 18 regular Tappers' Training Schools run by the Board at different plantation centres, for imparting training to small growers and workers in tapping.

**g) Promotion of Rubber Producers' Societies (RPSs)**

For effective transfer of technology, and for empowerment of the smallholding sector which accounts for 88% of the production of NR, Board adopts a group approach by promoting formation of voluntary organi-

zation of small farmers at village level, namely Rubber Producers Societies. RPSs are envisaged to function as the extension arm of the Board and to facilitate a meaningful devolution of extension functions to render effective service to the small growers. Efforts are also being made to revitalize the defunct RPSs by using participatory approach.

**Model RPSs (technology transfer centres)**

Board has established 35 RPSs, 30 in traditional area and 5 in non-traditional areas, as model RPSs, with infrastructure facilities required for functioning as centres for technology transfer and model primary processing centres. These model RPSs are functioning as training centres of growers, workers, etc. Training programmes are conducted on various subjects such as plantation management, quality sheet making and grading, bee-keeping, manuring, plant protection, tapping, etc. For the effective utilization of information technology for knowledge upgradation and sharing of information, computers have also been provided in major centres.

**Scheme for granting financial assistance to RPSs to set-up infrastructure facilities for quality upgradation and effluent treatment.**

The scheme is aimed at supporting RPSs to set-up crop collection centres and group processing facilities for a better raw material supply chain with the upgraded quality of NR. An amount of Rs.2,50,88,796/- was disbursed to 202 RPSs during the current year.

**h) Women empowerment programme**

Development officer (Women Development) in the central office and nodal officers in Regional Offices are well equipped by the department to provide logistic support to the women Empowerment

programmes (income generation as well as training activities) initiated by RPSs. The women Self-Help Groups (SHG) are supported strongly in the areas of training and marketing of their products.

**i) Farmer education programme**

**Interpersonal Interaction**

To provide technical know-how to farmers, visit to their fields are conducted by the extension officers regularly, in connection with various schemes and for advisory purposes. During such field visits, the extension officers also conduct demonstrations, if needed.

**Group Interaction**

Owing to the wide ratio of the extension officials and growers numbering almost about a million, the Department has been promoting a group approach to maintain contact with the planting community. Campaign programmes are being conducted every year and the topic highlighted during 2004-05 was "Strengthening of RPSs". In addition to the regular campaign, seminars and group meetings are also conducted frequently. The details of meeting conducted during the year are tabulated below :-

Type of meeting	No. of meetings	No. of Participants
Campaign meeting	2095	60023
Full day seminar	89	8576
Half day seminar	667	25020
Group meeting	1921	33081
RPS Meeting	5194	51386
Other meeting	1047	8319
Use of Audio visual equipments	656	23440

**J) Sasthradarshan Programme**

Under this programme, growers are brought from non-traditional and North Eastern states to the traditional rubber growing areas in Kerala and given training on various aspects of rubber cultivation. During 2004-05, 304 growers were trained in 25 batches including 4 batches organized by the Development Unit, Govt. of Tripura. The details are given below :-

State	Batch	No. of trainees
Tripura	12	136
Assam	7	96
Orissa	3	38
Goa	2	21
Andhrapradesh	1	13
<b>Total</b>	<b>25</b>	<b>304</b>

**k) Training Programme for Technical Officers**

As a part of HRD programme of the Board, 30 Extension Officers were trained in Kerala Agricultural University on "IT enabled Services in Agriculture" & "Utilization of Audio Visual Aids for effective communication with special emphasis on movie making and editing". 32 Technical Officers were trained by the Board's Training Centre on three topics viz., "Competence Enhancement", "Methodology for Research in Extension and Programme Evaluation" and "Promise to Win". In addition, one Technical Officer was deployed for training on "Agriculture Water Management" at CWRDM, Kozhikode.

**l) Price Stabilization Fund (PSF)**

The objective of the PSF, a Trust Fund Account under the aegis of NABARD, is to provide income support to small rubber growers when price of rubber falls below remunerative level. 18541 growers were enrolled under the scheme as on 31<sup>st</sup> March 2005.

**II. Rubber Development Scheme in NE Region****a) Rubber Plantation Development Scheme**

The details of implementation of RPD scheme in North Eastern region during the year are furnished below :

Type of rubber plantation	Target area (ha)	Permits issued	Planted Area (ha)
Re-planting	30	1	2.88
New Planting	2000	2908	2084.39
Total	2030	2909	2087.27
<b>Total Amount Disbursed</b>	<b>482.77 Lakh</b>		

**b) Block Planting Project**

This special project is implemented jointly by the Board, and State Governments which provide the financial support for the project. The project, which adopts an integrated approach, aims at an overall development of SC/ST categories. During the year, Block plantations were developed in 202 ha with 156 beneficiaries and the cumulative block plantation area up to 31<sup>st</sup> March 2005 was 2962 ha.

**c) Integrated Village Level Rubber Development**

During the 10<sup>th</sup> plan, an integrated approach for rubber sector development has been adopted on a village level, which covers three components, namely :

- Revitalization of sick plantations established after 1997 and restocking of poor plantations.
- Expansion of the area adopting group approach, implementation of productivity enhancement measures for mature plantations and creating processing and marketing facilities on a group basis.
- Productivity enhancement measures.



The progress under the scheme during 2004-05 is shown below :-

Components	2003-04		2004-05	
	Area (ha)	No. of beneficiaries	Area (ha)	No. of beneficiaries
Revitalization	51.44	107	80.96	126
Restocking	100.56	135	123.98	206
Productivity Enhancement	3200.00	4310	4315.00	4996
Total	3352.00	4552	4519.94	5328

#### d) Demonstration of Agro Management Practices (NE Region)

Rubber being a relatively new crop in the NE Region, strong extension support is required to make the farmers adopt scientific agro management practices in their plantations. Farmer's trainings are being conducted through Nucleus Rubber Estate & Training Centres (NRETC), Rubber Research and Training Centre (RRTC) and District Development Centres (DDC). Undertaking demonstration plots are also a part of the extension support programme and the Board developed 194 Demonstration plots spending Rs. 2.07 Lakh during the year.

#### e) Farmer Education programme in NE region

##### i) Interpersonal Interaction

To disseminate technical knowhow to farmers, the extension officers visits regularly to their fields in connection with various schemes and for advisory purposes. Demonstrations are also conducted during such visits.

##### ii) Group Interaction

Campaigns and other mass contact

programmes are being conducted regularly to popularize the modern techniques of rubber cultivation and processing. The details of such meetings are furnished below:

Type of meeting	2004-05	
	No. of meeting	No. of Participants
Campaign meeting	167	5315
Full day seminar	4	455
Half day seminar	11	328
Group meeting	502	9812
RPS Meeting	37	805
Other meeting	4	55
Use of audio visual equipments	11	251
RRTC/DDC	46	708

#### f) Distribution of Estate Inputs (Including quantity of materials supplied under Integrated Village Level Rubber Development scheme)

Board distributed the following estate inputs in the NE Region :

Items distributed	No. of Beneficiaries	Quantity (MT)
Urea	5490	339
MOP		251.5
MRP		759.95
Rainguarding polythene sheet	114	1.39
RG Compound	NIL	NIL

There are 7 nurseries owned by the Board with an area of 31.2 Ha in Non-traditional area / North Eastern region. Under Quality Planting Material Generation Scheme, 5,11,298 brown budded stumps

produced by the Board's nurseries in NT/NE region during 2004-05. In addition, a scheme for distribution of Cover Crops is also formulated and implemented by the Extension wing on a need basis, for providing Pueraria and Mucuna seeds for establishing leguminous cover crop in the field. 414 kgs of Pueraria seeds were distributed in the NE region during the year.

**g) Women empowerment programme (Educational campaign programme and farmers' meeting)**

Training programmes specially formulated for empowerment and welfare of women are being implemented in the North Eastern States.

Details of the Programme	2004-05	
	No. of Beneficiaries	Financial Assistance (Rs)
Tapper's training	105	32570
Crop processing	85	11175
Health Camp	1547	66104
Apiculture	85	6475

**h) Tapper's Training School (NE Region)**

**i) Regular Tappers' Training Programme**

There are 3 Tappers' Training Schools in North Eastern region for imparting training to small growers and workers. During the current year, training was imparted to 340 beneficiaries including 258 SC/ST category in 22 batches against 331 beneficiaries in the pervious year spending a sum of Rs. 2.49 lakh as expenditure.

**ii) Short Term intensive Tappers' Training Programmes (NE)**

Apart from the conventional regular Tappers' Training schools, Board also conducts short-term intensive training courses in NE region. During the period under report, 1565 persons were given training in 102 batches under the scheme against 1345 persons in the previous year. An expenditure of Rs. 4.41 lakh was incurred.

**i) Boundary Protection**

In view of the necessity of fencing rubber plantations, schemes have been formulated for providing financial assistance to small growers for protecting boundaries of young plantations in NE Region. For protection using Bamboo, 2287 growers including 1491 under SC/ST category were benefited. A few growers also got benefited for protection of holdings using barbed wire. A sum of Rs. 25.50 Lakh was disbursed as financial assistance under the boundary protection scheme.

In addition to the above, certain other schemes to provide assistance for infrastructure facilities such as rollers, smoke houses, etc., and bee keeping are also being implemented to provide necessary supply and services, taking into consideration the backwardness of the North Eastern Region. Total financial assistance of Rs. 5.27 lakh was disbursed during the year, for the schemes.

**j) Group Processing Centres**

In order to improve infrastructural facilities for crop collection and processing, financial assistance was provided for setting up of group processing centres and a total amount of Rs. 105.44 Lakh was utilized for this scheme during the year.



## Part - IV

# ADMINISTRATION

**The** Administration Dept. consists of the following Sections and Divisions :

- 01 Establishment Division (Board Secretariat, Personnel, Entitlement and General Administration)
- 02 Marketing Division
- 03 Labour Welfare Section
- 04 Legal Section
- 05 Hindi Section

## 1. ESTABLISHMENT DIVISION

### a) Personnel Administration

During the year 2004-05, four candidates from outside and five in-service candidates were appointed against direct recruitment vacancies. Selection Committees / Departmental Promotion Committees (DPC) were properly constituted for selection of personnel befitting job requirements. Periodical returns on the personnel recruited / promoted at reservation points were sent to the Government.

Of 300 employees/officers who were given promotion/higher grade, 242 were regular promotions, 44 higher grade awarded under Cadre review/ ACP scheme and 14 under Career improvement for Scientists.

### b) Board Secretariat

The important functions of the Board's Secretariat Section are constitution / reconstitution of the Board and its Sub Committees, convening the meetings of the Board and its Committees, monitoring implementation of the decisions of the Board, etc.,

### Meetings of the Board and its committees

The following meetings of the Board and of the Committees were held during the year:-

#### Board meetings

- 151<sup>st</sup> meeting - 24.07.2004
- 152<sup>nd</sup> meeting - 20.11.2004

#### Committee meetings

- \* Executive Committee - 22.06.2004  
28.01.2005
- \* R&D Committee - 22.06.2004
- \* Combined meeting of the Executive and Staff Affairs Committee - 13.12.2004  
23.12.2004
- \* Staff Affairs Committee - 18.11.2004
- \* Statistics & Import/Export Committee - 07.06.2004  
01.11.2004
- \* Market Development Committee - 07.06.2004  
30.10.2004  
18.11.2004  
19.03.2005
- \* Planting Committee - 18.11.2004
- \* Labour Welfare Committee - 19.03.2005
- \* Committee on Rubber Development for North East - 30.08.2004  
04.02.2005  
14.02.2005

### c) Entitlement

#### Sanction of interest bearing advances

Financial assistance to the tune of Rs.1.01 Crore was disbursed to 62 employees of the Board as House Building advance during the year 2004-05. A sum of Rs.28,71,744/- was disbursed towards other advances to 81 employees as per details given below:-

Sl. No.	Type of advance	No. of employees	Amount disbursed in Rs.
1	Car Advance	9	10,61,504
2	Motor Cycle/ Scooter Advance	44	12,82,940
3	Cycle Advance	13	19,500
4	Computer Advance	15	5,07,800
	<b>Total</b>	<b>81</b>	<b>28,71,744</b>

On completion of recovery/refund of House Building Advances along with interest, re-conveyance deeds were executed in 64 cases.

**Retirement and grant of retirement benefits**

Retirement benefits were disbursed to 66 employees in time including 11 employ-

ees through voluntary retirement during the year 2004-05. Also, family pension was granted to the families of 4 employees who died in harness. The Board has 518 pensioners and 142 family pensioners as on 31.03.2005.

In addition, the entitlement section maintains properly all service books and personal files. During the year 2004-05, service books and personal files were opened for four new appointments of the Board.

**d) General Administration (GA)**

The GA section deals with issue of office orders and circulars, inward and despatch of letters, stationary and other local purchase, asset and vehicle maintenance, and house keeping activities for headquarters.

**I. Overall manpower strength of the Board as on 31<sup>st</sup> March 2005**

The department-wise and group-wise particulars are detailed below:-

Sl. No	Name of the Department	Group "A"	Group "B"	Group "C"	Group "D"	TOTAL
1	Rubber Production	182	381	448	100	1111
2	Research	61	140	172	57	430
3	Licensing & Excise Duty	23	29	78	5	135
4	Administration	14	13	56	15	98
5	Processing & Product Development	19	17	39	4	79
6	Finance & Accounts	6	17	30	2	55
7	Training & Technical Consultancy	9	10	22	4	45
8	Statistics & Planning	5	6	11	2	24
	<b>TOTAL</b>	<b>319</b>	<b>613</b>	<b>856</b>	<b>189</b>	<b>1977</b>

Total number of Officers and staff as on 31/03/2005 was 1977.

**II. Groupwise information on Female Employees and their percentages to that of total staff strength as on 31.3.2005.**

Group	A	B	C	D	GrandTotal
<b>No. of female employees</b>	76	245	357	24	<b>702</b>
<b>Total groupwise staff strength</b>	319	613	856	189	<b>1977</b>
<b>% of female employees</b>	23.82	39.97	41.70	12.70	<b>35.51</b>

## 2. MARKETING DIVISION

The main functions of the Division are collection, compilation and dissemination of prices of natural rubber (NR) in both domestic and international market during the year. The daily prices of the predominantly traded forms of NR, (i.e) RSS-4 and RSS-5 grades of sheet rubber at Kottayam and Kochi were collected, compiled and reported to the news agencies and press for publication and other agencies including the Ministry of Commerce & Industry, Govt. of India. The prices of other grades of rubber were also published on daily/ weekly/ bi-weekly basis.

Similarly, the daily prices of various grades of natural rubber (NR) from Bangkok and Kuala Lumpur markets were collected, compiled and furnished to the news agencies/ press for publication and the Ministry of Commerce & Industry, Govt. of India. The domestic and international prices of various grades of rubber were also updated daily and made available in the website of the Rubber Board.

The 6<sup>th</sup> revised edition of Directory of Rubber Goods Manufacturers in India brought out during the year, which contains the name and address of the manufacturers with the classification of products under each state.

In addition, the Division monitored the Import of natural rubber into the country through various seaports and compiled a consolidated report on imports of NR. The daily report on Import and Export of natural rubber prepared and submitted to Ministry of Commerce & Industry.

## 3. LABOUR WELFARE SECTION

Under Section 8(2)(f) of the Rubber Act 1947, the Board shall implement schemes to secure better working conditions and provisions for the improvement of amenities and incentives for the rubber plantation workers.

With a view to inculcate and generate interest among the tappers/workers of rubber plantation industry, who are indispensable for the development and promotion of rubber cultivation, the Board has implemented several welfare schemes under different sub-components for the benefit of the tappers/workers and their family members.

A sum of **Rs.168.81 lakh** was disbursed under various schemes against the budgeted target of Rs.169 lakh with the achievement of 99.88%.

### Purpose and the performance of the sub-components during 2004-2005

#### a) Educational stipend scheme

The scheme provides financial assistance for different courses of studies including professional courses undergone by children of rubber plantation workers both in the colleges and schools. The stipend consists of lump sum grant and Hostel/Boarding fee.

#### b) Merit Award Scheme

The scheme is intended to encourage children of rubber plantation workers, who pass out meritoriously in their academic courses of study, by providing cash award ranging from Rs.1000/- to Rs.5000/- for various courses.

#### c) Housing Subsidy Scheme

The purpose of the scheme is to promote house construction among rubber plantation workers. The prime intention of the scheme is to provide financial assistance to tappers of smallholdings not covered under the Plantation Labour Act (PLA) 1951. The maximum amount of subsidy will be 25% of estimated cost of construction or Rs.7500/- whichever is less. In North-Eastern Region, houses built with mud walls, split bamboo walls and grass/leaves would be eligible for a maximum subsidy of Rs.6000.



For the houses with split bamboo walls and G I sheet roof, half mud wall with split bamboo wall with or without wooden frames and roofed with GI sheet, the maximum subsidy would be Rs.7500. The tappers/workers in the organized sector, employed in the estates measuring not less than 1 hectare, covered under PLA 1951, are also eligible for assistance under the scheme.

**d) Scheme for providing sanitary facilities**

The purpose of the scheme is to maintain hygienic environment among the rubber tappers of unorganized sector. This scheme assists the tappers to build latrine as per the plan and estimate prescribed by the Board. The amount of financial assistance will be either 75% of the cost of construction or Rs.3000/- whichever is less.

**e) Medical Attendance Scheme**

This scheme is introduced for tappers in the unorganized sector of rubber holdings. This provides reimbursement of medical expenses incurred for treatment of the tappers suffering from illness, and also compensation to the tappers in lieu of their inability to attend duty in consequence of illness. As an encouragement for the promotion of small family norms among the tappers working in the rubber small holding sector, a lump sum amount will be given to the tappers who have undergone sterilization operation.

**f) Housing and sanitary subsidy scheme for SC/ST/OBC**

This scheme is exclusively for SC/ST/OBC tappers who are employed in the unorganized rubber holdings sector. Assistance under the scheme is granted for construction of house with latrine to the extent of Rs.14,000/- per applicant.

**g) Group Insurance cum Deposit Scheme**

This is an important social security measure introduced for the security of the workers against death and injuries caused by accidents. It is applicable to plantation workers who are not covered under the Plantation Labour Act 1951. The scheme also encourages a habit of saving among the workers. The first phase started during the financial year 1986-87 and it reached the XI phase in 2000-2001.

Each of these yearly schemes is individual schemes and will be in operation for a period of ten years. The workers enrolled in the scheme have to renew the policy every year by remitting their contribution. Phase I to VI were completed and 5 phases remained for renewal during the year. A sum of Rs.34,69,512 was disbursed to 1474 tappers towards payment on maturity under phase V in 2004-05.

A new Contributory Group Insurance Scheme was commenced during 2001-2002, which provide Insurance coverage for an amount of Rs.50,000/- exclusively for tappers in the small holdings with the beneficiary contribution of Rs.250/- and the Board's contribution of Rs.150/- per year.

This scheme provides higher compensation against accidents and promotes the habit of saving among the tappers. During the year 2004-2005, the Insurance Company has paid an amount of Rs.20,000/- against one accident death and Rs. 58,842/- against 19 accidental injuries as compensation.

**Performance of the Labour Welfare schemes for the year 2004-05**

Sl. No.	Name of Sub-component	Budget allocation for 2004-05 Rs. in Lakh	No. of applications received	Total no. of beneficiaries	Total Amount Disbursed Rs. in Lakh
1.	Educational stipend	45.48	12234	7484	45.48
2.	Educational Merit Award	3.00	259	220	2.89
3.	Medical Attendance	9.60	729	488	9.54
4.	Housing Subsidy	57.36	2007	765	57.36
5.	Housing / Sanitary for SC/ST	8.96	332	117	8.94
6.	Sanitary Subsidy	19.71	1858	657	19.71
7.	Group Insurance cum Deposit Scheme	11.39	8883	8883	11.39
8.	Operating Expenses	13.50			13.50
<b>Total</b>		<b>169.00</b>	<b>26302</b>	<b>18614</b>	<b>168.81</b>

**4. LEGAL SECTION**

During the year, legal documents such as MOU, agreements, lease deed, indemnity bond, etc., to be executed by the Board were drafted/prepared as and when required. Appropriate steps were taken through lawyers to safeguard the interest of the Board. 10 new cases were filed in addition to the pending cases. Besides, steps were taken to conduct arbitration cases filed against the Board. Para-wise comments and necessary instructions were given to Standing Counsels of the Board and the Central Government pleaders in cases pending in High Court and Supreme Court. The section prepared and filed replies and represented the Board in consumer disputes before Redressal Forum in various districts, during the hearing.

Necessary assistance was given to RRS Dhenkanal, RRDS Andamans, Central Experiment Station, Chethackal, RRII Farm, HBSS Nettana and Paraliar, Nurseries/farms of RP Dept. etc. in dealing with labour matters. The Section prepared draft amendments proposed by the Board to Rubber

Act/ Rubber Rules and provided necessary details of various acts and rules related to Board's employee and workers.

Necessary advice/views were given in 283 files referred to the Legal Section during the year under report. The title deeds and the documents were scrutinized for determining the eligibility under the Rules was done in the case of 37 applications for House Building Advances.

**5. HINDI SECTION**

The Rubber Board is a notified office under Rule 10(4) of Official Language Rules. The Department of Commerce, Ministry of Commerce & Industry awarded the second prize to the Board for excellence in implementation of the Official Language Policy of the Government of India during the year 2003-04.

Among the members of Kottayam Town Official Language Implementation Committee (TOLIC), the Board was awarded 1<sup>st</sup> prize for implementation of the various official language schemes. The



Board also received overall trophy for securing highest points in various competitions conducted in connection with the Joint Hindi Week Celebrations of Kottayam TOLIC.

The Dy. Director (OL) and Hindi Officer attended state level Official Language Conference conducted by Hindustan Latex Ltd. at Trivandrum. Dy. Director (OL) attended the Regional OL Conference held at Bangalore and a seminar conducted by NIPA at Bangalore on questionnaire relating to visit of Parliament Committee on Official language.

The Official Language (Hindi) Section of the Rubber Board undertook the following activities during the year:-

#### **1. Visit of Parliamentary Committee**

The Drafting and Evidence Committee of Parliament on Official Language headed by Smt. Sarala Maheswari, Member of Parliament visited Kottayam. Reports on functioning and progress of implementation of the Official Language Schemes of the Govt. of India in the Rubber Board and in other member organisations of the TOLIC were prepared/collected and presented to the Committee.

#### **2. Official Language Implementation Committee**

Four meetings of the Official Language Implementation Committee of the Board were held during the year. The Agenda for the meeting were prepared in accordance with the instructions of the Department of Official Language. Quarterly progress reports on Official Language implementation were presented in the meetings for discussion and the same were forwarded to the Ministry of Commerce & Industry, Govt. of India and Regional Implementation Office, Kochi.

Official Language Implementation

Committees were formed in various Sub-ordinate Offices of the Board during the year and the activities were monitored.

#### **3. Hindi Fortnight/Hindi Day Celebration**

Hindi fortnight was celebrated from 19<sup>th</sup> September 2004 to 28<sup>th</sup> September 2004 in the Head Quarters and Rubber Research Institute of the Board and Hindi day was celebrated in 30 subordinate offices of the Board. Various competitions were conducted for the employees of the Board and received good responses from employees for the competitions. Different eminent personalities in the locality attended these functions.

#### **4. Hindi Teaching Scheme**

As per the policy of the Union, Hindi teaching in 'C' region is to be completed by the year 2005. Hindi Typewriting classes were conducted at Board's Head office since no such scheme is functioning for typewriting at Kottayam. Five officials attended and passed Hindi Typewriting examinations during the year. 14 officials passed Pragya examination during the year and 16 officials passed Praveen examination of the Hindi Teaching Scheme during the year. Cash award and personal pay were awarded to those officials who passed the Hindi examinations.

#### **5. Publication of Rubber Samachar Bi-monthly Bulletin in Hindi**

The bi-monthly Hindi bulletin "Rubber Samachar" were brought out during the year. Write-ups of employees/their family members and other useful information were featured in these issues.

#### **6. Hindi Workshop**

Hindi Workshops were conducted in 25 Subordinate Offices viz. Regional Offices at Kanhangad, Sreekandapuram,

Thalassery, Thrissur, Thiruvananthapuram, Nedumangad, Punalur, Changanassery, Kozhikkode, Palakkad, Mannarkkad, Kottarakkara, Muvattupuzha, Kottayam, Pathanamthitta, Thodupuzha, Erattupetta, Pala, Kothamangalam, Ernakulam, Marthandam, Kanjirappally, Adoor and Taliparamba and Licensing Division at Kochi, CES Chethackal . A total of 470 officers/employees were imparted training in Official Language through these workshops.

Two day Hindi workshops were organised for the officials of the Rubber Board Head Office, RRII and Training Centre. 45 nos. of officials were imparted training in these workshops. A combined Hindi Workshop was organised for the officials of RO, Ernakulam and LD, Kochi. Director (OL), Department of Commerce attended the workshop as expert faculty.

#### **7. Town Official Language Implementation Committee**

Shri S.M. Desalpine, Chairman of the Board continued in the post of Chairman, Kottayam Town Official Language Implementation Committee and Smt. P.K.Santhakumari, Deputy Director (OL) continued to hold the post of Member Secretary. Two meetings of the Kottayam Town Official Language Implementation Committee were conducted during the year.

Shri. S.M. Desalpine, IAS, Chairman, Rubber Board and the Chairman of the Town Official Language Implementation Committee, presided over the meeting. Shri. P.Vijayakumar, Research Officer, Regional Implementation Office, Kochi represented the Department of Official Language, Ministry of Home Affairs in the meeting. One day Hindi Workshop and Hindi Week Celebrations were conducted for the member organisations of the TOLIC and a meeting of TOLIC Core Committee was also held during the year.

#### **8. Official Language Inspection**

The Director (OL), Department of Commerce, Govt. of India inspected the official language implementation work in the Board's Regional Office, Ernakulam. The Board also arranged inspections on the progress of Official Language Implementation Schemes in 26 subordinate offices during the year.

#### **9. General**

As per Section 3(3) of the Official Language (OL) Act, the documents like office memoranda, circulars, Government orders were translated into Hindi. Proof reading of different bilingual forms, translation of forms etc. were undertaken to ensure printings of forms in bilingual. Special attention was given to send replies in Hindi for the letters received in Hindi. Necessary guidelines also provided to officers regarding implementation of OL Policy. In addition, A Hindi Library is maintained in the Hindi section of the Board and continued writing Aaj Ka Sabda at Head Office/ subordinate offices of the Board.

Annual Report, Annual Accounts of the Board were translated and rendered necessary assistance in its bilingual publication. Translated various reports/answers to questions as and when required by the Ministry of Commerce and Parliamentary Committees.

Officials were encouraged and motivated to perform their work in Hindi through incentive scheme. A total of 238 officials participated in the scheme. The Board conducted competitions in Noting and Drafting, Essay writing and Hindi Typewriting on behalf of Kendriya Hindi Sachivalaya Parishad, New Delhi. Smt.K.Mohanakumari, Assistant, RRII stood first in Noting and Drafting competition at All India Level and Smt. R. Naga lakshmy Ammal, Steno. Gr.II , Head Office stood state first in Typewriting competition.

## **DIVISIONS UNDER THE DIRECT CONTROL OF THE CHAIRMAN**

### **1. Publicity and Public Relations Division**

The following activities were conducted by the P&PR Division:

#### **Publications:**

12 issues of "Rubber" magazine were brought out during the year. The monthly average circulation is 17,000 copies with 6490 life subscribers. 11,000 Copies of "Rubber Grower's Companion 2005" and 1000 Nos. of "Rubber and its Cultivation" were printed and distributed.

12 issues of the 'Rubber Statistical News' and 3 issues of "Inside Rubber Board" (an in-house journal) were published during the year. The officers of the division published 24 articles in 'Agriculture Column' of Malayalam Dailies, Farm Journals and Rubber Magazine.

#### **Press release and Advertisements:**

33 Press Releases and 91 advertisements (including display and classified) were issued, on behalf of the Board.

#### **All India Radio**

Three talks/interviews of officers of the division on the 'Farm & Home programme' were recorded and broadcast through All India Radio. Deputy Director functioned as the Co-ordinator for a 12-episode programme on rubber in the All India Radio.

#### **Seminar and Meetings**

The officers of the Division participated and spoke in several seminars, meetings and other public functions connected with the activities of the Board, Rubber Producers' Societies, Inter-media Publicity Co-ordination Committee, and Public Sector Public Relations Forum.

### **Exhibition**

The Division participated in the following exhibitions :-

- 1) Industrial Expo - 2005 at Pathanamthitta
- 2) Index - 2005 at Kottayam
- 3) UPASI Exhibition - Coonoor - 2004
- 4) Rubber Expo, Mumbai - 2005

### **HQ Library**

The P & PR Division manages the Board's Head Quarters Library. 647 new books were added to the Library during the year and the classification and cataloging of books were in progress.

### **2. Vigilance Division**

The Vigilance Division of the Board investigated 14 complaints against 10 officers of Group A & B status and 4 officials of Group C status during the year. The allegations comprised in these complaints ranged from failure to account the source properly for the immovable property transactions, negligent manner of driving the office vehicle under the influence of intoxicants, failure to implement the guidelines of Technical Experts, irregularities in the stock of rubberwood boards/doors, performing security duties in a negligent manner resulting in the theft of Board's property, misuse of official position for personal gains, neglect of official duties by continuously staying abroad, unauthorized absence from duties in defiance of the directions/orders of the Board, etc.

After completion of proper investigation, appropriate action was recommended / taken against the erring Board's employees wherever found necessary. 3 major penalty proceedings and 5 minor penalty action were instituted against 8 officials of the Board during the year.

Annual statements of Immovable property as on 31.12.2004 were called for from all officers of Group A & B status.



The statements thus received were properly dealt with. The Vigilance Division also processed 113 applications relating to transactions in immovable property and 61 applications pertaining to transactions in movable property.

190 files/cases were referred to the Vigilance Division from other Divisions/Sections/Offices for comments/advice. All these files were properly dealt with and returned promptly with comments/advice thereon.

As per instructions received from the Central Vigilance Commission, the Board observed the "Vigilance Awareness Week" from 1.11.2004 to 6.11.2004. Besides administering the pledge, meetings of beneficiaries/clients of the Board were held at Thiruvananthapuram, Kottayam, Kozhikode, Mangalore, Guwahati and Agartala. A large number of growers, dealers, manufacturers, representatives of Rubber Producers' Societies, etc. participated in the beneficiaries meetings.



## Part - V

### RUBBER RESEARCH

**The Rubber Research Institute of India (RRII)** was established in 1955 with its headquarters at Kottayam. The main research farm with the central experimental station (CES) of the Institute is located in an area of 250 ha. at Chethackel, Ranni in Pathanamthitta district, Kerala State. Moreover, there are 9 Regional Research Stations (RRSs) spread across the country in the states of Kerala, Tamilnadu, Karnataka, Maharashtra, Orissa, West Bengal, Assam, Meghalaya and Tripura. The Institute conducts research and development works in the fields of plant breeding, germplasm conservation, biotechnology, exploitation technology, agronomy and soil science, plant pathology, plant physiology, economics and rubber technology. RRII has 119 scientists and 311 supporting staff. All the research projects of the Rubber Research Institute of India (RRII) progressed well during the period. The activities of the Institute are briefly narrated below:-

The Botany division continued research activities for the development of high yielding clones. In the large-scale trial, RRII 400 series clones recommended for planting, continued to show superior yield in the second year of tapping by 32 to 57% higher than the popular clone RRII 105. Two other clones viz. RRII 402 and RRII 52 also showed superior yield. Eighty clones were identified for nursery evaluation trials. Eleven ortet clones from Mundakkayam estate and hybrid clones such as 772, 575 etc showed superior yield than RRII 105. Under the lab to land programme, 127 small growers and 5 large growers were given budwood material of RRII 400 series clones for experimental planting.

As part of the breeding programme, 4000 hand pollinations were carried out during the year. A study showed that there was no reduction in the wet weight of wood as a result of ethrel stimulation. Studies on different planting materials showed highest growth rate for plants from green buds. Young budded plants showed only comparable growth rate with that of the green budded plants.

Conservation, characterization and evaluation of germplasm were continued in the Germplasm Division. Fortyone selected accessions from the 1981 wild germplasm collections were received from the Malaysian Rubber Board through the National Bureau of Plant Genetic Resources, New Delhi. Evaluation of the wild 1981germplasm materials in different agro-climates in the traditional rubber growing regions and in the non-traditional regions covering Maharashtra, West Bengal, Assam and Tripura was continued. The wild accessions (1981) showed more polymorphism. High resistance to abnormal leaf fall disease was observed in 95 accessions and three accessions were identified for resistance to powdery mildew disease. Rapid screening for drought tolerance was done in 200 accessions and visual scoring in 975 accessions. In Nagrakata, North Bengal, accession MT 3452 was found to be the most vigorous, while accessions MT 1072, AC 3514 and RO 2908 showed higher test tap yield.

In the Genome Laboratory, studies on development of molecular markers for biotic and abiotic stress tolerance and for cloning and characterization of agronomically important genes were continued.



Reverse transcriptase gene was identified in Hevea. A project on molecular mechanism for drought tolerance was initiated and studies on microsatellite markers were continued.

Agronomy/Soils division continued research on agro-management techniques involving intercropping and cropping system, water conservation, weed management, nutrient management etc. Nursery growth was improved significantly by application of zinc and substitution of potassium fertilizer with sodium (common salt) up to 50% of the requirement also showed better results. An exchangeable aluminum method was found to be the most suitable for calculating lime requirement. Under the studies on Geographic Information System (GIS) boundary map of one estate was digitalized. The study concluded that the southern side of hills showed comparatively higher yield with the lower growth when compared to other sides.

Rubber growing soils developed on different landforms in Kerala were evaluated for its erodability and found that about 28 per cent of the rubber growing soils are highly erodable. A total of 8926 soil and 1752 leaf samples were analysed and 3683 recommendations issued for discriminatory fertilizer application, out of which 1110 were for large estates. A total of 51187 latex samples were tested for DRC and 593 samples for volatile fatty acids.

In Biotechnology Division, studies on somatic embryogenesis were continued. Transgenic plant of the clone RR11 105 integrated with SOD (Superoxide dismutase) gene was multiplied by bud grafting. Methods were standardized for high frequency somatic embryogenesis from leaf and ovule explants. Experiments to standardize somatic embryogenesis of the new 400 series clones are in progress. In order to charac-

terize the genes linked to Tapping Panel Dryness (TPD), two subtracted cDNA libraries were constructed and novel sequences identified.

In the field of exploitation technology, lab to land programme for extending low frequency tapping systems was continued. Success of low frequency tapping (fourth daily and weekly) with rainguarding in the Kulasekharam region, where rainguarding is not practiced traditionally, led to successful adoption of the system in two estates. In one trial, record yield of 10.3 kg dry rubber/tree was obtained in d/7 system of tapping from clone RR11 105. Experiment on low frequency controlled upward tapping (CUT) showed good results. Under weekly CUT, groove application of ethrel was found more effective than lace application. Exploratory trial was initiated on tapping once in 10 days (d/10). Low frequency tapping was extended to more than 20,000 ha of estates. In the Latex Diagnosis Unit, tests were extended to 206 smallholdings and new field experiments initiated in Kanyakumari district, Tamilnadu.

Plant Pathology division continued research projects on plant protection covering control of disease and pests, disease weather relationship, effluent management, soil microbiology and molecular plant pathology. The experiment on evaluation of crop loss due to abnormal leaf fall disease was concluded. Crop loss is estimated at 30% in the clone RRIM 600 and 7% in the clones GT1 and RR11 118. New crop loss study in RR11 400 series clones was initiated. Powdery mildew disease was found to be less in clone RR11 414. Survey on corynespora revealed that Sullia and Subramania in Karnataka are problem areas. Among the 400 series clones, RR11 430 and RR11 410 showed low incidence of corynespora disease. Pink disease was

more in clone RRIL 429. Studies on rubber seed oil for plant protection were continued and promising results were obtained.

The international project on *Corynespora*, coordinated by the International Rubber Research and Development Board (IRRDB), was started during the period. Investigation on Tapping Panel Dryness (TPD) was continued and started the survey on incidence of TPD in Kanyakumari District, Tamilnadu. Two promising PGPR isolates were identified to improve the growth of the cover crop *Pueraria phaseoloides*. Studies on biocontrol of bark feeding caterpillar showed good control with entomopathogenic *Bacillus thuringiensis*. Termites could be effectively controlled for one month with arrowroot extracts.

A prototype bench model high rate reactor was fabricated for treatment of sheet processing effluent. The hydraulic retention time (HRT) could be considerably reduced. A survey was carried out on problems in bee keeping and the productivity of colonies.

Agrometeorological studies showed that rubber cultivation was favorably influenced rainfall in midlands. The effect of drought on overall crop production showed that it was not evident due to increased tapping days. A regional observatory was established in Palappilly Estate in Thrissur district.

In Plant Physiology division, the physiological studies showed that free radical level significantly increased with ethylene increase in TPD affected trees. Results of RAPD analysis showed that no significant difference between monoclonal and polyclonal seedling populations. Study on photosynthetic energy acquisition in the high yielding clone RRIL 105 revealed that the clone has effective light utilization and photo protection mechanisms under favourable agro-climate. Differentially expressed cDNAs due to drought were eluted, precipi-

tated and amplified. Four wild accessions with more drought tolerance than clone RRIL 600 were identified. The genotype 34 selected for drought tolerance, from the polyclonal plants at RRS, Dapchari showed more photosynthesis.

In Rubber Technology division, the survey on quality of sheet rubber produced at different rubber growing regions was conducted and data analysis of samples testing was completed. Factory evaluation of De-proteinised Natural Rubber Latex (DNRL) prepared using Anilozyme P for the production of gloves was completed with satisfactory results except for a slightly yellowish colour. Both the powder and liquid form of Papain were found to be effective for the production of DNRL. Standardized the procedure to improve processing of skim latex in pilot plant and easy processing of the skim coagulum. Evaluation of raw rubber properties of clones belonging to the RRIL 400 series was initiated. Effect of different resins on properties of adhesives prepared using blends of neoprene and NR was assessed. NR latex nano-composites using layered silicates could reduce air permeability of the vulcanized films. Epoxidised NR was used as modifier in carbon / silica quantities of mixed filler reinforced NR and SBR and also in NBR / clay systems. Addition of small quantities of polypropylene or high density polyethylene was found to be effective in reinforcing natural rubber. Addition of recycled plastics in small proportions to NR improved the ageing resistance of vulcanizates. A phenolic resin was evaluated in silica filled NBR / ENR blend for the production of rice de-husking roller. Modification of the solar dryer was initiated to use water as a heat transfer medium for drying the sheet rubber. The project on "Flame retardant conveyor belt cover

compound" sponsored by a firm M/s. Cleanline Products Pvt. Ltd, Pune was continued and encouraging results have been obtained. Technology for the production of sprayable adhesive for footwear application and transparent rubber connector for medical application were developed.

The Economics Division continued studies on time series analysis of Global Trade and Tariff Policy of rubber and rubber products, latex timber yield of selected clones, rubberwood processing, sustainability of bee-keeping under rubber plantations in India and wage structure in the estate sector.

### **Activities in the North Eastern Region and in other regions:**

#### **NE Region**

Four Regional Research Stations namely, Nagrakatta in West Bengal, Agartala in Tripura, Guwahati in Assam and Tura in Meghalaya in the northeast forms the North Eastern Research complex with its headquarters at Agartala. All the research projects and experiments progressed well in the NE region during the period.

In RRS, Agartala, 24 ongoing research projects were in good progress. A new project on 'Study of Nutrient in the Tapping Panel Dry Tissues of Hevea under Tripura Climatic Conditions' has been initiated. The minerological studies showed presence of a good amount of stored potassium in the soils of Tripura. But availability is low. In the clone trial, clones RRII 203, RRII 208 and PB 235 were selected for planting in Tripura. Physiological studies and exploitation studies were continued. In the biotechnology lab, protocol was standardized to isolate leaf mesophyll cell protoplasts. Around 250 wild germplasm collections were maintained.

Weekly analysis of rainfall data was carried out. In the tea intercropping experiment, yield of green tea was 2183 kg/ha.

In RRS Guwahati, 15 ongoing research projects progressed well. Clone RRIM 600 continued to show higher growth and yield compared to other clones. Yield response to fertilizer application was noticed up to the dose of  $N_{60} P_{40} K_{40}$  @ 60:40:40 kg/ha/year. Application of superphosphate @ 60 kg/ha registered the highest growth in the immature phase. Yield and dry rubber content were high under fourth daily tapping with 7 stimulations and with three months of tapping rest during winter.

Sprouting success of budded stumps and growth of the young plants were higher when the slanting cut on the stump was made closer to the bud patch. Survey confirms that the occurrence of powdery mildew disease with varying degrees of severity. Clones SCATC 88/13, SCATC 93/114, Haiken 1, PB 86, PB 260, RRII 208, RRII 429, RRII 417, etc were tolerant to powdery mildew disease.

In RRS Tura, Meghalaya, the clones RRIM 600 and RRII 203 continued to show the highest growth. Yield response was the highest in the clones RRIM 600 and PB 311. A tapping experiment was initiated. Good results were obtained from fertilizer trials and intercropping of tea with rubber plantation also gave satisfactory results.

In the RRS, Nagrakatta, West Bengal, thirteen ongoing research projects and experiments progressed well. The yield performance of the clone RRII 208 was improved and the Chinese clones SCATC 88/113 and HK1 were superior in terms of yield. Other good clones are PB 311, RRII 203, RRIM 703, RRIM 605, RRIM 600 and RRII 208. Intercropping of tea with rubber continued to show good performance.



## Other Regions

Research projects in the Hevea Breeding Sub Stations (HBSS), and other Regional Research Stations (RRS) also progressed well during the year.

In HBSS, Karnataka, the clone PB 235 continued to show the highest growth and clone RR11 118 showed high growth. Clones RR11 105, RR11 118, PB 235 and PB 311 yielded well. Among the new clones RR11 414 is the most vigorous one, followed by clones RR11 429 and 430. In a large-scale clone trial, RR11 203, PB 260 and PB 235 yielded higher than others. Six ortet clones showed good yield performance.

In HBSS, Paraliyar, hand pollination was attempted with different parental combinations. Hybrids obtained in different years were under evaluation. In the clone trials, PB 314 and IRCA 109 were yielded much superior. In block trials, PB 311 and PB 235 yielded higher. In the trial of clonal composites, the composition of RR11 5 (15%), PB 235 (35%) and RR11 105 (50%) continued to be the best combination. The root trainer plants continued to exhibit better growth than poly bag plants.

All the ten ongoing research projects in RRS, Padiyoor progressed well. At RRS Padiyoor in Kannur district of Kerala, irrigation resulted in good growth response and the intercropping of cashew with rubber showed promising initial results. Other field trials on clone/germplasm evaluation, genotype x environment interaction, etc progressed well.

Eight ongoing research projects in RRS, Orissa progressed well during the year. In the 1987 clone trial, clone GT1 and RRIM 600 recorded higher yield over RR11 105. The clone RR11 105 and RRIM 600 showed comparable yield and clone GT1 yielded much less. In the 1996 clone trial, clone RR11 430 indicated better girth followed by RR11

417, but RR11 414 recorded less girth.

Ten ongoing research projects in RRS, Dapchari (Maharashtra) progressed well. Clone RR11 208 continued to be the best clone in terms of yield. Selections obtained from polyclonal plants were cloned. Among the wild genotypes Mattogrosso accessions showed better drought tolerance. In clone RR11 105 combined effect of irrigation and stimulation resulted in very high yield of 2550 kg/400 trees/year under d/3 frequency of tapping.

## Annual Review Meeting:

Annual review meetings for evaluation of all the ongoing research projects were held at RR11 from 09.08.2004 to 20.08.2004. Scientists presented the findings / results of the experiments in presence of external experts in the meeting from every division, which was reviewed and evaluated the progress against the plan and formulated the action plan for future research work

A review of the progress of the research component of the X Plan was done by the Research Advisory Committee headed by Dr. K.V. Peter, Vice-Chancellor, Kerala Agricultural University in June and July 2004 and a report thereon was submitted to the Government of India.

Major events/publications/training programmes during the year:

Dr. N.M. Mathew, Director (Research), Dr. K.R. Vijayakumar, Joint Director and Dr. James Jacob, Deputy Director attended the annual conference and meetings of the International Rubber Research and Development Board held at Kunming in China during 6-12 September 2004. Five research papers were presented.

Dr. N.M. Mathew, Director, attended the Plantation Crops symposium held at Colombo, Sri Lanka during July 2004 and the International Rubber Conference and Prod-

uct Exhibition held at Jakarta, Indonesia during 13-15 December 2004.

During the year, Rubber Research Institute of India conducted 18 scientific seminars in which 41 papers were presented and seven invited talks/guest lectures were also arranged. RRII imparted international level training to two technical officers from the Rubber Research Institute of Sri Lanka.

Ten scientists from RRII were deputed to various universities/institutes abroad for advanced training in different research disciplines. The first issue of the new journal

“Natural Rubber Research” Vol. 17. No.1, 2004 was published during the year. 110 research papers and four Doctorate thesis were also published.

### **Golden Jubilee Celebrations**

The year 2005 marks the Golden Jubilee year of RRII. A National level Organizing Committee has been constituted to evolve programmes/activities to celebrate the jubilee in a befitting manner. Construction of a new Golden Jubilee laboratory building was started at the RRII campus.



## Part - VI

### PROCESSING AND PRODUCT DEVELOPMENT

The Department of Processing and Product Development continued to provide technical and financial support to rubber and rubberwood processing units and in particular the small holding sector for improving the quality, cost competitiveness and infrastructure for marketing through various measures. The Department mainly implementing two schemes during the Tenth Five Year plan, namely,

- \* Processing Quality Upgradation and Product Diversification
- \* Market Development

During 2004-05, under the scheme on Processing Quality Upgradation and Product Diversification, technical and financial support was given to Technically Specified Rubber (TSR) processors for various activities for quality improvement, cost reduction and strengthening environmental protection systems, and an amount of Rs.52.12 Lakh was given as financial assistance to 16 TSR processors for quality improvement activities. During this period, an amount of Rs.20.39 Lakh was given as financial assistance to 9 TSR processors towards cost reduction measures and an amount of Rs.7.05 Lakh was given to 4 TSR processors for environmental protection measures. Under the scheme, 5 rubberwood processors were supported with a financial assistance of Rs.20.87 Lakh for quality improvement and value addition and one unit was financed for waste utilization activity. Engineering consultancy service was provided for expansion/renovation of the block rubber factories for Pala Marketing Co-operative Society, Meenachil Co-operative Rubber Marketing Society, Kozhikode District Co-

operative Society and Agreenco.

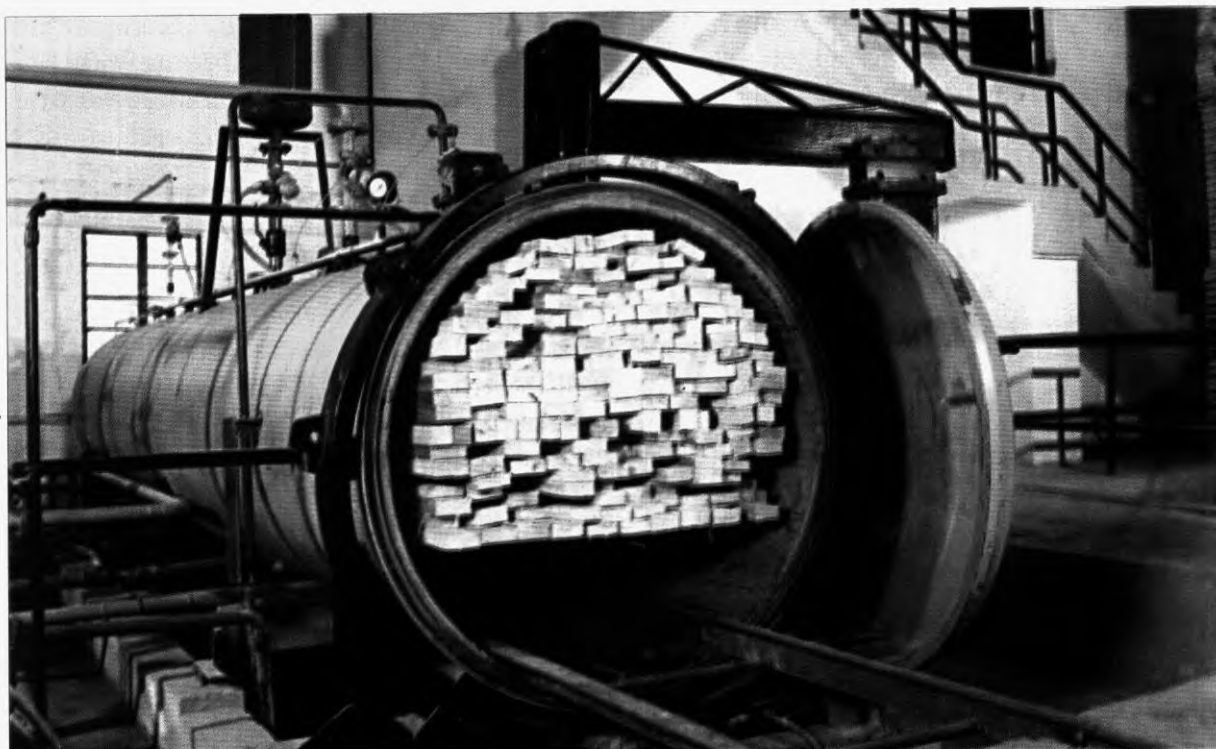
In RPS sector, two processors engaged in processing of TSR were supported with the loans to the tune of Rs.50.7 Lakh in lieu of share capital as approved by the Government. In addition, interest subsidy also provided to three TSR processors and one rubberwood processor in the RPS sector during the year.

Board provided demonstration and training facilities in the processing, quality control and environmental protection measures to TSR processors through the Model TSR factory at Manganam and Pilot Latex Processing Plant at CES Chethackal and Model Rubberwood factory at Manganam. The Model TSR factory evaluated the performance of shredder in processing of block rubber. The factory was awarded second prize among medium scale industries for pollution control systems. The factory produced 2280 Tonnes of TSR during the year.

The rubberwood testing lab at Manganam provided the testing services to processors and consumers of rubberwood, CPWD and the Kerala Forest Research Institute. The laboratory also undertook certain research projects jointly with the Research Department. Training programmes were also organized through the rubberwood testing laboratory and the model rubberwood factory.

Under the Market Development scheme, the infrastructure for marketing of rubber through the RPS sector was strengthened by providing loans to the tune of Rs.150 Lakh to 10 units in lieu of share capital for marketing rubber in the domestic market as well as in the export market.





*Rubberwood processing*

Financial assistance was offered to five RPS sector companies for procurement of computers and accessories to improve the efficiency in marketing.

The Department continued its activities to promote rubberwood as an eco-friendly timber in various applications in the national and international markets through various measures. The Board also promoted rubberwood through advertisement in leading magazines and newspapers. Action was initiated to bring out a Brochure on rubberwood of international standard. The Board participated in 18 national fairs and 3 international fairs for rubberwood promotion during the period.

The work of wet-riser for the HO building of the Board was awarded to CPWD and the work is being completed. After approval of the Govt., for the Golden Jubilee Memorial Building at Rubber Research Institute of

India premises, architectural proposals were invited and received from public sector agencies like NBCC, Engineers India Ltd. and CPWD. After evaluation, the first phase of the work costing Rs.2 crore was entrusted with CPWD. CPWD started the work and it is in good progress.

The Department implemented various schemes of the Board, namely, value addition of processed rubberwood through Self Help Groups (SHGs) under RPSs, establishment of a dehumidified godown for sheet rubber to study the techno-economic feasibility, energy audit of TSR and rubberwood processors and quality improvement of block rubber through use of latex raw material.

As per the Rubber Act, the department performed activities such as quality check of imported rubber and inspection of rubber produced in the country, to assess the merit

of the processors to issue/renewal of processors licence. The Govt. of India has withdrawn the orders issued in December 2001, with regard to designating Kolkata and Vishakapatnam as the ports of entry for natural rubber (NR), in August 2004.

As a result rubber started getting imported through other ports like Chennai, Bangalore, Hyderabad, Cochin, Mumbai etc., the Board explored the possibilities of approving laboratories of National Test House, Kolkata, Naval Science & Technological Laboratory, Vishakapatnam, Madras Institute of Technology, Chennai and the laboratory of IRMRA in Bombay to expedite the quality check. The Board was successful in approving the laboratory of IRMRA for the purpose. As a result of the arrival of imported rubber in different ports, with the approval of Govt. of India, it was decided that only random check be conducted for the imported rubber. During the year, 66,198 MT of natural rubber imported were put to quality check and cleared.

To ensure quality of rubber being exported, the Department undertook quality check of rubber exported. During the year,

11940 MT of block rubber was inspected and cleared for export. Similarly, 9602 MT of latex concentrate was inspected and cleared for export. 27576 tonnes of RSS grades were also inspected for export.

Officers of the Department participated in various training programmes organized for processors, growers and exporters and in the workshop jointly organized by Rubber Board and NCDC on strengthening rubber co-operatives, World Rubber Congress, Rubber Expo and international conference, seminar on Anti Dumping organized by the Confederation of Indian Industry, Certification and Conformity Assessment by ISO and BIS.

The Hydraulic Press developed by the Department for making 111 kg RSS bundles for the world market was used for export of rubber during the year.

The Department also provided engineering consultancy service to the Rubek Balloons (P) Ltd., run by the Kerala State Co-operative Rubber Marketing Federation.

Seven applications received from processors were processed for issue / renewal of processors' licence.



## Part - VII

# TRAINING AND TECHNICAL CONSULTANCY

**The** Department of Training & Technical Consultancy consists of two Divisions viz. Training Division and Technical Consultancy Division. The Training Division is conducting different training programmes for the benefit of the rubber industry comprising the Rubber plantation sector, Processing and Product manufacturing sector. The Technical Consultancy Division provides technical assistance to entrepreneurs for setting up of rubber-based industry, problem solving techniques for rubber goods manufacturers and quality assessment by testing the rubber products. In addition, the department also provides technical support and guidance for exporting the different forms of natural rubber (NR).

### I. TRAINING DIVISION

The Training Division imparts training on various aspects related to rubber cultivation, rubber processing and rubber products manufacturing for making available trained manpower for the overall development of the industry. The major target groups identified for training are:-

- \* *Farmers*
- \* *Rubber Dealers*
- \* *Rubber Processors*
- \* *Production Managers/ Superintendents*
- \* *Rubber Products Manufacturers*
- \* *Rubber Producers Societies*
- \* *Employees of the Board*
- \* *Women/ Academic students*
- \* *Overseas participants*
- \* *Rubber and Rubber Products Exporters*
- \* *Rubber Marketing Co-operative Societies*
- \* *Entrepreneurs from Rubber based industry*
- \* *Rubber wood processors and exporters*

The Training centre aims to achieve the following objectives :-

- Update the technical and managerial competitiveness of the Rubber growers and Rubber plantation workers.
- Impart suitable training to rubber processors and rubber products manufacturers so as to achieve better quality and competitiveness.
- Update the technical and managerial, competitiveness of Rubber Producers' Societies and Rubber Marketing Co-operative Societies.
- Develop the required aptitude and managerial skills of the employees of the Board.
- Conduct the international training programmes.

During the year 2004-05, the training programmes were conducted in 97 batches and the total beneficiaries were 4790 includes 997 women and 50 SC/ST candidates. A brief profile of the beneficiaries are:-

Category	No. of participants
International Training Programmes	11
Rubber Cultivation & Plantation Management	14
Rubber Processing & Quality Control	106
Rubber Product manufacture	158
Rubber Technology Students	79
Orientation Training on Rubber Based Industry	534
Marketing Management	14
Outstation Training to Farmers	2057
General Training Programmes	145
Tappers from Tapping School	145
Employees of the Board	75
Persons on Visit - cum - training	1452
<b>Total</b>	<b>4790</b>



## II. TECHNICAL CONSULTANCY DIVISION

The *Technical Consultancy Division* provides technical assistance to promote rubber goods manufacturing industry in the country. The major activities of the Division are providing technical assistance to entrepreneurs for the setting up of rubber-based industry, problem solving techniques to the existing units, quality control by testing of rubber/ rubber chemicals/rubber compounds/rubber products as per national and international standards and new product development activities. The Division also undertakes promotional activities like conducting workshops and seminars, preparation of

market survey reports, trade directories, etc for the manufacturing sector.

All these services are offered on a consultancy basis. Besides academic activities and applied R&D works are also undertaken.

With the aim of increasing the consumption of Natural Rubber in the country, the Division is engaged in the setting up of *Rubber Industrial Parks* in Kerala, Tamilnadu, and Tirpura and exploring the possibility of new application of Natural Rubber, considering the social benefits, continued through the projects such as Road Rubberisation, indigenous development of NR based Seismic Bearings and Irrigation Canal Lining.

The major assignments undertaken by the Division during 2004-05 are furnished below :-

### I. TECHNICAL SUPPORT TO INDUSTRY

Activities	Status of the assignment
a Purchase of testing equipments	Purchased few items and steps were taken for other targeted items.
b NABL Accreditation	Completed the documentation work and trained all personnel concerned.
c Product Development	Developed 30 new products based on enquiries from industry / entrepreneurs such as surgical tubing, latex foam for shoe sole, pre-vulcanised latex, damper pulley compound, extruded rubber band, impeller shaft bush and rubber belt for industrial floor wiper (import substitution).
d. Quality Control/Problem solving	Received 1400 samples from the existing factories for testing of about 6500 parameters.

Activities	Status of the assignment
e. Consultancy/ Advisory services	12 Project reports/profiles prepared for setting up of rubber-based industry. Provided necessary technical advices to Development Centre/TFDPC, Tripura .
f. NR Protein allergy related works	Developed low protein latex in collaborative project with Rubber Technology Division of RRII and presented a paper on this study in the seminar conducted in "India Expo 2005"
g. Training activities/ Seminars/ Academic works	Technical Consultancy division organized and conducted the specialised training programmes. Also, participated in Workshops/seminars/ arranged by various departments towards rubber industry promotion
h. Consultancy fee collected for Testing and Advisory service	<b>Rs.5.00 lakh</b>

## II. RUBBER INDUSTRIAL PARK PROJECTS

Activities	Status of the assignment
a) Rubber Park in Kochi, Kerala	Provided technical assistance for completion of the Project.
b) Rubber Park in Tripura	Sanction was obtained from the Ministry under the ASIDE scheme and initiated works towards implementation jointly with TIDC, Tripura.
c) Rubber Park in Nagercoil, Tamilnadu	Revised proposal presented to the Ministry for approval under ASIDE scheme

**III. SCHEMES ON DIVERSIFIED USES OF NATURAL RUBBER**

<b>Activities</b>	<b>Status of the assignment</b>
i) Rubberisation of roads (Collaborative project with CRRI, New Delhi)	Results of the performance evaluation of NRMB were promising and hence, the study has been continued. The project roads were constructed for studying the performance in different climatic conditions. Conducted seminars to popularize the project and a proposal forwarded to the Ministry for granting subsidy to local bodies.
ii) Seismic Bearings (Collaborative project with SERC, Chennai)	Developed indigenously NR based Seismic Bearings in collaboration with SERC, Chennai. These Bearing were tested at SERC and the results were encouraging. For conformity and reliability of the studies on the bearings, 36 nos. of reduced size isolators were fabricated and forwarded to SERC and awaiting for results. Besides these, the rubber compounds were evaluated at IRMRA Laboratory, Thane.
iii) Canal Lining (Collaborative project with M/s KERI, Peechi, Kerala)	Initial lab scale studies conducted were encouraging and thus, the outdoor studies started with the canal models.

**III. EXPORT PROMOTION SCHEME FOR NATURAL RUBBER (NR)**

The Indian rubber plantation sector has achieved an impressive all-round growth as a result of policy interventions of the Govt. of India and continued research and development. The rubber sector has significantly contributed to the growth of the NR production and consumption in the country, which ensure a better price to the rubber growers in 1990's. Since November 1996, the price of NR had declined steadily both in the international as well as domestic markets, which continued till 2001.

The untimely imports of NR by the rubber goods manufacturers and removal of Quantitative Restrictions on import of NR during 2001-02 upset the demand-supply balance, which resulted the price fall in the domestic market. The initiatives to formulate the export promotion scheme for NR and was approved by the Government in 2001-02 with the total outlay of Rs 9.20 crore.

The scheme envisaged a lot of measures to promote NR export and provide financial assistance to NR exporters at the rate of





*Block rubber for Export*

Rs 5.00 per kg, Rs 4.50 per kg, and Rs 3.50 per kg for Block Rubber, Centrifuged Latex and Ribbed Smoke Sheets respectively for quality certification, packaging and transportation for exporting 20,000 MT of Natural Rubber.

This scheme was revised in February 2002 by bringing Kerala State Co-operative Rubber Marketing Federation (Rubber Mark) into the scenario with a new outlay of Rs 17.40 crore to be shared by the Govt. of India and Govt. of Kerala. As a result of the concerted efforts made by the Board, the Indian natural rubber (NR), which was quite unknown to the world market until 2001-02, carved a niche in the highly competitive global NR market. The Board issued RCMC (Registration-cum-Membership) to 150 Natural Rubber exporters.

The progress of the NR export during last 4 years are furnished below:-

Year	NR Exported (MT)	Foreign Exchange Realisation (US \$ million)
2001-02	6995	3.490
2002-03	55311	37.965
2003-04	75905	76.235
2004-05	46169	50.100

Though the scheme was approved for implementation during the 10<sup>th</sup> Plan as an on-going scheme, the original target fixed under the scheme to export 1.02 lakh tonnes of NR was achieved within the first two years of the plan period. Total outlay allocated for the scheme in the 10<sup>th</sup> Plan was 36.50 crore, which was exhausted in the first two years due to heavy exports. The Govt. has reviewed the scheme and decided to reduce

the financial incentive to 50% of the prevailed rates in the previous years and specified that the assistance would be available for export upto 34,000 MT of NR during 2004-05 against the export target of 50,000 tonnes of NR. It is pertinent to mention that the reduction in export incentive has reduced the pace of export and the quantity of NR exported during 2004-05 was 46169 tonnes against the target of 50,000 tonnes. Through this export, the country has earned foreign exchange equivalent to Rs 225.45 crore.

The major achievements due to promotion of NR exports are :

► Improvement in quality and Packaging of NR leads to wide acceptance of NR from India by the foreign buyers.

► The Rubber Board inspected and issued Quality Certificates for the entire quantity of NR exported during 2004-05.

► Exported more value added forms of Indian NR - the share of value added forms of NR had gone up to 48% during 2004-05 from 20% in the year 2002-03.

The details of value-added forms of NR are furnished below :-

Value-added Form of NR	2002-03		2003-04		2004-05	
	In MT	In %	In MT	In %	In MT	In %
Block Rubber	4635	8.38	19804	26.09	11556	25.03
Centrifuged Latex	6925	12.52	17124	22.56	10494	22.73
RSS	43751	79.10	38977	51.35	24119	52.24
Total NR exported	<b>55311 MT</b>		<b>75905 MT</b>		<b>46169 MT</b>	

Major events during the year are :-

1. The Board had participated in the international exhibition '**K-2004**' held at Germany during October 2004 and took follow-up actions for the enquiries received in the exhibition.

2. The Board organized a Buyer-Seller Meet during the exhibition "Expo 2004" held at Mumbai in February 2005.

3. The division continued to provide

market information to NR exporters on overseas buyers and conveyed the feedback received from them for giving better services.

4. Participated in the 2<sup>nd</sup> International Gloves Conference and the first working Group on NR Protein Allergy arranged by ANRPC, Kuala Lumpur. One Rubber Technologist from TC Division nominated as a member of the working Group on NR Protein Allergy.



## Part - VIII

# FINANCE & ACCOUNTS

The Finance & Accounts Department is concerned with designing and operating the Accounting system, preparing budget, financial statements and reports, exercising budgetary control, effective Management of Funds, establishment and maintaining systems and procedures, overseeing internal audit and arranging for Statutory audit, advising on financial propriety and regularity of transactions, supervising computer applications, overseeing cost control, evaluation of projects/schemes, handling tax matters etc. The Department undertook the following activities during the year:-

1. Preparation of Annual Budget, Performance Budget, Foreign Travel Budget etc.
2. Review and Revision of budget under Zero Based Budgeting and exercising budgetary control.
3. Maintenance of the accounts of the Board, preparation of Annual Accounts and Balance Sheet, presentation of the accounts for audit to the Accountant General, Kerala and the audited accounts to the Rubber Board/Ministry/Parliament.
4. Placing demands for grant from Govt. from time to time, receiving funds from Government and ensuring its optimum utilization.
5. Advising on financial propriety and regularity of transactions and regulating payments.
6. Assisting the Cost Accounts Branch of the Ministry of Finance in ascertaining the cost of production and in fixing price of Natural Rubber.
7. Preparation of financial statements for project reports and schemes.
8. Dealing with Central Income Tax, Agricultural Income Tax and Sales Tax matters

relating to the activities of the Board.

9. Co-ordinating the activities of the companies jointly promoted by the Rubber Board and RPSs.

10. Computerised Data Processing in the field of financial accounting, pay roll etc.

11. Disbursement of pay and other entitlements of the employees of the Board based on the orders issued by Govt. of India from time to time.

12. Management of Pension Fund and General Provident Fund and regulating disbursements there from.

13. Implementation of the Scheme of Computerisation and Networking of all departments of the Board.

### Annual Accounts 2004-05

Annual Accounts for the year 2004-05 were presented to AG Kerala within the stipulated time. The Audit Report and the Audited Accounts with the certificate received from the AG Kerala for the year 2003-04 were submitted to the Govt. for placing it on the table of both houses of Parliament.

### Revised Estimates 2004-05 and Budget Estimates 2005-06

The Revised Budget for 2004-05 and Budget Estimates for 2005-06 were prepared within the time frame and submitted to the Government. Budget sanctioned for the year 2004-05 was Rs.109.94 crore comprising Rs.91.50 crore under Plan and Rs.18.44 crore under Non Plan as against which the actual expenditure for the year was Rs.109.04 crore (Plan Rs.90.68 crore and Non Plan Rs.18.36 crore). The sanctioned budget for the year



2005-06 is Rs.114.43 crore comprising Rs.96.60 crore under Plan (Budgetary support of Rs.95.00 crore and IEBR of Rs.1.60 crore) under Plan and Rs.17.83 crore under Non Plan (Budgetary support - Rs.12.00 crore plus I & EBR - Rs.5.83 crore).

## **Management of Funds**

### *General Fund*

Fund amounting to Rs.100.00 crore was received from Government as budgetary support during the year 2004-05. The internal resources during the year were about Rs.9.20 crore. The total expenditure during the year was Rs.109.04 crore.

### *General Provident Fund/Pension Fund*

The balance under the General Provident Fund as on 31<sup>st</sup> March 2005 was Rs.25.91 crore and that under Pension Fund Rs.17.58 crore. The accumulations in the funds are invested in long-term securities to obtain optimum returns. The Board is maintaining GPF accounts for 2007 subscribers. There were 655 pensioners on the rolls during the year.

## **Cost Accounts**

The Cost Accounts Division of the F&A department continued to collect, analyse and update cost data. Information sought for from the Government, Statutory Bodies and other agencies were furnished as and when required. The F & A department examined various aspects relating to Sales Tax and Agricultural Income Tax and given appropriate advice.

## **Internal Audit Division**

The Internal Audit Division functions under the control of Director (Finance). It is an important tool of the Chairman to ascertain the state of affairs and the status

of the working condition in different Departments/ Divisions/ Sections/ Offices/ Establishments and to set right the matters by taking prompt remedial measures. The division assists various departments in discharging their functions and responsibilities more effectively. The IA division also undertakes the liaison work for the audit of the Accounts of the Board by Accountant General (Audit), Kerala.

The main functions of the Internal Audit Division are inspection/audit of various offices/establishments of the Board, verification of pension and retirement benefits/absorption cases and other referred cases on various matters and conducting special audits as directed by Chairman. During the period under report Internal Audit/Inspection was conducted in 37 offices/ establishments of the Board. About 300 files relating to verification of pension, retirement benefits etc. were scrutinized including pre-audit of 75 cases for payment of Export Incentive.

For the year 2003-04, Audit of the Accounts of the Board was undertaken by Accountant General (Audit), Kerala during July to August 2004, with 18 audit paragraphs and the reply for the audit queries has been prepared and submitted.

## **Electronic Data Processing**

The Electronic Data Processing Division, functions under the F & A Department, takes care of the computerized programmes and its application. The Division processed pay rolls and handled the financial accounting, GPF Account, Pensioners account, work relating to the preparation of Budget, Nominal Rolls etc. The Division looks after procurement and maintenance of Hardware and Software requirements of the Board.

## Part - IX

### LICENSING & EXCISE DUTY

**The** Rubber Board is vested with the responsibility of assessment and collection of duty of excise (cess) on all rubber produced in India under Section 12 of the Rubber Act 1947. The cess so levied and collected is remitted to the Consolidated Fund of India after deducting the cost of collection. All transactions in natural rubber are regulated by licences issued under Section 14 of the Rubber Act 1947. The quantity of rubber transacted by every licensee is to be declared to the Board through periodical returns. Interstate transport of rubber is regulated by a declaration in Form 'N' prescribed under Rule 43 of the Rubber Rules 1955. Periodical inspections are conducted to verify the correctness of the books of accounts maintained by the rubber dealers, processors and manufacturers of rubber products in respect of the rubber acquired, disposed and stock held by them. These functions are monitored and discharged by the Licensing & Excise Duty Department of the Board, which consists of Licensing division, Excise Duty division, and Market Intelligence division. The functions discharged by these Divisions are summarized below:

#### 1. EXCISE DUTY DIVISION

The issuance of licence to manufacturers to acquire rubber, assessments of the duty of excise (cess) on rubber, its collection and remittance to the Consolidated Fund of India are the important functions attended to by the Excise Duty Division.

##### Issuance of Licence and Renewal of Licence

The main activity of the function includes the work connected with the issue of new licences to prospective manufacturing units

and renewal of the existing licence for the subsequent year.

The details of licences issued during 2004-05 are furnished below:-

Sl. No.	Type of Licence	No. of Licence
1.	Fresh (new) Licence	286
2.	Renewal Licence	4526
<i>Total No. of Licences issued in 2004-05</i>		<b>4812</b>

During the period, licences in respect of 12 units were cancelled on the basis of their request. The total number of licensed manufacturers as on 31.3.2005 was 4800. The division prepared the list of licensed manufacturers for reference to the various offices of the Rubber Board, Rubber Dealers and other public.

The licences in respect of 3122 manufacturers were renewed for the year 2005-06 during the year.

##### Registration of letter of authorization

667 letters of authorization were registered by various manufacturers in favour of their agent / dealers to purchase rubber during 2004-05.

##### Letter of authorization to purchase rubber

Special authorization were issued to 5 organizations / institutions during the year to acquire rubber for experimental purposes in lieu of regular licence after collecting the relevant cess in advance.

##### Assessment and collection of Duty of Excise (Cess) on Rubber

The total amount of cess on rubber assessed during 2004-05 was Rs.9246 lakh as against Rs.8797 lakh during 2003-04. The duty of excise (cess) on rubber collected during the period under report was 9575 lakh against Rs.8500 lakh collected during

2003-04. The total number of half yearly returns (Form 'M') collected from the manufacturers during the year was 10707. The Liaison Officers and the Inspecting Staff functioning at various parts of the country had furnished 1713 individual inspection reports, on which appropriate actions were taken/initiated.

The aggregate of licence fee and processing charges collected from the manufacturers during 2004-05 was Rs.13.06 lakh. Besides a sum of Rs.5.83 lakh was collected towards interest on belated remittance of cess.

## 2. LICENSING DIVISION

Licensing of rubber dealers and processors and registration of their branches and agents, initiation of punitive action against erring dealers and processors are the main functions of the Licensing division situated at Kochi.

### Licensing of Processors

10 processors licence were renewed and one processors licence was suspended during the year. The total number of licensed processors as on 31<sup>st</sup> March 2005 was 136.

#### Statewise list of Licensed Processors

Sl. No.	Name of the State	No. of Licence
1.	Kerala	118
2.	Tamilnadu	12
3.	Karnataka	5
4.	Tripura	1
<b>Total Licenced Processors</b>		<b>136</b>

### Licensing of Dealers

1101 new dealers licence were issued and 1786 dealers licenses were renewed during the year 2004-05. The total number of licensed rubber dealers was increased

to 10,175 as on 31<sup>st</sup> March 2005 as against 9842 as on 31<sup>st</sup> March 2004. Out of this, 9051 dealers are from Kerala.

#### District-wise distribution of dealers in Kerala

Sl.No	Name of the District	No. of Dealers
1.	Kottayam	2206
2.	Kollam	1349
3.	Pathanamthitta	1132
4.	Ernakulam	1112
5.	Thiruvananthapuram	864
6.	Kannur	464
7.	Malappuram	435
8.	Palakkad	392
9.	Idukki	391
10.	Alappuzha	210
11.	Kozhikode	182
12.	Thrissur	175
13.	Kasargod	81
14.	Wynad	58
<b>Total Licenced dealers in Kerala</b>		<b>9051</b>

### Suspension / revocation /cancellation of dealers/processors licences

17 dealers' licences and one processors licence were suspended for violating provisions of Rubber Act & Rules and 97 dealers licences were also cancelled during the year.

### Registration of Branches and Agencies

During the year, 197 branches of dealers / processors were registered making the total number of 1004 branches as on 31.03.2005. 20 branches were cancelled as per the requests of the licencees.



*State-wise distribution of licensed manufacturers and Dealers*  
(as on 31<sup>st</sup> March 2005)

Sl. No.	Name of the State	No. of Manufacturers	Name of the State	No. of Dealers
1.	Kerala	896	Kerala	9051
2.	Maharastra	542	Tamilnadu	200
3.	Tamilnadu	483	Punjab	143
4.	Punjab/Chandigarh	472	Tripura	130
5.	Uttar Pradesh	426	Karnataka	126
6.	West Bengal	403	Delhi	117
7.	Gujarat	374	Maharastra	92
8.	Haryana	332	West Bengal	75
9.	Karnataka	199	Uttar Pradesh	67
10.	Delhi	195	Haryana	42
11.	Andhra Pradesh	160	Gujarat	41
12.	Rajasthan	111	Assam	28
13.	Madhya Pradesh	61	Rajasthan	23
14.	Pondicherry	29	Meghalaya	14
15.	Jharkhand	25	Andhra Pradesh	7
16.	Dadra & Nagarhavelli	15	Chandigarh	4
17.	Chattisgarh	13	Pondicherry	3
18.	Goa	11	Nagaland	3
19.	Orissa	10	Jharkhand	3
20.	Uttaranchal	9	Madhya Pradesh	1
21.	Assam	9	Goa	1
22.	Tripura	9	Chattisgarh	1
23.	Himachal Pradesh	8	Anadaman & Nicobar	1
24.	Jammu & Kashmir	5	Bihar	1
25.	Bihar	3	Orissa	1
<b>Total number of Licenced Manufacturers</b>		<b>4800</b>	<b>Total number of Licenced Dealers</b>	<b>10175</b>

### 3. MARKET INTELLIGENCE DIVISION

Market Intelligence Division is functioning as an effective system to prevent evasion of cess. The important functions of MI Division are:-

- a) Inspection of business premises of rubber dealers for verification of the accounts and other records to ascertain the correctness of the statements and returns furnished by them to the Board.
- b) Conduct enquiries and inspections to ascertain the genuineness of application for licence to deal in rubber.
- c) Detection of bogus and unlicensed dealers and adoption of steps to prevent malpractices in rubber trade including malpractices in grading.
- d) Cross verification of the statutory returns filed by dealers/ manufacturers and processors for ascertaining the correctness of quantity of rubber acquired.
- e) Checking of transport of rubber through road, surprise visit to checkposts and Railway Parcel offices with a view to prevent evasion of cess on rubber.
- f) Strengthening the surveillance on interstate movement of rubber by posting 4 officials each at 3 important checkposts at Walayar, Kavalkinar & Manjeswaram.

Inspections are also conducted for ascertaining the suitability of the applicants and their business premises to issue licence to deal in rubber, registration of branches of the dealers and approval of new / additional premises and for issue of special authorisation for field latex collection.

#### Activities of Inspection Squad.

The central inspection squad functions at Head office, Kottayam. Market Intelligence (MI) Inspectors, at Kochi, Palakkad, Taliparamba and Marthandom, helped a great extent in improving the cess collection by

arresting illicit trade in rubber. The inspection also helped to collect monthly returns from a large number of delinquent rubber dealers.

During the year, the MI division inspected 1456 licensed dealers, 116 unlicensed dealers, 3 unauthorised godowns and detected irregularities in 310 cases involving 1622 Metric Tonnes as shortage / unaccounted stock / irregular sales and collected Rs.20,97,760/- towards cess on rubber from the cases involved. The Squad conducted 1052 road checking, 105 surprise visits to check posts / border areas and 2 visits to Railway Parcel Offices. In turn, the checking of the MI squad created awareness among those who are indulging in bogus trading, which results in arresting the illicit movement of rubber consignments.

Special attention was also given for scrutiny of inspection reports, Form N declarations / daily statement from check posts and wherever irregular despatches were made such cases were timely referred to Liaison Officers / Inspectors (MI Squad) for arranging inspection. On the basis of serious irregularities detected, the licences of 12 dealers were suspended and a sum of Rs. 3,41,321/- was also collected towards cess

#### Checkposts/Interstate movement of NR

In order to strengthen surveillance of interstate movement of rubber, regular checking of the documents accompanying the rubber consignments were done at the three checkposts at Walayar in Palakkad District, Bengra Manjeswaram in Kasargode District of Kerala and Kavalkinar in Thirunelveli District of Tamilnadu.

The surveillance exercised through the three check posts helped in detecting illicit transport of rubber. During the period under report, the officials at Walayar, Manjewaram and Kavalkinar check posts detained 197 consignments of rubber for various reason

and were allowed to cross the border on production of valid documents /satisfactory explanation / remittance of cess. A sum of Rs. 9,01,359/- towards cess amount and security deposit equivalent to the cess involved on the quantity as the consignors failed to produce proper evidence / explanation for the lapses. In addition, the Board's officials / Market Intelligence Inspectors rendered necessary assistance at the check posts to the Commercial Tax / Police officials whenever they sought necessary information for disposing of suspicious consignments detained by them. The Squad detected clandestine transport of rubber and collected Rs. 14,88,893/-

As per daily statement from the three check posts, 45549 consignments of rubber had passed through these check posts during the year as against 42,038 consignments during 2003-04.

Sl. No.	Name of the Check post	No. of Consignments passed	
		2004 - 05	2003 - 04
1.	Walayar / Kerala	24633	23493
2.	Majeswaram / Kerala	9627	9665
3.	Kavalkinar / Tamilnadu	11289	8880
<b>Total Consignments passed</b>		<b>45549</b>	<b>42038</b>

During 2004-05, 16500 books of Form 'N' under different categories were printed and 14374 Form 'N' books were supplied to various estates, processors, dealers and manufacturers. The MI division received 64,705 Form 'N' declarations and most of the same were scrutinized. Wherever discrepancies were noticed, explanation/ clarifications were obtained from the concerned parties and appropriate action taken.

#### Cross checking of monthly returns.

The monthly returns and copies of Form N declarations received from various dealers/manufacturers/ processors/ estates were cross checked at random and detected discrepancies in 213 cases. A sum of Rs. 1,85,27,512/- was realized during the year in the case of irreconcilable transactions as against Rs.46,40,519/- realised in 2003-04

Thus on account of special efforts put in by Inspection Squad, a total amount of Rs. 2,33,56,845/- could be collected towards cess during the year 2004-05 as against Rs. 1,05,26,981/- collected during 2003-04.

#### 4. SUB OFFICES / LIAISON OFFICES

With a view to improve collection of cess on rubber and to maintain liaison with various Ministries, trade and industry, Board maintains 9 Sub Offices in the major rubber consuming centres at Chennai, Bangalore, Secunderabad, Ahmedabad, Kanpur, Mumbai, Kolkata, Jalandhar and New Delhi. Their functions include assessing the suitability of applicants, who apply for licences to deal in rubber / acquire rubber for rubber goods manufacturing, pursue the collection of cess on rubber and returns from the manufacturers and dealers. The purchases made by the rubber goods manufacturers / dealers and stock held by them was verified at random. Verifications of the books of accounts / records of the dealers and manufacturers were done to ensure that all rubber procured by them were properly accounted and subjected to assessment of cess and that the transactions reported in their returns submitted to the Board are true and correct. Surprise inspections were also conducted to detect unlicensed dealing in rubber and manufacturing of rubber goods in contravention of the provisions of the Rubber Act and Rules in order to prevent loss of revenue towards cess.





## Part - X

# STATISTICS AND PLANNING

### General Statistics

The activities undertaken by the Statistics & Planning department during the period April 2004 to March 2005 included regular monitoring of the data on supply, demand, stock and price of rubber and presenting them to the Board and the Government. Demand-Supply position of natural rubber was reviewed periodically by the Board, which met on 24/7/04 and 20/11/04. A note on NR supplemented with statistical data reflecting the current and future scenarios in the NR sector were submitted for discussions in these meetings.

The statutory monthly returns collected every month from rubber growers, dealers, processors and manufacturers were computed for various statistics and analysed. In order to ascertain the monthly variation in production and stock in the small rubber holding sector, sample studies were continued. The data collected from various sources were compiled and production, consumption, import and stock of rubber were worked out on monthly basis. For publishing the 'Rubber Statistics', the required statistical information covering trend in production, consumption, stock, import/export of Natural rubber (NR), Synthetic rubber (SR) and Reclaimed rubber (RR), price of natural rubber and many other details were compiled on monthly basis. Board published Indian Rubber Statistics Vol.27, 2004 in September 2004, which contains detailed information on area under rubber, production, consumption, import, export, price of rubber, rubber goods manufacturers, dealers, rubber products, labour, etc besides world rubber statistics.

The Department furnished relevant statistical information to the Government and various organizations connected with the rubber industry. For answering Parliament and Legislative Assembly questions pertaining to import/export, production, price, etc., of rubber and the various aspects of rubber industry, necessary reply materials were furnished.

To ascertain the production of various grades of rubber, installed capacity, etc during 2003-2004, annual reports were collected from processors of centrifuged latex, block rubber, PLC and crepe mills. Annual returns relating to the year 2003-2004 were collected from manufacturers of rubber products to work out consumption of rubber according to end products. Classification of manufacturers according to consumption, state-wise consumption of NR, SR, RR were prepared from monthly returns collected from manufacturers. Annual returns from large growers were also collected in order to compile various statistical data on NR.

### Planning

The annual plan for 2005-06 on natural rubber was prepared and submitted to the Ministry of Commerce & Industry. A note on the achievements of the Board, review on the performance of the rubber plantation industry, the action plan for 2004-05 of natural rubber and quarterly review reports were also submitted to the Government.

### Supply of information to World Organizations

The S&P department continued to supply information about the NR industry in India to world organizations like the Association of Natural Rubber Producing Countries (ANRPC), Kuala Lumpur, Malaysia and International Rubber Study Group (IRSG), London.

On behalf of the Govt. of India, Chairman, Rubber Board participated in the IRRDB meeting at Kuming in China in September 2004, 28th meeting of the ANRPC Executive Committee in Papua New Guinea in October 2004, Made in India Show - 2004 in China in December 2004 and 29th Meeting of the ANRPC Executive Committee and ANRPC Assembly in Kuala Lumpur, Malaysia in February 2005. The Chairman presented the country reports on Natural Rubber in the above events.

# STATISTICAL TABLES

**Table - 1**  
**PRODUCTION, IMPORT, EXPORT & CONSUMPTION OF NR**  
(All figures are in MetricTonnes)

Month	Production	Import*	Export	Consumption#
<b>April 2004</b>	47550	4717	1278	59020
<b>May</b> „	47300	6685	2023	60695
<b>June</b> „	49205	7788	1714	62640
<b>July</b> „	53110	7245	896	64265
<b>August</b> „	63590	5446	972	64210
<b>September</b> „	73130	7890	6471	64525
<b>October</b> „	75395	4169	10534	62455
<b>November</b> „	89065	4658	9879	61115
<b>December</b> „	91455	3318	7317	65150
<b>January 2005</b>	80110	6481	992	63515
<b>February</b> „	38205	6546	1735	63505
<b>March</b> „	41550	3775	2358	64310
<b>Total</b>	<b>749665</b>	<b>68718</b>	<b>46169</b>	<b>755405</b>

\* Import Source : DGCI & S, Calcutta

# Consumption includes Indigenous & imported NR

**Table - 2**  
**STOCK OF NR AT THE END OF EACH MONTH**  
(All figures are in MetricTonnes)

Month	Growers, dealers and processors	Manufacturers	Total
<b>April 2004</b>	33295	46495	79790
<b>May</b> „	29765	38750	68515
<b>June</b> „	29230	32270	61500
<b>July</b> „	23130	31040	54170
<b>August</b> „	31335	28765	60100
<b>September</b> „	40490	30770	71260
<b>October</b> „	48590	29730	78320
<b>November</b> „	64970	35305	100275
<b>December</b> „	79066	43804	122870
<b>January 2005</b>	88365	53615	141980
<b>February</b> „	67260	55040	122300
<b>March</b> „	55095	51105	106200

**Table - 3**  
**PRODUCTION,IMPORT& CONSUMPTION OF SYNTHETIC RUBBER**  
 (All figures are in MetricTonnes)

Month	Production*	Import	Consumption
<b>April 2004</b>	7865	8663	17550
<b>May</b> „	7542	8673	18745
<b>June</b> „	7922	8516	19190
<b>July</b> „	8035	9814	18690
<b>August</b> „	7888	9784	18260
<b>September</b> „	7638	10112	18440
<b>October</b> „	7403	10747	19195
<b>November</b> „	7875	10059	19060
<b>December</b> „	8208	9917	19075
<b>January 2005</b>	7566	10333	19090
<b>February</b> „	7242	7453	18575
<b>March</b> „	9025	9024	18780
<b>Total</b>	<b>94209</b>	<b>113095</b>	<b>224650</b>

\*Provisional figures

**Table - 4**  
**PRODUCTION & CONSUMPTION OF RECLAIMED RUBBER**  
 (All figures are in MetricTonnes)

Month	Production*	Consumption
<b>April 2004</b>	6150	6095
<b>May</b> „	5965	5905
<b>June</b> „	6055	6015
<b>July</b> „	5980	5955
<b>August</b> „	6025	5985
<b>September</b> „	6070	6040
<b>October</b> „	6590	6385
<b>November</b> „	6305	6310
<b>December</b> „	6005	6155
<b>January 2005</b>	6085	6185
<b>February</b> „	5640	5750
<b>March</b> „	6190	6125
<b>Total</b>	<b>73060</b>	<b>72905</b>

\* Indigenous purchase by manufacturers



**Table - 5**  
**MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF NR IN INDIA**  
 (Rs. per Quintal)

Month	RSS1	RSS2	RSS3	RSS4	RSS5	ISNR5	ISNR10	ISNR20	ISNR50
<b>April 2004</b>	6163	6063	5963	5779	5673	5996	5896	5616	5511
<b>May</b> „	6232	6132	6032	5855	5749	6070	5970	5605	5508
<b>June</b> „	6678	6578	6478	6343	6113	6369	6269	5793	5699
<b>July</b> „	6911	6811	6711	6560	6271	6739	6639	5832	5744
<b>August</b> „	5982	5882	5782	5572	5358	5844	5744	5064	4956
<b>September</b> „	5592	5492	5392	5163	4976	5504	5404	4870	4715
<b>October</b> „	5616	5516	5416	5277	5101	5578	5478	5145	4958
<b>November</b> „	5571	5471	5371	5207	5043	5542	5442	5093	4942
<b>December</b> „	5519	5419	5319	5188	4995	5469	5369	5010	4838
<b>January 2005</b>	5668	5568	5468	5311	5152	5624	5524	5170	5010
<b>February</b> „	5524	5424	5324	5149	5008	5496	5396	5063	4896
<b>March</b> „	5795	5695	5595	5447	5338	5728	5628	5351	5128
<b>YEARLY AVERAGE</b>	<b>5938</b>	<b>5838</b>	<b>5738</b>	<b>5571</b>	<b>5398</b>	<b>5830</b>	<b>5730</b>	<b>5301</b>	<b>5159</b>

**Table - 6**  
**MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF**  
**NR IN INTERNATIONAL MARKET**  
 (Rs. per Quintal)

Month	BANGKOK					KUALA LUMPUR		
	RSS 1	RSS 2	RSS 3	RSS 4	RSS 5	SMR 5	SMR 10	SMR 20
<b>April 2004</b>	6102	6035	5973	5940	5890	5772	5702	5678
<b>May</b> „	6421	6352	6289	6255	6203	5935	5763	5739
<b>June</b> „	6365	6298	6237	6203	6153	5908	5580	5556
<b>July</b> „	6058	5991	5929	5895	5844	5698	5429	5405
<b>August</b> „	5900	5833	5772	5738	5688	5572	5450	5425
<b>September</b> „	5838	5771	5710	5677	5627	5630	5411	5386
<b>October</b> „	5928	5861	5800	5767	5717	6059	5675	5650
<b>November</b> „	5744	5671	5615	5582	5532	6088	5611	5587
<b>December</b> „	5377	5311	5248	5214	5164	5409	5240	5217
<b>January 2005</b>	5310	5242	5180	5146	5095	5383	5285	5262
<b>February</b> „	5655	5587	5524	5490	5439	5639	5545	5522
<b>March</b> „	5865	5797	5734	5701	5650	5649	5475	5452
<b>YEARLY AVERAGE</b>	<b>5880</b>	<b>5812</b>	<b>5751</b>	<b>5717</b>	<b>5667</b>	<b>5729</b>	<b>5514</b>	<b>5490</b>

## LIST OF MEMBERS OF THE RUBBER BOARD AS ON 31.03.2005

1.	<b>Shri. S Maria Desalphine, IAS</b>	Chairman, Rubber Board
2.	<b>Shri. S Ramachandran,</b> Vaikundam Plantations Ltd., PB No.1004, Geetha Vihar, 2/3309, Chalakuzhy Road, Pattom Palace PO, Thiruvananthapuram - 695 004.	Vice-Chairman, Rubber Board Representative of large grower from the State of Tamilnadu clause (b) of sub-section (3) of section 4.
3.	<b>Shri. Vayalar Ravi,</b> Hon'ble Member of Parliament (Rajya Sabha) No.12, Copernicus Lane, New Delhi-110 001	Member of Parliament under clause (e) of sub- section (3) of section 4.
4.	<b>Shri. PC Thomas,</b> Hon'ble Member of Parliament (Lok Sabha) B-702, New M.S. Flats B.K.S. Marg, New Delhi - 110 001.	Member of Parliament under clause (e) of sub- section (3) of section 4.
5.	<b>L. Rajagopal,</b> Hon'ble Member of Parliament (LS), 43-Meena Bagh, New Delhi-110 011	Member of Parliament under clause (e) of sub- section (3) of section 4.
6.	<b>Secretary to Government,</b> Environment & Forest Dept, Govt. of Tamilnadu, Chennai - 9.	Representative of Govt. of Tamilnadu under clause (b) of sub-section (3) of section 4.
7.	<b>Agri. Production Commissioner,</b> Govt. of Kerala, Govt. Secretariat, Thiruvananthapuram - 695 001.	Representative of Govt. of Kerala under clause (c) of sub-section (3) of section 4.
8.	<b>Commissioner &amp; Secretary,</b> Dept. of Tribal Welfare, (Dept. dealing with Plantation) Govt. of Tripura, Agartala.	Representative of Other Interests under clause (d) of sub section (3) of section 4.
9.	<b>Shri. Raghupathi Singhania,</b> Managing Director, JK Industries Ltd., Link House, Bahadurshah Zafar Marg, New Delhi - 110 002.	Representative of Rubber Goods Manufac- turers under clause (d) of sub- section (3) of section 4.
10.	<b>Shri. A Jacob, FCA,</b> Managing Director, Velimala Rubber Co. Ltd., Ooppoottil Buildings, KK Road, Kottayam - 686 001.	Representative of large grower from the State of Kerala under clause (c) of sub- section (3) of section 4.
11.	<b>Shri .K Jacob Thomas,</b> Managing Director, M/s. Vaniampara Rubber Co. Ltd., Vazhakala Building, KK Road, Kottayam - 686 001.	Representative of large grower from the State of Kerala under clause (c) of sub- section (3) of section 4.
12.	<b>Shri. MD Joseph,</b> Manniparambil, Kanjirappally - 686 507.	Representative of large grower from the State of Kerala under clause (c) of sub- section (3) of section 4.

13.	<b>Shri Ettumanoor V Radhakrishnan,</b> Raghavamandiram, Onamthuruth PO - 686 602, Via. Kaippuzha - Ettumanoor	Representative of Other Interests under clause (d) of sub section (3) of section 4 of the Rubber Act 1947.
14.	<b>Prof. KK Abraham,</b> Chairman - Indian Block Rubber Producers' Association, Kayathinkara Marthoma Church Road, Pala.	Representative of Other Interests under clause (d) of sub- section (3) of section 4.
15.	<b>Shri. C Ananthakrishnan,</b> Puthen Veedu, Veeyannoor PO, Thiruvattar (Via), Nagercoil, Kanyakumari Dist.	Representative of Labour Interests under clause (d) of sub section (3) of section 4.
16.	<b>Adv. P Lalaji Babu,</b> Lalee Vilas, Bharatheepuram PO, Kollam Dist., Kerala.	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
17.	<b>Shri. Kanam Rajendran,</b> Kochukala Purayidom, Kanam PO, Kottayam - 686 515.	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
18.	<b>Shri. PB Sathyan,</b> Plavada Kochuveedu, South Vazhakulam PO, Aluva - 683 105.	Representative of small growers from the State of Kerala under clause (c) of sub-section (3) of section 4.
19.	<b>Shri. PR Muraleedharan,</b> Pathalil House, SN Puram PO, Pampady, Kottayam - 686 502.	Representative of small growers from the State of Kerala under clause (c) of sub-section (3) of section 4.
20.	<b>Managing Director,</b> Plantation Corporation of Kerala Ltd. Kottayam - 686 004.	Representative of Govt. of Kerala under clause (c) of sub-section (3) of section 4.
21.	<b>Shri. Thomaskutty,</b> Paragon Rubber Industries, 45A, 2 <sup>nd</sup> Phase, Peenya Industrial Area. Bangalore - 560 058.	Representative of Rubber Goods Manufacturers under clause (d) sub- section 3 of section 4.
22.	<b>Adv. MS Karunakaran,</b> BMS Office, Manjamattathil, Opp. Railway Station, Kottayam.	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
23.	<b>Adv. Ashokavanam Chandrasenan,</b> Gowreesam, Edaikodu PO - 629 152 Kanyakumari Dist., Tamil Nadu.	Representative of Other Interests under clause (d) of sub-section (3) of section 4.
24.	<b>Shri. Georgekutty Augusthy,</b> Cheeramkunel House, Inchiyani PO, Parathode Kottayam - 686 512.	Representative of small growers from the State of Kerala under clause (c) of sub-section (3) of section 4.
25.	<b>Dr. AK Krishnakumar,</b> Rubber Production Commissioner, Rubber Board, Kottayam-2.	Ex-officio member as per clause (f) of sub section (3) of section 4.