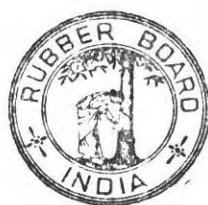


ANNUAL REPORT

FOR
THE YEAR 1998-1999



THE RUBBER BOARD

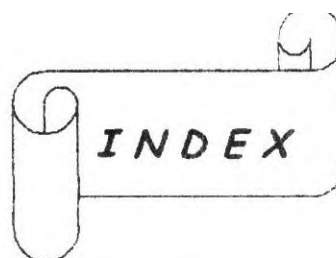
[Govt. of India, Ministry of Commerce]

KEEZHKUNNU, KOTTAYAM—686 002
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Sl.No.		Particulars	Page No.
01	PART I	INTRODUCTION	01
02	PART II	CONSTITUTION & FUNCTIONS	03
03	PART III	RUBBER PRODUCTION	08
04	PART IV	ADMINISTRATION	29
		Establishment	29
		Marketing	31
		Publicity & Public Relations	33
		Labour Welfare	34
		Internal Audit	36
		Legal	37
		Vigilance	37
		Official Language Implementation	38
05	PART V	RUBBER RESEARCH	39
06	PART VI	PROCESSING & PRODUCT DEVELOPMENT	46
07	PART VII	TRAINING & TECHNICAL CONSULTANCY	50
08	PART VIII	FINANCE & ACCOUNTS	52
09	PART IX	STATISTICS & PLANNING	55
10	PART X	LICENSING & EXCISE DUTY	58
11	PART XI	STATISTICAL TABLES	67
12	ANNEX	<i>List of Members of the Board</i>	73

ANNUAL REPORT ON THE WORKING OF THE RUBBER BOARD DURING 1998-99

PART - I

INTRODUCTION

This is the annual report of the Rubber Board on its working for the year 1998-99 containing a summary of the activities from 1st April 1998 to 31st March 1999.

Rubber plays an important role in the industrial and economic development of the country, being a material used to make thousands of utility products. The Government of India constituted the Rubber Board under the Rubber Act, 1947 as a body corporate, primarily to promote natural rubber production in the country. The Board established the Rubber Research Institute of India in 1955 to undertake scientific, technological and economic research.

The research efforts have made significant contributions to the rubber industry. India evolved the high yielding clone RR11 105 with average productivity around 2,000 kg per hectare. Switch-over from seedlings to budding, application of fertilizers after soil and leaf analysis, pest and disease management practices, improved crop exploitation techniques and improved crop processing played a vital role in enhancing rubber production and upgrading quality of the processed rubber. Integrated approach to reduce the cost of production and improve quality and competitiveness, crop exploitation in association with yield stimulation, processing technically specified rubber and process aid rubbers, developing blends of NR with synthetic rubbers, developing formulations and processes for manufacturing processes, development of solar dryer for curing raw rubber etc. are some of the thrust areas in research and development activities.

The Rubber Plantation Development Scheme implemented from the VI Plan period is by far the largest scheme operated for development and promotion of rubber cultivation in the country. The scheme provides for technical support coupled with financial assistance to small growers in the traditional areas and in the non-traditional areas to undertake rubber cultivation. Input subsidy and guidance for adopting scientific techniques at all stages of planting and maintenance are extended in addition.

Performance during 1998-99

The overall performance of the rubber plantation industry during 1998-99 has been impressive in spite of the fall in price. Production of natural rubber increased to 605,045 tonnes from 583,830 tonnes recording a growth rate of 3.6%. The consumption of natural rubber during the year increased by 3.4% to 591,545 tonnes from 571,820 tonnes in 1997-98.

Price

During the year, the monthly average price of rubber was Rs.2,994/- per quintal for RSS 4 grade as against Rs.3,580/- in the previous year. A quantity of 1,840 tonnes of different grades of NR was exported during 1998-99.

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## **PART - II**

### **CONSTITUTION AND FUNCTIONS**

#### **INTRODUCTION**

The Indian Rubber Board was constituted under the Rubber (Production & Marketing ) Act, 1947 which came into force on 19<sup>th</sup> April, 1947 with the object of promoting the development of the rubber industry in India. The Rubber Production & Marketing (Amendment) Act of 1954 made certain changes in the constitution of the Board and its name was changed as The Rubber Board. This Act came into force on 1<sup>st</sup> August 1955. The Rubber Act was further amended by the Rubber (Amendment) Act, 1960, the Rubber (Amendment) Act, 1982 and by the Rubber (Amendment) Act, 1994. The Amendment in 1982 was to appoint a part time/whole time Chairman for the Board and an Executive Director on whole time basis (if considered necessary). The amendment in 1994 was to enhance the ceiling limit of cess from Re.0.50 to Rs.2/- per kg.

#### **CONSTITUTION**

The Rubber Board functions under the Ministry of Commerce of the Government of India with a full time Chairman as principal executive, responsible for discharging the following functions under Section 8 of the Rubber Act.

- (i) Promote by such measures as it thinks fit the development of the rubber industry. 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) supply of technical advice to rubber growers;

- d) improving the marketing of rubber;
- e) 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; and
- g) carrying out any other duties which may be vested with the Board.

**(ii) 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; and
- 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.

**There are 25 other members consisting of –**

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

The position of Executive Director has not been filled up.

List of members of the Board is given at the end of this report.

Seven Committees have been formed to review the Board's activities vis-à-vis 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 and Staff Affairs Committee. The Committees examine proposals for development of natural rubber industry and make suitable recommendations to the Board.

Shri George John, Member, representing large growers was elected as Vice-Chairman for one year from 29.06.1998.

Shri KJ Mathew IAS, continued to be the Chairman of the Board.

### **MEETING OF THE BOARD AND ITS COMMITTEES**

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

**a) Board meetings**

133<sup>rd</sup> meeting on 20/04/1998  
 134<sup>th</sup> meeting on 29/06/1998  
 135<sup>th</sup> meeting on 19/12/1998  
 136<sup>th</sup> meeting on 27/03/1999

**b) Committee meetings**

|                                      |                         |
|--------------------------------------|-------------------------|
| Executive Committee                  | 15/06/1998 & 22/10/1998 |
| Market Development Committee         | 07/10/1998              |
| Planting Committee                   | 07/10/1998              |
| Research & Development Committee     | 09/11/1998              |
| Labour Welfare Committee             | 23/11/1998              |
| Statistics & Import Export Committee | 11/12/1998              |
| Staff Affairs Committee              | 30/12/1998              |

## **ORGANISATIONAL SET UP**

The activities of the Rubber Board were carried out by eight departments viz. Rubber Production, Administration, Rubber Research, Processing & Product Development, Training & Technical Consultancy, Finance & Accounts, Statistics & Planning and Licensing & Excise Duty; headed respectively by the Rubber Production Commissioner, the Secretary, the Director of Research, the Director (P&PD), the Director (T&TC), the Director (Finance), the Jt. Director (S&P) and the Director (L&ED).

The Headquarters of the Board along with the Administration, Rubber Production, Statistics & Planning, Licensing & Excise Duty and Finance & Accounts Departments remained located at own premises in Keezhukunnu, Kottayam-686 002. The Department of Research, Department of P&PD and the Department of Training & Technical Consultancy are located at the Rubber Research Institute of India campus at Kottayam – 686 009.

There are nine Sub Liaison Offices under the Licensing & Excise Duty Department of which one was opened in Secundrabad during the reporting period on 24/06/1998. The Rubber Production Department has 3 Zonal Offices, 2 Nucleus Rubber Estate & Training Centres, 6 Supervisory Offices, 40 Regional offices, 2 ADO's offices, 170 Field Offices, 15 Regional Nurseries and 26 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 (Dapchhari), Orissa, West Bengal, Assam, Mizoram, Meghalaya and Tripura. The Pilot Crumb Rubber Factory located at Kottayam and the Pilot Latex Processing Factory located at the Central Experiment Station at Chethackal were run by the Department of Processing and Product Development as also the Pilot Plant for Radiation Vulcanisation of Natural Rubber at Kottayam.

The Chairman exercised administrative control over all the Departments and Offices of the Board. The total of Officers and staff under the Board as on 31/03/1999 was 2271: 224 under Group 'A', 631 under Group 'B', 1215 under Group 'C' and 201 under Group 'D'. Very cordial relations existed between the staff and the executive personnel. Their good work has resulted in the impressive record of achievement during the year.

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

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PART - III

PROMOTION OF RUBBER PRODUCTION

In order to achieve the major objectives of expanding the area under rubber in the country and to increase production of rubber from existing plantations through scientific agromanagement practices and exploitation techniques, the Board is implementing various schemes for providing technical as well as financial assistance to the growers. Based on the specific requirements of the local growers, separate schemes have been formulated for operation in the non-traditional region. Similarly specific projects such as Block Plantation Project and Tribal Rubber Plantation Project and schemes like free supply of fencing materials, additional incentive for planting materials etc. are implemented exclusively for the SC/ST category of growers. A series of training and visit programmes for needy rubber growers were also arranged. Funds for most of the schemes came from the World Bank Assisted Rubber Project and a few schemes were funded out of the cess collected by the Board.

A gist of the various projects/schemes operated and the progress achieved during the financial year 1998-99 are dealt with below:

- **Rubber Plantation Development Scheme** : This is one of the important schemes of the Board, mostly funded with the World Bank assistance. Details of applications received with area involved, permits issued, permitted area etc. during 1998-99 and 1997-98 were as follows.

Details	1998-99	1997-98
No. of applications	26641	46234
Area as per applications (ha)	17904	27847
No. of permits issued	15873	33920
Permitted area (ha)	9653	17104
Amount disbursed as subsidy	Rs.19.99 crore	Rs.16.57 crore

Field inspection and processing of applications are continuing and permits will be issued in all eligible cases within the next few months. Due to low price of rubber, there was slight decline in the planting tempo during this year.

- **Tribal Rubber Plantation Project:** This project is aimed at the rehabilitation of selected tribal families of Kerala and is funded out of the cess collection and the contribution from Govt. of Kerala. Progress of implementation of the project is indicated below:

Area planted under the project during 1998-99 (ha)	282.00
Cumulative area planted under the project upto 1998-99 (ha)	1457.00

- **Block Rubber Plantation Project:** This was formulated for the economic settlement of SC/ST category of people in non-traditional areas who practise shifting cultivation. The project is currently operated in Tripura, Orissa and Andhra Pradesh with financial support from the concerned State Govts. Details of planting under this project are as follows.

State	Planting in 1998-99	Cumulative Total upto 1998-99
Tripura	468.00 ha.	2383.00 ha.
Orissa	19.00 ha.	66.00 ha
Andhra Pradesh	5.00 ha.	55.00 ha.

In the State of Assam also a new scheme for Block planting in around 200 ha. in the Karbi Anglong District Council area is being implemented. Preliminary works for raising nursery and land preparation have been started.

- **Insurance of Rubber Plantations:** Rubber Plantations are insured against natural calamities. Small plantations coming under rubber the plantation development scheme are compulsorily insured. Insurance of mature plantations and also immature plantations coming outside the RPD Scheme, is optional to the growers. This scheme is operated with the support of nationalised insurance companies. Details of plantations insured and compensation paid are given below.

Details	1998-99	Cumulative Total upto 1998-99
Immature area insured (ha)	11250.00	63758.00
Mature area insured (ha)	485.00	9165.00
Compensation paid (Rs.in lakhs)	14.88	111.12

- **Extension schemes:** These are schemes formulated and implemented on an annual basis for providing financial and technical assistance for construction of smoke houses, purchase of rollers, bee keeping in rubber plantations etc. This year's physical and financial targets and achievements for various schemes are given below. All these schemes are funded out of cess collection.

Scheme	Target		Achievement	
	Physical	Financial	Physical	Financial
Roller Subsidy	2000	Rs.20.00 lakh	2000	Rs.20.00 lakh
Smoke House Subsidy	666	20.00	666	20.00
Assistance for Bee keeping	-	5.00	-	5.05
Promotion of growing cover crop	-	5.00	-	4.76
Sprayer/duster subsidy	50	3.00	32	2.22
Bio gas subsidy	-	20.00	-	19.66

In addition certain other schemes are in operation in the non-traditional areas alone. The targets and achievements for 1998-99 are as follows.

Scheme	Target	Achievement
Roller Subsidy for individuals	100 Nos.	96 Nos.
Free supply of rollers for NGOs	12 ..	10 ..
Boundary protection (SC/ST)	Rs.15.00 lakh	Rs.10.46 lakh
Boundary protection (General category)	Rs.5.00 lakh	Rs.5.60 lakh
Free supply of fencing materials –		
a) SC/ST individuals	Rs.5.00 lakh	Nil
b) SC/ST group planting	Rs.2.00 lakh	Nil
Irrigation	Rs.2.00 lakh	Rs.2.22 lakh
Transportation subsidy (estate inputs)	Rs.3.00 lakh	Rs.1.19 lakh
Smoke House subsidy	Rs.2.00 lakh	Rs.1.92 lakh

There is another scheme for setting up demonstration plantations in farmer's fields under operation in non traditional areas. As per this scheme, the Board meets the entire expenditure for planting and upkeep of such plantations. During 1998-99, 10 such plots have been developed.

- **Planting material generation:** In order to generate good quality planting materials for distribution to growers at reasonable price and also to check the monopoly of private sector in this field, the Board is maintaining its own nurseries and promoting nurseries sponsored by Rubber Producers Societies. The details are given below.

No. of nurseries owned by the Board	16
Area of nurseries	76.17 ha.

Production target and Achievement during 1998-99

	Target (Rs.)	Achievement (Rs.)
Green budded stumps	4.00 lakh	2.64 lakh
Brown budded stumps	8.00 lakh	12.84 lakh
Total	12.00 lakh	15.48 lakh
No. of sponsored nurseries	24 Nos.	24 Nos.

In the production of good quality planting materials, the targets have been exceeded. The planting materials produced have been distributed to the needy growers.

TAPPERS' TRAINING

- **Regular course:** The Board is running its own tappers' training schools where owners/workers of rubber plantations are given training in rubber tapping on a regular basis for 30 days. Details follow.

No. of TT Schools	25
No. of people trained during 1998-99	2097 (in 139 batches)

- **Short term course:** Short term training of 5 days for rubber tappers is arranged in selected plantations for improving their skill in tapping.

No. of tappers who completed training during 1998-99 3,996 (in 283 batches)

NRETC & DISTRICT DEVELOPMENT CENTRES

The Nucleus Rubber Estate & Training Centre in Tripura State and the District Development Centres in Assam and Meghalaya have been maintained satisfactorily. Tapping has been started in the DDC at Dharanggiri. The facilities available in these centres are being utilised for providing training to the growers in the respective regions. This year 150 people have been trained in these centres in rubber farming and crop processing.

Rubber Plantation Training and Research Centre: A new scheme for setting up a rubber plantation training and research centre in Assam State has been prepared and forwarded to the Ministry for approval. The proposal is to raise demonstration plantation and experimental plantations in 150 ha. of land given by the Govt. of Assam on nominal lease rent to the Board. Planting is proposed in a phased manner. The centre will meet the training requirements of growers/plantation workers. Ministry's approval for the scheme is awaited.

PROGRAMMES UNDER THE WORLD BANK ASSISTED RUBBER PROJECT

In addition to the newplanting and replanting activities, various other components of the World Bank assisted Rubber Project such as demonstration plots, extension and training activities etc. were undertaken. The details are given below.

- **Demonstration plots in traditional areas:** Scientific methods of tree exploitation (controlled upward tapping - CUT), need based fertilizer application (DFA), soil and moisture conservation (SMC), disease control and plots with all these practices together are demonstrated in selected farmers' fields. Financial incentives are provided for adopting the recommended practices in a scientific manner. Targets assigned for the project period and achievement upto the end of March 1999, are given below.

Item	Target	Achievement as on 31/3/99
C U T	2000 ha.	2125.56 ha. (4918 plots)
D F A	3000 ha.	3350.36 ha. (8062 plots)
S M C	6000 ha.	6684.00 ha. (16001 plots)
Disease control	1500 ha.	2050.00 ha. (4342 plots)
All practices	138 ha.	198.6 ha. (425 plots)

Achievements in all the 5 items have exceeded the targets.

RUBBER PRODUCERS' SOCIETIES: The Board has been attempting to develop the culture of self reliance and mutual help among rubber growers by encouraging them to form self help groups by name Rubber producers Societies. Efforts are also being made to revitalise the defunct RPSs. Details of RPSs newly formed and rejuvenated are furnished below.

RPSs formed/ revitalised	1998-99	Cumulative upto 1998-99
RPSs newly formed	104	1808
RPSs rejuvenated	173	419

Two studies are being conducted by two reputed agencies viz. 'MANAGE', Hyderabad and the Indian Institute of Plantation Management, Bangalore to identify the problems related to RPSs and to suggest measures to make the RPSs more active and effective in rendering service to the growers.

- **Extension Agents and Tapping Assistants** : Under the World Bank Project, the RPSs are engaging Extension Agents and Tapping Assistants for dissemination of technical information regarding planting, maintenance and harvesting of rubber. The target for engaging these functionaries and the actual number engaged as on 31/3/1999 are given below.

	Target	Achievement
Extension agents	300	300
Tapping Assistants	300	270

- **Communication equipments**: For more effective transfer of technology to the farming community, audio-visual aids and other communication equipments are being purchased under the World Bank Assisted Rubber Project. Details of equipments purchased are given below.

Item	Purchased during 1998-99	Cumulative Total upto 1998-99
Mike set	2	43
Slide projector	-	40
Overhead projector	-	7
DLP projector	1	1
TV & Accessories	9	21
VCP/VCR	9	22
Direct projector	-	1
Digital camera	1	1
White Board with Marker pen	-	41

These equipments are being used in the field while conducting seminars/group meetings of farmers.

- **Films on rubber:** Under the World Bank Assisted Rubber Project, 5 films on various technical subjects are proposed to be made. Four films on the following subjects have been completed.

- a) Nursery Management
- b) Planting and Maintenance
- c) Productivity Enhancement
- d) Tapping and Processing

Work on another film on the subject 'Diseases, pests and control measures' is in progress. These films are being used as very effective tools for information dissemination especially in the non-traditional regions.

- **Model RPSs:** Out of the total 1808 RPSs, all are not functioning in the desired manner. Therefore a new scheme has been formulated to develop in the traditional area 10 model RPSs with infrastructure and facilities for community processing of latex, effluent treatment, training of growers from nearby RPSs etc. Financial requirement for setting up the facilities per RPS is Rs.12.5 lakh out of which assistance from the Board will be around 80%. The selected 10 RPSs have entered into agreement with the Board and tenders have been invited for the civil construction work.

- **Spraying against Corynespora leaf disease:** Attack of the fungus *Corynespora cassicola* on the leaves of rubber, especially of the most widely cultivated clone, RR II 105, has been observed in the Kerala – Karnataka border in epidemic proportions. Under the World Bank Assisted Rubber Project, a scheme has been launched to undertake prophylactic spraying of chemicals against the fungus in all plantations in the Kerala – Karnataka border. Details of spraying undertaken upto 31/3/1999 are given below. Spraying is still continuing.

Round of Spray	Mature area (ha)	Immature area (ha)
1 st round	3856	4047
2 nd round	45	3358
3 rd round	Nil	2730
4 th round	Nil	1341

- **Women's Development Project:** Under the World Bank Assisted Rubber Project, there is a proposal to undertake certain activities for the development of women involved in rubber related vocation. Activities under this project are proposed to be carried out through selected NGOs. Eight NGOs have been identified and the specific activities to be undertaken by each NGO are being finalised. One Women Development Officer in the Central Office and one Nodal Officer in each Regional Office have been posted to monitor the activities under this project.

TRAINING PROGRAMMES

- **Overseas Training of Officers :** A proposal was sent to the Ministry for sending a few officers on overseas training. But the Govt. of India has not cleared the proposal and no officer could be sent on overseas training during 1998-99. Prior to 1998-99, 56 officers of RP Department have undergone overseas training in Malaysia/Thailand.
- **Overseas Training of Growers:** Under the overseas training programme 62 growers have visited Malaysia/ Thailand/Indonesia in 4 batches upto 1998-99. During 1998-99 no grower was sent out on overseas training.
- **Diploma course in NR production:** A batch of 17 tribal students from Tripura are undergoing a diploma course in NR production in the Kerala Agricultural University under the World Bank Assisted Rubber Project. The course will be over within the next 6 months.
- **Sasthradarsan:** Growers from non-traditional areas are taken to traditional regions for providing them with first hand information about rubber plantations.

No. of growers from NT area who visited traditional region during 1998-99. 197

- **Campaign meetings:** A total of 1732 half a day meetings were conducted on a campaign basis throughout the traditional area during May 1998 to deliver the message of scientific tapping and agromanagement practices in which 38,383 growers/workers participated. In addition 1,560 meetings for technology transfer through face to face contact were held, in which 62,400 growers participated.
- **Supply of estate inputs:** Eleven items of estate inputs such as fertilizers, plant protection chemicals and tapping materials are supplied to growers at concessional rate through Regional Offices. The quantum of materials distributed during 1998-99 under each input, is given below.

Item	Quantity
Urea	3106 MT
Muriate of potash	2464 „
Rock Phosphate	6677 „
Copper sulphate	410 „
Copper oxychloride	82 „
Spray oil	404 KL
Polythene sheet	361 MT
Rainguarding compound	852 MT
Indofil	186 Kg
Rubberkot	13 KL
Ethiphone	137 Ltr.

Action for procurement of estate inputs for 1999 2000 is in progress.

Some of the extension/advisory activities taken up in addition are dealt with hereunder.

I **Production and distribution of Planting materials**

To ensure the easy availability of budgrafted plants of the recommended clones at reasonable price, the Board continued to maintain rubber nurseries in all important rubber growing areas. The details are given below.

Kerala

	<u>Total extent</u> (in ha.)	<u>Region</u>
1) CN Karikkattoor	20.23	Kottayam
2) RN Kadaackamon	4.04	Punalur
3) RN Perumpulickal	4.00	Adoor
4) RN Kanhikulam	4.88	Palakkad
5) RN Ulickal	5.20	Thalassery
6) RN Manjeri	2.00	Nilambur
7) RN Peruvannamoozhy	3.70	Kozhikode
8) RN Alakode	3.41	Taliparamba
Total	47.46	

Non-traditional areas

1) RN Devarappally	2.00	Andhra Pradesh
2) RN Darrangiri	7.05	Guwahati, Assam
3) RN Mijumdisha	14.00	Diphu, Assam
4) RN Hillara	6.00	Silchar, Assam
5) RN Jenggitchikgre	5.50	Tura, Meghalaya
6) RN Tulakona (NRETC)	5.66	Agartala, Tripura
7) RN Mendipather	5.54	Tura, Meghalaya
Total	45.75	

Supply of planting materials in 1998

Based on the cost study, prices of planting materials raised in the nurseries were fixed at Rs.5.25 for green budded stumps (GBS), Rs.5.75 for brown budded stumps (BBS) and Rs.11 - per meter for budwood (BW). Small growers were allowed a concession of Re.1.50, Ps.0.75 and Rs.4.50 respectively for GBS, BBS & BW.

During 1998-99, 248,238 Nos. of GBS, 736,954 BBS and 1,754 meters of BW were sold from nurseries in the traditional areas of Kerala. Majority of the materials were distributed to the small holders at concessional rate. The concession allowed amounted to Rs.9,25,237 -. In the non-traditional area, 438,649 BBS were produced and supplied to the growers. Cost of polythene bags and of planting materials supplied to growers have been adjusted from the grants payable under the RPID Scheme.

Despatch of budded stumps to NE & NT areas

Procured 153.015 budded stumps from the private nurseries in Kerala and despatched the same to NE & NT areas, along with 808040 budded stumps raised in our nursery in traditional area.

Procurement of rubber seeds

For nurseries in the non-traditional region, 50.06 lakh assorted rubber seeds, 27.89 lakh germinated seeds and 0.37 lakh polyclonal seeds were procured and distributed. For the Board's nurseries in Kerala, 14.55 lakh seeds were procured on germination basis.

Sponsored nursery

To meet the growing demand of good quality planting materials at reasonable rates, sponsored nurseries were established in 36 centres under the control of RPSs. The Board had arranged supply of 5.64 lakh seeds for establishment of seedling nurseries in these sponsored nurseries.

II Advisory and Extension services

- a) The field extension officers visited 204624 rubber holdings to advise growers on scientific methods of rubber cultivation, production, exploitation and processing. In order to disseminate knowledge on the correct techniques of planting, maintenance and crop harvesting radio talks were recorded and broadcast.
- b) Monthly publications in local languages on planting, cultural operations, processing, developments in the rubber field etc. in important rubber growing regions of non-traditional areas and Tamilnadu were regularly brought out. These publications include 'Rubber Malar' for Tamilnadu 'Rubber Sangbad' for Assam, 'Rubber Sangbad' for Tripura and 'Rubber Vartha' for Karnataka.

c) Demonstration of scientific tapping in small holdings

Tapping Demonstrators attached to the various Regional Offices visited holdings and demonstrated scientific methods of tapping and processing. Thrust was given to popularise the modern trends in exploitation such as Controlled Upward Tapping (CUT), application of yield stimulants, rainguarding and S₂ D₃ tapping system. This would help the planters to extract maximum output from the plantations for replanting within a reasonable span of time.

III Annual scheme on productivity/quality improvement

a) *Financial assistance to small growers for purchase of sheeting rollers*

In order to improve the quality of the sheet rubber produced in small holdings, a scheme was implemented to extend financial assistance at the rate of Rs.1000/- per set of sheeting rollers to benefit the small and marginal growers. Financial outlay was Rs.20 lakh. During 1998-99 the entire Rs.20 lakh could be disbursed.

b) *Financial assistance for construction of small smoke house*

With a view to persuading and encouraging the small growers to adopt better processing techniques a scheme was implemented offering financial assistance to the tune of Rs.3, 000/- for construction of smokehouse with a minimum capacity of 85 kg rubber sheets. This scheme was popular among the small growers and during 1998-99 an amount of Rs.19.98 lakh was disbursed against the target of Rs.20 lakh. In non-traditional areas, subsidy was paid @ Rs.5,000/- or 50% of the actual cost of construction to 38 growers amounting to Rs.1.92 lakh against the target of Rs.2 lakh.

c) *Scheme for supply of low volume power operated sprayer/duster*

This scheme was introduced to popularise the use of low volume power operated sprayers/dusters among small growers for control of the leaf diseases. During the period 1998-99, 32 low volume sprayers/ dusters were supplied to Rubber Producers' Societies

(RPSs), individuals, Cooperative Societies and Rubber Marketing Societies. The scheme provides grant of 50% subsidy limited to a maximum of Rs.15,000/- for sprayer-cum-duster and Rs.12,000/- for sprayer without duster attachment. For individuals, the subsidy is 25% limited to a maximum of Rs.7,500/- for sprayer-cum-duster and Rs.6,000/- for sprayer without duster attachment. For small sprayer-cum-duster, the subsidy element is Rs.2,000/- per RPS and Societies and Rs.1,000/- per individual. A total amount of Rs.2.22 lakh was disbursed as subsidy under the scheme.

d) *Scheme for financial assistance for setting up of Bio-gas plants using rubber sheet processing effluent.*

This scheme was started during 1998-99 with a financial outlay of Rs.20 lakh. The objective of the scheme is to protect the environment by providing financial assistance for treating the sheet processing effluent anaerobically. The gas produced could be used as fuel for domestic purpose in smoke house for rubber sheets. An amount of Rs.19.66 lakh could be disbursed to 655 beneficiaries.

e) *Scheme for extending financial assistance for apiculture*

The scheme is for giving financial assistance for generating additional income for growers from rubber plantations. The financial outlay is Rs.5 lakh. Rs.5.05 lakh was disbursed to small growers under the scheme during 1998-99.

f) *Scheme for popularisation of leguminous ground cover in rubber plantations.*

This scheme with a financial outlay of Rs.5 lakh was continued during 1998-99 to encourage small rubber growers to establish leguminous ground cover in rubber plantations. An amount of Rs.4.76 lakh was disbursed as financial assistance.

g) *Financial assistance for irrigation in immature rubber plantations of NT areas*

Irrigation is beneficial to ensure proper growth of rubber plants and to reduce the immaturity period in NT areas. In order to motivate the rubber growers to take up irrigation in the immature rubber holdings, a scheme was implemented for giving financial

assistance against capital investment for establishing irrigation facilities. The scheme provides for financial assistance @ Rs.5,000/- per ha. with a ceiling of Rs.50,000/- per grower. An amount of Rs.2.22 lakh has been disbursed to eligible rubber growers in NT areas under this scheme.

h) *Scheme for extending financial assistance to small growers in NT areas for the purchase of hand operated rubber sheeting rollers.*

Under the scheme, financial assistance is given to the growers in NT areas @ Rs.1 000/- per set of rollers to make good quality rubber sheets. Financial outlay was Rs.1 lakh during 1998-99 against which Rs.0.96 lakh was spent in favour of 96 growers

i) *Free supply of rollers in NT areas*

The scheme was formulated to help the non-governmental organisations/voluntary organisations in NT areas to improve the processing facilities of natural rubber. During 1998-99 10 sets of rollers were supplied to these organisations incurring Rs.1.67 lakh against the target of Rs. 2 lakh.

IV Development of Rubber Plantations in NT areas

In order to achieve self sufficiency in natural rubber production, programmes for expansion in the area under rubber both in the traditional and the non-traditional areas (NT) where the agroclimatic conditions are more or less suitable for rubber cultivation have been under implementation. The NT areas includes the State of Goa & Maharashtra, Andhra Pradesh, Orissa, West Bengal & North-eastern States. As a result of the sustained efforts a large number of new entrepreneurs have taken up rubber cultivation.

1) Goa & Maharashtra

In Goa, commercial rubber cultivation was pioneered by the State Forest Department from 1960 onwards and a large number of growers have started rubber cultivation. The extent under rubber is 92,784 ha.

In Maharashtra, rubber plantation is of recent origin and some of the plantations have come into tapping. The yield performance is more or less comparable to what is obtained in the traditional area. Aiming at further development in Konkan areas of Maharashtra, a Demonstration-cum-Nursery Project (DCNP) has been established in 7 ha. of land owned by the Konkan Krishi Vidhya Peet at Wakawali, Dapoli. Raising of rubber nurseries and planting in demonstration plots have been completed. All items of infrastructural development including irrigation system have been undertaken. During the year Rs.106.522 has been spent for the DCNP Dapoli. For the development of the rubber cultivation in Goa & Maharashtra, one Regional Office is functioning in Goa and an ADO's office at Khed. Now the total extent under rubber is 1127 ha. in Maharashtra.

2) Andhra Pradesh

The Board is maintaining a nursery at Devarappally in an area of 2 ha. for raising high yielding planting materials for rubber growers both in Andhra Pradesh and in Ganjam Dist. of Orissa. A Block Plantation Project for tribals is under implementation in Rampachodavaram and Maredumilli areas in East Godavari Dist. of Andhra Pradesh in collaboration with the GCPDC and State Govt. The expenditure for the plantation is shared between the Rubber Board, GCPDC and Govt. of Andhra Pradesh. Planting has been completed in 50 ha. during 1997. The total extent under rubber in Andhra Pradesh is 125.94 ha. For promoting rubber cultivation in Andhra Pradesh, one ADO's office is functioning at Maredumilli.

3 Orissa

The Board has been promoting rubber cultivation in Orissa from 1985 onwards. A Zonal office was opened in 1985 followed by 3 Regional Offices at Baripada (Mayurbanj Dist.), Bhubaneswar (Puri Dist) and Paralakhemundi (Gajapathy Dist). A Block Plantation Project is under implementation to plant up 40 ha. in Jadanathpur and Baripada in Mayurbanj Dist. with the active participation of the Govt. of Orissa. Planting has been completed in 25.39 ha.

Another block plantation project is under progress at Paralakhemundi. In the first phase planting has been completed in 38 ha. The expenditure is shared between the Rubber Board and ITDA of Govt. of Orissa. Total extent under rubber in Orissa is 336.49 ha.

4 West Bengal

A survey in West Bengal has revealed that selected areas in Jelpaiguri Dist, Siliguri Dist, Naxalbari Sub Division of Darjeeling Dist. and certain portions of Islampur, Bhalurghat and Raingunj Sub Division of North & East Binaipur Dist. are more or less suitable for rubber. A Field Office was opened in Siliguri to promote rubber cultivation in the State. Community nurseries were established under the Zilla Parishad, Burdwan. In addition, polybagged plants were supplied to interested growers for raising polybag nurseries for field planting. At present, West Bengal has 60 ha. of rubber.

5 A&N Islands

Based on the survey conducted during 1950s and 1960s, three rubber plantations came up in the A&N islands. Subsequently small holders started rubber cultivation in that area. The total extent now under rubber is 860 ha. The Regional Office at Port Blair is looking after the development of the rubber plantations in the A&N Islands.

A rubber nursery of 1.85 ha is maintained for the production of high yielding planting materials for supply to interested growers in the A&N islands.

The Rubber Board continued to maintain the Nucleus Rubber Estate and Training Centre comprising of 202.50 ha of rubber raised progressively from 1965 to 1968 in South Andaman. The NRETC has recorded a production of 219122.530 kg of rubber during the year. An expenditure of Rs.41 lakh was incurred towards the running expenses of NRETC including capital expenditure for infrastructural development during the year 1998-99. Due to continuous labour unrest, optimum production could not be obtained. Steps for progressive replanting of uneconomic low yielding rubber plants is being undertaken.

6 North Eastern States

The Board continued to promote development of rubber plantations in North-eastern States. The Zonal Office in Guwahati is coordinating the development activities in all the States in the North-east excepting Tripura, through Regional Offices stationed at Guwahati, Silchar, Diphu and Jorhat (in Assam) and Tura ('Meghalaya'). The Zonal Office opened at Agartala, Tripura is monitoring the development activities in the State of Tripura through the Regional Offices opened at Agartala, Udaipur and Dharmanagar. An area of 1315 ha. brought under rubber cultivation in Tripura and 1098 ha in the other States during 1998-99. The estimated planted area at the close of 1999 is given below.

Tripura	24315.00 ha.
Assam	11244.73
Meghalaya	4600.78
Mizoram	993.32
Manipur	1318.13
Nagaland	1356.31
Arunachal Pradesh	143.13
TOTAL	43971.40

Taking into consideration the needs of this backward NT region, special incentive is offered to encourage new investment in rubber planting over and above grant of financial and technical assistance, such as schemes for supply of budded stumps and polybags for raising polybag nurseries and grant of cash assistance for maintenance of polybag plants.

World Bank aided Rubber Project

The World Bank assisted India Rubber Project was formally started in January 1994 after signing an agreement with International Development Association (IDA) in 1993. The project is expected to close on September 30, 1999. Through the agreement, the project was eligible for a credit of US\$ 92 million. Since there was under utilisation of IDA credit to NABARD to refinance loans for processing factories and plantation

development, US\$ 36.5 million was reduced from the credit during the mid term evaluation in April 1996. Hence the total IDA credit at present is only US\$ 55.5 million. At an exchange rate of Rs.35 per US\$, the total investment cost of the project was Rs.5503 million. This includes Rs.1434 million of IDA credit through Rubber Board, Rs.538 million Govt. of India fund, Rs.662 million IDA credit through NABARD and Rs.2869 million contribution from beneficiaries and participating banks. Hence the IDA credit to the Rubber Board constitutes only 26.06% of the total project cost.

The Project consists of 6 components viz. Replanting, Newplanting, Processing, Productivity enhancement, Institutional development and Women & Tribal development in Tripura; percentage of the project cost on each component being 29, 41, 12, 7, 10 & 1 respectively. The Institutional development has 5 sub components; Research, Extension, Training and Technical Consultancy, Rubber Board Organisation and Project Coordination. Project area for replanting consists of traditional areas of Kerala and Tamilnadu and for newplanting in Tripura and other non-traditional areas.

Physical Progress

Achievement was good in the major components: 99.54% of the targeted replanting of 30,361 ha. and 98.28% of the newplanting of 44,227 ha. was covered upto March 31, 1999. During the year 1998-99 tempo of replanting and of newplanting was low. Due to continuing low price for rubber; replanting was 4,046 ha and replanting 5,270 ha. The Board has disbursed Rs.39.48 million and Rs.67.22 million for replanting and newplanting respectively during the year. However target area for the next year can be achieved when processing of 13,935 pending applications of the preceding years is completed.

Under productivity enhancement, 11 plantation inputs for important cultural practices like fertilizer application, plant protection etc. were distributed. Fertilizer was distributed to cover an area of 50,050 ha. The expenditure involved was Rs.101.86 million during 1998-99.

Under the processing component only one factory for reprocessing rubber sheet could be established through NABARD refinance. Utilisation of NABARD refinance for plantation development was also low during the initial years but last year and this year satisfactory progress has been achieved. During the year upto March 31, 1999, Rs.92.33 million was disbursed by NABARD for refinancing newplanting and replanting of rubber.

All the 7 research projects are progressing well. Results of the latex diagnosis studies indicate that this technique can be used for predicting exploitation status of holdings. Stimulation treatment in low frequency tapping trials gave better yield performance and the yield increase was 13 to 46%. Rainguarding experiments show 35 to 50% yield reduction in the absence of rainguarding and stimulation could recover only 10 to 19% of the yield loss. In the hot spot trial at Sukma, Madhya Pradesh the clones are showing good adaptability with significant variations.

Construction of the Training Institute at Kottayam was progressing well and 60% of the work was completed. As the contractor abandoned the work on August 31, 1998, the World Bank permitted Rubber Board to continue the work directly through Force Account procedure. The work could be restarted only after completely settling the claims of the contractor. Now the claims of the contractor have been finalised through a Commission appointed by Hon'ble High Court of Kerala. The work restarted on March 2, 1999 is progressing well. Construction of the Training Institute at Agarthala is progressing well and may be completed by August, 1999. Action was initiated for procuring the equipments and furniture for the two Institutes.

Consultants were engaged for certain specialised studies under the project. The copper residue study is progressing well and residue of copper on land and in water due to spraying Copper Oxychloride on rubber trees against abnormal leaf fall is being assessed. Soil survey and mapping of rubber soil in Kerala and Tamilnadu have been completed. Consultancy for establishing rubber database and rubber wood testing laboratory have reached a stage of procurement of hardwares and bids are being processed. The impact of the World Bank Project in traditional area and in Tripura is being evaluated by two Consultants. The final report on Tripura has been received. The project has helped in reducing jhuming cultivation, developing saving and banking habits among the tribal

people in Tripura in addition to their involvement in income generation activities and infrastructural development activities.

Computerisation of 26 Regional offices has been completed in the traditional area and the software developed was successfully installed. Data from Regional Offices are transferred to Head Office and processed. Computerisation of other Offices has been partially completed and second phase of computerisation has been taken up. M/s.NIIT, Bangalore has been engaged as consultant for this purpose.

Construction of the model TSR factory has reached advanced stage of completion. Construction of the rubber wood testing laboratory is in progress. Credit for the joint sector Rubber Wood Processing Factory is in final stage of sanction. Promotion campaign for rubber wood is being carried out. The total expenditure for Institutional development was Rs.222.91 million for 1998-99.

Under Women & Tribal development plan in Tripura 3791 tribal families are being given assistance in economic activities like piggery, poultry etc. Social activities like health camp, promotion of literacy and family planning are being promoted. Infrastructural facilities such as community hall, tube well, link roads, solar energy are being provided. Under the Project 7,711 ha. has been planted with rubber upto March 31, 1999.

Financial achievement

Out of Rs.1,971.735 million of IDA credit to Rubber Board and Govt. of India, Rs.1,337.44 million was spent upto March 31, 1999. The target for 1998-99 was Rs.485.5 million and the actual expenditure incurred was Rs.439.5 million.

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## **PART – IV**

### **ADMINISTRATION**

Important functions in Administration consists of constitution/reconstitution of the Board and its Committees, monitoring implementation of the Board's decisions, recruitment of personnel for different Departments, proper maintenance of the establishment through house keeping operations, disbursement of employees entitlements including retirement benefits, price collection and marketing, collection of statistics, publicise Board's schemes and activities, carryout labour welfare measures, attend to vigilance and legal functions and official language implementation.

The functions were carried out through the following Sections/Divisions/Offices.

- 01     Establishment (General Administration, Personnel Administration & Establishment)
- 02     Marketing
- 03     Publicity & Public Relation
- 04     Labour Welfare
- 05     Internal Audit
- 06     Legal
- 07     Vigilance
- 08     Official Language Implementation

#### **General Administration**

The activities of the Board for the year 1997-98 were documented through the Annual Report which was presented to the Government as required under Clause 8 (3)© of the Rubber Act, along with the Annual Accounts. Monitored implementation of the decisions of the 4 meetings of the Board held during the year.

## Entitlement

During the period 23 employees were given financial assistance for construction of own house by advancing Rs.42,18,050. Besides Additional House Building Advance to the tune of Rs.21,13,650/- was disbursed in 28 cases based on their revised Pay consequent on implementation of the orders of the Govt. on recommendations of the V Central Pay Commission. Vehicle advances amounting to Rs.8,85,165/- were given to 38 employees (Rs.2,65,925 as Car Advance to 2, Rs.5,96,740 as two wheeler advance to 21 and Rs.22,500 as cycle advance to 15). In addition an amount of Rs.6,81,427 was advanced to 21 officials as two wheeler advance under the World Bank Scheme.

Service Books, leave accounts and personal files of employees were properly maintained. Retirement benefits were newly given to 19 employees including 12 who left on voluntary retirement, invalid pension for one and compulsory retirement for another. In addition there were 5 cases of family pension of employees who died in harness.

Consequent on the implementation of CCS (RP) Rules 1997, retirement benefits were revised in 208 cases: as detailed.

|    |                                      |                 |
|----|--------------------------------------|-----------------|
| a) | <i>Post 1.1.1996</i>                 | <i>68 cases</i> |
| b) | <i>Pre 1996 (1.1.86 to 31.12.95)</i> | <i>88 cases</i> |
| c) | <i>Pre 1986</i>                      | <i>52 cases</i> |

Consequent on the Govt. raising the retirement age from 58 to 60 from May 1998, normal retirement got postponed by 2 years. Hence number of retirements was low. As on 31.3.1999, there were 328 Pensioners on the Board's rolls.

## Personnel Administration

Selection of suitable personnel to vacant positions for smooth functioning of the Board was ensured following recognised recruitment rules and statutory provisions relating

to reservation of posts for candidates from SC/ST/OBC communities. There were properly constituted Selection Committee/DPCs for selection of personnel befitting job recruitments. Periodical returns on the personnel recruited at reservation points were sent to the Government.

The total number of Officers and staff under the Board as on 31.3.1999 was 2271 as detailed below.

| Name of Department                  | Group<br>A | Group<br>B | Group<br>C  | Group<br>D | TOTAL       |
|-------------------------------------|------------|------------|-------------|------------|-------------|
| Administration                      | 10         | 25         | 64          | 16         | 115         |
| Rubber Production                   | 98         | 377        | 779         | 121        | 1375        |
| Excise Duty                         | 16         | 40         | 79          | 8          | 143         |
| Research                            | 66         | 138        | 201         | 46         | 451         |
| Processing & Product<br>Development | 14         | 24         | 32          | 4          | 74          |
| Finance & Accounts                  | 6          | 10         | 27          | 2          | 41          |
| Statistics & Planning               | 5          | 7          | 13          | 2          | 27          |
| Training & Technical<br>Consultancy | 9          | 10         | 20          | 2          | 41          |
| <b>TOTAL</b>                        | <b>224</b> | <b>631</b> | <b>1215</b> | <b>201</b> | <b>2271</b> |

## Marketing

During the reporting period, collected and compiled price of various grades of natural rubber and reported to the press for publication, like daily average price of RSS 4 and of ungraded rubber in Kochi and Kottayam markets, average price of all grades of rubber including centrifuged latex and TSR in Kottayam market, average price of scrap rubber and daily price of various grades of sheet rubber in Kuala Lumpur, Malaysia.

The price information was intimated on a regular basis to the Ministry of Commerce, Ministry of Industry, Public Sector Plantation Companies etc. The price of



centrifuged latex, technically specified rubber, PLC etc. were also collected and circulated regularly to the various offices of the Board, Plantation Companies etc.

The Govt. notified the benchmark price of Rubber in September 1998 at Rs.3405 for RSS 4 and Rs.3355 per quintal for RSS 5. Since the market remained below the benchmark, price support procurement at the prevailing market was made by the STC. During 1998-99 STC procured 11,606 tonnes. Since supply of rubber was in excess of the demand consequent on low growth in the rubber manufacturing industry, the Govt. suspended import of rubber under advance licence and asked the manufacturers to meet their requirement of rubber for export production from the STC. The Govt. asked STC to supply rubber to the rubber products exporters at the international price, which was lower to the Indian price by Rs.224 per quintal on the average for RSS 4 during 1998-99. During 1998-99, STC released to the manufacturers 5308 tonnes of natural rubber at the international price. Loss in the transaction was met by the Govt. of India.

Average prices of various grades of rubber per quintal during 1998-99 are indicated below.

|                 | 1998-99 |
|-----------------|---------|
| RSS 1           | 3,553   |
| RSS 2           | 3,362   |
| RSS 3           | 3,136   |
| RSS 4           | 2,994   |
| RSS 5           | 2,856   |
| Latex (60% drc) | 2,689   |
| ISNR 5          | 3,240   |
| ISNR 10         | 2,979   |
| ISNR 20         | 2,759   |
| ISNR 50         | 2,638   |

Collected details of imports of natural rubber coming to the country through the 4 major ports of India (Kochi, Madras, Calcutta, Bombay) and data on natural rubber exported. During the period 26,307 Tonnes of natural rubber was imported and 1840 Tonnes of natural rubber was exported.

## Publicity and Public Relations

The Publicity/Publication activities mainly consist of publishing journals and other publications on various aspects of rubber cultivation. The following were brought out during the year.

- a) Twelve issues of the Malayalam magazine "Rubber". As on 31.3.1999 the number of annual subscribers was 9148 and of life subscribers 5436.
- b) Twelve issues of 'Rubber Statistical news'.
- c) 8800 copies of Rubber Growers' Companion 1999.
- d) 1000 copies of the book on 'rubber and its cultivation'.
- e) One issue of 'Rubber Board Bulletin'
- f) Three issues of the journal named 'Inside Rubber Board'.

Press handouts on various topics were released to the national as well as local dailies which secured wide coverage. A total of 41 press releases and 81 advertisements were issued. Farm features on subjects of seasonal importance were published in the 'Karshikarangam' pages of various Malayalam dailies.

During the period under report took part in seven exhibitions at Chengannoor, Pathanamthitta, Coonoor, Kannur, Chennai, Thiruvananthapuram & Kottayam.

Utilised services of the AIR and Doordarshan for dissemination of scientific knowledge on rubber cultivation, crop processing and marketing. A team of journalists from Kerala were taken to the North Eastern States to make them aware of the activities of the Board there. As part of social welfare activities, 15 bags of rice was supplied to flood affected people of Kottayam Dist.



## Labour Welfare

Section 8 (2) (f) of the Rubber Act empowers the Board to undertake measures for better working condition and improvement of amenities and incentives for rubber plantation workers.

The Board had devised many schemes for the welfare of the workers for which an amount of Rs.1,12,56,137 lakh was spent during the year under report.

### a) Educational Stipend Scheme

The scheme provides for financial assistance for educating the children of rubber plantation workers at the primary, secondary, graduation/postgraduation levels.

The assistance consists of payment of tuition fee, hostel/boarding fee and lumpsum grant for purchase of books, instruments etc.

An amount of Rs.14,37,886/- was spent under this scheme during 1997-98.

### b) Educational Scholarship Scheme

The scheme provides children of rubber plantation workers incentive for high performance in academic courses under educational stipend scheme. Scholarships ranging from Rs.250/- to Rs.2,000/- is paid per student. An amount of Rs.20,700/- was spent under this during the year.

### c) Group Insurance-cum-Deposit Scheme (9 Phases)

This is a social security measure for the workers not covered by the Plantation Labour Act against death and injuries caused by accidents. This scheme also encourages the habit of saving. The first phase was started in 1986-87. Each phase continues to be in operation for a period of 10 years. The workers enrolled have to renew membership every

year by remitting their share of insurance premia. During 1998-99 the Board remitted Rs.9,50,500/- as Board's share favouring 9,505 workers after ensuring that they have remitted equal amount as their share. The insurance company paid compensation to 51 workers amounting to Rs.1,36,755/- for injuries/death by accident.

**d) Housing Subsidy Scheme (Unorganised Non-marginal holdings)**

This scheme provides assistance to rubber plantation workers not covered by the Plantation Labour Act, 1951 for construction of own house. The assistance is limited to Rs.7,500/- per worker for house built in brick and mortar. For house built with mud walls and grass thatch, the assistance would be Rs.4,000/- only. For houses with mud wall and tin or aluminium roof, the assistance would be Rs.5,000/-. An amount of Rs.21,73,500/- was disbursed during 1998-99 in favour of 290 applicants.

**e) Housing Subsidy Scheme (Unorganised Sector Marginal holdings)**

This scheme provides for assistance in house construction for workers employed in holdings, each with area between 0.75 ha and 1 ha. All other conditions of the scheme for housing subsidy for rubber plantation workers in the unorganised sector (non-marginal holdings) are applicable to this scheme. Amount disbursed during 1998-99 was Rs.21,81,250/- in favour of 291 applicants.

**f) Housing Subsidy Scheme (Organised Sector)**

This scheme provides financial assistance to workers covered by the Plantation Labour Act, 1951 for the construction of own house. The assistance is limited to Rs.7,500/- per worker. Amount disbursed during 1998-99 was Rs.8,64,000/- in favour of 118 applicants.

**g) Scheme for providing Sanitary facilities**

The scheme provides assistance to build latrines by the rubber plantation workers as per prescribed plan and estimate. The assistance either covers 75% of the cost of

construction or Rs.3,000/- of the latrine whichever is less. Total amount paid under the scheme during 1998-99 was Rs.21, 93,000/- in favour of 731 applicants.

**h) Medical Attendance Scheme**

The scheme assists plantation workers of unorganised sector with reimbursement of medical expenses and subsistence when unable to work due to illness. Workers who undergo sterilization operation for promotion of small family are also given assistance. During 1998-99 an amount of Rs,5,92,426/- was disbursed to 533 workers.

**i) Housing and Sanitary Scheme for SC/ST Rubber Plantation Workers**

This scheme was implemented on a pilot basis exclusively for SC/ST workers of rubber plantations guided by the Rubber Producers' Societies. Assistance limited to Rs.14, 000/- is granted to the worker for construction of house with latrine. The scheme was financed from the SCP/TSP fund. During 1998-99 an amount of Rs, 8,17,875/- was disbursed in favour of 109 workers.

## **Internal Audit**

Main function of the Internal Audit is inspection/audit of various offices/units of the Board. During the period under report internal audit inspections were conducted in 46 offices/units located in different parts of the country.

Replies to AG's audit objections were sent in time. The total number of oustanding paras on 31.3.1999 was 88. Review of Attendance Register as a measure of enforcement of office discipline was undertaken. Opinion/advice was given in 203 cases including 50 pension cases, leave encashment, pay fixation, service verification etc.

Economy in the use and maintenance of vehicles and consumption of fuel was ensured by follow-up of procedures and Government Orders strictly. Annual physical

verification of stock was brought upto date by initiating follow-up action with concerned offices/units and ensured the disposal of unserviceable items.

## **Legal matter**

The legal functions include rendering advice/opinion on matters referred to, draft legal documents, initiate steps for prosecution under the Rubber Act, 1947 assist in conciliation proceedings in labour matters and tax cases and monitoring progress of litigations for and against the Board.

During the year under report, timely action was taken and advice was rendered on hundreds of files. Applications of 32 employees under House Building Advance Scheme were scrutinised for determining eligibility under the Rules. Legal documents to be executed were drafted/prepared. Appropriate steps were taken through lawyers to safeguard the interests of the Board in litigations pending in various courts. Parawise comments and necessary instructions were given to Standing Counsels and the Central Government pleaders in cases pending in High Courts.

## **Vigilance**

### **a) Complaints**

During the year under report, took up for enquiry/verification 20 complaints containing allegations against 6 Officers of Groups A & B status and 14 officials of Groups C & D status. The allegations mainly related to misappropriation of Board's funds; making false/vexatious complaints in vituperative language against senior Executives, insubordination and unruly behavior towards superiors, failure to comply with lawful direction/orders, habitual unauthorised absence disrupting smooth functioning of the office etc. Enquiries were made and appropriate deterrent action was taken.

**b) Cases**

Major penalty proceedings against 10 officials and minor penalty action against 6 officials were instituted during the year under report.

**c) Property statements and acquisition/disposal of immovable/movable property**

Annual statements of immovable property as on 31.12.1998 were called for from all officers of Group A & B status. The statements received were scrutinised. Also dealt with/processed 80 applications of the employees pertaining to acquisition/disposal of immovable property and 60 applications/intimations relating to transactions in movable properties such as motor cars, two wheelers, refrigerators, televisions, washing machines etc.

## **Official Language Implementation**

A meeting of the Official Language Implementation Committee was held during the year. Annual programme for the year was prepared.

Hindi week was celebrated in September 1998. Competition in Hindi noting & drafting, elocution & essay writing, recitation in Hindi, Hindi Typewriting and Hindi quiz were conducted. Token prizes and cash awards were given to the I & II place winners. Separate competitions were also conducted for the children of employees of the Board. An Official Language Conference was held in February 1999.

Six issues of the Hindi bulletin were published during the year. Hindi classes were conducted in which 25 employees were trained. Facilities for training in Hindi through correspondence course were arranged. Training in Hindi Typewriting was also given to Board's employees.

The Hindi Library was utilised by the employees to improve their knowledge in Hindi.

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PART - V

RUBBER RESEARCH

The Rubber Research Institute of India, the research wing of the Board, has as a Central Experiment Station, nine Regional Research Stations and two *Hevea* breeding substations. The Central Experiment Station has a 254 ha, experimental rubber plantation, while the Regional Research Stations have experimental plantations with area ranging from 20 to 77 ha. For the North Eastern Region, a research complex has been established at Agarthala with five Regional Research Stations in Tripura, Assam, Meghalaya, Mizoram and West Bengal. For other non-traditional areas, there are three Regional Research Stations located in Maharashtra, Madhya Pradesh and Orissa. In the traditional region, another Regional Research Station was established at Padiyoor in Kerala in 1994. The following are the research highlights during the year under report.

The most suitable period for collection of leaf samples for analysis to ascertain nutrient status was found to be between 220 and 310 days after leaf emergence. In a silt pit experiment, where conservation pits were dug at the rate of 100, 150, 200 and 250 per ha, the soil conserved was found to be 5, 8, 9 and 14 tonnes ha⁻¹ year respectively. From a trial on control of weeds using chemical herbicides, a new systemic herbicide 'Sulphosate' was found to be equally effective as 'Glyphosate'. In terms of dry matter production and uptake of nutrients by three leguminous covers, *Pueraria* showed superiority. In a cropping system experiment where *Amorphophalus* (yam) was intercropped with rubber, a net profit of Rs.6000 ha was obtained from the inter crop during the 6th year of planting rubber.

High frequency of somatic embryogenesis and plantlet formation were obtained from immature anthers and flower buds. *Hevea* (clone RRH 105) tissues were transformed with gene coding for isopentenyl transferase, superoxide dismutase and antisense genes for conferring tolerance against TPD. Experiments to overcome the problem of growth retardation and drying of transgenic plantlets regenerated from tissues transformed with sorbitol 6-phosphate dehydrogenase for conferring drought tolerance resulted in an

efficient new pathway for large scale production of transformed embryos. Plantlets were produced up to second leaf stage. As a preliminary step to develop cDNA library for the isolation of selected genes as well to study gene expression, a simple and very efficient protocol for the isolation of RNA from bark tissue was developed. RNA was isolated from bark tissues of TPD tolerant plant and plants affected with different levels of TPD.

Ten clones resultant of 1982 hand pollination in small scale trial continued to exhibit superior yield over RR11 105. Two ortet selections registered higher yield than RR11 105 during the first year of tapping. Clones RR11 50 and RR11 51 recorded higher mean yield over ten years of tapping, than RR11 105 in a small scale evaluation trial. Data from a multi-locations trial revealed that among 13 clones, 82/29 and 82/30 were showing higher girth in Kanyakumari, Agarthala and Bhubaneswar whereas in Nagrahatta, RR11 105 recorded the highest girth. An on-farm trial with nine new clones and six small scale trials with ortet and hybrid clones were laid out. Budwood of eight clones in the pipeline were supplied to two large estates for trial planting. Structural studies on TPD revealed that, the regenerated bark after two years produced 13 latex vessel rows while TPD affected bark on rest showed only six rows of productive vessels. Benchgrafting with green buds was found to be feasible in rubber. Cytological investigations of somatic embryoids regenerated from immature anther revealed that it is diploid in their somatic cells.

The fourth report on the commercial yield evaluation of major planting materials covering 27 clones has been completed. Over the first ten years of tapping RR11 105 ranked first ($1703 \text{ kg}^{-\text{ha}}$) followed by PB 260 ($1607 \text{ kg}^{-\text{ha}}$) PB 28/59 ($1522 \text{ kg}^{-\text{ha}}$) and PB 217 ($1510 \text{ kg}^{-\text{ha}}$). A tobit model was used to analyse the determinants of intercropping decisions in three regions in Kerala. Availability of family labour, type of intercrops and the perception of profitability were found to influence the decision on the adoption of intercropping. The potential availability of rubber wood was estimated to be 1.35 million cu.m. during 1998-99. The production of rubber seed oil and cake was estimated to be 2300 and 3700 MT respectively and that of rubber honey 1750 MT.

Analysis of variance for the growth characters, dry rubber yield and structural characters of leaf and bark in the 80 wild genotypes in an evaluation revealed significant

difference among the clones for all the characters studied. In a study of wild *Hevea* germplasm for drought tolerance, certain genotypes possessing tolerance to drought were identified. Provenance wise comparison for growth characters showed that Rondonian accessions were more vigorous than Acre and Matto Grosso genotypes, while for dry rubber yield Matto Grosso genotypes continued to be superior to those from Acre and Rondonia. All the five clones from Ivory Coast recorded higher annual average girth, in the seventh year than the control clone, RRII 105. Screening of both wild and Wickham germplasm, for the incidence of powdery mildew disease was carried out. Genetic analysis of 45 selected wild genotypes using RAPD markers was initiated.

Using the sap flow technique it was estimated that the amount of water taken by a mature rubber tree is much less than other tree species. Ethrel application was found to lead to a loss in semi-permeability of luteoid membrane which result in free movements of ions between B and C sera in the latex. This finally leads to greater stability of luteoids and thus more flow of latex. The rate of respiration is found higher in tapped panels. Studies on TPD affected trees revealed that increased carbohydrate availability and respiratory activity leads to increased biomass production at the cost of rubber biosynthesis. Biochemical studies indicated that the stress induced free radical system was very active during the onset of TPD. Inorganic phosphorus and sucrose concentration in the latex were higher in the affected than in the normal trees. Screening of *Hevea* clones for drought tolerance revealed that clones RRIM 600 and Haiken 1 are more tolerant. Transformed *E. Coli* (strain DH 5 α) with genes Ha Dhn 1 and HA Dhn 2 are ready for future studies on *Hevea* drought physiology.

Incidence of *Corynespora* disease was observed this year also in Dakshin Kannada district. Spraying was carried out in nearly 25 ha in small grower holdings in this region. A scientific evaluation of the scheme for *Corynespora* control approved under the World Bank Project is being carried out. Among 12 different clones tested, GT 1 was found to be tolerant to all the isolates of *Corynespora caccicola* tested. Oil based mancozeb was field tested for the control of abnormal leaf fall disease. Micronair atomizer attached to micron sprayer was observed to improve the efficiency of spraying. Rubber seed oil was tested as carrier for fungicide in both high and low volume spraying systems. A new carrier, vinofan was field tested with various combinations of fungicides for pink disease control.

Hexaconazole appeared to be effective for controlling patch canker and dry rot diseases. Chlorpyrifos 0.2% @ 1 per plant was effective to control termite. Lime spray is cheaper and effective control measure for slugs attacking rubber seedlings. Modifications of the anaerobic digesters were tried to improve the efficiency of effluent treatment. Testing of the preparatory product Actizyme for effluent treatment is being carried out. Preliminary work on pressure injection of tetracycline was found to show a reduction in TPD intensity.

A process was evolved for the production of styrene grafted natural rubber by gamma irradiation and 200 kg of the material was sent to different footwear manufacturing units to evaluate the feasibility of the same as stiffening agent in microcellular soles, replacing SBR 1958. Epoxidised natural rubber (ENR) was found to impart better technological properties to silica filled vulcanizates of natural rubber, SBR and nitrile rubber. A simple process to devulcanise the powdered scrap tyre crumbs was developed on a laboratory scale. Studies on the effect of exposure of sheet rubber to sun showed that the gel content and PRI of the sheets were adversely affected by sun drying.

The five Regional Research Stations in Tripura, Assam, Meghalaya, Mizoram and West Bengal continued to carry out location specific programmes. In general, RRIM 600 continued to record high yield in the clone evaluation trials in all the locations in the North East. At Agartala, among 15 clones in the 1979 clone trial, data on mean yield for eight years revealed PB 235 to be the highest yielder. SCATC 88/13 and Haiken 1 are found to be high yielder in the early mature phase among the six clones in another trial. The common facility for discriminatory fertilizer recommendation at Agartala continued to analyze soil and leaf samples based on which 325 recommendations were given to farmers from different states.

Among the 18 clones at Guwahati, mean yield over three years revealed that RRIM 600, PB 235, RRII 105 and PB 310 are the high yielders. Out of 448 polyclonal seedling trees, 10 showed promising yield trend. At Tura, among the 7 clones evaluated, RRIM 600 recorded the highest yield followed by RRII 118 and RRII 105 over the first three years of tapping. At RRS Nagrakatta, trees attained tappable size in seven years. Trees in one fertilizer trial and two clone trials were opened for tapping. Effect of different tapping systems with tapping rest based on low temperature regimes indicated that among different

treatments S/2 d/2 system with tapping rest at 15 - 15°C regime (commencing when the temperature falls below 15 °C and resuming tapping when it rises to 15° C again) was ideal considering yield and TPD incidence.

A survey of pests and diseases revealed that incidences of powdery mildew (*Oidium heavea*), secondary leaf fall (*Colletotrichum gloeosporioides*) and leaf blight (*Periconia heavea*) were severe in different rubber growing areas in the North-east region. Early yield data from a density-cum-nutritional trial showed that a higher density of 600-800 plants per hectare with higher fertilizer dose (60:30:30 NPK) gives the highest yield. Incidence of wind damage was also relatively lower in the higher densities. Glyphosate @ 5 ltr/ha. as primary spray coupled with Paraquat @ 4.5 ltr/ha as blanket spray was found to be the best for controlling the weeds with 13% cost reduction in comparison to manual weeding under Mizoram conditions. Minimum temperature below 10°C with high diurnal variation has been observed to cause cold damage to young plants. Data during cold months (December to February) revealed that growth in terms of girth increment ranged from 8% (Tura) to 14.5% (Agartala) and yield varied from 17% (Tura) to 30% (Agartala, December to January). Analysis of winter data revealed that vapour pressure deficit and soil temperatures (at 10 and 20 cms depth) of the previous afternoon were closely related to yield on the following day, followed by vapour pressure deficit at the time of tapping.

In Dapchhari, Maharashtra, irrigation trial showed a higher yield for the irrigated plots, with the difference ranging from 300 to 500 kg/ha among the clones. It was observed that 150-200 silt pits per ha is most desirable as this retained more moisture in the field. Five additional blocks were opened for tapping during the period and from a total of 23 blocks, an average yield of 1017 kg/h/yr was obtained. In Orissa three blocks were opened for tapping with an average yield of 30 g dry rubber/tree/tap.

The seven research projects under the World Bank Assisted Rubber Project progressed well during the period under report. Results obtained from field experiments so far show that low frequency tapping combined with stimulation is promising. In general, d/4 frequency gave good results. Three new experiments on low frequency tapping were laid out in Dapchhari. Latex Diagnostic (LD) studies were conducted in 36 small holdings and the results reveal that LD parameters could be used as indicators for fixing optimum

stimulation schedule in clones. Regular data recording from the various field experiments in different locations under the clone evaluation project was continued. Field planting of the wild genotypes for their screening for cold tolerance was done in RRS Nagrahatta during this period.

A few projects on molecular investigations in the wild germplasm material were initiated, using the facilities of the modern genome analysis laboratory. RAPD profile of 48 wild germplasm accessions have been developed using 12 informative primers for genetic relationship studies. Screening of RAPD markers for *Phytophthora* disease in selected clones is being continued. Isolation and purification of fungal DNA and PCR amplification using random primers have been perfected. A *Hevea* genomic library having small DNA inserts (2-6 kb) has been constructed for use as probes in RFLP studies.

An integrated smoke house has been constructed at RRII combining a system of loading the sheets on trolleys which can be rolled out of the smoke house for partial sun drying. The 96 sheets capacity solar-cum-smoke dryer was subjected to evaluation under various conditions. Contribution of the solar panel was found to reduce firewood requirement by 0.4 kg/kg of dried sheets. A sheet washing machine for upgrading low quality sheet rubber was designed and fabricated. Evaluation of epoxidised natural rubber of varying epoxy contents indicated that incorporation of calcium stearate at the preparation stage of ENR is effective in reducing the rate of degradation of ENR of low epoxy contents and for improving its processability.

Discriminatory fertilizer recommendation was extended free of cost to SC/ST growers of the north-east region. A total of 20577 soil samples, 1631 leaf samples and 8239 latex samples were analysed in the various soil/leaf testing laboratories and fertilizer recommendations offered. This is in addition to the discriminatory fertilizer recommendations issued to 970 fields in 30 large estates. Mobile soil testing camps were conducted at 70 places all over Kerala.

A good share of workers engaged in the research farm in the north-east belong to SC/ST. All the 15 workers engaged in Ganolgre farm in Tura, belongs to ST. Women workers were engaged in the research farms and in Tura, three among them were from the

tribal community. At CES Chethackal, there are 61 female workers on the permanent rolls and 96 women on the casual rolls. At present there are 10 women tappers in this station and efforts are on to engage more women for tapping work. During the period under report women workers contributed 13,600 workdays in this station.

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## **PART - VI**

### **PROCESSING & PRODUCT DEVELOPMENT**

The Board continued to provide support to the rubber processing and rubber goods manufacturing units in the areas of factory design, product development, quality improvement and in treatment and disposal of effluent. These activities were carried out through -

- 1) Engineering Division
- 2) Processing and Quality Control Division
- 3) Factory Management Division
- 4) Rubber Processing & Market Development Division

During the period, organised 2 seminars for the promotion of low ammonia preserved natural rubber latex and RVNRL. One of the seminars was organised at Bombay and the other at Kottayam. Also participated in the International Rubber Conference held at Chennai during December 1998.

#### **I Engineering activities**

Progress of different items of work undertaken as part of the World Bank Aided Rubber Development Project is dealt with below.

##### **a) Rubber Wood India Pvt. Ltd.**

Under the World Bank Aided Project, there is a proposal for setting up a company for manufacturing processed rubber wood and different items made of rubber wood. Project report for this factory was prepared and all the engineering drawings and procurement of

machinery were finalised. Applications were made for obtaining clearances from various Govt. Departments for setting up this factory.

**b) Rubber Wood Testing Laboratory**

The lay out plan for the testing laboratory was prepared and list of equipments required for the laboratory was finalised with the help of the Consultants, M/s.IPIRITI, Bangalore. The civil work for the laboratory building is progressing and steps have already been taken to procure various testing equipments. Approval for the construction of the building was obtained. M/s.Trada Technology, UK engaged as Consultant for obtaining modern technology in rubber wood processing and in wood based products gave reports on two items of the task entrusted. These were not upto the expectation and the contract for this consultancy work was terminated.

**c) Model TSR Factory**

Construction of the factory building for model TSR factory is nearing completion. Electrification work is progressing. Orders have already been placed for procuring all the items of the machinery. Steps have been taken to construct the effluent treatment plant. All the clearances required from various Govt. Agencies for the model TSR factory have been obtained.

**d) Rubber Wood Promotion Campaign**

Advertisements were issued in various magazines for promoting rubber wood among users of this product in the country. TV commercial was also prepared for telecast. Participated in the exhibitions in Industrial Expo 1998 Cochin, Index 1998 Mumbai, India International Trade Fair, New Delhi, Rubber Asia Exhibition Cochin, Index 1999 Kottayam and also the exhibition arranged at Thiruvananthapuram by Architects. A directory of Rubber Wood Processors and Product Manufacturers was prepared and mailed to Architects and Interior Designers in the country. Assistance was given to Metro Wood Ltd. for establishing show room at Kottayam for the sale of rubber wood furniture. Articles on rubber wood were published in the newsletter of IRTF, for promoting use of



rubber wood. Finalised the programme for producing 15 minute TV documentary and 2 Commercial slots for 10 to 20 seconds and work order was given to M/s.Peacock Television. Cochin.

**e) Other services**

Project Report was prepared for 3 tonnes per day Crumb Rubber Factory for M/s.Trivandrum Rubber Works. Designs were prepared for rubber wood hospital furniture for the Govt. hospital, Thottakad, Kottayam Dist. Technical advice was given to Intermix Factory of Rubber Marketing Federation for enhancing production in the unit. A project report was prepared for establishing a Creaming Unit by the Kozhencherry Rubber Marketing Society. A survey of TSR factories in the country was made to study their functioning. Technical advice was given to M/s.Tellicherry Rubber Marketing Society for establishing a precured tread factory. Project report was prepared for diversification and expansion of the activities of Kaduthuruthy Rubber Marketing Society. A design was prepared for sheeting battery and coagulation tank for use by sheet rubber processing factory.

## **II Factory Management**

The Pilot Crumb Rubber Factory procured 148 tonnes of latex and 151 tonnes of field coagulum during the year 1998-99. The factory produced 500 metric tonnes of processed rubber including 42 metric tonnes processed under job work basis. Out of this, sold 340 tonnes and realised Ra.11.86 million. The value of raw material procured during the period is Rs.6.72 million.

### **PLPC**

PLPC processes field latex as concentrated latex. The factory procured 250 tonnes of field latex from different sources produced 221 tonnes of concentrated latex. Sales realisation during the year is Rs.6.51 million.

## RVNRL

In RVNRL plant, 7351 kg vulcanized latex was produced of which 7081 kg was sold. The remaining was used for R&D work. Gloves manufactured using RVNRL were supplied to different buyers in America and Germany through M/s.AV Thomas & Company. Attempts are being made to popularise use of RVNRL in balloon manufacturing. Depressed condition of market adversely affected the marketing of RVNRL. Consumers are interested in using low priced raw material especially when concentrated latex market faces serious competition, both within the country and outside.

### III Processing and Quality Control

Details of analytical work done by the Quality Control Laboratory during the period are noted below.

|                                             |             |
|---------------------------------------------|-------------|
| No. of parameters tested in the Central Lab | 35,939 Nos. |
| Specification laboratory                    | 17,975 Nos. |

The Laboratory has collected Rs.968,571 during the year for services rendered, out of which Rs.729,115 was as testing fees and Rs.228,456 as share of marking fee from the Bureau of Indian Standards. Samples of processed rubber were tested and the results of the analysis were communicated to BIS.

### IV Rubber Promotion and market development activities

Provided assistance to the State Trading Corporation and RUBCO in quality screening in the procurement of rubber. The quality screening service was rendered in grading 14.150 tonnes of natural rubber.

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**Under eleven schemes for the development of rubber marketing and processing activities by the Rubber Marketing Cooperative Societies and Companies jointly promoted by Rubber Producers' Societies and Rubber Board an amount of Rs.1,10,56,926/- was disbursed.**

## **PART - VII**

### **TRAINING & TECHNICAL CONSULTANCY**

#### **A. Training Services**

Training activities undertaken were mainly on (1) Rubber Cultivation (2) Rubber Processing and (3) Rubber Product Manufacture. Programmes conducted in each are given below.

| Sl. No.                            | Training Courses                                             | Objective                                                                                                     | No. of batches | No. of participants |
|------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------|---------------------|
| <b>Rubber cultivation</b>          |                                                              |                                                                                                               |                |                     |
| RC 01                              | Rubber culture and estate management                         | To impart indepth understanding on scientific methods of rubber cultivation, processing and estate management | 3              | 65                  |
| RC 02                              | Training on controlled upward tapping                        | To familiarise farmers with modern tapping methods                                                            | 8              | 281                 |
| RC 03                              | Training on bee-keeping in rubber plantations                | To impart knowledge in bee-keeping in rubber plantations to farmers                                           | 7              | 177                 |
| <b>Rubber Processing</b>           |                                                              |                                                                                                               |                |                     |
| RP 01                              | Grading on sheet rubber                                      | To give knowledge in scientific methods of sheet preparation and grading of sheet rubber                      | 2              | 41                  |
| <b>Rubber Products Manufacture</b> |                                                              |                                                                                                               |                |                     |
| RM 01                              | Training course on latex product manufacture                 | To provide scientific knowledge and skills in the use of NR latex for product manufacture                     | 4              | 56                  |
| RM 02                              | Training course on dry rubber product manufacture            | To provide scientific knowledge and skills in manufacture of rubber products using NR and SR                  | 3              | 43                  |
| RM 03                              | To impart productwise training in rubber product manufacture | For giving advanced training in product manufacture                                                           | 4              | 4                   |

## B Consultancy Services

Continued service for promotion of rubber based industrial units. Rubber compound/product samples from about 200 units were tested and technical advice for the improvement of quality was provided. Developed 30 rubber products for various units/entrepreneurs.

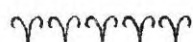
A scheme to promote rubberisation of roads providing the technology to local bodies was implemented with outlay of Rs.20 lakh during 1998-99. This was well received by the Panchayats, Municipalities and the Cochin Corporation and 60 km of road under various local bodies were resurfaced using rubberised bitumen.

Another scheme for setting up a rubber products testing centre in Mumbai in collaboration with All India Rubber Industries Association is being implemented, under which the Board would provide Rs.20 lakh for purchase of testing equipments for the centre.

An Export Promotion Cell for the export promotion of NR and rubber products is being set up.

### Rubber Park Project

Work on the Rubber Park Project is in progress. About 60 acres of land at Irapuram near Perumbavoor in Ernakulam District has already been transferred to the joint venture company, 'Rubber Park India Pvt. Ltd' and acquisition of balance 60 acres is in the final stages of completion. The total planning and design of the Park has been completed, estimates for the works were prepared and steps were initiated for inviting tenders for civil works. The Kerala State Electricity Board has agreed to put up 110 KV Sub Station for the project on cost sharing basis. Preliminary survey was completed and arrangements for water supply scheme has been finalised. The Rubber Board has invested Rs.4.67 crore as equity capital contribution to the joint venture company on 31<sup>st</sup> March 1999.



## **PART – VIII**

### **FINANCE & ACCOUNTS**

The services in Finance & Accounts mainly consisted of designing and operating the Accounting System, preparing Budget, financial statements and reports, exercising budgetary control, effective funds management, establishing and maintaining systems and procedures, advising on financial propriety and regularity of transactions, supervising computer applications, overseeing cost control, evaluation of projects/schemes, handling tax matters etc. The following activities were undertaken during the year.

- 1) Preparation of Annual Budget, Performance Budget, Foreign Exchange Budget etc and exercising budgetary control.
- 2) Maintenance of the accounts of the Board, preparation of Annual Accounts, presentation of the accounts for audit by the Accountant General, Kerala and the audited accounts to the Rubber Board/Ministry/Parliament.
- 3) Placing demands for grant from Government from time to time, receiving funds from Govt. and releasing for rubber promotional functions.
- 4) Advising on financial propriety and regularity of transactions and regulating payments.
- 5) Assisting the Cost Accounts Branch of the Ministry of Finance in ascertaining the cost of production and in fixing price of natural rubber.
- 6) Preparation of financial statements for project reports and schemes.
- 7) Dealing with Central Income Tax, Agricultural Income Tax and Sales Tax matters relating to the activities of the Board.
- 8) Coordinating the activities of the companies jointly promoted by the Rubber Board and the RPSs
- 9) Computerised Data Processing in the field of financial accounting, payroll etc.
- 10) Preparation of detailed cost tables and other financial statements supporting the proposals presented to the World Bank Mission for Mid-Term Review and restructuring the World Bank Assisted Rubber Project.

- 11) Drawal and disbursement of pay and other entitlements of the employees
- 12) Management of Pension Fund and General Provident Fund

## **Annual Accounts 1997-98**

Statutory Annual Accounts for the year 1997-98 were prepared and presented to the AG, Kerala within the stipulated time. The Audit Report and the Audited Accounts with the certificate received from the AG Kerala were forwarded to the Central Government.

## **Revised estimates 1998-99 and Budget Estimates 1999-2000**

The Revised Budget for 1998-99 and Budget Estimate for 1999-2000 were prepared within the time frame and submitted to the Government. Budget sanctioned for the year 1998-99 both Plan & Non-Plan put together was Rs.91.94 crore. As against this, the actual expenditure was Rs.83.94 crore (provisional). The financial target could not be achieved mainly due to non-realisation of internal resources owing to steep fall in the offtake of plantation inputs consequent on decline in price of NR. The total budget estimate proposed for the year 1999-2000 was Rs.124.85 crore against which the sanctioned budget is Rs.100.57 crore including the internal resources.

## **Funds Management**

### **a) General Fund**

Funds amounting to Rs.71.20 crore was received from Government as budgetary support including Rs.43.20 crore of Foreign Aid during the year 1998-99. The internal resource generation was about Rs.11.24 crore. The total expenditure for the year was Rs.83.94 crore (provisional).



## **b) General Provident Fund/Pension Fund**

The balance under the General Provident Fund as on 31<sup>st</sup> March 1999 was Rs.979.75 lakh and that under Pension Fund Rs.1056.03 lakh. The accumulations in the funds were invested to obtain optimum returns. The Board could declare interest on GPF accumulations @ 13% for the year 1998-99 and has maintained 3021 GPF accounts.

## **c) Cost Accounts**

Continued to collect cost data for furnishing to the Government and to ANRPC. Cost tables for raising rubber plantations per hectare in different regions have been updated. Detailed study on cost of production of planting materials in own nurseries for fixing the selling price of planting materials was conducted.

Various aspects relating to Sales Tax and Agricultural Income Tax were examined in detail and appropriate advice was given. Project report for large scale planting in Tripura, Karnataka and tribal land in Kerala were prepared and a Management Information System was developed to monitor progress.

## **d) Electronic Data Processing**

Processed pay roll of approximately 1200 employees and handled the financial accounting for the year. For the purpose of preparation of Budget, Nominal Rolls were prepared. GPF Account and Bankwise statement of pensioners were also prepared. An ambitious programme of computerisation of all the key areas has been taken up under the World Bank Assisted Rubber Project.

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PART - IX

STATISTICS AND PLANNING

The supply, demand, stock, price etc. of raw rubber was regularly monitored and review reports were prepared to evaluate the rubber situation and plan for the future course of action in maintaining the balance between the supply and demand. During the period under report, the Statistics & Import Export Committee met on 11.12.1998 to review the supply-demand position of rubber. The Rubber Board, which met on 20.4.1998, 20.06.1998, 19.12.1998 & 27.03.1999 also, reviewed the demand and supply. The conclusions at the meetings were forwarded to the Government with explanatory comments.

The statutory monthly returns from rubber growers, dealers, processors and manufacturers were compiled and analysed every month to ascertain the production, consumption and stock of rubber. Sample studies in the small holding sector were continued to ascertain the monthly variation in production, stock etc. The data collected from various sources were compiled and production, import and stock of rubber were worked out on monthly basis.

The statistical information covering trend in production, consumption, stock, price, import/export of natural rubber, synthetic rubber and reclaimed rubber and many other details were compiled for publishing the 'Rubber Statistical News' (monthly). Indian Rubber Statistics Vol.22 (1997) was published using in-house computer facilities. This covers data on production and consumption of natural, synthetic and reclaimed rubber, distribution of rubber manufacturing units, dealer network, diverse rubber products, labour employment price and world rubber statistics. The volume continued to attract demand from the user community. The tables are being updated to bring out the next issue.

Statistical information was furnished to various organisations connected with the rubber industry. Materials were prepared for answering Parliament questions and Legislative Assembly interpellations pertaining to the import/export, production, price etc of natural rubber and the various aspects of rubber industry.

To ascertain the production of various grade of rubber, installed capacity etc during 1998-99, annual reports were collected from processors of centrifuged latex, block rubber, PLC and crepe mills.

The census work initiated in 1988 was continued in the reporting period also for which 218 Enumerators were temporarily engaged for carrying out the field work in 99 villages.

1) Planning

Annual Plan proposal on rubber for 1999-2000 was prepared and forwarded. The monthly progress of schemes under the World Bank assisted Project was monitored. Prepared terms of reference for the study on analysis, modelling, forecasting of consumption, production etc. of rubber. Evaluated the report on the study regarding impact of productivity enhancement scheme among small rubber holdings and performance of younger rubber plantations in Tripura.

2) Association with World Organisations

Continued to supply information about the NR industry in India to world organisations like the Association of Natural Rubber Producing Countries (ANRPC), Kuala Lumpur, Malaysia and the International Rubber Study Group (IRSG), London.

India hosted the 10th meeting of the ANRPC Committee on NR Statistics at Thiruvananthapuram from 22nd to 24th September 1998. Delegates from India, Malaysia, Vietnam, Sri Lanka and Thailand. During the year 1998-99 a special meeting of the ANRPC was held in Bangkok (Thailand) from 19th to 21st August 1998. The 22nd session of the ANRPC Assembly and 23rd meeting of the ANRPC Executive Committee were held

in the Chi Mints City, Vietnam from 26th to 29th January 1999. The Special Executive Committee of ANRPC was held in Kuala Lumpur, Malaysia from 7th to 9th September 1998. The 38th assembly of IRSG was held in Bali, Indonesia from 26th to 30th October, 1998. The Chairman, Rubber Board represented India at the meeting.

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**P A R T - X**  
**LICENSING & EXCISE DUTY**

The Rubber Board has been vested with powers 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 is collected on the quantity of rubber purchased or otherwise acquired by the manufacturers who consume it. Transactions in rubber are regulated under licences issued under Section 14 of the Rubber Act, 1947. Every licensee is bound to furnish returns to the Board showing the quantity of rubber transacted by them. It is on the basis of these returns that the assessment of cess is normally made.

**(I) Issuance of Licence**

**a) Issuance of licence for the year 1998-99**

The function of issue of licence includes new licences to prospective manufacturing units and renewal of the existing licences for the subsequent years. The details of licences issued during 1998-99 are furnished below.

|                     |           |
|---------------------|-----------|
| Fresh licence       | 374 Nos.  |
| Renewal of licences | 5131 Nos. |

**TOTAL        5505 Nos.**

During the period, licences in respect of two manufacturers were suspended on account of serious irregularities and malpractices detected in their business. At the request of the concerned units, 9 manufacturers licences were cancelled. Thus, the total number of

licensed manufacturers as at the end of 31.3.1999 was 5494. The statewide distribution of licensed manufacturers as at the end of 31<sup>st</sup> March 1999 is as follows.

| Sl.No. | Name of State/Union Territory   | No. of units |
|--------|---------------------------------|--------------|
| 01     | Kerala                          | 1026         |
| 02     | Maharashtra                     | 629          |
| 03     | Punjab                          | 572          |
| 04     | Tamilnadu                       | 523          |
| 05     | West Bengal                     | 506          |
| 06     | Uttar Pradesh                   | 406          |
| 07     | Gujarat                         | 422          |
| 08     | Delhi                           | 306          |
| 09     | Haryana                         | 315          |
| 10     | Karnataka                       | 249          |
| 11     | Andhra Pradesh                  | 157          |
| 12     | Rajasthan                       | 93           |
| 13     | Madhya Pradesh                  | 91           |
| 14     | Pondicherry                     | 34           |
| 15     | Bihar                           | 33           |
| 16     | Goa, Dadra, Nagarhaveli & Daman | 24           |
| 17     | Chandigarh                      | 21           |
| 18     | Orissa                          | 16           |
| 19     | Himachal Pradesh                | 7            |
| 20     | Jammu & Kashmir                 | 7            |
| 21     | Assam                           | 6            |
| 22     | Tripura                         | 4            |
| 23     | Manipur                         | 1            |
|        | <b>Total</b>                    | <b>5494</b>  |



**b) Issuance of licence for the year 1999-2000**

Licences in respect of 3838 existing manufacturers were renewed and 35 new manufacturing units were given licences for the year 1999-2000.

**2) Letter of authorisation to purchase rubber**

Registered 1073 letters of authorisation of manufacturers in favour of their agents to purchase and despatch rubber. Special authorisation to 14 organisations/institutions to acquire rubber for experimental purpose were issued in lieu of regular licence after collecting the cess in advance.

Two new branches purchase depots of manufacturers were also registered.

**3) Assessment and collection of duty of excise (cess) on rubber**

Assessment of cess on rubber for the year was Rs.4,987.09 lakh as against Rs.4,812.51 lakh during the previous year, based on 10,513 half yearly returns (Form 'M') collected from the manufacturers.

The duty of excise (cess) on rubber collected during the year was Rs.5,005 lakh against last year's collection of Rs.4,818 lakh. Out of this, a sum of Rs.4,848 lakh was remitted to the Consolidated Fund of India after deducting the cost of collection. The penal interest collected on belated remittance of cess was to the tune of Rs.9,91,795/-. A sum of Rs.77,92,685/- was collected from dealers towards cess on account of irregularities and discrepancies in stock. An amount of Rs.70,000/- was realised on forfeiture of Bank Guarantee for violations of the conditions of the licence.

The aggregate of licence fee and service charge collected during the year was Rs.10,69,284

## II Licensing of Dealers and Processors

Licensed dealers on 31.3.1999 was 10,559 as against 10,756 dealers at the end of March 1998. Among them 911 were new dealers. New licences were granted to 3 Processors, raising the total number of Processors as on 31.3.1999 to 143.

### 1) Distribution of dealers and processors

#### a) Statewise distribution of licensed dealers and processors is given below.

| Sl.No. | Name of State     | No. of dealers | Processors |
|--------|-------------------|----------------|------------|
| 01     | Kerala            | 9320           | 22         |
| 02     | Andhra Pradesh    | 1              | -          |
| 03     | Assam             | 21             | -          |
| 04     | Andaman & Nicobar | 8              | -          |
| 05     | Bihar             | 6              | -          |
| 06     | Chandigarh        | 6              | -          |
| 07     | Delhi             | 147            | -          |
| 08     | Goa               | 2              | -          |
| 09     | Gujarat           | 34             | -          |
| 10     | Haryana           | 44             | -          |
| 11     | Jammu & Kashmir   | 1              | -          |
| 12     | Karnataka         | 117            | 7          |
| 13     | Madhya Pradesh    | 8              | -          |
| 14     | Maharashtra       | 103            | -          |
| 15     | Meghalaya         | 9              | -          |
| 16     | Orissa            | 2              | -          |
| 17     | Punjab            | 183            | -          |
| 18     | Rajasthan         | 15             | -          |
| 19     | Tamilnadu         | 220            | 12         |
| 20     | Tripura           | 138            | 1          |
| 21     | Uttar Pradesh     | 81             | -          |
| 22     | West Bengal       | 90             | -          |
| 23     | Pondicherry       | 2              | -          |
| 24     | Himachal Pradesh  | 1              | -          |
|        | <b>TOTAL</b>      | <b>10550</b>   | <b>143</b> |

## b) Districtwise distribution of dealers in Kerala

| Sl.No. | Name of District   | No. of dealers |
|--------|--------------------|----------------|
| 01     | Alappuzha          | 124            |
| 02     | Ernakulam          | 1259           |
| 03     | Idukki             | 452            |
| 04     | Kannur             | 428            |
| 05     | Kasaragod          | 117            |
| 06     | Kollam             | 1127           |
| 07     | Kottayam           | 2543           |
| 08     | Kozhikode          | 217            |
| 09     | Malappuram         | 410            |
| 10     | Palakkad           | 328            |
| 11     | Pathanamthitta     | 1203           |
| 12     | Thiruvananthapuram | 885            |
| 13     | Thrissur           | 155            |
| 14     | Wynad              | 72             |
|        | <b>TOTAL</b>       | <b>9320</b>    |

## 2) Licences for 1998-99

Licences of 2459 dealers and of 39 processors whose validity expired on 31.3.1999 were renewed.

## 3) Registration of Branches/Agents

During the year under report, registration was granted to 506 branches of dealers processors. As on 31.3.1999, 1098 branches of dealers/processors were in operation. A total of authorisation issued by 534 principal dealers in favour of their agents were also registered.

### III Market Intelligence

Detection of bogus/unlicensed dealing in rubber, arranging surprise inspection/squad inspection of the business premises of the dealers for verification of books of accounts for correctness of physical stock, cross verification of the statutory returns for ascertaining correctness of the quantity of rubber acquired, road checking and surprise visit to checkposts and Railway Parcel offices to prevent evasion of cess on rubber formed the important functions in market intelligence. Inspections were also conducted for ascertaining suitability of the applicants and their business premises to hold licence to deal in rubber, registration of branches of the dealers, for approval of new additional premises and for issue of special authorisation for field latex collection.

Three Inspection Squads which functioned from North Zone (Kozhikode), Central Zone (Kottayam) and South Zone (Thiruvananthapuram) and the Inspectors (Market Intelligence) helped to a great extent in arresting illicit trade in rubber and thereby improve the cess collection. The inspections also helped in collecting monthly returns from a large number of rubber dealers.

Road checking of the vehicles on the National Highway helped in detecting transportation of 6,000 kg of unaccounted rubber. Based on Court Orders, this was forfeited and sold in public auction. The sale proceeds amounting to Rs.1,68,654/- was deposited with the Court.

Inspection of the books of accounts of two dealers in Kasaragod and Palakkad Districts disclosed unaccounted despatch of 280,000 kg of rubber out of Kerala. On pointing out the irregularity they agreed to make good the cess loss. Accordingly Re.1 lakh was collected. Remittance of the balance Rs.180,000 is awaited.

Counter checking at the checkpost at Mahe of the records of a dealer in Kottayam District revealed despatch of 10,000 kg of rubber unaccounted. Following this licence of the dealer was cancelled.

Similarly, malpractice of another dealer from Kasaragod District who indulged in making corrections in the documents was detected wherein against the actual transport of 145,200 kg of rubber under 35 delivery notes only 13,720 kg was shown in the records. A show cause notice was issued for cancellation of his licence and steps were taken for initiation of prosecution.

The surprise checking at Wadakkancherry and Irinjalakkuda Railway Stations on different occasions unearthed booking of rubber consignments in the guise of waste rubber/old chappels by bogus parties. Based on the complaint filed before the Railway Police Thrissur, the rubber in question was seized and kept under their custody for further investigation under Crime No.21 & 22/98. This seizure has helped to a great extent in curtailing the flow of unaccounted rubber by train from that region.

During the period under report, the squad inspected 1606 dealers' business premises and detected 85 cases of unlicensed dealing. Irregularities in 378 cases involving 1032 MT as shortage/unaccounted stock/irregular sales were also noticed. Consequently licences of the 4 dealers were suspended and additional revenue of Rs.889,764/- was realised from the parties involved.

#### **Check Posts/Interstate Movement of Rubber**

In order to strengthen surveillance on interstate movement of rubber, regular checking of the documents accompanying the rubber consignments was done at the three check posts at Walayar in Palakkad District, Bengra Manjeswaram in Kasaragod District of Kerala and Kavalkinar in Thirunelveli District of Tamilnadu. This helped in detecting illicit transport of rubber. During the year 1998-99, the officials at Walayar, Manjeswaram and Kavalkinar checkpoints detained 22 consignments on various grounds. Of this, 12 were allowed to cross the border on producing valid documents/satisfactory explanation. Two consignments were released only after collecting Rs.20,865/- towards security deposit equivalent to the cess involved in the quantity as the consignors failed to produce convincing evidence/explanation for the lapses. As the consignors in the remaining 8 cases had caused loss of cess on account of their past irregular transactions, the consignments

were released only after collecting a sum of Rs.16,44,021/- equal to the cess amount on the rubber illegally transacted.

During the period under report 50,505 consignments of rubber passed through the three check posts as shown below.

|       | <u>Name of check posts</u>     | <u>No. of consignments</u> |
|-------|--------------------------------|----------------------------|
| (i)   | Walayar, palakkad Dist.        | 36,575                     |
| (ii)  | Manjeswaram, Kasaragod Dist.   | 8,830                      |
| (iii) | Kavalkinar, Thirunelveli Dist. | 5,100                      |
|       | <b>TOTAL</b>                   | <b>50,505</b>              |

#### **Cross checking of monthly returns**

The monthly returns and copies of Form N declarations received from 495 dealers/manufacturers, processors and estates were cross checked. Discrepancies in 15 cases involving unaccounted transaction to the tune of 3194 MT were detected. Necessary clarifications were obtained from the concerned parties and a sum of Rs.12,66,098/- was realised during 1998-99 on irreconcilable transactions.

The close monitoring of the purchases of certain upcountry dealers and manufacturers helped in assessing and collecting a sum of Rs.14 lakh towards cess on rubber. Thus, on account of the special efforts of the Inspection Squad, the checkpoint machinery and purchase monitoring cell, a sum of Rs.52 lakh could be assessed and collected during 1998.

#### **SUB/LIAISON OFFICES**

With a view to improve collection of cess on rubber and to maintain liaison with various Ministries, trade and industry, the Board maintains 9 Sub/Liaison Offices in the major consuming centres outside Kerala at Chennai, Bangalore, Secunderabad,

Ahmedabad, Kanpur, Mumbai, Calcutta, Jalandhar and New Delhi. The Sub Office at Secunderabad was opened on 24.6.1998. These offices function mainly to assess the suitability of applicants to hold licences to deal in rubber or acquire rubber for rubber goods manufacture. The purchases made by the rubber goods manufacturers and dealers and the stock held by them were verified at random. Verifications of the books of accounts and records of the licence holders were also made to ensure that all rubber procured by them were properly accounted and subjected to assessment of cess. Surprise inspections were conducted to detect unlicensed dealing in rubber and unlicensed manufacturing of rubber goods in contravention of the provisions of the Rubber Act & Rules to prevent loss of cess revenue.

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TABLE-1

PART-XI
STATISTICAL TABLES

PRODUCTION,IMPORT,EXPORT & CONSUMPTION OF NR

(Tonnes)					
Month		Production	Import *	Export	Consumption (Indigenous & Imported)
April	98	41735	2856	263	45190
May	"	47640	923	62	46020
June	"	41220	887	215	48250
July	"	38580	3070	302	47710
August	"	46790	3284	67	47550
September	"	48470	5098	172	49910
October	"	57130	1820	0	48590
November	"	71065	1382	135	52400
December	"	75750	1134	181	53900
January	99	69710	3588	105	51155
February	"	31560	1375	126	48535
March	"	35395	890	212	52335
Total		605045	26307	1840	591545

* Source: DGCI & S, Calcutta

Table-2

STOCK OF NATURAL RUBBER AT THE END OF EACH MONTH

(Tonnes)

Month		Growers,dealers & processors	Manufacturers	Total (Rounded)
April	98	107265	39180	146445
May	"	112330	36600	148930
June	"	107575	35015	142590
July	"	98895	37050	135945
August	"	101550	36850	138400
September	"	107920	33010	140930
October	"	116195	35015	151210
November	"	135700	35520	171220
December	"	157785	36290	194075
January	99	171745	44365	216110
February	"	156560	43825	200385
March	"	144465	43500	187965

Table - 3

PRODUCTION,IMPORT & CONSUMPTION OF SYNTHETIC RUBBER

(Tonnes)

Month		Production*	Import **	Consumption
April	98	4695	6783	11990
May	"	5964	6708	11740
June	"	5632	4507	12530
July	"	5793	10096	12730
August	"	6761	5956	12855
September	"	4582	8919	13680
October	"	4953	5203	13295
November	"	5827	6605	13250
December	"	5745	6746	14150
January	99	5558	6509	13590
February	"	5461	4679	12705
March	"	6514	5464	13880
Total		67485	78175	156395

* Provisional

** Source: DGCI & S, Calcutta.

TABLE-4

PRODUCTION & CONSUMPTION OF RECLAIMED RUBBER

(Tonnes)

Month		Production*	Consumption
April	98	5200	5015
May	"	5100	4980
June	"	5510	5480
July	"	5130	5075
August	"	5440	5330
September	"	5650	5555
October	"	5140	5050
November	"	5210	5160
December	"	5410	5350
January	99	5375	5340
February	"	5320	5305
March	"	5495	5455
Total		63980	63095

* Indigenous purchase by manufacturers.

TABLE-5

MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF NATURAL RUBBER IN INDIA

(Rs/Quintal)

Month	RSS-1	RSS-2	RSS-3	RSS-4	RSS-5	Ungraded	ISNR-5	ISNR-10	ISNR-20	ISNR-50
April 98	3068	2894	2729	2653	2588	2435	2954	2746	2617	NT
May "	3500	3400	2961	2892	2755	2655	3605	2960	2685	2570
June "	3925	3713	3613	3457	3202	2976	3768	3530	3185	2969
July "	3854	3700	3476	3314	3090	2898	3582	3381	3079	2894
August "	3642	3479	3214	3022	2898	2755	3232	3037	2860	2790
September "	3536	3377	3108	2935	2844	2757	3130	2997	2750	2678
October "	3840	3621	3421	3338	3112	2941	3518	3315	2941	2914
November "	3781	3600	3404	3289	3113	2792	3483	2915	2766	2665
December "	3513	3213	3098	2968	2856	2575	3249	2834	2577	2450
January 99	3451	3224	2948	2695	2608	2465	2847	2695	2531	2335
February "	3263	3067	2768	2625	2536	2427	2656	2594	2505	2288
March "	3261	3050	2872	2737	2672	2519	2853	2746	2607	2462
Yearly average (1998-99)	3553	3362	3136	2994	2856	2689	3240	2979	2759	2638

NT: No Transaction

TABLE-6

MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF NR IN KUALA LUMPUR MARKET

(Rs/Quintal)

Month	RSS-1	RSS-2	RSS-3	RSS-4	RSS-5	SMR-5	SMR-10	SMR-20
April	3064	2994	2988	2871	2823	3112	3015	2987
May	3173	3109	3104	2992	2939	3238	3112	3091
June	2965	2918	2912	2801	2748	2968	2802	2781
July	2986	2940	2934	2827	2776	2791	2614	2593
August	2790	2749	2744	2636	2585	2595	2468	2447
September	2872	2828	2822	2705	2650	2557	2507	2486
October	3095	3050	3044	2927	2871	2720	2610	2587
November	3057	3011	3005	2887	2831	2732	2582	2558
December	2862	2809	2804	2695	2639	2643	2545	2522
January	3028	2923	2906	2783	2727	2650	2574	2551
February	2929	2771	2754	2635	2579	2676	2593	2570
March	2715	2613	2597	2478	2422	2449	2366	2339
Yearly average (1998-99)	2961	2893	2885	2770	2716	2761	2649	2626

ANNEXURE**LIST OF MEMBERS OF THE RUBBER BOARD AS
ON 31.03.1999**

- | | | |
|----|--|---|
| 1. | <i>Shri. KJ Mathew IAS</i> | <i>Chairman, Rubber Board</i> |
| 2. | <i>Shri. V Krishnamoorthy IAS
APC, Govt. of Kerala</i> | <i>Nominated by the Govt. of Kerala to
represent that State.</i> |
| 3. | <i>Shri. PK Chithra Bhanu
Chairman, PCK Ltd
Kottayam,</i> | <i>Nominated by the Govt. of Kerala to
represent that State.</i> |
| 4. | <i>Shri. KS Sripathi
Secretary to Govt. of Tamil Nadu,
Environment & Forest Dept.
Chennai.</i> | <i>Nominated by the Govt. of Tamilnadu
to represent them.</i> |
| 5. | <i>Shri. George John
Kailash Rubber Co. Ltd
Kottayam</i> | <i>Elected by the Large Growers in the
State of Kerala.</i> |
| 6. | <i>Shri. K Jacob Thomas
Managing Director
Vaniampara Rubber Co. Ltd
Kottayam</i> | - do - |
| 7. | <i>Shri. MD Joseph
Manniparambil
Kanjirappally.</i> | - do - |
| 8. | <i>Shri. S Ramachandran
Vaikundom Rubber Co. Ltd
Pattom Palace PO
Thiruvananthapuram.</i> | <i>Elected by the Large Growers in the
State of Tamilnadu.</i> |
| 9. | <i>Shri. PC Chacko MP
16, Janpath
New Delhi - 110 001</i> | <i>Elected by Lok Sabha under Section 4
(3) (e). They shall hold office for a
period of 3 years or till they cease to
be Member of Parliament whichever
is earlier.</i> |

- | | | |
|-----|--|---|
| 10. | Shri. Surender Singh Barwala
19, Canning Lane
New Delhi - 110 011 | <i>Elected by Lok Sabha under Section 4 (3) (e). They shall hold office for a period of 3 years or till they cease to be Member of Parliament whichever is earlier.</i> |
| 11. | Shri. Vayalar Ravi MP
15, Pandit Pant Marg
New Delhi - 110 001. | <i>Elected by Rajya Sabha under Section 4 (3) (e). He shall hold office for a period of 8 years or till cease to be Member of Parliament whichever is earlier.</i> |
| 12. | Prof. NM Joseph
Neendukunnel
Arunapuram PO
Pala. | <i>Nominated by the Central Govt. to represent small growers of Kerala.</i> |
| 13. | Shri. KG Ravi
Indira Bhavan
Vellayambalam
Thiruvananthapuram. | - do - |
| 14. | Shri. Kanam Rajendran
Kanam PO
Kottayam. | - do - |
| 15. | Shri. Suresh Elwadhi
Chairman. AIRLA
Phelps Building, 2 nd floor
9 - A Connaught Place
New Delhi - 110 011 | <i>Nominated by the Central Govt. to represent Rubber Goods Manufacturers.</i> |
| 16. | Shri. VK Modi
Chairman. ATMA. | - do - |
| 17. | Shri. Pappanmkode Unni
Pappanamkode House
Industrial Estate
Thiruvananthapuram | <i>Nominated by the Central Govt. to represent labour interests.</i> |
| 18. | Shri. C Anantha Krishnan
Tamil Manila Congress
Kanyakumari. | - do - |
| 19. | Shri. P Lalaji Babu
CITU State Committee Office
Deshabhimani Road
Thiruvananthapuram. | - do - |

- | | | |
|-----|---|---|
| 20 | <i>Shri. PD George
Raju Bayan
Kota PO
Chengannoor.</i> | <i>- do -</i> |
| 21. | <i>Shri. PJ Joseph
6/379, Bank Road
Kainady, Kozhikkode.</i> | <i>Nominated by the Central Govt. to
represent other interests.</i> |
| 22. | <i>Shri. K Joseph Monippally
Advocate, Kakkanadu PO
Kochi.</i> | <i>Nominated by the Central Govt. to
represent other interests.</i> |
| 23 | <i>Shri. K Suresh Bullal
Bullul Bagh
Karnataka.</i> | <i>- do -</i> |
| 24. | <i>Shri. K Pankajakshan
Indu Mahal Pettah PO
Thiruvananthapuram.</i> | <i>- do -</i> |
| 25 | <i>Shri. AK Krishnakumar
Rubber Production Commissioner
Rubber Board, Kottayam.</i> | <i>Ex-officio</i> |
| 26 | <i>Vacant</i> | <i>Executive Director</i> |

→→→→→→→→

ANNUAL REPORT

FOR
THE YEAR 1999—2000



THE RUBBER BOARD

[Govt. of India, Ministry of Commerce and Industry]

KEEZHKUNNU, KOTTAYAM-686 002
KERALA STATE

INDEX

Sl. No	PARTICULARS	Page No.
01	PART I INTRODUCTION	1
02	PART II CONSTITUTION AND FUNCTIONS	3
03	PART III RUBBER PRODUCTION	7
04	PART IV ADMINISTRATION	20
	➤ Establishment	20
	➤ Marketing	22
	➤ Publicity and Public Relations	22
	➤ Labour Welfare	23
	➤ Internal Audit	25
	➤ Legal	26
	➤ Vigilance	27
	➤ Official Language Implementation	28
05	PART V RUBBER RESEARCH	30
06	PART VI PROCESSING & PRODUCT DEVELOPMENT	37
07	PART VII TRAINING & TECHNICAL CONSULTANCY	40
08	PART VIII FINANCE & ACCOUNTS	43
09	PART IX LICENSING & EXCISE DUTY	46
10	PART X STATISTICS AND PLANNING	56
11	PART XI STATISTICAL TABLES	59
12	ANNEX LIST OF MEMBERS OF THE BOARD	62

ANNUAL REPORT ON THE WORKING OF THE RUBBER BOARD DURING 1999-2000

PART - I I N T R O D U C T I O N

Rubber plays an important role in the industrial and economic development of the country, being a material used to make thousands of utility products. The Government of India have constituted the Rubber Board under the Rubber Act, 1947 as a body corporate, primarily to promote natural rubber production in the country. The Board established the Rubber Research Institute of India in 1955 to undertake scientific, technological and economic research.

The research efforts have made significant contributions to the rubber industry. India evolved the high yielding clone RR II 105 with average productivity around 2,000 kg per hectare. Switch-over from seedlings to budding, discriminatory fertilizer application after soil and leaf analysis, pest and disease management practices, improved crop exploitation techniques and improved crop processing played a vital role in enhancing rubber production and upgrading quality of the processed rubber. Integrated approach to reduce the cost of production and improve quality and competitiveness, crop exploitation in association with yield stimulation, processing technically specified rubber and process aid rubbers, developing blends of NR with synthetic rubbers, developing better formulae for manufacturing processes, development of solar dryer for curing raw rubber etc. are some of the thrust areas in research and development activities.

The Rubber Plantation Development Scheme implemented from the VI Plan period is by far the largest scheme operated for development and promotion of rubber cultivation in the country. The scheme provides for technical support coupled with

financial assistance to small growers in the traditional areas and in the non-traditional areas to undertake rubber cultivation. Input subsidy and guidance for adopting scientific techniques at all stages of planting and maintenance are extended in addition.

Performance during 1999-2000

The overall performance of the rubber plantation industry during 1999-2000 has been impressive. Production of natural rubber increased to 622,265 tonnes from 605,045 tonnes recording a growth rate of 2.8%. The consumption of natural rubber during the year increased by 6.2% to 628,110 tonnes from 591,545 tonnes in 1998-99.

Price

During the year, the monthly average price of rubber was Rs.3,099 per quintal for RSS 4 grade as against Rs.2,994/- in the previous year. A quantity of 5,989 tonnes of different grades of NR was exported during 1999-2000.



PART - II

CONSTITUTION AND FUNCTIONS

INTRODUCTION

The Indian Rubber Board was constituted under the Rubber (Production & Marketing) Act, 1947, which came into force on 19th April 1947 with the object of promoting the development of the rubber industry in India. The Rubber Production & Marketing (Amendment) Act of 1954 made certain changes in the constitution of the Board and its name was changed as The Rubber Board. This Act came into force on 1st August 1955. The Rubber Act was further amended by the Rubber (Amendment) Act, 1960, the Rubber (Amendment) Act, 1982 and by the Rubber (Amendment) Act, 1994. The Amendment in 1982 was to appoint a part time/whole time Chairman for the Board and an Executive Director on whole time basis (if considered necessary). The amendment in 1994 was to enhance the ceiling limit of cess from Re.0.50 to Rs.2/- per kg.

CONSTITUTION

The Rubber Board functions under the Ministry of Commerce & Industry of the Government of India with a full time Chairman as principal executive, responsible for discharging the following functions under Section 8 of the Rubber Act.

- (i) **Promote by such measures as it thinks fit the development of the rubber industry. 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) supply of technical advice to rubber growers;
 - d) improving the marketing of rubber;

- e) 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; and
- g) carrying out any other duties which may be vested with the Board.

(ii) 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; and
- 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.

There are 25 other members consisting of –

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

The position of Executive Director has not been filled up so far.

List of members of the Board as on 31.3.2000 is given at the end of this report.

Seven Committees have been formed to review the Board's activities vis-à-vis 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 and Staff Affairs Committee.

Shri PD George, representing labour interests in the Board was elected as Vice Chairman on 20.7.1999, for the period upto 21/4/2000.

Shri KJ Mathew IAS, continued to be the Chairman of the Board.

MEETINGS OF THE BOARD AND ITS COMMITTEES

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

a)	Board meetings	137 th meeting on 20/07/1999 138 th meeting on 04/12/1999
b)	Committee meetings	
	Executive Committee	29/06/1999 & 27/11/1999
	Market Development Committee	20/03/2000
	Planting Committee	24/3/2000
	Research & Development Committee	22/3/2000
	Labour Welfare Committee	30/11/1999
	Statistics & Import/Export Committee	05/07/1999, 30/11/1999 & 24/3/2000
	Staff Affairs Committee	30/12/1999

ORGANISATIONAL SET UP

The activities of the Rubber Board are carried out by eight departments viz. Rubber Production, Administration, Rubber Research, Processing & Product Development, Training & Technical Consultancy, Finance & Accounts, Statistics & Planning and Licensing & Excise Duty; headed respectively by the Rubber Production Commissioner, the Secretary, the Director of Research, the Director (P&PD), the Director (T&TC), the Director (Finance), the Jt. Director (S&P) and the Director (L&ED).

The Headquarters of the Board along with the Administration, Rubber Production, Statistics & Planning, Licensing & Excise Duty and Finance & Accounts Departments remained located at own premises in Keezhukunnu, Kottayam-686 002. The Department of Research, Department of P&PD and the Department of Training & Technical Consultancy are located at the Rubber Research Institute of India campus at Kottayam – 686 009.

There are nine Sub/Liaison Offices under the Licensing & Excise Duty Department. The Rubber Production Department has 3 Zonal Offices, 2 Nucleus Rubber Estate & Training Centres, 6 Supervisory Offices, 40 Regional Offices, 2 ADO's Offices, 170 Field Offices, 15 Regional Nurseries and 23 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 (Dapchhari), Orissa, West Bengal, Assam, Mizoram, Meghalaya and Tripura. The Pilot Block Rubber Factory located at Kottayam, the Pilot Latex Processing Factory located at the Central Experiment Station at Chethackal and the Pilot Plant for Radiation Vulcanisation of Natural Rubber at Kottayam 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 31/03/2000 was 2330; consisting of 246 Group 'A' Officers, 646 Group 'B' Officers, 1250 Group 'C' staff and 188 Group 'D' staff. Very cordial relations existed between the staff and the executive personnel. Their good work has resulted in the impressive record of achievement during the year.

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



PART - III

RUBBER PRODUCTION

Main function of the Rubber Production Department is to implement strategies adopted for increasing production of natural rubber. The department plans and implements various programmes for increasing production of natural rubber such as -

- 1) Expansion of area under rubber by assisting newplanting by providing technical support as well as financial incentives.
- 2) Encourage replanting of old uneconomic plantations with high yielding varieties.
- 3) Assisting the rubber planters by providing technical and financial assistance to increase productivity of existing plantations through adoption of scientific management practices, improving quality of produce by better post harvest handling and processing; and
- 4) Empower the small holding sector by forming farmer groups namely, Rubber Producers Societies (RPSs) and equipping them to function as self help groups of small growers. These RPSs are helped to undertake extension services and other development activities of the Board as part of devolution of extension functions.

The Department also conducts various training programmes for farmers , tappers and workers in the field.

In order to achieve these objectives, the Department is implementing various schemes which provide for technical as well as financial assistance to the growers. A series of educational training and visit programmes for needy rubber growers are being arranged by the dept. The print media, audiovisual equipments, films on technical subjects etc. are being extensively used in the technology dissemination process. Demonstration of scientific plantation practices in farmers' fields is another programme of the Dept. Specialised schemes for pollution control in rubber plantations by generation of bio gas from rubber effluent, the gas being used for drying rubber sheets resulting in the saving of fuel wood, bee-keeping in rubber plantations for additional

income generation etc., are also being formulated and implemented by the Dept. Certain identified women development activities aimed at empowerment of the women engaged in rubber plantation and allied areas are also being undertaken by the Dept. These efforts help achieving a sustainable development in the rubber plantation sector. As a recognition and encouragement to rubber growers and Rubber Producers Societies, the Board has instituted one award each for the best rubber grower and the best RPS.

Based on the specific requirements of the growers in the non- traditional areas, separate schemes have been formulated for operation in the non-traditional region. Similarly certain specific projects such as Block plantation project and Tribal rubber plantation project and schemes to provide assistance for boundary protection, additional incentive for planting materials etc. are also being implemented exclusively for the benefit of SC/ST category of growers. Most of the schemes were funded under the World Bank Assisted Rubber Project while a few other schemes are funded out of the cess collected by the Board.

A gist of the various projects/schemes operated through the Dept. and the progress achieved during the financial year 1999-2000, are given below.

Rubber Plantation Development Scheme. – This is the most important scheme of the Board and is mostly funded from World Bank Assisted Rubber Project. Details of applications received, area, permits issued, permitted area etc., during 1999-2000 are as follows.

Sl. No.	Particulars	Units
1	No. of applications.	17187
2	Area as per applns. (ha.)	12921
3	No. of permits issued.	11763
4	Permitted area (ha.)	7755
5	Amount disbursed	Rs 19.89 crore

Field inspection and processing of applications are continuing and permits will be issued in all eligible cases within the next few months. Due to low price of rubber, there was a decline in the planting tempo during the year.

Tribal Rubber Plantation Project – This project is aimed at rehabilitation of selected tribal families of Kerala and is funded out of cess collection and contribution from Govt. of Kerala. The area planted under the project during 1999-00 was 210.00 hectares and the cumulative area planted under the project upto 31.3.2000 was 1683.00 hectares.

Block Rubber Plantation Project – This project was formulated for the economic settlement of SC/ST category of people in non-traditional areas who practice shifting cultivation. The project is currently operated in Tripura, Orissa, Andhra Pradesh and Karnataka with financial support from the concerned State Govts. Details of planting under this project are as follows.

State	Planting during 1999-00	Cumulative Total upto 31.3.2000
Tripura	136.00 ha.	2054.00 ha.
Orissa.	10.00 ha	76.00 ha.
Andhra pradesh.	17.00 ha.	72.00 ha.
Karnataka	57.00 ha	57.00 ha.
Total	220.00 ha.	2259.00 ha.

In the State of Assam also a new scheme for Block planting in around 200 ha. under the Karbi Anglong District Council area was proposed. But the implementation of the project is pending because the Karbi Anglong District Council could not yet identify and hand over the required land in trouble free area.

Insurance of Rubber Plantations – Rubber plantations are insured against natural calamities. Small plantations coming under rubber plantation development scheme are compulsorily insured. Insurance of mature plantations and also immature plantations

coming outside the RPD Scheme, is optional to the growers. This scheme is operated with the support of nationalised insurance companies. Details of plantations insured and compensation paid are given below.

Item	During 1999-00	Cumulative total upto 31.3.2000
Immature area insured. (ha.)	13050.00	76808.00
Mature area insured. (ha)	480.00	9645.00
Compensation paid (Rs.Lakh.)	21.27	132.39

Schemes operated through Extension wing – These need based schemes funded out of cess collection are formulated and implemented for providing financial and technical assistance for construction of smoke houses, purchase of rollers, beekeeping in rubber plantations etc. The targets and achievements under these schemes during 1999-2000 are given below.

Sl. No	Scheme	Target		Achievement	
		Physical	Financial (Rs.in lakh)	Physical	Financial (Rs.in lakh)
1	Assistance for purchase of rubber roller	2000	20.00	2000	20.00
2	Assistance for Construction Of smoke house	666	20.00	666	19.98
3	Assistance for bee keeping	-	6.00	250	6.04
4	Distribution of leguminous Cover seeds	8.00 mt	5.00	7.8 mt.	2.84
5	Assistance for purchase of Sprayer /Duster	40	3.00	32	2.58
6	Assistance for construction of Bio gas plant	-	20.00	714	20.10

In addition to the above, certain other schemes were also operated exclusively for the non-traditional areas as detailed below. The targets and achievements for 1999-00 are as follows.

Sl No	Scheme	Target	Achievement
1	Assistance for purchase of Roller to individuals	100 Nos..	98 Nos..
2	Free supply of rollers for N.G.Os	12 "	12 Nos..
3	Boundary protection (SC / ST.)	Rs.15.00 lakh	15.66 lakh.(1146 Nos.)
4	Boundary protection (general category)	Rs.6.00 lakh.	4.57 lakh. (560 Nos.)
5	Assistance for Irrigation	Rs.3.00 lakh	2.72 lakh. (41 Nos.)
6	Assistance for Transportation of estate Inputs to NT area	Rs.4.00 lakh.	3.63 lakh
7	Assistance for construction of Smoke house.	Rs.3.00 lakh	3.00 lakh. (60 Nos.)

There is yet another scheme exclusively for non-traditional area for setting up demonstration plantations in the farmer's fields. Under this scheme, the Board meets the entire expenditure for planting and upkeep of such plantations. During 99-2000, 8 such plots were developed.

Planting material generation. In order to generate good quality planting materials for distribution to growers at reasonable price and also to check the monopoly and unscrupulous trading practices, the Board is maintaining its own nurseries and promoting nurseries sponsored by Rubber Producers Societies. Out of the Board's nurseries 11.82 lakh budded stumps were raised during the period as against the target of 12 lakh.

TAPPERS' TRAINING

Regular course – Board is running its own tappers' training schools where owners/ workers of rubber plantations are given training in rubber tapping on a regular basis for

30 days. From the 23 Tappers' Training Schools run by the Board, training in tapping was imparted to 2209 persons in 155 batches.

Short term course - Short term training for 5 days for rubber tappers is also arranged by the Board in selected plantations for improving their skill in tapping. 4404 tappers were given such training during the period.

NRETC & DISTRICT DEVELOPMENT CENTRES

The Nucleus Rubber Estate and Training Centre in Tripura state and the District Development Centres in Assam and Meghalaya, were maintained satisfactorily. Tapping has been started in the D.D.Cs. The facilities available in these centres are being utilised for providing training to the growers in the respective regions. During the year about 100 persons were trained in these centres.

Rubber Plantation Training and Research Centre. – A new scheme for setting up a rubber plantation training and research centre in Assam State was prepared and forwarded to the Ministry for approval. The proposal is to raise demonstration plantation and experimental plantations in 150 ha. of land given by the Govt. of Assam on nominal rate of lease to the Board. Planting is proposed in a phased manner. The centre will meet the training requirements of growers/plantation workers. Ministry's sanction for creation of essential staff to operate the scheme is awaited.

World Bank Aided Rubber Project

The World Bank Assisted India Rubber Project was formally started in January 1994 after signing the agreement with International Development Association (IDA) in 1993. As per the agreement Govt. of India was eligible for a credit of US\$ 92 million. Since there was under utilization of IDA credit to NABARD to refinance loans for processing factories and plantation development, US\$ 36.5 million was cancelled during the Mid term evaluation in April 1996. Hence the total IDA credit at present is only US\$ 55.5 million and out of this US\$ 35.42 million is for Rubber Board and the NABARD

refinance is US \$ 20.08 million. At a variable exchange rate of US \$ against Indian rupee during the Project period, the total investment cost of the project now is Rs.6074 million. This includes Rs.1731 million of IDA credit through Rubber Board (RB), Rs.522 million Govt. of India fund, Rs.669 million IDA credit through NABARD and Rs.3152 million contribution from beneficiaries and participating banks. The IDA credit to Rubber Board constitutes 28.5% of the total investment cost. The total expenditure to be committed by the Rubber Board under the project is Rs.2253 million.

Originally, the project was expected to close on September 30, 1999. However, as requested, the World Bank extended the credit closing date by one-year ie. upto **September 30, 2000.**

The Project consists of 6 major components viz. Replanting, Newplanting, Processing, Productivity enhancement, Institutional development and Women & Tribal development in Tripura and the percentage of the Investment cost are 31, 41, 4, 9, 15 & 1 respectively. The Institutional development has 5 sub components, namely, Research, Extension, Training and Technical Consultancy, Rubber Board organization and Project Co-ordination Unit. Good progress has been achieved in all the 6 components.

The expenditure upto March 31, 2000 is Rs.1737.29 million. The balance fund of Rs.515.71 million is expected to be expended by the closing date of September 30, 2000. Upto March 31, 2000 US \$ 41.62 million was disbursed by the World Bank against the fund of US\$ 55.5 million, out of this, US\$ 30.89 million was for the Rubber Board and US\$ 10.73 million for NABARD. So far RB has claimed from IDA Rs.1518.83 million and IDA released Rs.1060.44 million.

Out of the 6 major components of the project, replanting, newplanting, productivity enhancement and women and tribal development in Tripura and two sub components under Institutional Development viz. Extension and Rubber Board organization are implemented through Rubber Production Department.

(A) Replanting and Newplanting

Creditable achievement was made under replanting and newplanting. During the year 4080 ha. was replanted and 6549 ha. was newly planted. As on 31st March, 2000 34094 ha was replanted and 50702 ha was newly planted against the target of 30,500 and 45,000 respectively. The corresponding amount disbursed for replanting and newplanting was Rs.235.52 million and Rs.350.92.

(B) Productivity Enhancement

Fertilizers, spraying and rainguarding materials worth Rs.7.73 crore were procured in bulk and distributed to small rubber growers through Rubber Producers Societies.

(C) Women and Tribal Development:

3,891 families were included under the scheme against the target of 3,000 families. Financial aid for rubber supported income generating activities has been distributed to 3019 families. The Project impact study conducted by a consultant indicate that the Project has benefited the tribals by weaning them away from jhuming cultivation, indulging them in income generation activities, inculcating banking and saving habits and realisation of infrastructure developments. The financial achievement was Rs.31.53 million against the target of Rs.56.85 million.

13 different income generating activities such as goat rearing, toy making, etc, 4 types of training programmes like tapping, embroidery etc, and 3 types of health and hygiene activities like sanitary latrines, health camps etc. were taken up for implementation through Non-governmental organizations and Rubber Producers Societies. 9021 women were benefited out of the project.

Tripura Component

As the farmers in Tripura were considered not creditworthy, alternate Credit Financing Scheme was introduced through the Tripura State Cooperative Bank and Development Unit and a sum of Rs.36.46 million was refinanced by NABARD. 742 Rubber Growers could avail themselves of the benefit.

(D) Institutional Development

Scientific methods of tree exploitation (controlled upward Tapping – CUT), discriminatory fertilizer application (D.F.A.), soil and moisture conservation (SMC.), disease control and all these practices together, are demonstrated in selected farmers' fields. Financial incentives are provided for adopting the recommended practices in a scientific manner. Targets assigned for the project period and achievement upto the end of March 2000, are given below.

ITEM	TARGET		ACHIEVEMENT AS ON	
	No.	Area	31-3-2000	
			No	Area
C.U.T.	4000	2000 ha.	8027	3493.60 ha.
D.F.A.	6000	3000 ha	12334	5391.78 ha
S.M.C.	12000	6000 ha	16514	6889.00 ha
Disease Control	300	1500 ha	5911	2825.00 ha
All Practices	275	138 ha	581	276.60 ha
TOTAL	25275	12638 ha	43367	18875.98 ha

Achievements in all the 5 items have exceeded the targets. These demonstration plots are being used as training centres for the neighbouring farmers.

(i) **Rubber Board Organization:**

Computer Facility: In the first phase of computerisation, 26 Regional Offices were computerised with connectivity to Head Office and data on plantation development schemes are processed and transferred to Head Office. For the second phase of computerisation, bid evaluation of the hardware and software required was completed and approved by the World Bank. Orders are being placed for hardware and software. The second phase of computerisation will be completed by the end of August 2000.

All the 25 Regional Offices in traditional area have started processing applications under RPD Scheme and other schemes through computers.

69 Officers of the department were provided training in extension methodologies, communication skill, formation and maintenance of farmers' groups etc. in reputed national institutes like I.I.P.M., MANAGE, and I.A.R.I. Base level computer training was also given to the staff as per requirement.

Diploma course in NR Production -- One batch of 17 tribal students from Tripura have already completed the diploma course in NR production in the Kerala Agricultural University under the World Bank Aided Rubber Project. The second batch of 20 students are now undergoing the course.

Sastradarsan - 227 Growers from non-traditional areas in 18 batches were taken to traditional regions for providing them with first hand information about rubber plantations.

Campaign meetings - 2305 Nos. of half a day meetings were conducted on a campaign basis throughout the traditional area during May 1999 to deliver the message of scientific plant protection and agro-management practices in which 67651 growers/workers participated. Another 1460 meetings for technology transfer were also held during the year in which 43800 participated. Thus, during 1999-2000, Board's

technical officers had direct interaction with 111451 rubber growers/workers in 3765 meetings.

Consultancy studies.- Around 10 consultancy studies on subjects like assessment of the impact of different programmes and activities of the dept., development of computer software, measures to be adopted for strengthening RPSs, strengthening the extension delivery system of the Board etc. are being undertaken by the dept. The consultancy work is entrusted with institutes of national recognition. Apart from this, the dept. is directly undertaking impact assessment studies relating to certain schemes implemented through the Dept. Action is being taken to test/verify the findings/recommendations of the consultants in the field.

RUBBER PRODUCERS' SOCIETIES

The Board has been promoting the culture of self-reliance and mutual help among rubber growers by encouraging them to form self help groups viz. Rubber Producers Societies. RPSs help the growers in group procurement of plantation inputs, group processing and sale of rubber avoiding middle men, technology transfer in areas of plantation maintenance, harvesting, processing etc. Approval was granted to 218 new RPSs during the year making the total number of RPSs to 2026 at the end of March 2000. Efforts were also made to revitalise the 157 defunct RPSs.

Region	No. of approved RPSs
Kanhangad	97
Taliparamba	77
Sreekandapuram	80
Thalassery	72
Kozhikode	61
Nilambur	39
Manjeri	50
Palakkad	55
Mannarkkad	56
Thrissur	71
Ernakulam	89
Muvattupuzha	80
Kothamangalam	66

Thodupuzha	96
Pala	109
Erattupetta	62
Kanjirappally	107
Kottayam	114
Changanassery	104
Pathanamthitta	111
Punalur	74
Kottarakkara	84
Adoor	88
Thiruvananthapuram	52
Nedumangad	67
Nagarcoil	24
Mangalore	39
Goa	1
Port Blair	1
Total	2026

MODEL RPSs. Out of the total 2026 RPSs, all are not functioning in the desired manner. Therefore a new scheme has been formulated to support selected RPSs for setting up infrastructure for developing those RPSs into model ones with facilities for community processing of latex, effluent treatment, training of growers from nearby RPSs etc. Financial requirement estimated for setting up these facilities by each RPS, is Rs.12.5 lakh, out of which assistance from Board is around 80%. 10 RPSs (in traditional region) selected in the first phase have already completed the work. Another 25 RPSs (20 in Kerala, 3 in NE region and 2 in Karnataka) selected under phase-II, have entered into an agreement with the Board and civil construction work is progressing fast.

Item of works connected with the monitoring of RPSs viz, Periodical inspections of RPSs, scrutiny of the reports on executive and general body meetings of the RPSs submitted by the Field Officers and follow up action thereon, issuing necessary guidance to the Executive Committee members in the management of RPSs, supply of forms and registers required by them, ensuring statutory requirements such as convening general body and executive committee meetings at regular intervals, arranging auditing of the accounts of the RPSs etc. were also attended by the Department.

Communication equipments – For more effective transfer of technology to the farming community, audio-visual aids and other communication equipments were purchased under the World Bank Aided Rubber Project.

These equipments are being used in the field while conducting seminars and group meetings of farmers.

Films on rubber – Under the World Bank Aided Rubber Project, 5 films on various technical subjects are proposed to be made. Four films on the following subjects have been completed.

NURSERY MANAGEMENT

PLANTING AND MAINTENANCE

PRODUCTIVITY ENHANCEMENT

TAPPING AND PROCESSING

Work on another film on the subject, '**Diseases, pests and control measures**' is in progress.

These films are being used as very effective tools for information, dissemination especially in the non-traditional regions.

CORYNESPORA LEAF DISEASE.

Awareness about the possible damages the disease can cause and the necessity of prophylactic spraying with copper fungicides could be created among the planters of Kerala-Karnataka border and the spread of the disease could be controlled as a result of the intensive spraying carried out during previous years. All arrangements have been made to check the spread of the disease further. About 12,000 ha. in the Kerala-Karnataka border has been sprayed and the disease is now brought under control.



PART – IV ADMINISTRATION

Important functions in Administration consists of constitution/reconstitution of the Board and its Committees, monitoring implementation of the Board's decisions, recruitment of personnel for different Departments, proper maintenance of the establishment through house keeping operations, disbursement of employees entitlements including retirement benefits, price collection and marketing, collection of statistics, publicise Board's schemes and activities, carryout labour welfare measures, attend to vigilance and legal functions and official language implementation.

The functions were carried out through the following Sections/ Divisions/ Offices.

- 01 Establishment (General Administration, Personnel Administration & Entitlement)**
- 02 Marketing**
- 03 Publicity & Public Relation**
- 04 Labour Welfare**
- 05 Internal Audit**
- 06 Legal**
- 07 Vigilance**
- 08 Official Language Implementation**

General Administration

The activities of the Board for the year 1998-99 were documented through the Annual Report which was presented to the Government as required under Clause 8 (3) (c) of the Rubber Act, along with the Annual Accounts. The implementation of the decisions of the 2 meetings of the Board held during the year were monitored.

Entitlement

During the period 52 employees were given financial assistance for construction of own house by advancing Rs.1,19,35,886/-. Vehicle advances amounting to Rs.7,75,000/- were given to 23 employees (Rs.3,71,000 as Car Advance to 3,

Rs.3,95,000 as two wheeler advance to 14 and Rs.9,000 as cycle advance to 6). In addition an amount of Rs.5,31,394 was advanced to 16 officials as two wheeler advance under the World Bank Scheme.

Service books, leave accounts and personal files of employees were properly maintained. Retirement benefits were given to 11 employees including 10 who left on voluntary retirement and one on compulsory retirement. Besides, compassionate allowance was given to one employee who was removed from service in the past. In addition there was one case of family pension of an employee who died in harness.

Personnel Administration

Selection of suitable personnel to vacant positions for smooth functioning of the Board was ensured following recognised recruitment rules and statutory provisions relating to reservation of posts for candidates from SC/ST/OBC communities. There were properly constituted Selection Committee/DPCs for selection of personnel befitting job recruitments. Periodical returns on the personnel recruited at reservation points were sent to the Government.

The total number of Officers and staff under the Board as on 31.3.2000 was 2330 as detailed below.

Sl. No	Name of Department	Group A	Group B	Group C	Group D	TOTAL
1.	Rubber Production	101	386	796	112	1395
2.	Research	79	146	215	39	479
3.	Licensing & Excise Duty	17	35	80	10	142
4.	Administration	15	29	64	16	124
5.	Processing & Product Dev.	15	22	35	4	76
6.	Finance & Accounts	7	8	27	2	44
7.	Training & Technical Consultancy	6	12	21	3	42
8.	Statistics & Planning	6	8	12	2	28
TOTAL		246	646	1250	188	2330

Marketing

The price of various grades of natural rubber like RSS, PLC, EBC, Scrap rubber, block rubber and centrifuged latex at Kottayam and Kochi and also at Kuala Lumpur were collected and compiled and the average prices were reported to the press for publication. The price information was intimated to the Ministry of Commerce & Industry, Public Sector Plantations etc. on a regular basis.

The 5th edition of the Directory of Rubber Goods Manufacturers in India was brought out during the period under report. Data on import and export of natural rubber were also collected.

Publicity and Public Relations

The Publicity/Publication activities mainly consist of publishing journals and other publications on various aspects of rubber cultivation. Twelve issues of the Malayalam Magazine, "**Rubber**" were brought out and distributed among the 5678 life members and 8822 ordinary members. Besides 9,250 copies of the Rubber Growers Companion, 3000 copies of Rubber and its cultivation, 12 issues of the Rubber Statistical News and 3 issues of Inside Rubber Board were brought out during the year.

Press handouts on various topics were released to the National as well as the local dailies which obtained wide coverage. 23 Press releases and 74 Advertisements were issued. Farm features on subjects of seasonal importance were published in the Karshikarangam pages of various Malayalam dailies. The Officers arranged 15 seminars, one meeting and also took part in one exhibition at Coonoor. Utilizing the service of AIR and Doordarshan, 4 talks were recorded and broadcast. Apart from this, 1767 press cuttings were taken and preserved.

Labour Welfare

Section 8 (2) (f) of the Rubber Act empowers the Board to undertake measures for better working condition and improvement of amenities and incentives for rubber plantation workers.

The Board had devised many schemes for the welfare of the workers for which an amount of Rs.1, 06,98,582 was spent during the year under report.

a) Educational Stipend Scheme

The scheme provides for financial assistance for educating the children of rubber plantation workers at the primary, secondary, graduation/postgraduation levels.

The assistance consists of payment of tuition fee, hostel/boarding fee and lumpsum grant for purchase of books, instruments etc.

An amount of Rs.10,32,680/- was spent under this scheme during 1999-2000.

b) Educational Scholarship Scheme

The scheme provides children of rubber plantation workers incentive for high performance in academic courses under educational stipend scheme. Scholarships ranging from Rs.250/- to Rs.2,000/- is paid per student. An amount of Rs.23,050/- was spent during the year.

c) Group Insurance-cum-Deposit Scheme (9 Phases)

This is a social security measure for the workers not covered by the Plantation Labour Act against death and injuries caused by accidents. This scheme also encourages the habit of saving. The first phase was started in 1986-87. Each phase continues to be in operation for a period of 10 years. The workers enrolled have to renew membership every year by remitting their share of insurance premia. During 1999-2000 the Board

remitted Rs.9,04,500/- as Board's share favouring 9,045 workers after ensuring that they have remitted equal amount as their share. The insurance company paid compensation to 45 workers amounting to Rs.81,226/- for injuries/death by accident.

d) Housing Subsidy Scheme (Unorganised Non-marginal holdings)

This scheme provides assistance to rubber plantation workers not covered by the Plantation Labour Act, 1951 for construction of own house. The assistance is limited to Rs.7,500/- per worker for house built in brick and mortar. For house built with mud walls and grass thatch, the assistance would be Rs.4,000/- only. For houses with mud wall and tin or aluminium roof, the assistance would be Rs.5,000/-. An amount of Rs.20,62,500/- was disbursed during 1999-2000 in favour of 275 applicants.

e) Housing Subsidy Scheme (Unorganised Sector Marginal holdings)

This scheme provides for assistance in house construction for workers employed in holdings, each with area between 0.75 ha and 1 ha. All other conditions of the scheme for housing subsidy for rubber plantation workers in the unorganized sector (non-marginal holdings) are applicable to this scheme. Amount disbursed during 1999-2000 was Rs.21,58,750/- in favour of 288 applicants.

f) Housing Subsidy Scheme (Organised Sector)

This scheme provides financial assistance to workers covered by the Plantation Labour Act, 1951 for the construction of own house. The assistance is limited to Rs.7,500/- per worker or 25% of the estimated cost of construction. Amount disbursed during 1999-2000 was Rs.8,45,000/- in favour of 114 applicants.

g) Scheme for providing Sanitary facilities

The scheme provides assistance to build latrines by the rubber plantation workers as per prescribed plan and estimate. The assistance payable under the scheme is 75% of

the cost of construction or Rs.3,000/- whichever is less. Total amount paid under the scheme during 1999-2000 was Rs.20,90,625/- in favour of 697 applicants.

i) Medical Attendance Scheme

The scheme assists plantation workers of unorganised sector with reimbursement of medical expenses and subsistence when unable to work due to illness. Workers who undergo sterilization operation for promotion of small family are also given assistance. During 1999-2000 an amount of Rs.5,67,977/- was disbursed to 488 workers.

j) Housing and Sanitary Scheme for SC/ST Rubber Plantation Workers

This scheme was implemented on a pilot basis exclusively for SC/ST workers of rubber plantations through the Rubber Producers' Societies. Assistance limited to Rs.14,000/- is granted to the worker for construction of house with latrine. The scheme was financed from the SCP/TSP fund. An amount of Rs.10,03,500/- was disbursed in favour of 133 workers.

Internal Audit

The main function of the Internal Audit Division is Inspection/Audit of various offices/establishments of the Board. During the period under report Internal Audit/Inspections were conducted in 55 offices/establishments spread all over the country.

Special audits of RRII canteen and Maintenance Wing of RRII were conducted during the year. The review of operating costs of vehicles attached to Head Office was also undertaken.

Replies to AG's Audit objections were sent in time. In addition, replies to audit paras in inspection reports of the Internal Audit Wing of Ministry of Commerce were also given.

Advice was given in 192 cases on various service matters including 36 pension cases.

Economy in the use and maintenance of vehicles and consumption of fuel was ensured by follow up procedures based on Government Orders.

Annual physical verification of stock was brought updated by initiating follow up action with concerned offices/units and ensured the disposal of unserviceable items.

Follow up actions were also initiated for liquidation of pendency of TA/ LTC/ Contingent advances and the outstanding was brought down substantially.

Legal

Legal functions include rendering advice/opinion on matters referred to, drafting legal documents, initiating steps for prosecution under the Rubber Act, 1947, assisting the departments in conciliation proceedings in labour matters, tax cases and instructing and assisting the lawyers of the Board in conducting the litigations of the Board.

During the year under report timely action/advice was rendered in 746 files referred to Legal Section. Documents in the case of 20 applications for House Building Advances were scrutinized for determining the eligibility of applications under Rules. Legal documents to be executed by Board during the year under report were drafted/prepared as and when required. Appropriate steps were taken through lawyers to safeguard the interest of the Board in pending cases in various courts and 30 new cases originated during the year. Necessary assistances were given to Standing Counsels of the Board and the Central Government pleaders in cases pending in High Court. In consumer disputes files before Redressal Forum in various districts the section prepared and filed replies and represented the Board during the hearing.

Necessary assistance was given to RRS, Dhenkanal RRDS, Andamans, Central Experiment station, Chethackal, RRII Farm, HBSS at Nettana and Paraliar, Nurseries/Farms under RP Department etc. in dealing with labour matters. The section prepared draft amendments proposed by the Board to Rubber Act, Rubber Rules, Rubber Board Employees Conduct Rules and Rubber Board Service (Classification, Control and Appeal) Rules.

Vigilance

During the period under report, enquiry/investigations in 51 complaints containing allegations against 22 Group A & B officers and 29 Group C & D employees were undertaken. The allegations contained in these complaints mainly related to attempting to prevent the Chairman and the Board Members from participating in the Committee/Board meetings, attempting to smuggle out controlled commodity from the premises of the Board, securing of outside employment while continuing in the service of the Board, habitual unauthorised absence and failure to respond to the directions of the Board, recommending ineligible assistance to the applicants towards construction of smoke house, collection of money from the growers under the pretext of arranging subsidised inputs, unruly/threatening behaviour disrupting the smooth functioning of the office, mismanagement of the affairs of the departmental canteen causing financial loss to the Board. All these complaints were enquired into and appropriate action including punitive actions were taken against the erring Board's employees wherever found necessary.

Major penalty proceedings against 6 officials were instituted during the year under report.

Annual statements of Immovable property as on 31.12.99 were called for from all officers of Group A & B status. The statements thus received from the officers have been properly dealt with. The Vigilance Division also processed 138 applications

pertaining to transactions in immovable property and 86 applications relating to transactions in movable property.

Parawise comments of the Board in 4 appeal petitions received from the employees were forwarded to the Ministry for appropriate action.

Official Language Implementation

Two meetings of the Official Language Implementation Committee of the Board were held during the year. Annual Programme for the year was discussed and approved in the meeting

Hindi Week was celebrated from 14th September 99 to 18th September 1999 at the Head Office and RRII premises. Competitions were conducted for the employees and their children. The prizes were awarded to the winners. Hindi day was celebrated in subordinate offices of the Board. Different competitions were arranged for the employees and winners were given away prizes.

An Official Language Conference was held on 27th March 2000 at the Silver Jubilee Hall of the Rubber Board, RRII, Kottayam-9. Prizes to the winners of competitions held in connection with the Hindi fortnight celebration were distributed in the meeting.

Six issues of the bimonthly Hindi bulletin "Rubber Samachar" were brought out during the year. Technical articles on rubber farming, research, technology and literary writings of employees and articles promoting the use of Hindi as official language were published.

Hindi Praveen and Pragya classes were conducted at Head office. Training in Hindi Typewriting was also given to Board's employees.

Hindi workshops were conducted in the Board's Regional Offices at Nagercoil, Thiruvananthapuram, Nedumangad, Adoor, Punalur, Kanjirappally, Pathanamthitta, Changanacherry, Kottarakkara and Moovattupzha. Training in Noting and Drafting in Hindi, Technical Terms, Correspondence in Hindi etc. was given to the employees.

The joint meeting of the Hindi Salahkar Samithi of the Department of Commerce and Department of supply held on 17th February 2000 at New Delhi was attended by Shri. K.J. Mathew, Chairman and Smt. P.K. Santhakumari, Hindi Officer.

The first meeting of the newly constituted Kottayam Town Official Language Implementation Committee was held on 27th March 2000 at Conference Hall of the Rubber Board. Shri. K.J.Mathew, Chairman of the Board was appointed as the Chairman of TOLIC and Smt. P.K. Santhakumari, Hindi Officer as Member Secretary.



PART - V

RUBBER RESEARCH

The Rubber Research Institute of India, the research wing of the Board has a Central Experiment Station at Ranni in Kerala, nine Regional Research Stations and two Hevea Breeding Sub-stations at different regions in the country. The Central Experiment Station has a 254 ha, experimental rubber plantation, while the Regional Research Stations have experimental plantations with area ranging from 20 to 77 ha. A research complex has been established at Agartala with five Regional Research Stations in Tripura, Assam, Meghalaya, Misoram and West Bengal. For other non-traditional areas there are three Regional Research Stations located in Maharashtra, Madhya Pradesh and Orissa. In the traditional region, another Regional Research Station was established at Padiyoor in Kerala in 1994. The research highlights during the year under report are furnished below:

In an intercropping system experiment conducted in a field with less than 5% slope having about 410 rubber trees per hectare, 1560 kg of amorphophallus and 400 kg of arrow root were harvested from one hectare of rubber plantation during the 6th year of planting rubber. The growth of rubber plants continued to be superior compared to that in a monoculture system. In a silt pit experiment 5 to 14 tonnes of soil per hectare could be conserved by 100 to 250 pits dug in the field. In the absence of the pits, this much soil would have been washed out from the field. Experiments to compare two types of fertilizer recommendation viz Discriminatory Fertilizer Recommendation (DFR) and Diagnosis and Recommendation Integrated System (DRIS) have been in progress. Survey of rubber growing soils of Kerala and Tamil Nadu have been conducted by National Bureau of Soil Science and Land Use Planning, ICAR Nagpur. They have identified 16 major soil series. On the basis of this report a project on "the refinement of DFR" was initiated by selecting two major soil series under two landforms viz Khondalite and Charnokite. Latex samples were also analysed in all the laboratories for estimation of dry rubber content (DRC) and volatile fatty acids (VFA). A total of

14736 soil and 1312 leaf samples were analysed and offered 8000 discriminatory fertilizer recommendation. In addition to this, discriminatory fertilizer recommendation was offered to 695 fields belonging to 23 large estates, based on the analysis of 1123 soil and 660 leaf samples.

The effect of polyamines, glutamine, casein hydrolysate, gibberellic acid, the effect of light etc. on the frequency of somatic embryogenesis and plant regeneration was extensively studied with the callus derived from immature anther explants. Incorporation of low levels of gibberellic acid (2.0 mg/l) stimulated embryo induction and plant regeneration. As a continuation of the collaborative research project on transgenic plant synthesis with the University of California, experiments were continued to produce plantlets transformed with the gene coding for sorbitol-6-phosphate dehydrogenase, superoxide dismutase, isopenenyl trasferase and antisense gene for ACC synthase. Transgenic plantlets were produced with the gene coding for superoxide dismutase and the antisense gene coding for ACC synthase gene. For the identification of disease tolerant genes RAPD analysis were carried out with random primers using total DNA isolated from tolerant and susceptible lines. Initially DNA samples from selected tolerant and susceptible clones were pooled into two batches (preparation of DNA bulks) and RAPD analysis was carried out with 100 random 10 mer primers. With 8 primers polymorphic bands were obtained between bulked DNA of tolerant and susceptible plants. Further RAPD analysis was carried out with the individual samples using the 8 primers, which gave polymorphic bands in bulked DNA samples. It was found that the markers associated with these primers were always found in most of the resistant lines and were absent in the susceptible clones.

Research activities on genetic improvement programmes, propagation, anatomy and cytogenetics were continued. During the sixth year of tapping the ten hybrid clones in the pipeline continued to show superiority in yield over RR11 105, the yield improvement ranging from 10 to 56%. In the 1989 small scale trial 20 hybrid clones out yielded RR11 105, the yield improvement ranging from 3% to 68% during the second year of tapping. In another small scale trial 4 hybrid clones excelled RR11 105 in yield

during the second year of tapping. Test tap yield of the 1997 HP progenies showed that the cross RRIM 600 x MT 999 and RRIM 600 x RO 380 recorded comparatively more yield than the other combinations. Scrutiny of yield data of eight clones during the 6th year of tapping at Manikal estate revealed RRII 105 (1846 kg/ha/yr) to be the highest yielder followed RRII 4 (1385 kg/ha/yr) and PB 310 (1124 kg/ha/yr). GT 1 recorded the lowest yield (849 kg/ha/yr).

Steps were taken to enlarge the existing Wickham gene pool in the clone museum and also to import other species. Annual girth as well as monthly cup lump yield was recorded from four germplasm gardens. The IRCA clones continued to show good growth compared to the control RRII 105, with two clones (IRCA 130 and IRCA 111) showing significantly superior girth. Analysis of the data on morphological, biochemical and physiological traits showed significant clonal variability and inter se correlation among the 25 clones in the mature phase. The first preliminary evaluation trial of wild germplasm planted in 1990 was opened for regular tapping in 1999. Yield over two seasons indicate promising performance of four accessions comparable with RRII 105, which have to be evaluated further. A field trial consisting of 46 wild ortets and 3 popular controls was laid out in a simple lattice design. 400 accessions have been multiplied and established in polybag at RRS, Padiyoor for the next four preliminary evaluation trials to be planted in 2000. A disease screening project was formulated for screening the wild germplasm for sources of resistance to the major diseases *oidium*, *phytophthora*, *corynespora* and *Gloeosporium*. A laboratory is being set up at CES, Chethackal for the laboratory screening work.

Field studies from the drought - prone North Konkan have clearly established that the high intensity of solar radiation aggravated the adverse effects of drought on rubber plants. Experiments to determine the minimum irrigation (quantity and frequency) for optimum yield in the North Konkan was continued.

Field experiments were laid out on low frequency tapping systems involving third, fourth daily and weekly tapping frequencies with stimulation. Various exploitation

trials laid out in estates, medium holdings and Experimental Farm Unit, Rajiv Gandhi Institute of Technology, Kottayam progressed well during the period under report. In general under d/3 frequency of tapping, the yield increase observed under stimulation was statistically significant. Comparison of yield under d/3 and d/4 frequencies of tapping in RRI 105 (Vennimala estate) did not show any statistically significant difference. Two year data on yield performance in the rainguarding experiment showed a significant yield reduction of 47% in the absence of rainguard under d/2 frequency of tapping. By stimulation loss could be reduced to 52%. Similar reduction in yield under d/3 stimulation was 36% in the absence of rainguard, which could be significantly reduced to 18% by stimulation. Data from Controlled Upward Tapping (CUT) experiments show that, under monthly stimulation, alternate daily tapping of 1/4S cut was more productive than third daily tapping. Results of the minicut experiment showed promising results and the yield from stimulated minicuts were comparable to that of 1/2S d/3. Exploitation experiments were laid out, one each in RRS Agartala, RRS Dapchari and RRS Guwahati. Adhoc recommendation for stimulation under d/3 and d/4 systems was formulated and on-farm trials were initiated in Karnataka, Northern Kerala and Central Kerala.

New fungicides including systemics were tested for their efficacy against diseases like *Phytophthora* leaf fall disease, shoot rot, powdery mildew, *Corynespora* and *Gloeosporium* leaf disease, bark rot, pink disease, etc. Special attention was given to *Corynespora* leaf disease which was having a havoc in South Karnataka and adjoining areas of Kerala for the last two years. The results of the experiment have proved the effectiveness of dust formulation of Hexaconazole (Contaf) against *Corynespora*.

Pilot plant scale production of styrene grafted natural rubber (SGNR) was initiated. Close interaction was maintained with the footwear manufacturing units for evaluation of the same as stiffening agent in microcellular soles. A laboratory process was standardised for deprotenisation of natural latex using the enzyme Anilozyme P. Incorporation of about 15 parts of epoxidised natural rubber in nitrile rubber – silica composites is found to improve the technological properties significantly, with

CBS/DPG accelerator system. Necessary technical assistance was offered to M/s. Cochin Refineries Ltd for the commercial production of modified bitumen at the refinery. About 950 samples received from the industry were tested for various quality parameters.

Studies on sun-cum-smoke drying of sheet rubber revealed more than 50% firewood saving during summer and 15-20% in rainy season. Civil construction work of solar-cum-smoke dryer at HBSS Nettana was completed and the solar panels installed. Steps were taken for the civil construction work of the dryer at RRS, Dapchari. The evaluation of the sheet cleaning machine was done. The sheets were graded before and after the cleaning. A remarkable improvement in the quality of sheets could be achieved at reasonable cost. For optimising the conditions of drying of rubber an experiment has been in progress to study the effect of temperature and humidity. A study was undertaken to develop thermoplastics. Two different grades of PP and HDPE were used for dynamic melt blending with natural rubber having two different levels of molecular weight.

A new methodology has been developed to assess the comparative commercial yield performance of planting materials which is a composite measure incorporating the influence of variables such as extent of immature phase, share of field coagulum, yield per tree, stand per ha, tapping intensity and the pattern of the yield profile. A comprehensive report on the profitability of various intercrops in different agro-climatic regions in the traditional rubber growing belt has been completed. A study analysing the consequences of economic liberalisation on Indian automotive tyre industry has been completed.

In the Central Experiment Station, Chethackal, the entire area has been utilised for different trials which include progeny trials, exploitation trials, intercropping trials, density trials etc. In addition, the screening of over 4000 genotypes of wild Brazilian germplasm as well as its conservation, is being undertaken in this station. During the period under report, the total crop realised was 147239 kg. A dispensary with a full time Doctor and a part time Lady Doctor caters to the needs of the workers and the total patients attended during the reporting year is 9742.

Nutritional studies conducted in the North East yielded positive response on growth and yield upto 60:60:40 kg/ha/year NPK . Pests and disease survey was carried out in 988 locations covering 24 different rubber growing tracts in Assam, Meghalaya, Tripura, Arunachal Pradesh and Northern parts of West Bengal. High incidence of powdery mildew disease caused by *Oidium hevea* and SLF disease caused by *gloeosporium alborubrum* was noticed in most part of the private plantations surveyed. Brown root disease caused by *Phellinus noxius* was also noticed in some locations. Regional isolates of *gloeosporium alborubrum* causing SLF disease was brought under further studies. Rubber growers in Arunachal Pradesh, Tripura and Assam were provided with advisory services in respect of disease management by the Plant Pathology.

At RES, Nagrakatta main emphasis was given on evaluation of clones and nutritional studies. Out of the ten ongoing trials, four are on clone evaluation, two on nutritional studies and one each on clone blending , Genotype x Environment interaction and Exploitation System. One nutritional trial – 1989, two clone trials planted in 1990 and polyclonal population attained maturity during the year and plants were opened for tapping. From the preliminary yield observation the performance of SCATC 88/13, SCATC 93/114, PB 235, RRII 118, RRII 105, GL 1 and PB 86 was better. Rubber yield (g/tree/tap) was significantly influenced by the interaction between phosphorus and potash levels. Application of 20 kg phosphorus and potash recorded higher yield and nitrogen application did not show any effect.

In RRS, Agartala the intercropping of banana and pineapple with rubber is found to be profitable. In nutrient trial, the higher fertiliser dose up to 60:60:40 NPK/ha has a positive response on growth and yield in normal stand. However, the higher fertiliser dose upto 80:80:40 NPK/ha has also positive response when the stand has been increased upto 824 trees. There is substantial build up in organic carbon available phosphorus and calcium under rubber plantation compared to Teak, Gamai and barren lands with passage of time. It is observed that the better nutrient status of rubber plantation, over the years, may be due to external application of fertiliser. Yield over eight years revealed clone PB 235 as the top yielding clone in a small scale trial. Effect of different tapping

systems with tapping rest based on low temperature regimes indicated that among different treatments S/2 d/2 system with tapping rest at 15°C - 15°C appears to give higher yield and low incidence of TPD. On biochemical aspect of yield revealed that the concentration of SOD bands decreased with progression of TPD in affected plants.

In the non-traditional tract in Dapchari (Maharashtra) 23 blocks were being tapped in S/2 d/3 system and an average yield of 1280 kg/ha/annum was obtained. New clone trial was started in 4.5 ha area with World Bank aid and another 2 ha area was planted for the experiment NPK + higher phosphorus source in RRS, Orissa. In RRS, Sukma (MP) performance of the germplasm materials planted has been monitored. In the experiment on screening of *Hevea* germplasm for cold tolerance planted at RES, Nagrakatta the Brazilian genotype Acre 607 has been succumbed to frost injury. In RRS, Padiyoor tree felling and land preparation for starting new experiments during July 2000 has been in progress in 14 ha area.

The seven research projects under the World Bank Assisted Rubber Project progressed well during the period. Under exploitation studies one-year results from the experiment on evaluation of mini-cuts and reduced spiral cuts gave promising results and the yield from stimulated mini-cuts were comparable to that of 1/2S d/3. In connection with a Tapping Panel Dryness (TPD) survey work in small holdings, a collaborative programme with RP Department has been initiated and the study is in progress. Studies on intra-clonal variations and associations in RR11 105 were initiated. Several parameters were evaluated to enhance the frequency of somatic embryogenesis and plant regeneration using immature anther and immature flower buds as the initial explants. The "Hot spot trial" laid out at RRS, Sukma, a drought prone area was maintained well and regular recording of growth parameters continued. The trial laid out at RES, Nagrakatta for screening of germplasm for cold tolerance was maintained. Genomic characterisation wild *Hevea* germplasm using random amplified polymorphic DNA technique has been continued.



PART - VI

PROCESSING & PRODUCT DEVELOPMENT

Department of Processing and Product Development continued to provide support to Rubber Processing and Rubber Goods Manufacturing Industries in the areas of Factory design, product development, quality improvement and in treatment and disposal of effluent from rubber processing factories. During the year the Department also concentrated on implementation of processing component of the World Bank Aided Rubber Development Project. The important activities of the Department performed through its four Divisions during the period are summarised under.

I Engineering Division

During the year under report, the Engineering Division focussed attention in completing the civil construction work envisaged in the World Bank Assisted Rubber Project. A report of the construction work undertaken is given below in brief.

(i) The detailed estimate and drawings for the construction of factory building of Model Rubber Wood Factory were prepared. Tender documents for Civil Works and Machinery were also prepared and quotations were invited and work awarded for construction of factory building and for procuring machinery. All the applications and details connected with obtaining clearances from various Government agencies for establishing the factory at manganam were submitted and approvals obtained from the local Panchayat and pollution Control Board. A Consultant was selected for reducing Noise Pollution from the Model Rubber Wood Factory and the RRDTTC Campus. The work was awarded to the Consultant who have started the work.

(ii) The Laboratory Building for establishing Rubber Wood Testing Laboratory was almost completed. All the necessary equipments for starting the laboratory were procured and were almost installed.

- (iii) The construction work of the Model TSR Factory was completed and the machineries were set up. However the work of electrification and the Effluent Treatment Plant could not be completed during the reporting period.
- (iv) Though the Contractor who was awarded the work of various civil structures for the Rubber Training Centre abandoned the work unfinished, half way, the remaining work was undertaken departmentally. The construction of the building was completed and ready for occupation.
- (v) For promoting wider use of rubber wood and its products, promotional campaigns and exhibitions were conducted. A short advertisement film was also prepared.
- (vi) The development of a suitable Burner for the biogas produced from the sheet rubber processing factories was a noteworthy achievement. The information relating to this technology was transferred to Rubber Producers Societies. Further modifications in the design of the Burner are being made.

Project reports for setting up different types of processing factories were prepared and supplied to various agencies like M/s.Tripura Plantation Corporation Ltd, Kozhencherry Marketing Cooperative Society Ltd. etc.

II Factory Management Division

Pilot Block Rubber Factory is engaged in the production of speciality rubbers like ISNR 3CV and ISNR 5 against order of customers. During the period, the Unit produced 307.115 tonnes of TSR valued Rs.115.23 lakh.

The PLPC had produced 152.434 tonnes of Cenex valued Rs.84.11 lakh.

The quantity of Radiation Vulcanised natural rubber latex produced in the RVNRL Unit was 4 tonnes. Various processing steps were standardized for producing

RVNRL of consistent quality. A new product namely Styrene Grafted Natural Rubber (SGNR) is developed for production in the radiation facility based on R&D work done in the plant using the small irradiation source. Regular production of SGNR had been started in the RVNRL plant. This product is used in footwear and there is market for the product. Two research papers were published on standardization of RVNRL and on processing of products from RVNRL using the facilities in the plant. These papers were presented in different national seminars. Three other papers are now ready for publication.

III Processing & Quality Control Division

The details of analytical work done by the Division in the Quality Control Laboratory during the period are noted below.

Number of parameters tested on the samples produced by the public.	30958
Number of parameters tested on the samples collected by the Board's Officials.	17975

The Division has collected an amount of Rs.6,79,410/- for the different types of services provided to them. A sum of Rs.4,92,130/- was received from the Bureau of Indian Standards as the share of marking fee. Officers of the Division conducted 566 inspections during the period in different Rubber Processing Units. Samples collected during inspections were tested and test reports sent to BIS.

IV Rubber Promotion and Market Development Activities

The Division provided quality screening assistance to State Trading Corporation and RUBCO in procuring 9361 tonnes sheet rubber.

Under 14 schemes operated for the development of rubber marketing and processing activities an amount of Rs.70,15,633/- was disbursed to various Co-operative Societies, Rubber Board Companies, RPSs and exporters of rubber.



PART - VII

TRAINING & TECHNICAL CONSULTANCY

The Department of Training & Technical Consultancy consists of two Divisions, namely Training Division & Technical Consultancy Division. The Training Division conducts various training programmes while the Technical Consultancy Division promotes the Development of rubber based industrial units.

A. Training Division

The Division conducted various training programmes on different aspects of Rubber Plantation Industry. Total beneficiaries during the year were 3525. The training programmes undertaken include Rubber Culture and Estate Management, Short-term training on rubber cultivation and processing, grading of sheet rubber, rubber processing & quality control, short-term training on latex goods manufacture, short-term training on dry rubber goods manufacture, training on testing and quality control in product manufacture, specialised training in subjects like foam rubber, gloves, hawai chappel, training on beekeeping mushroom culture, training for RPS leaders on plantation management. Apart from this, regular training programmes are arranged for Officers/employees of the Board to improve their functional efficiency.

Dr.NR Peethambaran, Dy.Director was sent to the Asian Institute of Technology, Thailand for undergoing two weeks training in Executive Development for Higher Education and Training Administrators. Apart from this, 14 Sr.Scientists were trained in IIPM and another 10 were trained at Manage, Hyderabad.

B. Technical Consultancy Division

Preparing Project Report of rubber products for supply to prospective entrepreneurs, preparing market survey reports, development of new rubber products, testing/evaluation of rubber compounds and rendering consultancy service to the industry are the thrust areas of work.

During the period under report, the Division developed the following rubber products.

1. Rubber coupling (Import Substitution)
2. Conductive Pad (" ")
3. Industrial Moulded items (8 Nos.) using EPDM, Viton & Hypalon rubber
4. Auto bushes & Flexible Matting
5. Rubber Gaskets for thermal cooker and packing sheets
6. Cabin & Radiator Mountings and centre bearing rubber
7. Rubber Gaskets for LPG Cylinders
8. Radiator Hoses
9. Marine Impeller and Busher (Import substitution)
10. Dust Seal and bellows
11. Transparent and coloured High Bouncing ball (Import substitution)
12. Rubber Tubes for Water/air bed
13. LPG Tubings & Mats for LPG loading vehicles
14. Bushes and boots
15. Auto Rubber Components
16. Tread materials (BVC, Cushion, Gum, etc.)
17. Tread Rubber (Conv. & Precured)
18. Bonding Gum-90°C Vulcanisable
19. Precured Tread
20. Hawai/MC Sheets

Detailed project report of the Rubber Park to be established by Tamilnadu Industrial Development Corporation at Nagercoil was prepared. Also continued to provide the required Consultancy Service for the Rubber Park India (P) Ltd, Project at Perumbavoor. In collaboration with the Engineering Institute at Peechi, Thrissur, a study on the effect of latex coating on canal beds to reduce seepage of water was undertaken and the initial results were positive.

A scheme for establishing a rubber testing centre at Mumbai in collaboration with All India Rubber Industries Association was started. Another scheme for rubberisation of roads was implemented and about 50 km of road in various Panchayats, Municipalities and Corporation was ~~one done~~ .

The other activities of the Division includes an online service for providing ~~viding~~ export information to clientele, scheme for market identification and exploration of NR/NR products export, updating the directory of world importers of Rubber Products.

A sum of Rs.8,08,035/- was collected on the various consultancy services.

With a view to promoting rubberisation of extensive stretches of roads, a conference was organised at the Rubber Board on 10th December 1999 which was inaugurated by the Minister of Public Works and Education, Kerala State in which the Chief Engineers/Senior Officials of the Public Works Departments from Pondicherry, Tamilnadu High Way Research Station (TN), Cochin Refineries Ltd and Indian Oil Corporation apart from the officials of the Board attended.

Under the "*Institutional Development*" component of the World Bank Aided Rubber Project establishment of two Training Centres, one at Kottayam and the other at Agartala were provided. The civil construction work of the Buildings were completed. Furniture for Training Institute at Kottayam has been ordered and being delivered. Furniture for Agartala institute are being procured. Equipment for both these Institutes have been procured. 25 consultants engaged have either submitted the reports or in the process of furnishing the final reports. Action is in progress on adopting the recommendations of accepted reports. The consultancy study on Soil Survey and Resource Mapping by NBSS was completed and a workshop was conducted on March 20, 2000 at RRII with the participation of 200 delegates interested in using the report of NBSS. Out of this 120 delegates were from Soil Survey Department, Agricultural Department, Kerala Agricultural University, Fertiliser companies, Plantation companies, Agricultural consultants etc. 26 scientists, 2 technical officers, 56 extension officers, 10 technicians of rubber wood industry and 62 rubber growers underwent training abroad under the Project

The procurement of equipment for rubber product testing, costing Rs.20 million is also in progress. The expenditure for training component was Rs.106.43 million against the target of Rs.223.39 million.



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 Funds Management, 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 following activities were undertaken by the department during the year.

1. Preparation of Annual Budget, Performance Budget, Foreign Exchange Budget etc and exercising budgetary control.
2. Drawal and disbursement of money against the sanctioned budget of the Board.
3. Maintenance of the accounts of the Board, preparation of Annual Accounts and Balance Sheet presentation of the accounts for audit by 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 Income Tax, Agricultural Income Tax and Sales Tax matters relating to the activities of the Board.
9. Coordinating the activities of the companies jointly promoted by the Rubber Board and RPSs.
10. Computerized Data Processing in the field of financial accounting, pay roll etc.
11. Preparation of detailed cost tables and other financial statements supporting the proposals periodically presented to the World Bank Mission for Review.

12. Drawal and disbursement of pay and other entitlements of the employees of the Board based on the orders issued by GOI time to time.
13. Management of Pension Fund and General Provident Fund and regulating disbursements therefrom.
14. Implementation of the Scheme of Computerisation and Networking of all departments of the Board.

Annual Accounts 1998-99

Statutory Annual Accounts for the year 1998-99 was prepared and presented to AG Kerala within the stipulated time. The Audit Report and the Audited Accounts with the certificate received from the AG Kerala were placed before the Board and forwarded to the Ministry.

Revised Estimates 1999-2000 and Budget Estimates 2000-01

The Revised Budget for 1999-2000 and Budget Estimates for 2000-01 were prepared within the time frame and submitted to the Government. Budget sanctioned for the year 1999-2000 both Plan & Non plan put together was Rs.100.57 crore. As against this the actual expenditure for the year was Rs.91.11 crore (provisional). The financial target originally set could not be achieved due to reduction of Budgetary Support by the Government. The total budget estimates proposed for the year 2000-01 was Rs.117.67 crore against which the sanctioned budget is Rs.112.45 crore including the internal resources.

Management of Funds

(i) General Fund

Funds amounting to Rs.82.60 crore was received from Government as budgetary support including Rs.51.47 crore of Foreign Aid during the year 1999-2000. The

internal resources during the year was about Rs.11.30 crore (Provisional). The total expenditure for the year was Rs.91.11 crore (provisional).

(ii) General Provident Fund/Pension Fund

The balance under the General Provident Fund as on 31st March 2000 was Rs.1230.15 lakh and that under Pension Fund Rs.1147 lakh. The accumulations in the funds were invested to obtain optimum returns. The Board is maintaining 3120 GPF accounts. Pension is given to 354 pensioners during the year.

(iii) Cost Accounts

Continued to collect and analyze cost data. Information sought for from the Government and ANRPC are furnished as and when required. Cost tables for raising rubber plantation per hectare in different regions has been updated. Detailed study was conducted on the cost of production of planting materials in own nurseries for regulating the selling price of planting materials by private approved nurseries.

Various aspects relating to Sales Tax and Agricultural Income Tax matters were examined in detail and appropriate advice were given. Project report in respect of large scale plantations in Tripura, Karnataka and in tribal land in Kerala were prepared and a Management Information System was developed and monitored.

(iv) Electronic Data Processing

Processed pay roll of approximately 1200 employees and handled the financial accounting for the year. For the purpose of preparation of Budget, Nominal Rolls were prepared. GPF Account of all employees and Bankwise statement of pensioners were also prepared. The ambitious programme of computerization of all Departments of the Board is in progress.



P A R T – IX

LICENSING & EXCISE DUTY

The Rubber Board is vested with powers of assessment and collection of duty of excise (cess) on all rubber produced in India under Section 12 of the Rubber Act, 1947. Cess is to be remitted to the Consolidated Fund of India. All transactions in rubber are regulated under licences issued by the Board as provided in Section 14 of the Rubber Act, 1947. The quantity of rubber transacted by every licensee is to be furnished to the Board through periodical returns. Interstate transport of rubber is regulated by a declaration in Form 'N'. Periodical inspections are also conducted to verify the correctness of the accounts maintained and stock held by the manufacturers/dealers/processors. These functions are discharged/monitored by the Licensing & Excise Duty Department, which consists of the following Divisions & Offices.

I EXCISE DUTY DIVISION

The issuance of licence to manufacturers to acquire rubber, assessment, collection and remittance to the consolidated Fund of India of the duty of excise (Cess) on rubber are the chief functions.

(1) Issuance of licence

(a) Issuance of licence for the year 1999-2000

The function of issue of licence includes new licences to prospective manufacturing units and renewal of the existing licence for the subsequent year. The details of licences issued during 1999-2000 are furnished below.

Fresh licence	288 Nos.
Renewal of licence	5024 Nos.
TOTAL	5312 Nos.

During the period, licences in respect of 9 units were cancelled on the basis of their request. Thus, the total number of licensed manufacturers as at the end of 31.3.2000 was 5303. The statewise distribution of licensed manufacturers as at the end of 31st March 2000 is detailed hereunder.

Sl.No.	Name of State/Union Territory	No. of units
01	Kerala	974
02	Maharashtra	623
03	Punjab	534
04	Tamilnadu	506
05	West Bengal	484
06	Uttar Pradesh	450
07	Gujarat	395
08	Delhi	297
09	Haryana	311
10	Karnataka	249
11	Andhra Pradesh	140
12	Rajasthan	92
13	Madhya Pradesh	91
14	Pondicherry	34
15	Bihar	33
16	Goa, Dadra, Nagarhaveli & Daman	28
17	Chandigarh	18
18	Orissa	16
19	Himachal Pradesh	8
20	Jammu & Kashmir	8
21	Tripura	7
22	Assam	5
Total		5303

The Division also prepared and supplied a list of licensed manufacturers for reference to the various offices of the Rubber Board, Rubber Dealers and other public. A sum of Rs.4,250/- was collected towards price of the list of licensed manufacturers supplied from the Division.

b) Issuance of licence for the year 2000-01

The licences in respect of 3320 existing manufacturers were renewed for the year 2000-2001.

(2) Letter of authorisation to purchase rubber

Registered 681 letters of authorisation of manufacturers in favour of their agent dealers to purchase and despatch rubber on their behalf.

Five new branches/purchase depots of manufacturers were registered during the year.

Special authorisation to 5 Organisations/Institutions to acquire rubber for experimental purposes were issued in lieu of regular licence, after collecting the relevant cess in advance.

(3) Assessment and collection of duty of excise (cess) on rubber

The assessment of cess on rubber during 1999-2000 was Rs.7790.96 lakh based on 11381 half yearly returns (Form M) as against Rs.4987.09 lakh during 1998-99. The Liaison officers and the Inspecting staff functioning at various parts of the country have furnished 1687 individual inspection reports, on which appropriate actions were taken.

The duty of excise (cess) on rubber collected during the period was Rs.7556.25 lakh against Rs.5005 lakh during 1998-99. Out of this, a sum of Rs.7428 lakh was remitted in to the Consolidated Fund of India after deducting the cost of collection.

Reconciliation of CFI remittance with Central Bank of India, Kottayam and Regional Pay & Accounts Officer, Chennai were completed. The demand, collection and balance (DCB) statement for 1998-99 and final account of cess collection during the period under report were prepared.

The aggregate of licence fee and service charge collected during 1999-2000 was Rs.10,28,320. Besides a sum of Rs.8,86,206/- was collected towards penal interest on belated remittance of cess.

II 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.

(i) The number of Licensed dealers which stood at 10,559 at the beginning of the year marginally came down to 10514 at the end of the year. During the period under report, 839 new licences were issued. Out of 1526 dealers whose period of validity expired on 31/3/1999, the licences of 910 dealers were renewed. Besides, 506 licences were renewed, the validity of which commencing from 1/4/2000 during the period January to March 2000. Rest of them did not apply for getting their licence renewed.

(ii) Licensing of processors

58 licences were renewed and their branches numbering 67 were also registered.

(iii) Suspension and Revocation of licence of dealers and processors

During the year under report 257 licences of dealers and 3 licences of processors were cancelled. Besides, 13 licences of dealers were suspended due to violations of the provisions of the Rubber Act & Rules. Three licences of dealers were also revoked. However, the order of suspension of licences of 2 dealers was rescinded and their

licences were restored after getting satisfactory explanation for the lapses committed by them.

(iv) Registration of branches and agencies

During the year under report, 209 branches of dealers and processors were newly registered making the total number of branches to 1105 as at the end of March, 2000. Besides, letters of authorisation issued by 354 principle dealers in favour of their agents to purchase and despatch rubber on their behalf were registered during 1999-2000.

(v) Collection of cess from dealers

On account of irregularities and discrepancies in stock, a sum of Rs.9,53,453.50 was collected from dealers towards the amount equivalent to Cess on rubber. Besides, a sum of Rs.2,33,433/- was collected from Banks towards forfeiture of Bank Guarantee furnished by certain erring dealers.

(vi) Supply of 'N' Form

6290 books of 'N' forms were supplied to various estates, dealers, processors and Manufacturers in Kochi area to transport rubber out of the State.

(vii) Distribution of dealers and processors

Sl. No.	Name of State	No. of dealers	Processors
01	Kerala	9281	118
02	Andhra Pradesh	2	-
03	Assam	24	-
04	Andaman & Nicobar	8	-
05	Bihar	7	-
06	Chandigarh	6	-
07	Delhi	148	-
08	Goa	2	-
09	Gujarat	36	-
10	Haryana	43	-
11	Jammu & Kashmir	1	-
12	Karnataka	117	7

13	Madhya Pradesh	7	-
14	Maharashtra	106	-
15	Meghalaya	9	-
16	Orissa	1	-
17	Punjab	176	-
18	Rajasthan	18	-
19	Tamilnadu	223	12
20	Tripura	125	1
21	Uttar Pradesh	85	-
22	West Bengal	85	-
23	Pondicherry	2	-
24	Himachal Pradesh	1	-
25	Nagaland	1	-
TOTAL		10514	138

a) **Districtwise distribution of dealers in Kerala**

Sl.No.	Name of District	No. of dealers
01	Alappuzha	130
02	Ernakulam	1252
03	Idukki	458
04	Kannur	454
05	Kasaragod	113
06	Kollam	1135
07	Kottayam	2536
08	Kozhikode	215
09	Malappuram	415
10	Palakkad	323
11	Pathanamthitta	1148
12	Thiruvananthapuram	869
13	Thrissur	162
14	Wynad	71
TOTAL		9281

III MARKET INTELLIGENCE DIVISION

Detection of bogus/unlicensed dealing in rubber, arranging surprise inspection/squad inspection at the business premises of the dealers for checking the correctness of their books of accounts and physical stock, cross verification of the statutory returns filed by the dealers/manufacturers and processors for ascertaining the correctness of the quantity of rubber acquired, road checking and surprise visit to check post and Railway Parcel Office with a view to prevent evasion of cess on rubber and thereby improve cess collection from the important functions in Market Intelligence Division. 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.

The inspection squad which functioned from Kozhikode, Kochi, Kottayam and Thiruvananthapuram and the Inspectors (Market Intelligence) helped to a great extent in arresting illicit trade in rubber and thereby improve the cess collection. The inspection also helped in collecting monthly returns from a large number of rubber dealers.

During the period under report, the squad spent several days on tour and inspected 2963 licensed dealers, 86 unlicensed dealers and detected irregularities in 599 cases involving 614 MT as shortage/unaccounted stock/irregular sale. A sum of Rs.9,76,058/- was also collected towards cess on rubber from the parties involved. The squad also conducted 29 road checking and surprise visits to the check posts and border areas which made an impact in reducing illicit trading and smuggling of rubber across the border to some extent.

Special attention was also given for scrutiny of inspection reports, form N declarations/daily statement of check posts and wherever irregular despatches were made such cases were timely referred to Liaison Officers/Inspectors (MI Squad) for arranging

inspection. Based on such reports licence of 13 dealers were suspended and that of 2 manufacturers not renewed, which helped in collecting a sum of Rs.30,71,948/- including old arrears of Rs.26,948/-

In order to strengthen surveillance of interstate movement of rubber, regular checking of the documents accompanying the rubber consignments were done at the three check posts at Walayar, in Palakkad District, Bengra Manjeswaram in Kasargod 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, Manjeswaram and Kavalkinar check posts detained 24 consignments of rubber for various reasons. Of this 17 consignments were allowed to cross the border on production of valid documents/satisfactory explanations and 7 consignments weighing 22300 kgs of rubber were released after collecting a sum of Rs.47,515/- towards the amount of cess/full value of the goods/security deposit.

During the period under reports, as per daily statement received from the three check posts 42353 consignments of rubber had passed through these check posts alone. The number of consignments passed through each of the check posts are as shown below.

i)	Walayar, Palakkad Dist.	:	29753
ii)	Manjeswaram, Kasargode Dist	:	7476
iii)	Kavalkinar, Thirunelveli Dist	:	5124
Total		:	42353

During 1999-2000, 17000 books of form N declaration under different categories were got printed and 13527 form N books were supplied to various estates, processors, dealers and manufacturers. 66831 copies of form N declarations were received at

Market Intelligence Division and most of them were scrutinised. Wherever discrepancies were noticed, explanations/clarifications were called for from the concerned parties and appropriate action taken.

The monthly returns and copies of form 'N' declarations received from various dealers/manufacturers/processors/estates were cross checked and detected discrepancies in 148 cases involving unaccounted transactions to the tune of 7156 Tonnes. A sum of Rs.28,05,190/- was also realised in the case of irreconcilable transactions.

Detected the malpractice of two dealers based at Nagarcoil and Sullia reporting despatch of only one ton rubber each in the copy of Form N2 declaration meant for the Board against the despatch of 10 tons of rubber under the originals of 13 Form N2 declaration to their consignees in Jalandhar/Delhi. A sum of Rs.1,75,500/- was collected towards cess on the suppressed quantity of 117 tonnes from the consignees concerned.

Thus on account of special efforts of the inspection Squad, the check post machinery and purchase monitoring cell in the Market Intelligence Division a sum of Rs.70,76,211/- could be collected additionally.

Further as per court order a bogus consignment of rubber seized by the Board in 1995 from the Railway Station was disposed by public auction and the sale proceeds of Rs.88,109/- credited to Consolidated Fund of India.

IV SUB/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/Liaison offices in the major consuming centres outside Kerala at Chennai, Bangalore, Secunderabad, Ahmedabad, Kanpur, Mumbai, Calcutta, Jalandhar and New Delhi. These offices function mainly to assess the suitability of applicants to hold licences to deal in rubber or acquire rubber for rubber goods manufacture. The purchase made by the rubber goods

manufactures and dealers and the stock held by them were verified at random. Verifications of the books of accounts and records of the licence holders were also done to ensure that all rubber ^{procured} produced by them were properly accounted and subject to assessment of Cess. Surprise inspections were conducted to detect unlicensed dealing in rubber and unlicensed 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

1 General Statistics

Monitoring of the data on supply, demand, stock and price of rubber was done regularly and periodic reports on demand-supply position of rubber were prepared periodically for review by the Statistics & Import/ Export Committee, which met on 5/7/99, 30/11/99 & 24/3/2000 and the meetings of the Board held on 20/7/99 and 4/12/99. The recommendations/conclusions of these meetings were forwarded to the government with explanatory comments.

The statutory monthly returns from rubber growers, dealers, processors and manufacturers were compiled and analyzed every month to ascertain production, consumption and stock of rubber. Sample studies in small holding sector were continued to ascertain the monthly variations in production, stock etc. The data collected from various sources were compiled and production, consumption, import and stock of rubber were worked out on monthly basis. The statistical information covering trend in production, consumption, stock, price, import, export of natural rubber, synthetic rubber, reclaimed rubber and many other details were compiled for publishing the 'Rubber Statistical News' (monthly). 'Indian Rubber Statistics Vol.23' (1999) was published using in-house computer facilities. The publication covers detailed information on area under rubber, production, consumption, import, export, stock, etc of natural, synthetic and reclaimed rubber, manufacturers, dealers, rubber products, labour, price, etc besides world rubber statistics.

Relevant statistical information was furnished to the various organizations connected with the rubber industry. Materials were prepared for answering Parliament questions and Legislative Assembly interpellations pertaining to

import/export, production, price etc of natural rubber and the various aspects of rubber industry.

To ascertain the installed capacity and production of various grades of rubber etc. during 1998-99, annual reports were collected from processors of centrifuged latex, block rubber, PLC and crepe mills.

The census work initiated in 1988 was continued in the reporting period also. The census reports received for the year 1998 were processed. For selection of enumerators, training and assignments of work etc the technical officers of the Department have assisted the field staff and coordinated the census work.

II Planning

Annual Plan proposal on rubber for 2000-01 was prepared.

Prepared monthly performance reports of each of the schemes under the World Bank Assisted Rubber Project for monitoring the progress of various schemes under the project.

Necessary assistance for the preparation of the forecasting models for price, production and consumption of tyre and nontyre were rendered to Mr. Takamasa Akiyama, Principal Commodity Specialist of the World Bank. Necessary details required for the study conducted by the consultant (Centre for Management Development, Thiruvananthapuram) to assess the impact of rubber plantation development scheme (RPD) operated by the Board under the World Bank Assisted Rubber Project, with special reference to the socio-economic status of the small growers and the impact of extension services of the Board were collected and processed and suitable comments/observations were given to the consultant.

III Supply of information to World Organizations

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.

India hosted the “Eighth meeting of the ANRPC Coordinating Committee on Production and Marketing Strategies” which was held on 4th to 6th May 1999 at New Delhi. Delegates from India, Indonesia, Malaysia, Thailand, Sri Lanka and Vietnam attended the meeting.

During the year 1999-2000 Chairman, Rubber Board attended two international meetings ie., (1) International Marketing Conference 1999 conducted by Thai Rubber Association in co-operation with International Rubber Organizations from 23rd to 25th June 1999 at Hat Yai, Thailand; and (2) 102nd Annual meeting of the member governments of IRSG from 4th to 8th October '99 at Mexico.



PART XI STATISTICAL TABLES

Table-1

PRODUCTION, IMPORT, EXPORT & CONSUMPTION OF NR
(Tonnes)

Month		Production	Import*	Export	Consumption (Indigenous & imported)
April	1999	43355	589	152	49705
May	"	37665	890	153	51290
June	"	38990	1252	0	50315
July	"	40220	1936	189	52115
August	"	50870	3679	Neg	49775
September	"	58250	1958	26	53460
October	"	60555	1617	22	50315
November	"	76225	1228	648	53670
December	"	77430	809	1577	56505
January	2000	70365	935	1042	54310
February	"	32190	700	380	53195
March	"	36150	843	1800	53455
Total		622265	16436	5989	628110

* Source: DGCI & S, Calcutta
Neg – Negligible

Table-2

STOCK OF NATURAL RUBBER AT THE END OF EACH MONTH
(Tonnes)

Month		Growers, Dealers & Processors	Manufacturers	Total
April	1999	138135	44025	182160
May	"	129230	40040	169270
June	"	120263	38932	159195
July	"	110875	38160	149035
August	"	114780	39030	153810
September	"	120850	39385	160235
October	"	139755	32045	171800
November	"	156365	38570	194935
December	"	177290	37800	215090
January	2000	184000	47040	231040
February	"	156015	54255	210270
March	"	140470	52100	192570

Table-3

PRODUCTION, IMPORT & CONSUMPTION OF SYNTHETIC RUBBER
(Tonnes)

Month		Production*	Import**	Consumption
April	1999	4861	3853	12950
May	"	5453	3804	12715
June	"	5528	4862	13065
July	"	5943	8737	14275
August	"	5540	5701	13555
September	"	5321	15018	14580
October	"	4390	4292	14060
November	"	5067	6610	14150
December	"	5362	6771	14755
January	2000	4001	5901	14650
February	"	3995	6156	14490
March	"	4832	8334	13975
Total		60293	80039	167220

* Provisional

** Source: DGC & S, Calcutta

Table-4

PRODUCTION & CONSUMPTION OF RECLAIMED RUBBER
(Tonnes)

Month		Production*	Consumption
April	1999	5505	5445
May	"	5285	5230
June	"	5405	5365
July	"	5400	5380
August	"	5210	5265
September	"	5205	5250
October	"	5255	5305
November	"	5250	5150
December	"	5420	5310
January	2000	5450	5360
February	"	5395	5345
March	"	5300	5045
Total		64080	63450

* Indigenous purchase by manufacturers.

Table-5

MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF NATURAL RUBBER IN INDIA
(Rs/ctl.)

Month	RSS-1	RSS-2	RSS-3	RSS-4	RSS-5	Ungraded	ISNR-5	ISNR-10	ISNR-20	ISNR-50
Apr-99	3312	3124	2995	2818	2713	2585	2900	2810	2680	2575
May-99	3623	3512	3335	3190	3078	2976	3235	3151	3015	2764
Jun-99	4102	3918	3704	3408	3242	3119	3524	3457	3205	3114
Jul-99	3794	3667	3524	3360	3189	2983	3476	3382	3113	2969
Aug-99	3744	3628	3520	3318	3128	2822	3422	3322	3114	2821
Sep-99	3408	3265	3135	2951	2863	2660	3070	2970	2810	2642
Oct-99	3350	3250	3127	2958	2833	2723	3016	2915	2758	2665
Nov-99	3381	3281	3160	3036	2869	2751	3181	3077	2831	2744
Dec-99	3268	3168	3001	2865	2730	2627	3016	2916	2710	2630
Jan-00	3489	3389	3228	3099	2905	2749	3216	3116	2916	2751
Feb-00	3529	3429	3278	3133	2972	2751	3251	3151	2950	2740
Mar-00	3454	3354	3254	3049	2943	2831	3172	3072	2943	2816
Yearly Average (1999-2000)	3538	3415	3272	3099	2955	2798	3207	3112	2920	2769

Table-6

**MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF NATURAL RUBBER
IN KUALALUMPUR MARKET**
(Rs/ctl.)

Month	RSS-1	RSS-2	RSS-3	RSS-4	RSS-5	SMR-5	SMR-10	SMR-20
April, 1999	2531	2451	2434	2315	2259	2354	2311	2289
May, "	2570	2491	2474	2355	2298	2509	2455	2433
June, "	2615	2536	2518	2398	2341	2581	2462	2440
July, "	2470	2399	2381	2261	2203	2370	2260	2238
August, "	2451	2382	2364	2243	2185	2451	2381	2361
Sept. , "	2594	2530	2513	2391	2334	2727	2679	2658
Oct. , "	2825	2767	2750	2628	2571	2963	2901	2877
Nov. , "	3219	3150	3133	3013	2955	3427	3359	3336
Dec. , "	2985	2919	2902	2781	2723	3239	3113	3091
Jan., 2000	2836	2779	2762	2641	2583	3237	3129	3106
Feb., "	3278	3197	3180	3058	3000	3482	3335	3312
March "	3104	3050	3032	2911	2853	3206	3009	2986
Yearly Average (1999-2000)	2790	2721	2704	2583	2525	2879	2783	2761

ANNEXURE

**LIST OF MEMBERS OF THE RUBBER BOARD
AS ON 31.03.2000**

- | | | |
|----|---|--|
| 1. | Shri. KJ Mathew IAS | Chairman, Rubber Board |
| 2. | Shri. PK Sivanandan
APC, Govt. of Kerala. | Nominated by the Govt. of Kerala to represent that State. |
| 3. | Shri. PK Chithra Bhanu
Chairman, PCK Ltd
Kottayam, | Nominated by the Govt. of Kerala to represent that State. |
| 4. | Shri. K Rajarethinam
Secretary to Govt. of Tamil Nadu.
Environment & Forest Dept.
Chennai. | Nominated by the Govt. of Tamilnadu to represent that State. |
| 5. | Shri. George John
Kailas Rubber Co. Ltd
Kottayam | Elected by the Large Growers in the State of Kerala. |
| 6. | Shri. K Jacob Thomas
Managing Director
Vaniampara Rubber Co. Ltd
Kottayam | - do - |
| 7. | Shri. MD Joseph
Manniparambil
Kanjirappally. | - do - |
| 8. | Shri. S Ramachandran
Vaikundom Rubber Co. Ltd
Pattom Palace PO
Thiruvananthapuram. | Elected by the Large Growers in the State of Tamilnadu. |
| 9. | Shri. Pon Radhakrishnan MP
Chanakyapuri, No.6
Kautilya Marg
Opp.Samrat Hospital
New Delhi - 110 001 | Elected by Lok Sabha under Section 4 (3) (e). |

- | | | |
|-----|---|---|
| 10. | Shri. Tarlochan Singh Tur, MP
Punjab Bhawan
Copenhagen Marg
New Delhi - 110 011 | Elected by Lok Sabha under Section 4 (3) (e). |
| 11. | Shri. Vayalar Ravi MP
15, Pandit Pant Marg
New Delhi - 110 001. | Elected by Rajya Sabha under Section 4 (3) (e). |
| 12. | Prof. NM Joseph
Neendukunnel
Arunapuram PO, Pala. | Nominated by the Central Govt. to represent small growers of Kerala. |
| 13. | Shri. KG Ravi
Indira Bhavan
Vellayambalam
Thiruvananthapuram. | - do - |
| 14. | Shri. Kanam Rajendran
Kanam PO, Kottayam. | - do - |
| 15. | Shri. Suresh Elwadhi
Chairman. AIRIA
Phelps Building, 2 nd floor
9 - A Connaught Place
New Delhi - 110 011 | Nominated by the Central Govt. to represent Rubber Goods Manufacturers. |
| 16. | Shri. VK Modi
Chairman. ATMA. | - do - |
| 17. | Shri. Pappanmkode Unni
Pappanmkode House
Industrial Estate
Thiruvananthapuram | Nominated by the Central Govt. to represent labour interests. |
| 18. | Shri. C Anantha Krishnan
Tamil Manila Congress
Kanyakumari. | - do - |
| 19. | Shri. P Lalaji Babu
CITU State Committee Office
Deshabhimani Road
Thiruvananthapuram. | - do - |

- | | | |
|------------|---|---|
| 20 | Shri. PD George
Raju Bavan
Kota PO
Chengannoor. | - do - |
| 21. | Shri. PJ Joseph
6/379, Bank Road
Kainady, Kozhikkode. | Nominated by the Central Govt. to
represent other interests. |
| 22. | Shri. K Jospeh Monippally
Advocate, Kakkanadu PO
Kochi. | Nominated by the Central Govt. to
represent other interests. |
| 23. | Shri. K Suresh Ballal
Ballal Bagh
Karnataka. | - do - |
| 24. | Shri. K Pankajakshan
Indu Mahal Pettah PO
Thiruvananthapuram. | - do - |
| 25. | Dr. AK Krishnakumar
Rubber Production Commissioner
Rubber Board, Kottayam. | Ex-officio |
| 26 | Vacant | Executive Director |

