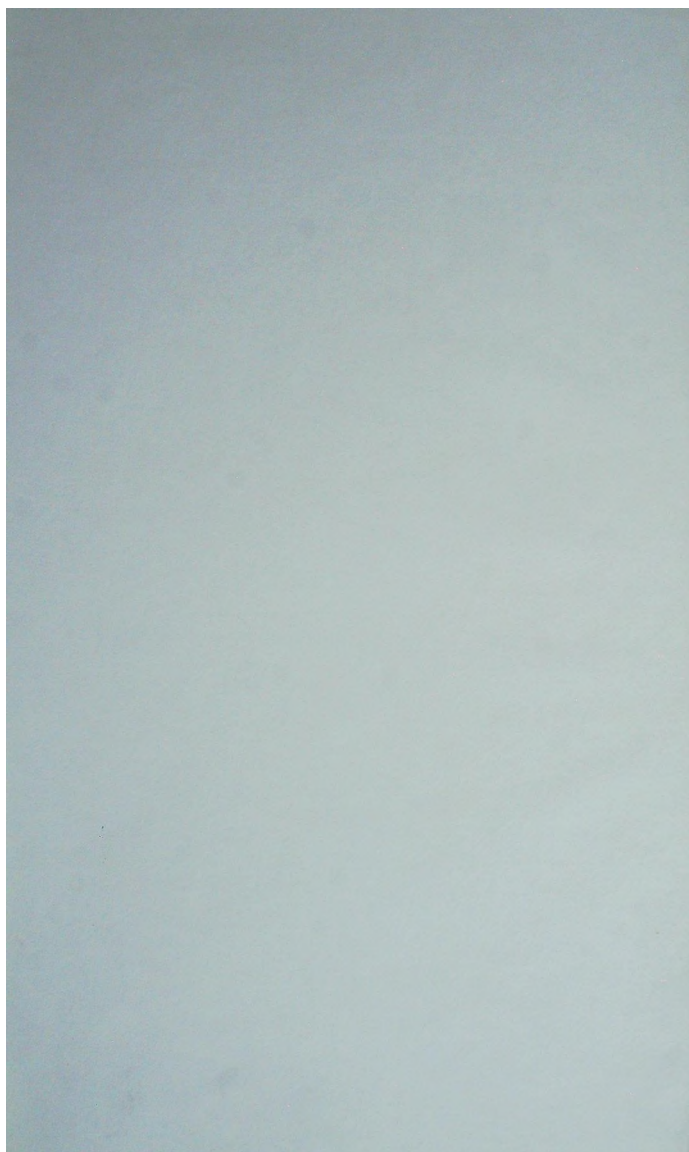


भारतीय रबर संशोधन संस्थान
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**ANNUAL REPORT OF
THE RUBBER BOARD FOR
THE YEAR 1994-'95**



THE RUBBER BOARD

[Govt. of India, Ministry of Commerce]

KEEZHKUNNU, KOTTAYAM - 686 002
KERALA STATE

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THE RUBBER BOARD
Annual Report on the activities for the year 1994-95

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ANNUAL REPORT FOR THE WORKING OF THE RUBBER BOARD
FOR 1994-95

PART - I : INTRODUCTION

This is the annual report of the Rubber Board on its working for the year 1994-95, containing a summary of the activities from 1st April, 1994 to 31st March, 1995.

Rubber plays an important role in the industrial and economic development of the country. Cultivation of rubber was introduced to the country during the first decade of this century. Large planters were the pioneers. Small holders made their appearance later. The Government of India constituted the Rubber Board as a body corporate primarily to promote natural rubber production under the Rubber Act, 1947. In order to undertake scientific, technological and economic research, the Board established the Rubber Research Institute of India in 1955.

India had to evolve suitable package of practices for development of the rubber plantations. With sustained research and development activities coupled with extension and advisory services for transfer of technology to the planters' fields, the rubber producing sector had a quick change-over from the traditional methods to modern cultivation practices. India soon became the fourth largest natural rubber producer in the world, after Thailand, Indonesia and Malaysia.

The research efforts made significant contributions to the rubber plantation industry. India evolved the high yielding clone RR11 105 with yield potential of about 2500 kg per hectare. Switchover from seedlings to buddings, tissue culture techniques for propagation, evolving suitable fertilizer schedules for mature and immature rubber, pest and disease management practices, improved crop exploitation techniques and improved crop processing had played a vital role in enhancing rubber production and upgrading quality of the processed rubber. Application of fertilizers after soil and leaf analysis, evolving new clones with potential for higher yield, crop exploitation in association with yield stimulation, processing technically specified rubber and process aid rubbers, consumption research to improve the technological properties of rubber, 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 financial assistance to small growers in the traditional areas and for all types of growers in the non-traditional areas to undertake rubber cultivation. Input subsidy and technical advice and assistance at all stages of the planting and maintenance are extended in addition. During 1993-94, 9359 ha. was newly planted with rubber and during 1994-95, 7533 ha. Terrorist violence in the North-east region where there is scope for large expansion of rubber cultivation continues to adversely affect the planting tempo.

Performance during 1994-95

The overall performance of the rubber plantation industry during 1994-95 has been impressive. Production of natural rubber increased to 435,160 tonnes from 393,490 tonnes recording a growth rate of 10.6%.

The consumption of natural rubber during the year increased by 8.8% to 450,480 tonnes recording almost an identical growth rate of 8.9% of 1992-93.

Price

During the year, the monthly average price of rubber was Rs.3638 per quintal for RSS IV grade as against Rs.2569/- in the previous year. A quantity of 1961 tonnes of different grades of natural rubber was exported during 1994-95.

Amendment to Rubber Act

Section 12 of the Rubber Act, 1947 was amended by the Indian Parliament revising the ceiling on excise duty (cess) on rubber from 50 paise to Rs.2/- per kg. The Govt. of India issued Notification No.S.O.488(E) dated 30.6.1994 raising the rate of excise duty on raw rubber to Re.1/- per kg from 1.7.1994. The revised rate has been implemented from 1.7.1994.

PART - II

CONSTITUTION AND FUNCTIONS

1) INTRODUCTION

The Indian Rubber Board was constituted under the Rubber (Promotion and Marketing) Act, 1947 which came into force on 19th April, 1947 'to promote by such measures as it thinks fit' the development of the rubber industry in India. The Rubber Production and Marketing (Amendment) Act of 1954 made certain changes in the constitution of the Board and its name was changed as Rubber Board. This Act came into force on 1st August, 1955. The Rubber Act was further amended by the Rubber (Amendment) Act, 1960 and by the Rubber (Amendment) Act, 1982. The amendment in 1982 was made by the Government to appoint a part time/whole time Chairman for the Board and an Executive Director on whole time basis (if considered necessary).

2) CONSTITUTION

The Rubber Board functions under the Ministry of Commerce of the Government of India. The Board has at present a full time Chairman as principal executive, responsible for implementing its decisions and for discharging the duties under the Rubber Act. There are 25 other members consisting of -

- a) Two members to represent the State of Tamilnadu, one of whom shall be a person representing the rubber producing interests;

- b) Eight members to represent the State of Kerala, six of whom shall be representing the rubber producing interests, three of such being persons representing the 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 the members of the Board as on 31.3.1995 is given at the end of this report.

One of the members is elected as Vice Chairman. Seven committees have been formed to review the Board's existing programmes vis-a-vis the functions as laid down under Section 8 of the Rubber Act, to examine proposals for development of natural rubber industry and to make suitable recommendations to the Board. The committees are Executive Committee, Research and Development Committee, Market Development Committee, Planting Committee, Statistics and Import/Export Committee, Labour Welfare Committee and Staff Affairs Committee.

Smt J Lalithambika IAS continued to be the Chairman of the Board.

Shri K Joseph Monipally, member representing small grower interest had been elected as Vice Chairman for one year on 8.4.1994.

3) FUNCTIONS

The functions of the Board according to Section 8 of the Rubber Act are -

- 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 Government on all matters relating to the development of the rubber industry, including the import and export of rubber;
 - b) to advise the Central Government with regard to participation in any international conference or scheme relating to rubber;
 - c) to submit to the Central Government 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 Government from time to time.

4) 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 On 2 occasions; the 123rd meeting on 8.4.1994 and the 124th meeting on 27.10.1994.
- b) Committee Meetings
 - Executive Committee 26.7.1994 & 24.3.1995
 - Statistics & Import/Export Committee 28.7.1994 & 27.1.1995
 - Staff Affairs Committee 5.1.1995
 - Market Development Committee 22.3.1995
 - Labour Welfare Committee 27.7.1994

5) ORGANISATIONAL SET UP

The activities of the Rubber Board were carried out by seven departments, viz. Administration, Rubber Production, Rubber Research, Processing & Product Development, Statistics & Planning, Training and Finance & Accounts; headed respectively by the Secretary, the Rubber Production Commissioner, the Director of Research, the Director (R&PD), the Jt. Director (S&P), the Director (Training) and the Director (Finance).

The headquarters of the Board alongwith the Administration, Rubber Production and Finance and Accounts Departments remained located at the Kottayam Public Library Buildings, Sastri Road, Kottayam - 686 001. There are eight Sub/Liaison Offices under the Administration Department. The Rubber Production Department has 3 Zonal Offices, 2 Nucleus Rubber Estate & Training Centres, 6 Supervisory Offices, 41 Regional Offices, 160 Field Offices, 16 Regional Nurseries and 27 Tappers' Training Schools located at different rubber growing regions.

The Research Department, the Training Department and the Department of Processing and Product Development functioned in the Board's own buildings at Kottayam - 9. The Research Department runs two Regional Research Stations in Kerala, one each in Tamilnadu, Karnataka, Maharashtra (Dapchari), 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 of the Board at Chethackal were run by the Department of Processing and Product Development which has also established a Pilot plant for Radiation Vulcanisation of Natural Rubber.

The Chairman exercises administrative control over all the departments and offices. The total officers and staff under the Board as on 31.3.1995 were 2123; 206 under Group 'A', 582 under Group 'B', 1178 under Group 'C' and 157 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:-

III. RUBBER PRODUCTION

FUNCTIONS

The following main functions were executed to promote natural rubber production in the country.

- i) Planning formulation & implementation of schemes for expansion, development & modernisation of rubber plantations.
- ii) Rendering advisory & extension services.
- iii) Production, procurement & distribution of high yielding planting materials.
- iv) Facilitating distribution of agro-inputs requiring popularisation.
- v) Training of tappers.
- vi) Demonstration & training in scientific planting and production of rubber in non-traditional rubber growing areas.

REVIEW OF ACTIVITIES

1) Rubber Plantation Development Scheme Phase I

This scheme aimed at integrated promotion of newplanting and replanting of rubber, replaced the earlier planting subsidy schemes. The target set out was 12,000 ha. per year for 5 years from 1980-81 to 1984-85.

The following incentives were offered for both replanting and newplanting of rubber.

- a) Capital subsidy of Rs.5000/- per ha. to growers owning upto 20 ha. including any area planted under the scheme of Rs.3000/- per ha. to growers owning more than 20 ha.
- b) Input subsidy to the weaker sections of growers possessing not more than 6 ha. of rubber for using approved planting materials and approved fertilizer and a subsidy of Rs.150/- per ha.
- c) The beneficiaries could avail of long term agricultural bank credit under NABARD's re-financing scheme to supplement the assistance from the Board. The maximum credit per ha. was limited to Rs.15,020/- to Rs.17,000/- and Rs.18,700/- respectively for growers owning upto 6 ha. of rubber, above 6 ha. and upto 20 ha. of rubber & above 20 ha. of rubber. The loan advanced in 7 annual instalments was repayable from the 8th year. During the repayment period only simple interest was payable.

d) The Board subsidised 3% interest to all categories of growers upto the 10th year of planting subject to limitation on the quantum of loans.

e) Free advisory & extension support at all stages of planting and maintenance.

The cumulative progress of the scheme as on 31.3.1995 is summarised below.

	Years to which planting related					TOTAL
	1980	1981	1982	1983	1984	
No. of subsidy permits issued	17514	19032	18624	21263	25275	101708
Area covered by permits	11376.79	12809.73	12955.69	14829.58	16460.19	68432.16

During the year under review, an amount of Rs.13,76,059/- was disbursed as subsidy including interest subsidy of Rs.8.90 lakh. Total disbursement towards subsidy since inception of the scheme comes to Rs.40,10,10,815/- as on 31.3.95 including an amount of Rs.42,95 lakh as interest subsidy.

2) Rubber Plantation Development Scheme Phase II

The Rubber Plantation Development Scheme Phase II was implemented from 1985 onwards for a period of 5 years. The target under Phase II scheme was only 40,000 hectares in view of the resource constraints.

The assistance offered under Phase II was to the following extent.

- i) Capital subsidy at the rate of Rs.5000/- per ha. for growers owning upto 5 ha. of rubber in traditional areas and for all categories in the non-traditional areas.
- ii) Input subsidy for the use of high yielding planting materials of advanced growth (PB plants) @ Rs.6/- per plant subject to a maximum of 450 plants per ha. Growers in the traditional region having more than 5 ha. of rubber area and carrying out planting under the scheme were also eligible to receive this assistance.
- iii) The beneficiaries could avail of the bank loan under the Agricultural Refinance Scheme of NABARD. The loan was advanced in 7 annual instalments and was repayable in five annual instalments from the 10th year of planting with interest accrued upto the close of the 7th year payable during the 8th & 9th year.

- iv) The Board subsidised 3% interest on credit component from the 1st to the 9th year to growers eligible for the capital subsidy.
- v) Free advisory and extension support at all stages of planting, maintenance, tapping & processing of the crop. The cumulative progress of the schemes as on 31.3.1995 is summarised below.

	Years to which planting related					TOTAL
	1985	1986	1987	1988	1989	
No. of subsidy permit issued	23509	21105	21821	23838	23217	113490
Area covered by the permit in ha	15127.08	13856.37	14563.58	15486.24	15087.69	74120.96

During the year 1994-95, a sum of Rs.2,56,82,754/- had been paid as subsidy including interest subsidy of Rs.70.83 lakh. The total disbursement of the subsidy since inception of the scheme amounted to Rs.43,16,79,252/- including an amount of Rs.1.90 crore as interest subsidy.

3) Rubber Plantation Development Scheme Phase III

Due to delay in approval of the 8th Five year Plan proposals, the Board was not able to formulate Phase III of the Rubber Plantation Development Scheme. However, annual plans within a broad frame work of VII plan proposal were approved and budget provisions were also granted. The Board tentatively implemented the RPD scheme Phase III for 1990-91, 1991-92 and 1992-93 as annual schemes on the same lines as the Phase II scheme with a physical target of 12,000 ha. for each year.

The cumulative progress of the scheme as on 31.3.1995 is summarised below.

	Years to which planting related			TOTAL
	1990	1991	1992	
No. of subsidy permit issued	23781	26827	23279	73887
Area covered by permits in ha.	14308.84	15804.22	14032.79	44145.85

During the year 1994-95 an amount of Rs.2,83,18,814/- was disbursed as subsidy including interest subsidy of Rs.25.99 lakh. The total amount of subsidy disbursed since inception of the scheme comes to 21,86,29,635/- including an amount of Rs.79.88 lakh as interest subsidy.

4) Rubber Plantation Development Scheme Phase IV

This is successor to Phase III being implemented from 1993 onwards. The physical target for the Plan period is 83,000 ha, of which 70,000 ha. has been earmarked under the World Bank assisted Project. The scheme envisages re-planting of uneconomic rubber in 40,000 ha. in traditional areas and newplanting in 30,000 ha. including 7,000 ha. in non-traditional areas. The rest 13,000 ha. would be planted in non-traditional areas where the World Bank assisted Rubber Project is not in operation.

Assistance offered under the Phase IV scheme is at the following scale.

- (a) Capital Subsidy @ Rs.8,000 per ha. limited to 2 ha., for planters whose total rubber area does not exceeds 5 ha. in traditional areas. All growers in non-traditional area are eligible for subsidy for planting upto 5 ha. of rubber.
- (b) Input Subsidy at a declining rate of Rs.350/- in the 1st year, Rs.250/- in the 2nd year, Rs.170/- in the 3rd year, Rs.90/- in the 4th year and Rs.20/- in the 5th year of implementation of the World Bank Project.
- (c) Input Subsidy for the use of high yielding planting materials of advanced growth (polybag plants) is also granted to a maximum of Rs.3,000/- per ha. for general category growers and Rs.4,000/- per ha. for SC/ST growers. This facility is available to all growers in traditional and non-traditional areas including those not eligible for capital subsidy.
- (d) The beneficiaries could avail themselves of the Bank credit under the Agricultural Re-financing Scheme of NABARD, at the existing rate. The 3% interest subsidy on the credit has been withdrawn.

Plantation insurance is made obligatory on the part of beneficiaries during the immaturity period. The premium of Rs.500/- per hectare and 5% service tax will be recovered from the 1st instalment of subsidy. Insurance is optional for growers owning more than 5 ha. of total rubber area who are not eligible for planting grant.

<u>1983</u>	<u>Re- planting</u>	<u>New- planting</u>	<u>TOTAL</u>
1) No. of applications received	5274	19667	24941
2) No. of permits issued			17087
3) Area covered by permit			10692.82 ha.

<u>1994</u>			
No. of applications received	4557	13403	17960
No. of cases inspected			1991
No. of permits issued			12651
Area covered by permits			8873.37

During the year 1994-95, an amount of Rs.6,35,22,279 was disbursed as subsidy including all assistance under this scheme. Total disbursement of subsidy since inception of the scheme comes to Rs.10,47,37,865/-.

5) Insurance for Rubber Plantations

The insurance scheme drawn up in collaboration with the National Insurance Co.Ltd., and launched during 1988-89 was continued during the year. The Board takes out a master policy in advance and arranges to issue thereunder policy/ certificates to individual rubber growers who desire to obtain Insurance cover and make remittance of premium amounts to the Board. Claims are investigated in the field by Board's field personnel and reports are furnished to the insurer. The insurance company in turn settles admitted claims through the Board. Thus as the Board undertakes and discharges bulk of the administrative works, the insurer is able to keep down premium rates and to effect claim settlement quickly and effectively.

The perils covered are fire, fire resulting from explosion, lightening, bug fire and forest fire, wind storm, tempest, hurricane, landslide, hailstorm, rockslide and subsidence. The scheme covers all immature plantations under the RPD Scheme, as well as all mature plantations upto 22 years of age.

The rate of premium for immature area is Rs.500/- per ha. irrespective of the year of planting to cover immaturity period of 1 to 8 years or part thereof and Rs.473/- for mature areas to cover a three year consecutive period.

The maximum liability of the insurer for plantations in the age group of 1 to 8 years is Rs.45,000/- per ha. and Rs.6,000/- per ha. for mature trees. No salvage value of tree destroyed is deducted from the amount of compensation. Claims can be admitted after an initial waiting in period of one year for newly planted rubber and 30 days for established plantations. The insured grower has to bear 10% of the loss in the case of immature rubber and 10% or Rs.1000/- whichever is more in the case of mature rubber.

As on 31.3.1995, the Board had obtained two master policies covering 22,208.79 ha. of immature area and 6,800 ha. of mature area. In addition two master policies covering area of 500 ha. of immature rubber and 100 ha. of mature rubber were also taken from M/s.New India Assurance Co. for plantations under Regional Offices Ernakulam and Kothamangalam on the same terms and conditions fixed by the New India Insurance Company.

The premium paid on the master policy for immature area to New India Insurance Company is Rs.1,05,75,000/- to cover an area of 22,208.79 ha. and New India Assurance Co. is 2,62,500/- to cover an area of 500 ha. Thus the total amount paid is Rs.1,08,37,500/- to cover an area of 22,708.79 ha.

Premium paid for the master policy for mature area to NIIC is Rs.32,71,978/- to cover 6800 ha. and to NIAC is Rs.49,665/- to cover an area of 100 ha. Thus the total amount paid is Rs.33,21,643/- for covering an area of 6900 ha.

Premium paid during 1994-95 for immature area to NIIC is Rs.18,37,500/- covering an area of 3500 ha. and mature area is Rs.12,16,793/- to cover an area of 2450 ha.

Amount recovered against issue of policy/certificate to individual growers for mature area is Rs.31,87,086/- including current recovery of Rs.18,93,584/-. For immature area Rs.1,14,26,724/- was recovered including current recovery of Rs.32,56,724/- to cover 6629.81 ha of mature area and immature area of 24581.12 ha.

Compensation paid to the growers since inception of the scheme is Rs.38,36,683.30 to 1353 insurance certificate holders at the close of this financial year. The current year payment is Rs-7,84,649/- to 306 certificate holders.

6) Tribal Development Rubber Plantation Project/
Tribal Development Rubber Plantation Schemes.

The Board is implementing Tribal Development Rubber Plantation Projects in Thiruvananthapuram, Kollam, and Idukki Districts sponsored by the Govt. of Kerala. The Project is funded by the State Government and managed by the Rubber Board. Planting of 201 ha. has been completed in Thiruvananthapuram district, 100 ha. in Kollam district, and 146.37 ha. in Idukki district. In addition, two such schemes were directly funded by the Board under Tribal Sub Plan and Special Component Plan. Planting rubber in 137 ha. under the Scheme has been completed in Idukki Dist. and 39.21 ha in Kottayam District upto 1994-95.

7) Production and distribution of planting materials

It is customary for the Board to publish every year a list of planting materials approved for planting based on yield potential and secondary characters. During the year 1994-95 also the list was published.

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 centres. The details of the nurseries are given below:

KERALA	TOTAL EXTENT IN HA.	REGION
1 CN Karikkattoor	20.23	Kottayam
2 RN Kadackamon	4.04	Punalur
3 RN Perumpulickal	4.00	Adoor
4 RN Kanthikulam	4.08	Palakkad
5 RN Ulickal	5.20	Thalassery
6 RN Manjeri	2.00	Nilambur
7 RN Peruvannamoozhy	3.60	Kozhikode
8 RN Alakode	3.41	Taliparamba

	TOTAL:- 47.36	
	=====	
<u>Non-traditional areas:</u>		
1 RN NRDS (NRETC)	1.85	South Andaman
2 RN Devarappally	2.00	Andhra Pradesh
3 RN Darangiri	3.00	Guwahati, Assam
4 RN Mijundisha	2.00	Diphu, Assam
5 RN Balacherra	2.96	Silchar, Assam
6 RN Hillara	10.15	" "
7 RN Jengitchikgre	3.50	Tura, Meghalaya
8 RN Tulakona (NRETC)	3.50	Agartala, Tripu

	TOTAL:- 28.96	
	=====	

Based on the cost study made, the prices of planting materials raised in the nurseries were fixed at Rs.3.50 for green budded stumps (GBS), Rs.4.80 for brown budded stumps (BBS) and Rs.6.30 per metre of budwood (BW). Small growers were allowed a concession on Rs.1.25, Rs.1.30 & Rs.4.30 respectively for GBS, BBS & BW.

During 1994-95, 4,62,314 green budded stumps, 6,84,239 brown budded stumps & 68,479 metres of budwood were supplied from nurseries in the traditional area of Kerala and Tamilnadu, large majority of them to the small holders at concessional rate. The concession allowed amounted to Rs.12,92,452.90.

From nurseries maintained in the non-traditional region, 1,80,609 brown budded plants were produced, of which 72,634 were supplied to the SC/ST growers free of cost. Additional requirement of 27,800 budded stumps to meet the demand in NE States was met through procurement and despatch from the available sources in Kerala. Cost of the polythene bags and of planting materials supplied to growers was recovered from the grants payable under the RPD Scheme.

8) Production and distribution of mucuna seedlings

The Board raised mucuna cover plant seedlings in polythene bags in the nurseries and distributed to growers for multiplication planting in their holdings. A total quantity of 57,705 polybagged seedlings were supplied in this way to growers in the traditional area @ Rs.1.50 per seedlings.

9) Procurement and supply of rubber seeds

During 1994, 81.23 lakh ~~of~~ assorted seeds and 2.7 lakh ~~of~~ polyclonal seeds were procured for raising seedlings in the various nurseries as detailed below.

Kanyakumari Dist. (Tamilnadu)	: 77.78 lakh	of	assorted seeds
Agartala (Tripura)	: 3.45	"	"
Polyclonal seeds	: 2.07	"	"

10) Advisory and extension services

a) Field visits

The field extension officers visited 1,21,412 rubber holdings to advise growers on scientific methods of rubber cultivation, production, exploitation and processing. In order to disseminate knowledge to growers on the correct techniques of planting, maintenance and crop harvesting, 49 radio talks were also recorded and broadcast.

b) Publications

In addition to the monthly Malayalam publication 'Rubber', monthly publications in local languages of important rubber growing regions of non-traditional areas and Tamilnadu were regularly brought out for the benefit of the growers in these Regions. These publications include 'TamilMalar' for Tamilnadu, 'Rubber Sangbad' for Assam and 'Rubber Sangbad' for Tripura.

c) Demonstration of scientific tapping in small holdings

Tapping Demonstrators attached to the various Regional Offices visited 7,107 small 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) coupled with stimulation among the large growers as well as small growers. This would help the planters to bring about maximum output from the Plantations due for replanting within a reasonable period of time.

Also arranged 632 short term demonstration programmes on scientific tapping for the benefit of tappers and small growers in different rubber growing centres which were attended by a total of 59,467 tappers/small growers.

d) Imparting training to tappers through TT Schools

Regular training to growers/tappers in scientific tapping and processing was undertaken through the various tappers training schools opened at major rubber growing areas. At present, 20 TT Schools are functioning in the traditional area and 6 in non-traditional areas. A total of 1,238 growers/tappers were trained in 82 batches and an amount of Rs.13,93,087/- was spent towards expenditure for maintaining the tapping schools including payment of stipend to the trainees.

11) Annual Schemes 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, the Board implemented a scheme to extend financial assistance at the rate of Rs.1000/- per set of sheeting rollers to small and marginal growers. The Scheme evoked great response and as many as 3,996 growers availed of the assistance amounting to Rs.22,02,000/- against the sanctioned budget of Rs.20 lakh.

b) Financial assistance for construction of small smoke house

For encouraging the small growers to adopt better processing techniques, the Board implemented a Scheme to offer financial assistance to the tune of Rs.3000/- for construction of smoke house with a minimum capacity of 85 kg. This Scheme was popular among the small growers and during the period 1994-95, 697 smoke houses were constructed for which a subsidy of Rs.20,68,000/- was disbursed against the target of Rs.20 lakh.

A new low cost and fuel efficient smoke house designed by an Engineer was evaluated and approved. This was included among the smoke houses eligible for financial assistance. It is gaining popularity among the small growers.

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 1994-95, 39 low volume sprayers/dusters were supplied to members of the Rubber Producers Societies (RPSs) and Cooperative Societies which are organised forums of small rubber growers. The scheme provides for grant of 50% subsidy limited to Rs.10,000/- for procurement of sprayer-cum-duster and Rs.6,000/- for purchasing the sprayer without duster attachment. Small growers who purchase the equipments are eligible for 25% subsidy on the cost of the machine limited to Rs.5000/- for sprayer-cum-duster and Rs.4,000/- for sprayer without duster attachment. A total of Rs.2,47,500/- was disbursed as subsidy under the Scheme.

d) Financial assistance for irrigation in immature rubber plantation of NT area.

Irrigation has been found to be beneficial to ensure proper growth of the rubber plants and to reduce the immaturity period. In order to motivate the rubber growers to take up irrigation in the immature rubber holdings, implemented the Scheme for giving financial assistance for establishing proper irrigation facilities. The Scheme provides for financial assistance @ Rs.5000/- per ha. with a ceiling of Rs.50,000/- per grower, for promotion of irrigation in the non-traditional rubber growing areas. An amount of Rs.1.69 lakh has been disbursed to eligible rubber growers in non-traditional areas.

e) Procurement and distribution of cover crop seeds

Leguminous cover crops are established and maintained in rubber plantations for preventing erosion of the soil, improving its fertility etc. For encouraging the small rubber growers to establish leguminous ground cover, a total quantity of 1,542 kg. of seeds was procured and distributed to the growers with 25% subsidy in price.

f) Assistance for fencing in non-traditional area

In non-traditional areas one of the major constraints in the expansion of rubber cultivation is cattle menace and damage caused by the trespassers during the early years. In order to protect the plants from stray cattle and trespassers, boundary protection to the planted area is essential. Due to heavy expenditure the small growers do not erect fencing and protect their young plants. Hence to encourage the growers to put up fencing around their plantations, a scheme was implemented with subsidy at 2 different rates, for general and for SC/ST growers. Subsidy as shown below had been disbursed to general category and SC/ST growers during 1994-95.

<u>No. of growers</u>	<u>Subsidy (Rs.)</u>
SC : 29	46,935/-
ST : 274	57,138/-
GL : 78	89,693/-

	1,93,766/-
	=====

Also an amount of Rs.10.58 lakh has been spent for supply of barbed wire and 'U' nail among SC/ST growers of the NT area for undertaking the fencing work.

g) Scheme for supply of plantation requisites in non-traditional area.

Most of the plantation requisites are not readily available in the non-traditional areas. In order to help the small growers in these areas to procure plantation requisites for increasing production and productivity, implemented a scheme for supply of selected plantation requisites. Materials such as rubber sheeting rollers, tapping knives, sieves, coagulating dishes, cup hangers, spouts, plastic cups, panel protection materials etc. were purchased from available sources and transported to non-traditional areas. These were supplied to eligible growers, after realising the cost reduced by an element of subsidy. The entire transporting charge is subsidised.

Plantation requisites worth Rs.15,34,875/- were purchased and distributed and the subsidy element for 1994-95 came to Rs.2,28,102/-.

12) Seminars and Campaigns

As part of mass education and technology transfer programme, a series of seminars and campaigns were conducted. During April/May 1994, a campaign to impress upon the rubber growers the need to conserve rain water in their holdings and for producing quality rubber sheets, was organised throughout the rubber growing centres in 5689 locations where 65,369 growers participated, with the active participation of the rubber producers societies.

Arranged also a seminar on medicinal plants with participation of various interests like rubber growers, medical practitioners, Ayurvedic medicine manufacturers etc. The idea was to popularise selected medicinal plants as intercrop in rubber plantations both during immaturity and maturity periods so that rubber growers may get additional income in addition to conserving the precious medicinal plants, many of which have almost become extinct. The seminar evoked good response and 214 delegates participated.

13) Sponsored nursery

To cope up with the growing requirement of good quality planting materials at reasonable rates, sponsored nurseries were established in 54 centres. Nine lakh rubber seeds were supplied to these nurseries. Budded stumps were also supplied to these nurseries to establish budwood source plants of high yielding clones. An estimated quantity of 5 lakh budded stumps will be produced from these nurseries.

14) Development of rubber plantations in non-traditional area

For attaining self-sufficiency in natural rubber in India, continued to promote development of rubber cultivation in non-traditional areas where the agro-climatic conditions are more or less suitable for rubber. The non-traditional areas include the states of Goa, Maharashtra, Andhra Pradesh, Orissa, West Bengal and North Eastern States. As a result of the sustained efforts a number of people have taken up rubber cultivation.

a) Goa & Maharashtra

An area of 1,101.6 ha. has been planted by 339 growers in the States of Goa and Maharashtra. In Maharashtra, rubber plantation is of recent origin and till date 150 ha. has been planted by 35 growers. Some of the plantations have come into bearing and the yield is comparable to what is obtained in the traditional area. For promoting faster development, the Board has taken on lease an area of 7 ha. at Wakoli from the Konkani Krishi Vidhyapit, Dapoli. It is proposed to set up a nursery of high yielding polyclonal seedlings and a demonstration plot in this area. During 1994, an area of 1.6 ha. had been planted by 4 growers.

b) Andhra Pradesh

The Board is maintaining a nursery at Devarapally in an area of 2 ha. for raising and distribution of high yielding planting materials. This nursery can cater to the needs of the rubber growers in Andhra Pradesh as well as in Ganjam District of Orissa. A Block Planting Project aiming to plant 50 ha. has been implemented in Andhra Pradesh. The expenditure for the same is shared between the Board and the Girijan Co-operative Plantation Development Corporation in Andhra Pradesh.

c) Orissa

The Board had taken up development of rubber plantation in the State of Orissa in 1988. In order to execute the programme, a Zonal Office was opened in Bhubaneswar in 1988 followed by 3 Regional Offices at Baripada (Mayurbhanj district), Bhubaneswar (puri-dist) and Berhampur (Ganjam Dist.). As a result of the activities undertaken, an area of 455.97 ha. has been brought under cultivation as given below:

Orissa	:	275.10 ha.
Andhra Pradesh:		178.87
Madhya Pradesh:		2.00

d) West Bengal

A survey of suitable areas in West Bengal has revealed that selected areas in Jalpaiguri district, Siliguri and Naxalbari sub-division of Darjeeling district and certain portions of Islampur, Bhalurghat and Raiganj sub-divisions of North Dinajpur district are more or less suitable for rubber cultivation. To take up rubber cultivation in these areas the Board had opened a field office in Siliguri in Darjeeling district. Polybags and plants were supplied to interested growers from this office for raising poly-bagged plants for field planting.

e) North-eastern States

The Board continued to promote development of rubber plantations in NE States. The Zonal Office in Guwahati is coordinating the development activities in all the States in the North East excepting for Tripura, through Regional Offices stationed at Guwahati, Silchar, Diphu and Jorhat (in Assam) and Tura (in Meghalaya). The Zonal Office opened in Agartala, Tripura is monitoring the development activities in the State through the Regional Offices opened at Agartala, Udaipur and Dharmanagar. An area of 1,159.37 ha. was brought under rubber plantations in Tripura and 315.53 ha. in Assam during 1994-95.

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The estimated planted area at the close of 1994 is given below:

Tripura	:	19,423.37 ha.
Assam	:	10,503.53 "
Meghalaya	:	3,735.00 "
Mizoram	:	918.00 "
Manipur	:	1,125.00 "
Magaland	:	1,350.00 "
Arunachal	:	41.00 "
Pradesh	:	

Total : 37,067.90 ha.

Taking into consideration the needs of this backward non-traditional region, the Board is offering special incentives to encourage new entrepreneurs. Schemes for supply of budded stumps and polybags for raising polybag nurseries and grant of cash assistance for maintenance of polybagged plants are in operation.

Block plantation programme

The Board in collaboration with the Tribal Welfare Department of the Government of Tripura has started a rubber plantation project adopting an integrated approach for rehabilitation of SC and tribal people. Already 723.32 ha. has been planted up by 364 beneficiaries. During the year 1994-95 an area of 223.32 ha. was planted.

f) Andaman & Nicobar Islands

The Regional Office started at Port Blair in 1985 is looking after the development of rubber plantation in A&N Islands. In addition to the two public sector plantations raised in the Islands, the Regional Office was instrumental in bringing under cultivation 75.61 ha. rubber.

The Rubber Board continued to maintain the Nucleus Rubber Estate and Training Centre comprising of a 202.5 ha. of rubber raised progressively from 1963 to 1968 in South Andaman. The NRRTC has recorded a production of 1,35,966.02 kg of rubber during the year.

A rubber nursery in 1.85 ha. is also maintained for production of high yielding planting materials for own use as well as for supply to interested growers in the A&N Islands.

g) NRRTC, Agartala

The Rubber Board has been maintaining at Agartala a Nucleus Rubber Estate-cum-Training Centre since 1985. The 100 ha. plantation at Surendranagar (raised in a phased manner during 1987-88 & 1989) has entered the tapping stage. Tapping commenced in December 1993 in the plantation raised during 1987. The work connected with building up of infrastructure such as processing factory, residential buildings, internal roads etc. is nearing completion.

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Periodic training programme were organised for growers on various aspects of relevance to rubber cultivation. Demonstration plots also were maintained. For generation of planting materials, seedling nurseries were raised with the participation of beneficiaries in all the block plantation projects. The expenditure incurred during 1994-95 for NREPC was Rs.87,51,365.20 for development of rubber plantations.

The Board continued to run 3 Tapper's Training Schools in Tripura. The duration of the tappers training was raised to 60 effective working days to impart the required skill in tapping to the local trainees.

h) Energy plantations

In Tripura, the Board, in collaboration with the Department of Science & Technology, Govt. of Tripura, is implementing a scheme for raising energy plantations in the block plantation project being implemented for the tribals and SC beneficiaries. The project aims at raising fuel wood and energy plantations for meeting the requirements of drying rubber, fuel wood for cooking as well as for installing gasifires. An amount of Rs.5 lakh was transferred to the Rubber Board by the Govt. of Tripura during 1994-95 for the purpose and an area of 34 ha. has been planted. The plantations are mostly raised as belts around the rubber plantations to serve as wind belts.

Part IV. WORLD BANK ASSISTED RUBBER PROJECT

Introduction

The World Bank Assisted Rubber Project is under implementation from 1993-94 onwards with the objectives of expanding and strengthening the rubber subsector, improving rubber production by small holders, increasing on-farm and off-farm employment and strengthening the institutional capabilities of the Rubber Board.

The main components of the project are :

- 1) Replanting of old and uneconomic rubber in 40,000 ha in traditional areas.
- 2) Newplanting in 30,000 ha consisting of 23,000 ha in Kerala and Tamilnadu, 5,000 ha in Tripura and 2,000 ha in other non-traditional areas.
- 3) Productivity enhancement in 60,000 ha of mature areas of small holdings in traditional areas through adoption of improved agro management and exploitation (discriminatory fertiliser application, plant protection, scientific tapping, rainguarding and economic stimulation of yield of mature trees).
- 4) Expansion/upgradation of rubber and rubber wood processing factories.
- 5) Institutional strengthening of Rubber Board for project co-ordination, research, extension, training and technical assistance.
- 6) Development of women and tribal people among the participating populations particularly in Tripura.

The five year project involves a total investment of Rs. 445.20 crore. The IDA credit of SDR 56.4 million (equivalent of about US \$ 92 million or Rs. 290.08 crore) would finance 68% of the project cost, net of taxes and duties. Out of the total credit, SDR 26.6 million (about Rs.116.20 crore) will be made available to the Rubber Board as grants. The remaining about Rs. 173.88 crore will be lent to NABARD for channelisation to participating rubber growers and entrepreneurs in processing through banks.

The progress of the various components achieved during 1994-95 was as follows:

2. Newplanting & Replanting

The newplanting and replanting schemes for 1994-95 were given wide publicity. The schedule of operations involves collection of applications at Regional Office level, scrutiny and registration of applications that are prima facie acceptable, release of applications to the inspecting staff for rendering extension service and field verification, organising group meetings of applicants to brief them on planting and maintenance, collection of field inspection reports, issue of permits and release of financial assistance to eligible cases. The following table gives the details of applications received and permits issued, vis-a-vis targets fixed for the year :

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1993-94

NEWPLANTING

	<u>Applications received</u>		<u>Achievement</u>		<u>Target</u>
	<u>Number</u>	<u>Area (ha)</u>	<u>No. of permits issued by the permits</u>	<u>Area (ha) covered</u>	<u>Area (ha)</u>
Traditional	17,714	8,259	12,446	4,920	6,000
Non-traditional	1,616	2,381	1,166	1,466	1,400
Total	19,330	10,640	13,612	6,386	7,400

REPLANTING

Traditional	5,274	6,198	3,581	4,148	6,000
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1994-95

NEWPLANTING

Traditional	13,260	6,124	7,744	3,063	5,000
Non-traditional	1,956	2,266	1,370	1,347	1,400
Total	15,216	8,390	9,114	4,410	6,400

REPLANTING

Traditional	4,553	6,010	3,673	4,318	7,000
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The figures under "Achievement" are provisional as applications received are under continued processing.

The indications are that the targets for newplanting for 1993-94 and 1994-95 will be more or less achieved, but there may be shortfall in the case of replanting. The reasons for the same are the following:

(i) When the planting grant was enhanced, government had ordered that the grants will be given in traditional areas only to small growers owning not more than 5 ha of rubber for planting upto 2 ha each and to all categories of growers in non-traditional areas for planting upto 5 ha each. Prior to the revision, the grant was given to growers owning upto 5 ha for planting in traditional areas and for all growers in non-traditional areas for planting without any limit. These restrictions have adversely affected the planting rate. The Rubber Board's request for restoration of status quo ante in respect of eligibility criteria is still under consideration of the government.

(ii) Abnormal rise in the local price of natural rubber is discouraging replanting as the income from the existing old trees is found economical for continued tapping.

3. Productivity enhancement

The scheme involves procurement and distribution of 10 agro-inputs such as fertilizers, fungicides and tapping aids at concessional rates to small holders. Technical and financial support are channelled through small grass root level voluntary service organisations of small holders known as Rubber Producers' Societies (RPSs). As on 31.3.1995, orders had been placed for procurement of inputs during May-June 1995 season. The requirements of various inputs were assessed as follows:

	Quantity (Tonnes)	Value (Rs./Lakh)
Urea	3,000	99.99
Muriate of Potash	2,500	85.46
Rock Phosphate	7,500	109.35
Copper Oxchloride	120	75.21
Spray Oil	600 Kl	72.60
Polythene sheet	275	131.86
Rainguard adhesive	825	47.13
Total		621.60

International/local competitive bids for the supply of the various inputs were invited. The fertiliser requirement estimated will be sufficient for application in 45,000 ha of small holdings.

4. Processing

After reviewing current market situation and likely demand for new processing facilities under the project, the Department of Processing & Product Development prepared a revised schedule for establishing processing facilities under the project as follows:

Sl. No.	Description	No. of units	
		As per original project estimate	Revised estimate
1.	Latex centrifuge factories:	3	Nil
	a) New units		
	b) Expansion of existing units with additional machines	20	6
	c) Improving bulk storage facilities	25	10
2.	a) New Block rubber factories	10	1
			(with expanded capacity)
	b) Upgrading existing block rubber factories	7	7
		30	15
3.	New RPS factories (small capacity)		
4.	Conversion of Brown crepe factories into Block rubber factories	5	6
		5	8
5.	Facilities for reprocessing sheets		

6. Innovative rubber products factory	1	-
7. Factories for rubber wood processing	5	5

The proposal is flexible. Depending upon the changing circumstances, modifications may have to be proposed from time to time.

The department identified 3 likely beneficiaries under the processing component, namely one each for expansion of existing latex centrifuging factory, expansion of existing 10 tpd block rubber factory to 40 tpd capacity and a new rubber wood processing factory.

5. Credit

The project provides for grant of NABARD refinanced bank credit to rubber growers for newplanting and replanting and to entrepreneurs in the field of processing for establishment/upgradation of rubber and rubber wood processing facilities. Although concerted efforts were made by the Rubber Board, NABARD and participating banks repeatedly to popularise credit, the offtake, according to reports of NABARD, was very low for planting. Precise figures of loans granted and paid to growers as at the close of 1994-95 were not received from NABARD. As there was no approved project for processing, no loan had been granted by any bank under this head.

6. Research

During October, 1994, the Government of India accorded sanction for creation and filling up of 28 posts of staff for implementing the research component of the project. Immediate action was taken for filling up as many posts as could be managed without any delay. Full-fledged research activities envisaged under the project could begin during 1995-96 as the planting season for 1994-95 was over by the time the incremental staff required for the project started coming to positions.

7. Extension

Extension and advisory services for the rubber growers both at inter-personal level and group level continued. Efforts at organising and activating Rubber Producers' Societies (RPSs) were also continued. The number of RPSs increased to 1,448 as on 31.3.95 from 1,379 as on 31.3.1994.

8. Training and technical assistance

On-going training activities under Board's Department of Training continued. The following is a summary of training activities undertaken during the year:

Sl. No.	Details of course	Nc. of participants
1.	Control of Abnormal leaf fall Disease - one day course	12
2.	Advanced level briefing on tapping - one day course	450

3. Rubber cultivation and crop processing - one day course	248
4. 'Shastradarshan' - Visit-cum-training of small holders at RRII - one day course	343
5. Rubber culture and estate management - 18 day course	42
6. Latex based rubber products manufacturing - 5 day course	146
7. Manufacture of products from dry rubber - 8 day course	95
8. Mushroom cultivation for small holders - one day course	52
9. Rubber sheet grading - one day course	4
10. Induction training for newly recruited Junior Field Officers of the Rubber Board - 8 day course	21
11. In service training for Junior Field Officers - 3 batches - 25 day course	50
12. Other courses on products from dry rubber - 3 to 4 days course	6
Total	1,469

Acquired a plot of 1.20 ha adjacent to the Rubber Research Institute of India's Experiment Station near Kottayam in December, 1994 at a total cost of Rs. 1.9 million for establishing the training centre envisaged under the project. The Academy of Human Resources Development, Ahmedabad was identified as consultants for preparing a comprehensive 5 year Training Plan under the project. Necessary assistance was given to them for preparing the project.

The Rubber Research Institute of India secured the services of Prof. Abhaya M. Dandekar of the Department of Pomology, University of California, USA on attachment basis for 3 weeks during November, 1994. His interaction with the scientists of RRII in general and the Bio-technology Division in particular was highly beneficial.

During the year, deputed the following officials for overseas training:

Sl. No.	Name & designation	Countries visited	Period of visit
1.	Dr. K. Jayaratnam, Dy. Director (Mycology & Plant pathology), RRII	UK	May 23 - 27
2.	Dr. EV Thomas, Director, Processing & Product Development.	Malaysia, Indonesia, Thailand & Singapore.	July 4 - 18
3.	Smt. L Thankamma, Mycology Unit, RRII	Malaysia	September 26-30
4.	Sri. M. Balagopalan Nair, Jt. Director (Engg)	Malaysia Singapore Thailand	November 7-19 November 21-22 November 24-28

5. Sri. N Rajagopal Mechanical Engineer	Malaysia Singapore	November 7-19 November 21-22
6. Sri. Thomas Sebastian, Asst. Factory Manager	Malaysia Singapore	November 7-19 November 21-22
7. Dr. AK Krishnakumar, Jt. Rubber Production Commissioner	Malaysia Indonesia Thailand	March 14-31
8. Sri. A. Ramakrishnan, Jt. RPC.	-do-	-do-

9. Tripura Component

The field work relating to the Soil Resource Mapping of Tripura entrusted with the National Bureau of Soil Survey and Land Use Planning (NBSS & LUP), Nagpur was completed. The draft report together with draft Land Use Plan is expected to become available during the first quarter of 1995-96.

The progress made in respect of Women & Tribal Development Plan for Tripura can be summarised as shown below:

A total of 18 tribal small holder centres covering 1993 and 1994 newplanting were identified in Tripura by the close of the year under review for implementation of Women and Tribal Development programmes as envisaged in the project. The criteria agreed to by the IDA for selection of centres are (a) there should be a cluster of minimum 30 beneficiaries at each centre and (b) the beneficiaries should have a minimum of 1 ha of rubber plantation each. The 18 centres selected have a total of 949 prospective beneficiaries who amongst them have/ will have a total of 1,514 ha of rubber plantations.

The two Non Government Organisations (NGOs) engaged completed socio-economic survey of beneficiary house-holds in all the 18 centres under the guidance and supervision of the Development Unit (DU) set up by the Government of Tripura. A model Women & Tribal Development Plan (TDP) was drawn up for one of the centres jointly by the NGOs and the DU, vetted by the Board and got approved by the IDA. Based on the model, action plan for the remaining centres and training of all functionaries were finalised. Training of the first batch of beneficiaries and beneficiary workers in fishery and poultry farming was also completed. Gender sensitisation camps were conducted in all the 18 centres following which committees of women also constituted. Plans for procurement and distribution of inputs such as piglets, fish fingerlings, chicks, feeds, fertilisers and yarn for implementation of non-rubber economic programmes were finalised.

Among social welfare programmes envisaged as part of Government of Tripura contribution to the TDP, arrangements for establishment of an Intensive Community Development Scheme (ICDS) Centre in each of the centre were on hand. The centres which would come into existence in July, 1995 will undertake nutrition and pre-primary education activities for the benefit of children of beneficiary families. Health camps were organised in 7 centres. Action was under way to mount "Total Literacy Campaigns" and "Mahila Samridhi Yojana", a women's savings scheme.

Work for providing link roads and drinking water facilities to plantation centres was commenced.

The IDA Supervision Mission has specified that there should be tripartite agreements entered into by the Board, the DU and each of the NGOs in addition to an agreement between the Board and the DU to spell out the responsibilities and contributions of each to the implementation of the TDP. The agreements will be drawn up and executed shortly.

10) Organisation & Management

The National Institute of Rural Development (NIRD), Hyderabad which has been awarded consultancy for carrying out the Baseline Survey of small holders as envisaged in the project started their field work in December, 1994. Their management personnel and field supervisory officers were given necessary training on various aspects of rubber cultivation, production etc. at Kottayam. The field work was completed and processing of the data collected through the field survey and preparation of report is understood to be in progress.

The Electronic Research and Development Centre (DR & DC), Trivandrum has been tentatively identified as the agency for consultancy service for computerisation of the Rubber Production Department. The consultant's proposal in this regard was received and after appropriate modifications it was submitted to the World Bank for consideration.

An IDA Supervision Mission consisting of M/s. K Aricandran, Senior Operations Officer and SP Agarwal, Senior Financial Officer of the World Bank and Mr CM George (Consultant) visited Kottayam during April, 1994 and reviewed the progress of implementation of the project. Earlier, Mr. Agarwal had visited Tripura and reviewed the progress of the project component relating to that state. The Mission again visited Kottayam and the nearby project areas during December, 1994 and reviewed the progress of the project. M/s. Agarwal, George Manoshi Mitra visited Tripura in November, 1994.

11) Project Expenditure

A brief extract of particulars of expenditure incurred by the Board for the year ending under report are given below:

Sl.No.	Head of Account	Expenditure during the year	Cumulative expenditure
		(Rs./million)	
1	Replanting	26.86	40.89
2	Newplanting	34.25	51.30
3	Productivity improvement	62.79	92.62
4	Processing	0.35	0.42
5	Research	1.69	4.24
6	Extension	2.83	3.21
7	Training & technical assistance	4.10	4.38
8	Rubber Board Organisation	3.15	3.68
9	Project Co-ordination	0.88	1.10
10	Women & Tribal Dev.	4.00	4.00
	TOTAL:-	140.90	208.04

The Board submitted bills for Rs.96.16 million to the Government of India, Ministry of Finance, Department of Economic Affairs during the year for obtaining reimbursements from IDA. Cumulative total of amounts billed so far came to Rs.160.98 million.

PART - V - RUBBER RESEARCH

Various scientific investigations under different disciplines of agriculture and rubber technology were carried out. For conducting field experiments a Central Experiment Station with an area of 254 ha is functioning at Chethackal, Ranni and another with 35 ha in extent at Kottayam - 3. A ~~four~~ Research Complex has been established for the North Eastern Region with its headquarters at Guwahati. 4 Regional Research Stations also function specifically for North-Eastern Region at Guwahati, Agartala, Mizoram and Meghalaya. For serving other non-traditional areas, 4 Regional Research Stations have been established in the states of Maharashtra, Orissa, West Bengal and Madhya Pradesh. In these Regional Research Stations experiments are conducted to develop suitable agrotechnology for cultivation of rubber in these non-traditional areas.

a) Agronomy/Soils

Carried out studies on nutritional requirement of rubber and different agrotechniques. In a trial on immature rubber conducted at Kodumon Estate (Adoor), the optimum requirement of N, P_2O_5 and K_2O was found to be 30:30:20 kg ha⁻¹ year⁻¹. The experiment at Vaniyampara Estate (Palakkad District) with rubber under tapping indicated that 20 kg ha⁻¹ was the optimum dose of nitrogen for yield.

Summer irrigation of young rubber plants was found to be beneficial for growth. A field study conducted in seedling nursery indicated that the use of pre-emergence herbicide 'Klass' at 2.5 kg ha⁻¹ (ai) as basal application at the time of planting seeds, followed by another dose of 1.0 kg ha⁻¹ (ai) two months after the first application gave satisfactory control of weeds at about half the cost of conventional manual weed control.

Construction of silt pits in the fields improved the soil moisture content of top soil during summer months in mature rubber plantation. The presence of 100 to 200 silt pits ha⁻¹ was found to collect 3.0 to 5.0 tonnes of soil that would have otherwise lost from the field by erosion.

Fertilizer recommendation was given to 4500 small growers and 25 estates on the basis of analysis of 8500 soil and 2200 leaf samples. A computer programme was developed to offer discriminatory fertilizer recommendation for rubber.

b) Botany

Continued work on genetic improvement of rubber through hybridisation and ortet selection. Out of 23 hybrid clones of the family RRII 105 X RRIC 100, six clones continued to record comparatively higher yield than RRII 105 during the first two years of tapping. A total of 14,146 hand pollinations were carried out on breeding for yield, drought tolerance and compact canopy. Based on early yield 55 hybrid clones of 1986 breeding programme were selected and multiplied for further evaluation. Out of 53 ortet clones selected at 60 months growth, eight selections were also multiplied for further evaluation.

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b) Botany

Continued work on genetic improvement of rubber through hybridisation and ortet selection. Out of 23 hybrid clones of the family RRII 105 X RRIC 100, six clones continued to record comparatively higher yield than RRII 105 during the first two years of tapping. A total of $14,146$ hand pollinations were carried out on breeding for yield, drought tolerance and compact canopy. Based on early yield 55 hybrid clones of 1986 breeding programme were selected and multiplied for further evaluation. Out of 53 ortet clones selected at 60 months growth, eight selections were also multiplied for further evaluation.

Four new field experiments consisting of 70 clones and the introduced clones (RRIM 712, RRIM 722 and RRIM 728) were laid out at the Central Experiment Station, Chathackal. Three field experiments of 22 clones in an area of 20 ha were laid out at Kseriparai Division of Arasu Rubber Corporation. Another block trial of 8 clones was laid out at Sasthamkotta.

In the large scale trial (1973) RRII 206, RRII 203 and RRII 208 recorded the highest yield of 91.57, 90.01, 84.08 g tree⁻¹ tap⁻¹ at the 14th year of tapping. RRII 105 continued to record the highest yield (1970 kg/ha mean over 11 years of tapping) in the block trials at Koothattukulam, Kinalur, Malankara and Manikkal. Data on yield and other secondary characters in eight other large estates showed RRII 105 to be the highest yielder followed by PB 28/59, PB 260 and PB 217.

The possibility of replacing portions of bark affected by tapping panel dryness with healthy bark was field tested. Successful grafts were opened for tapping after six months and normal latex flow was observed. In a collaboration study samples of somatic embryos were processed and preliminary observations were initiated. Karyomorphological analysis of another set of four clones viz RRII 105, PCK 1, RRIM 703 and KRS 163 was initiated. The induced tetraploids of *Hevea brasiliensis* RRII 116 and PR 107 exhibited wide spectrum of variation with respect to morphology and palynology. There was wide range of variation in the germination and tube growth of pollen grains from tetraploid (RRII 105), compared to the diploid counterpart.

c) Plant Physiology

Physiology and biochemistry investigations on rubber were continued. Stock scion interaction studies were continued. Different clones exhibited different percent of rooting. Additional experiments are being planned to generate large number of genetically identical plants from a single individual tree and use them for stock scion interaction experiments.

Experiments to cultivate medicinal plants in mature rubber plantations were continued and the results are encouraging.

Studies on CO₂ fertilization gave promising results. Developed a indigenous method by which rubber seedlings can be exposed to high concentration of atmospheric CO₂ for a fixed time every day. This appeared to increase the bio-mass. More detailed studies will be conducted to evaluate whether exposing the seedlings to high CO₂ can increase growth rate and thus reduce the juvenility period.

The investigations on the bio-chemistry of latex production as well as tapping panel dryness were continued. Various enzymes and metabolic intermediaries that may play a role in the latex physiology were estimated. Attempts were made to identify any particular species of heat shock proteins produced in rubber. Also a bio-chemical monitoring of a small population of trees is being conducted to study if any change in the bio-chemistry can be correlated with eventual TPD developing in future.

d) Plant Pathology

Disease and pest control in rubber is the main field of activity in Plant Pathology. The findings include control of abnormal leaf fall disease by aerial spraying with oil dispersible mancozeb, powdery mildew by dusting tridemorph and sulphur alternatively or by mixing both in mature trees and spraying penconazole in nursery plants and black stripe and shoot rot diseases with phosphorus acid. The prophylactic Bordeaux paste application gave promising results in 2 and 3 year old plants. In lab studies, heart wood extracts were found inhibitory to *Corticium* and *Hyetophthora*. Screening of gemplasm and hand pollinated clones for various disease resistance was undertaken.

Two VAM fungi and one acid tolerant nitrogen fixing *Azotobacter* were found effective in enhancing *Pueraria* growth. The mini gas plant fabricated produced biogas when sheet serum was mixed with mushroom compost. In nematode control experiments, carbofuran was found effective in checking root knot nematodes. European honey bee colonies were established at the RRIL. Two automatic weather stations were established to monitor microclimate under the canopy.

e) Biotechnology

About 500 tissue culture plants will be ready for planting at the Central Experiment Station, Chethackal for comparison with bud grafted plants. Regarding the gene transfer technology (Recombinant DNA technology) one experimental system for transferring a "foreign" reporter gene named GUS has been successfully transferred to a more amenable species tobacco; as a trial to test the technology. This technology will be tried in rubber now.

f) Rubber Chemistry, Physics & Technology

Concentrated in primary processing, chemical modifications and technological properties of rubber. Completed the fabrication of solar heat collector (4M²) and attached it to the portable smoke drier of 96 sheets capacity. Evaluated its performance with partial loading of sheet rubber and found to have 50% saving on firewood on peak sunshine months.

In order to reduce the cost of production of epoxidised natural rubber, a new recipe with lower concentration of reagents at a higher temperature of reaction has been optimised on a pilot plant scale. Evaluation of ENR as a substitute for nitrile rubber in rice dehulling rolls showed that rice bran oil resistance of ENR was inferior to that of NBR.

Blends of skim rubber and ISNR 20 at different proportions were prepared and evaluated the technological properties. These blends were found to have high hardness and stiffness.

The breakdown behaviour and degradation of different forms of NR were assessed in comparison with butyl and EPDM rubbers.

Preliminary studies on blooming of rubber chemicals showed that light and humidity enhanced this phenomenon.

Initial results on the performance of a timing belt, fabricated using short sisal fibre-natural rubber composite were highly encouraging.

Studies on the nutrient release characteristics of NR modified urea are in progress.

A study on latex stage blending of NR and SBR was initiated in collaboration with M/s.Synthetics & Chemicals Ltd.

Microcrumbs obtained from waste vulcanized rubber were tried for the production of rubberised bitumen.

A total of 879 advisory samples relating to rubber processing and products manufacture were analysed for various parameters.

g) Agricultural Economics

Economics of cultural operations and other aspects of rubber were investigated. An evaluation of the Insurance scheme for rubber plantations during its first five year period of operation was carried out and suggested substantial modifications.

A time-series analysis of the foreign trade in rubber products during the period 1971-72 to 1992-93 was completed. The study showed that the present pattern of exports is an extension of the existing inward oriented industrial structure.

The follow up study initiated to assess the market potential of six medicinal plants showed that the area required to meet the present demand is only 518 hectares.

The availability of rubber wood during 1994-95 was estimated to be 826 thousand cu.m. stem wood and 288 thousand cu.m. was sawn timber suitable for processing.

h) Germplasm

Continued studies on the wild germplasm in the base nurseries. Selected 135 genotypes belonging to Acrem Rondonia and Matto Grosso groups on the basis of test tapping yield, bark thickness, girth, number of latex vessels and disease tolerance. Planted 85 genotypes from this group for further evaluation. Genotypes showing better summer girth have been handed over to the World Bank Project for further hot spot screening. An *ex situ* germplasm garden comprising of 20 popular clones also has been established.

i) Research support activities

a) Statistics

Developed computer programmes for most of the statistical analysis of the data collected from the laboratory/field experiments. These programmes can be utilised for analysing the experimental data. Suitable statistical layouts were provided for field/laboratory experiments. A programme for fertilizer recommendation was developed taking into account all inputs and previous case history. A programme for complex calculations useful for scientists were prepared according to the needs.

b) Library

During the current year 173 new books were added to the library collections, making the total book strength to 20838. Subscribed to 155 journals and 8 dailies. Received in the library 98 other journals either as gift or exchange.

Compiled three issues of Documentation List, five numbers of Rubber Alert, 135 issues of SDI Bulletin and 2 issues of List of New Additions and distributed. As part of database development 11,600 documents have been indexed.

During this period published a bibliography viz. "Natural Rubber - Bibliography Volume 2" with literature covered from 1984 to 1994.

c) Instrumentation

Attended to the functions of procurement of suitable equipments, commissioning, regular preventive maintenance and repairs of the equipments. Procured 24 new instruments.

d) Meteorology

Regular meteorological observations were carried out at the RRII, CES and 4 other observatories established in different locations. Two automatic weather stations have been established for correctly evaluating the difference between the micro climate within rubber estates and climate outside the plantations.

e) Regional Research Stations

In the Hevea Breeding Sub-Station and Regional Research Stations, various experiments were continued to perfect suitable agro-technologies for the non-traditional areas. The clone trials conducted indicated that certain clones which perform well in the traditional areas are not necessarily suitable for non-traditional areas. Experiments on irrigation conducted at RRS, Dapchari indicated that basin irrigation is superior to drip irrigation and within treatments of 1 Etc, 0.75 Etc and 0.5 Etc there is no significant difference. Evaluation of irrigation treatments of polyclonal seedlings in comparison to buddings is being carried out in the non-traditional areas with adverse climatic factors. The seedling plant could withstand climatic adverse factors better. Various nutritional studies and weed control studies are being carried out in the Regional Research Stations. About 650 germplasm collections are being maintained.

f) Central Experiment Station

The Central Experiment Station established in 1966 at Chethackal, Ranni covers an area of 254.80 ha. Long term field experiments dealing with clone evaluation, exploitation studies, screening of Brazilian germplasm, pests and diseases, intercropping of medicinal and other cash crops have been laid out. Over 4000 genotypes of wild Brazilian germplasm received from the Malaysian centre and 122 clones of Wickham materials have been established and maintained for evaluation.

During 1994-95 an area of about 15 ha. was planted for different experimental purposes. The total crop production during the period was 151,847.10 kg. The total rainfall during the reporting period was distributed as follows:-

<u>Month & Year</u>	<u>Rainfall (mm)</u>
April 1994 -	194.0
May " -	167.5
June " -	497.5
July " -	640.0
August " -	464.7
Sept: " -	198.6
October " -	649.7
November " -	221.6
December " -	26.3
January 1995 -	62.4
February " -	69.6
March " -	53.7

Total: 3245.6

There were 213 permanent workers and 204 casual workers on the rolls during the period. The total mandays engaged for different operations during 1994-95 were 71,697.

PART VI

PROCESSING AND PRODUCT DEVELOPMENT

The Processing and Product development activities centered around support to rubber processing and rubber product manufacturing industries in areas of factory design, product development, quality improvement and treatment and disposal of effluents.

Two seminars were organised for improvement in quality and consistency of processed rubber latex and technically specified forms of natural rubber. The seminar on production of consistent quality preserved concentrated latex was attended by all the processors of concentrated latex in the country. Techniques for improving quality and efficiency in production of concentrated latex were discussed in the seminar. In the review meeting of Licencees of the Bureau of Indian Standards decisions were taken for making the ISI certification programme more effective. Representatives of Processors from different sectors of the industry participated in the meeting.

a) Engineering Consultancy

Continued to provide engineering and technical assistance to the Crumb Rubber Factories established under Kerala Agricultural Development Project (KADP). Also provided support to the new entrepreneurs in setting up rubber processing factories under private, co-operative and Government undertakings.

Factories commissioned/completed work with assistance of the Board.

- 1) 10 MT/day crumb rubber factory of M/s. Ponnudi Rubbers (P) Ltd., a company promoted by Rubber Board and Rubber Producers' Societies. The unit has started commercial production. The tunnel of drier of this factory was built with hollow clay blocks and it is observed that the fuel efficiency of the drier is better than those of driers with metallic tunnels.
- 2) The latex centrifuging unit of M/s. Kannoor District Rubber and Agriculture Marketing Cooperative Society Ltd. The unit has started commercial production.
- 3) The scrap processing line of M/s. Kavanar Latex (P) Ltd. All the engineering consultancy for this work was given to the Company.
- 4) Latex Creaming Plant of Kaduthuruthy Cooperative Rubber Marketing & Processing Society Ltd. All the civil and electrification work have been completed. The unit is ready for commercial production.

- 5) High Tension conversion work of PLC factory of M/s.Kaduthuruthy Society.
- 6) Civil work of the latex creaming plant of M/s. Monipally Marketing Cooperative Society. Its electrification work is in progress.
- 7) Prepared design drawing and estimate for the civil work of M/s.Meenachil Treated Rubber Wood (P) Ltd. Civil work of the unit is nearing completion and most of the machinery required for installation in the factory are received at site.
- 8) Prepared design, drawing, estimate and tender documents for the civil work of the Crumb rubber factory of M/s.Meenachil Rubber Marketing & Processing Cooperative Society Ltd.
- 9) Prepared site plan, lay out plan, sectional details of factory building, tender documents for civil works etc. for the Crumb Rubber Factory of M/s.Kottayam Rubber Marketing Cooperative Society Ltd. The society has not so far got the clearance from the Pollution Control Board for establishing the factory.
- 10) Technical assistance was given to M/s.Mannarghat Crumb Rubber Factory owned by the Palakkad District Co-operative Rubber Marketing Society for the renovation of the factory damaged by a fire accident.
- 11) Technical assistance was given to M/s.State Farming Corporation of Kerala Ltd. for commissioning their latex centrifuging factory and crepe mill.
- 12) Technical assistance was given to M/s.Rehabilitation Plantations Ltd. for the electrification work of their hospital sheeting factory.

b) Quality Control

Details of analytical work done are given below:-

M O N T H	Central Lab		Specification Lab	
	No. of samples received	No. of parameters determined	No. of inspections	No. of parameters determined on inspection samples
1) April '94	1214	2461	55	399
2) May "	2323	4967	56	418
3) June "	2080	5142	48	492
4) July "	2114	5887	55	479
5) August "	2761	4516	31	236
6) Sept. "	1671	4318	47	403
7) Oct. "	226	6429	-	91
8) Nov. "	2290	6144	114	740
9) Dec. "	3415	7083	31	286
10) Jan. '95	2264	4903	28	276
11) Feb. "	1729	4170	56	511
12) March "	1833	4250	82	558

Carried out analysis of the samples received in the Central Lab for 50367 parameters. The Specification Laboratory tested 288 inspection samples for 4878 parameters. Collected an amount of Rs.8,28,779/- for the various items of services provided. Bureau of Indian Standards remitted an amount of Rs.4,57,194/- as share of marking fee to the Rubber Board.

Preparation of project reports for rubber processing factories and site inspections.

Inspected 15 sites and prepared 11 project reports as per requests from prospective Entrepreneurs for establishing rubber processing factories, for ascertaining suitability of sites for establishing factories. Project Reports for establishing an effluent treatment plant was also separately prepared.

Other items of work

- 1) Two sets of rubber samples received under International Round Robin Cross Check Scheme from Malaysia were tested and results were communicated to the Co-ordinating Laboratory in Malaysia.

- 2) Advisory assistance was given to two private Limited Companies for improving the efficiency in latex concentration process.

IV FACTORY MANAGEMENT

Processed 448 metric tonnes of Technically specified rubber and 269 metric tonnes (drc) of concentrated latex. Total sales realisation was Rs.25.1 million. Both the Pilot Crumb Rubber Factory and the Latex Processing Factory served as training centres for Managers/Officers deputed from different rubber processing units.

V SCHEMES FOR IMPROVING PROCESSING

- a) Details of the equipments issued for establishing latex/scrap collection centres are the following:-

1) Platform Balance	: 46 Nos.
2) Chemical Balance	: 41 Nos.
3) Air Oven	: 41 Nos.

- b) Subsidy for smoke houses.

An amount of Rs.1,37,851/- was paid to Rubber Producers' Societies for establishing smoke houses.

- c) Subsidy for group processing centres

An amount of Rs.5880/- was paid to an RPS for establishing group processing centre.

- d) Share capital contribution to Co-operative Societies

An amount of Rs.5 lakh was paid to Rubber Marketing Co-operative Societies for establishing rubber processing laboratories.

- e) Share capital contribution to Processing Companies for establishing laboratories.

An amount of Rs.10 lakh was paid to rubber processing companies for establishing laboratories for testing of Technically specified rubber.

PART VII.

TECHNICAL CONSULTANCY

Continued to provide technical assistance to its clientele viz. (1) the entrepreneurs desirous of establishing rubber based units and (2) rubber goods manufacturers. For the entrepreneurs, provided guidance for identifying viable rubber based projects, prepared Project Feasibility Reports for availing of credit finance, rendered assistance in conducting trial production in the units and for quality control of products. Assistance was provided to existing rubber goods manufacturers for quality improvement of rubber goods, cost reduction, diversification and for locating export market for rubber goods. The clientele in general have acknowledged and appreciated the services rendered.

Prepared 21 Project Reports on processing of NR and 11 on rubber products. Technology for the production of rubber goods such as Fuel resistant hose, Dental dam, Intravenous Infusion tube, Grooved Railpad and Precured Tread, was developed and the knowhow was transferred to the interested parties. Developed knowhow for the radiation vulcanization of natural rubber latex and tried to popularise use of RVNRL in the manufacture of selected latex products.

PART - VIII
ADMINISTRATION

The major functions in Administration consists of constitution/reconstitution of the Board and its committees, maintenance of the establishment and house keeping operations, collection of cess, licensing, market intelligence, price collection and marketing, collection of statistics, publicise Board's schemes and activities, carry out labour welfare measures, attend to vigilance and legal functions, official language implementation and disbursement of retirement benefits.

The functions are carried out through the following sections/divisions/offices:

- 1 Establishment (General Administration, Personnel Administration & Entitlement)
- 2 Excise Duty
- 3 Market Intelligence
- 4 Marketing
- 5 Statistics & Planning
- 6 Publicity
- 7 Labour Welfare
- 8 Internal Audit
- 9 Legal
- 10 Vigilance
- 11 Official language implementation; and
- 12 Sub Offices and Liaison Offices.

1.1. General Administration/Staff Welfare

The activities of the Board for the year 1993-94 were documented through the Annual Report which was presented to the Government as required under Clause 8(3) (c) of the Rubber Act.

During the period 30 employees were given financial assistance for construction of own houses by advancing Rs.19,91,650/- and 17 employees vehicle advance amounting to Rs.2,12,400/- (Rs.1,16,800/- as Car advance to 2, Rs.90,800/- as two wheeler advance to 7 and Rs.4,800/- to 8 as cycle advance). In addition 57 two wheeler advance applications under the World Bank Scheme was also serviced, involving an amount of Rs.16,89,891/-.

Work on the seven storey new headquarters building was almost completed. The Headquarters offices were shifted to the new premises in December 1994. The services of the post, telegraph, telephone and telex were harnessed to provide good communication facilities between the Board and its clientele.

1.2 Personnel administration

Selection of suitable personnel to vacant positions for the smooth functioning of the Board was ensured by following recognised recruitment rules and statutory provisions relating to reservation of posts for candidates from the SC/ST/OBC communities. There were properly constituted selection committees/DPCs for selection of personnel by evaluating the merits/skills of the candidates. Periodical returns on the personnel recruited were sent to the Government and to the Employment Exchange. Service books, leave accounts and personal files of employees were properly maintained. Retirement benefits were newly given to 22 employees including 3 who had left on voluntary retirement. As on 31.3.1994 there were 225 pensioners on the Board's rolls.

The total number of officers and staff under the Board as on 31.3.1995 was 2123 as detailed below:

Name of Department	Group	Group	Group	Group	Total
	A	B	C	D	
Administration	31	65	167	24	287
Rubber Production	90	362	746	92	1290
Research	57	119	196	36	408
PPPD	18	26	38	3	85
Finance & Accounts	6	8	23	1	38
Training	2	1	5	1	9
Project Co-ordination Unit	2	1	3	-	6
Grand Total	206	582	1178	157	2123

2 Excise Duty/Licensing

The Rubber Board has been entrusted with the responsibility of assessing and collecting the duty of excise (cess) on all rubber produced in India under Section 12 of the Rubber Act, 1947. The rate of cess, which was ₹0.50 per kg of NR till 30-6-1994 was enhanced to ₹1/- per kg from 1-7-1994. The cess is collected on the quantity of rubber purchased or otherwise acquired by the manufacturers who consume it. Every manufacturer has to obtain a licence from the Board to acquire natural rubber. Every manufacturer is bound to give monthly and half yearly returns showing the quantity of rubber acquired and consumed. It is on the basis of the purchases reported in their half yearly returns that the assessment of cess is normally made. Issuance of licence to manufacturers to acquire raw rubber, assessment, collection of the duty of excise (cess) on rubber and remittance to the Consolidated Fund of India formed the important functions relating to excise duty.

2.1 Issuance of licence

(a) Issuance of licence for the year 1994-95:

Issue of licences includes issue of new licences to prospective manufacturing units and renewal of existing licences for subsequent years. The details of licences issued during 1994-95 are furnished below:

Fresh licences	480 Nos.
Renewal of licences	<u>4938 Nos.</u>
	<u>5418 Nos.</u>

During the period, licence in respect of 6 manufacturers were suspended on account of serious irregularities and malpractices detected in their business. Licences in respect of 4 units were cancelled on the basis of their request. Thus, the total number of licenced manufacturers at the end of 31-3-1995 was 5408. The statewide distribution of licenced manufacturers as at the end of 31st March, 1995 are detailed hereunder:

<u>Sl.No.</u>	<u>Name of State/Union Territory</u>	<u>No. of units</u>
-1	Kerala	880
-2	Maharashtra	612
-3	Punjab	561
-4	Tamil Nadu	546
-5	West Bengal	518
-6	Uttar Pradesh	473
-7	Gujarat	404
-8	Delhi	372
-9	Haryana	282
10	Karnataka	245
11	Andhra Pradesh	170
12	Rajasthan	92
13	Madhya Pradesh	84
14	Bihar	40
15	Pondicherry	31
16	Chandigarh	22
17	Goa	17
18	Orissa	16
19	Himachal Pradesh	14
20	Jammu & Kashmir	10
21	Daman	6
22	Assam	4
23	Tripura	4
24	Dadra & Nagerhaveli	3
25	Sikkim	1
26	Manipur	1
Total		<u>5408</u>
		=====

List of licensed manufacturers was prepared and copies were supplied to rubber dealers and other interested persons.

(b) Issue of licence for the year 1995-96:

Renewed 3676 licences of existing manufacturers for 1995-96 and issued 32 licences to new manufacturing units.

2.2 Registration of letters of authorisation

Apart from the issuance of licences to the manufacturers, registered 1775 letters of authorisation issued by various manufacturers in favour of dealers to purchase and despatch rubber on their behalf.

2.3 Registration of Branch/Purchase Depot:

On the basis of the applications received from the manufacturers 2 new branches/purchase depots were registered.

2.4 Letter of authorisation to purchase rubber:

Apart from the regular licences, special authorisations to 16 organisations/institutions to acquire rubber for experimental purpose were issued, after collecting the relevant cess amount in advance.

2.5 Assessment of duty of excise (cess) on rubber:

During 1994-95, a significant amendment to Section 12 of the Rubber Act 1947 revising the ceiling rate of the duty of excise (cess) on rubber from paise 50 to Rs.2/- per kilogram was passed by the Parliament. With effect from 1-7-1994, the rate of duty of excise (cess) on rubber was enhanced to Re.1/- per kg from paise 50 by the Government of India vide notification No.S.O.489(E) dated 30th June 1994. The previous rate of cess i.e., Re.0.50 prevailed almost for a decade from 24-8-1984 to 30-6-1994. However, this enhancement has not contributed much to the assessment and collection of cess during the financial year, since purchase of natural rubber by manufacturers during the period from 1-7-1994 to 30-9-1994 (3 months) only could be assessed at the enhanced rate as per the prevailing system of assessment.

The budget estimate and revised estimate for assessment and collection of cess on rubber for 1994-95 were Rs.23 crore and Rs.24 crore respectively. The total amount of cess assessed during the year was Rs.26.95 crore, surpassing the revised estimate by 12.29%.

During the year, 10,447 half yearly returns (in form M) were received from various manufacturers and sole crepe producers. The Liaison Officers and inspecting staff placed at various parts of the country furnished 1948 individual inspection reports, on which appropriate action

was taken promptly. These inspection reports and information furnished by the Market Intelligence Section from time to time facilitated detection of clandestine transactions in rubber by certain manufacturers and as a consequence, additional assessments were made in 180 cases on a quantity of 1482 tonnes of natural rubber involving cess on rubber to the tune of ₹.7.70 lakh.

2.6 Collection of the duty of excise (cess) on rubber:

The total amount of cess on rubber collected during the year was ₹.26.24 crore, registering an increase of 32.34% over the last year's collection. This amount includes ₹.32.69 lakh collected out of old arrears. The entire amount collected, reduced by ₹.52 lakh towards cost of collection, was remitted to the Central Bank of India, for credit to the Consolidated Fund of India.

2.7 Miscellaneous:

With a view to help the small rubber goods manufacturers economise on audit fee and receipt of information in time, reports of the Board's Excise Duty Officers, Asst. Excise Duty Officers and Excise Duty Inspectors were treated equivalent to the report from Registered Auditors for the purpose of certifying correctness of the returns submitted under Rule 33(f) of the Rubber Rules, 1955, vide Office Order No.741 dated 4-8-1994.

During 1994-95, a sum of ₹.8.37 lakh was collected towards interest on behated payment of cess. Apart from this, an amount of ₹.11.71 lakh was collected from various manufacturers towards licence fee and service charge. A sum of ₹.2,215/- was collected towards price of the list of licensed manufacturers. These amounts were duly credited to the General Fund Account of the Board.

3 Market Intelligence

Licensing of dealers and processors and all other statutory functions connected therewith like registration of branches, registration of letters of authorisation to purchase rubber, approval of shifting of business premises/godown, approval of reconstitution of firms and approval of adoption/change of trade name and preventive steps for contravention/violation of the statutory provisions were carried out under Rule 39 and Rule 39 A of the Rubber Rules 1955.

3.1 Strength of Dealers and Processors

The number of dealers holding licences to deal in rubber was 7509 at the beginning of the year under report. Their strength rose to 8,295 at the end of the year. Similarly the licensed processors was 144 which went upto 151 as on 31-3-1995.

3.2 Licensing of Processors

During the year 26 applications for issue of processors licence were received, based on which 16 new licences were granted with validity for one year i.e. upto 31-3-1995 and 8 licences were renewed.

Statewise distribution of licensed dealers and processors
as on 31-3-1995

Sl. No.	Name of State	No. of dealers	No. of Processors
-1	Kerala	7181	137
-2	Tamil Nadu	211	14
-3	Delhi	172	
-4	Punjab	190	
-5	West Bengal	103	
-6	Uttar Pradesh	84	
-7	Maharashtra	85	
-8	Karnataka	85	8
-9	Haryana	43	
10	Tripura	57	1
11	Gujarat	25	
12	Madhya Pradesh	12	
13	Rajasthan	11	
14	Assam	9	
15	Chandigarh	7	
16	Andaman and Nicobar	5	
17	Meghalaya	4	
18	Bihar	2	
19	Andhra Pradesh	5	1
20	Orissa	2	
21	Goa, Daman & Diu	1	
22	Jammu & Kashmir	1	
Total		8295	161

Districtwise distribution of Kerala based licensed dealers

Alappuzha	32
Ernakulam	1001
Idukki	404
Kannur	370
Kasarode	73
Kollam	856
Kottayam	2094
Kozhikode	172
Malappuram	275
Palakkad	197
Pathanamthitta	927
Trivandrum	561
Trichur	121
Wynad	48
Total	7181

3.3 Approval of latex collection

Approval for collection of field latex for sale after ammoniation was granted to 28 dealers.

3.4 Collection of cess (Excise duty on rubber) from dealers

An amount of Rs.12,63,181/- was collected from dealers to compensate loss of cess on rubber by their irregular sales. In addition Rs.40,000/- was received from banks towards forfeiture of bank guarantees furnished by the dealers who violated the conditions of the licences.

3.5 Collection of pending returns

Pending returns were collected from dealers and processors before renewal of licences for 1995-96/1995-98/1995-2000.

3.6 Supply of Form 'N' declarations for interstate transport of rubber

Declaration forms for inter-state transport of rubber were supplied to various estates, dealers, processors and manufacturers, details of which were as follows:

Type of declaration	No. of parties to whom supplied	No. of books
N1	98	558
N2	2170	1776
N3	26	27.3
N4	2523	4062.1
	-----	-----
	4817	6423.4
	=====	=====

3.7 Inspection and verifications

During the period under report 2969 inspections were conducted as part of market intelligence function.

3.8 Detection of irregular transactions/cross checking of returns/Form N declarations..

In order to curtail bogus transactions and detect bogus dealers, timely watching and scrutiny of Form N declarations and connected returns were undertaken. Suspicious transactions of certain dealers and manufacturers could be detected in time and loss of revenue to the Board and Government could be prevented. Based on the irregularities/malpractices licence in respect of 2 dealers were suspended and of one dealer was cancelled. Security deposit furnished by 3 delinquent dealers totalling Rs.64,500/- was forfeited. Besides, details regarding the purchase of 11,61,064 kg of rubber by 12 manufacturers without proper accounts were made use of for making assessment and collection of cess on rubber.

Purchase of abnormal quantity of rubber, over and above the licensed quantity by certain manufacturers, were detected and necessary steps to restrain the same were taken.

Cross checking of monthly returns/Form N declarations of 166 dealers and 60 manufacturers with those of their suppliers/purchasers were carried out and an amount of Rs.9.31 lakh was realised on the unaccounted transactions.

3.9 Functioning of check posts

The surveillance exercised through the 3 checkpoints at Walayar, Manjeswaram and Kavalkinar supplemented by spot inspections helped in unearthing a lot of malpractices.

Printed 16000 books of declaration forms under different categories (Form N1, N2, N3 and N4) of which 14,135 nos. of Form N books were supplied to various estates, processors, dealers and manufacturers. Copies of 57,914 Form N declarations received were scrutinised where discrepancies were noticed and explanations/clarifications were called for from the concerned parties. As per the daily statements, received from the checkpoints of Walayar, Manjeswaram and Kavalkinar, 45,546 consignments of rubber had passed through the 3 checkpoints during the period under report. These consignments were cross verified with the returns in doubtful cases. The number of consignments passed through the checkpoint is as shown below:

<u>Name of Checkpost</u>	<u>No. of consignment</u>
Walayar, Palakkad District	38,511
Manjeswaram, Kasaragod District	3,242
Kavalkinar, Thirunelveli District	3,793
Total	45,546

The restriction on the purchase of field latex by dealers within the area of operation of rubber producers societies was further relaxed by bringing down the distance to 1.5 km from 3 km.

4 Marketing and price collection

Continued to give marketing support to trading Companies and Processing Companies. The latex collection centres run by companies were periodically visited for giving advice on technical matters for managing these centres efficiently. Trading companies were given guidance in the sale of rubber purchased by them.

Collected and compiled price of various grades of natural rubber and reported them to the press for publication. Important information disseminated are daily average price of RSS 4 and ungraded rubber, weekly price of all grades of rubber, monthly average price of sheet rubber of all grades, weekly average price of centrifuge latex, daily and weekly price of various grades of rubber in the international market etc. The Division also gave to the Ministry information required by them on the price of natural rubber in the domestic market as well as in the

international market. Average monthly/yearly price of different grades of rubber both indigenous and international are given under Tables 5 and 6.

With the introduction of the current exim policy all restrictions on export of natural rubber were lifted. Thereupon a lot of enquiries from exporters of natural rubber were answered giving details of export formalities, procedures laid down by the Government for export, inspection agency etc. Inspection of consignments for exports for issuing certificates of quality was also made. The exporters were assisted in identifying sources of supply of specific grades of natural rubber for meeting the export commitments. Import enquiries as and when received from importers from abroad were circulated among plantation companies/processors and important traders.

Compiled Natural Rubber Subsidy for which the exporters were eligible during the period under report and intimated to the Ministry of Commerce, Chemicals and Allied Products Export Promotion Council, Sports Goods Export Promotion Council and to the various Regional Offices of the Director General of Foreign Trade.

For the upgradation of quality of the sheet rubber produced by the small growers and for undertaking latex collection in a systematic manner, agents deployed by the Rubber Producers' Societies and Co-operative Societies were given training on grading of sheets, processing of latex, preservation of latex etc. Under this programme representatives from 35 RPGs were imparted training. During the reporting period 102 latex collection centres were visited for rendering technical support/guidance.

5. Publication and Publicity

Circulation of the 'Rubber' Malayalam monthly of the Board recorded an average number of 12,900 copies a month during the period under report. The scheme for enrolling life membership was continued and 132 subscribers for life membership were newly enrolled, taking the total number of life members to 4573. Also brought out leaflets on various aspects of rubber cultivation. The sale of the publications 'Vithu Muthal Vinani Vare' and 'Rubber Enna Kalpadhenu', two publication on various cultural practices for rubber was continued. Twelve issues of the monthly Rubber Statistical News, each with 600 copies were brought out and sent to subscribers.

The 'Rubber Growers' Companion, 1995 (Deluxe-300, With text-3800 and Without text-2900) was brought out in December 1994 and 250 copies of the 'Rubber & its Cultivation' were also brought out.

Press Releases, Farm features and Advertisements

Press hand outs on various topics were released to the national as well as local dailies which secured wide coverage. A total of 35 press releases and 38 advertisements were issued. Twenty farm features were prepared and issued to 'Karshikarangam' pages of various Malayalam dailies.

Exhibitions and Seminars

Three exhibitions were arranged at various places. Organised seminars and co-operated in conducting growers' meetings.

Technology Transfer through TV & Radio

Utilised services of the AIR and Doordarsan for dissemination of scientific knowledge. Talks on different aspects of rubber cultivation and crop processing were also broadcast, through AIR, in their 'Farm & Home' programme.

6

Labour Welfare

Section 8(2-F) of the Rubber Act 1947 provides that the Board may provide measures to secure better working conditions and the provisions for the improvement of amenities and incentives for workers.

The Board has devised many schemes to achieve this objective. Progress of the schemes is given below:

(a) Educational Stipend Scheme

The scheme provides for financial assistance to children of rubber plantation workers to undergo academic courses in Arts, Science, Commerce, Engineering, Agriculture, Medicine etc. The assistance consists of Tuition fee, Hostel/Boarding fee and Lumpsum grant for purchase of books, instruments etc.

During the year 8076 applications were serviced and an amount of Rs.14,23,468/- was paid as educational stipend.

(b) Educational scholarship scheme

The scheme provides for scholarship ranging from Rs.250 to Rs.2000 to rubber plantation workers who have availed themselves of financial assistance under educational stipend scheme and pass the examinations meritoriously. During 1994-95 serviced 81 applications and paid Rs.28,850/-.

(c) Medical Attendance Scheme

This scheme applies to only plantation workers in the unorganised sector, employed in the plantations not coming under the Plantation Labour Act 1951. It provides for reimbursement of medical expenses of workers and for payment of compensation when workers are unable to work in the plantations during periods of illness. An amount of Rs.2,62,371/- was paid during the year to service 299 applications.

(d) Group Insurance cum Deposit Scheme

This is a social security measure benefitting rubber plantation workers in the unorganised sector and provides insurance cover against accidental death/injuries. The worker and the Board contributes to the insurance premium for a period of 10 years. Introduced in 1986-87, it has reached its 6th phase. The workers enrolled have to renew membership in the scheme every year remitting the prescribed insurance premium. A total of 6853 workers were enrolled in 1994-95. The share of Board's contribution remitted for the membership in operation from 1986-87 was Rs.6,85,300/-. Compensation paid to workers during 1994-95 amounted to Rs.43,972/-.

(e) Housing Subsidy Scheme (unorganised sector)

The scheme renders assistance to rubber plantation workers not covered by the provisions of Plantation Labour Act 1951, in construction of own house. It provides for grant limited to Rs.7500/- per worker in building own house in brick and mortar. The grant will be limited for the types of houses in the NE region to (a) Rs.4000/- if the house is built with mud wall and grass roof, and (b) to Rs.5000/- if tin or aluminium roof is laid over the mud wall. During 1994-95 an amount of Rs.21,99,500/- was disbursed to service 304 applications.

(f) Housing Subsidy Scheme (organised sector)

This scheme provides for financial assistance to rubber plantation workers covered by the Plantation Labour Act 1951, for the construction of own house.

Maximum assistance is limited to Rs.6000/- or 25% of the estimated cost of construction, whichever is less. During 1994-95 an amount of Rs.8,16,000/- was spent to service 136 applications.

(g) Scheme for providing sanitary facilities

The scheme provides for financial assistance to put up sanitary facilities by workers in the unorganised sector.

The financial assistance covers 75% of the cost of construction of latrine as per prescribed plan, or Rs.3000/- whichever is less. During 1994-95 an amount of Rs.20,28,893/- was spent to service 679 applications under the scheme.

Cancer care centre

An amount of Rs.20,00,000/- was contributed to the establishment of a Cancer Care Centre attached to the Medical College Hospital, Kottayam.

7

Internal Audit

The main functions of the Internal Audit is Inspection/Audit of various Offices/Units. During the period under report Internal Audit/Inspection was conducted in 34 Offices/Units located all over Kerala, Tamil Nadu, Tripura and Orissa.

Replies to AG's Audit objections were sent in time. The total number of outstanding paras on 31-3-1995 is 90.

Review of Attendance Register as a measure of enforcement of Office discipline was also undertaken. Expert opinion/advice was given in 142 cases including 42 pension and gratuity cases and 82 cases of 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 and also disposal of unserviceable items.

The unsettled and outstanding contingent LTC and TA advances were disposed of by strict enforcement of rules of drawal of advances.

Audit report of the AG Kerala for the year 1993-94 was gone into and replies to points raised were furnished. The review audit for the period 1989-92 was conducted in February 1994 and the report obtained were duly processed. Outstanding audit objection pending finalisation as on 31-3-1995 are 90. Out of this, 32 paras are for the year 1991-92. The AG Kerala has not processed the Board's reply thereon.

8

Legal matters

During the year under report timely action/advice was rendered in 925 files. Under the House Building Advances Scheme scrutinised documents for determining the eligibility of 81 applicants. Legal documents to be executed by Board were drafted/prepared as and when required. Appropriate steps were taken through lawyers to safeguard the interest of the Board in 76 litigations pending in various courts. Parawise comments and instructions were given to Standing Counsels and the Central Government pleaders in cases pending in High Court. In 25 consumer disputes filed before Redressal Forums in various districts, prepared and filed replies and defended the Board's interests during the hearings.

Legal assistance was given to RROS, Andamans, Central Experiment Station, Chethackal, RRIL Farm, HBSS at Nettans and Paralair, Nurseries/Farms of the RP Depts. etc. in dealing with labour matters. The papers required for examination by the Parliament Committee on various statutory matters were prepared. Draft amendments were prepared to effect essential changes in the Rubber Rules, Rubber Board Employees Conduct Rules and Rubber Board Service (Classification, Control and Appeal) Rules. Rubber Act,

9

Vigilance

a) Complaints

During the year under report took up for enquiry/verification 19 complaints containing allegation against 6 officers of Groups A and B and 13 officials of Groups C & D. The allegations mainly related to demand and acceptance of illegal gratification from rubber growers, misappropriation of Board's funds for personal purposes, failure to comply with the instruction of superiors/senior officers, habitual unauthorised absence resulting in disruption to the smooth functioning of the office, recommendation of subsidy under the Labour Welfare Scheme to ineligible persons, misuse of advance drawn for the purchase of scooter/motor cycle etc. Necessary enquiries were caused into these complaints and appropriate action was taken in cases where disciplinary proceedings were concluded.

Major penalty proceedings against 10 officials and minor penalty action against 3 officials were instituted during the year under report.

b) Property statements and acquisition/disposal
of immovable/movable property

Annual statements of immovable property as on 31-12-1994 were called for from all officers of Groups A & B status. The statements thus received were scrutinised. Also dealt with/processed 110 applications of the employees pertaining to acquisition/disposal of immovable property and 55 applications/intimations relating to transactions in movable properties such as motor cars, two wheelers, refrigerators, television, washing machine etc.

10 Official language implementation

A meeting of the Official Language Implementation Committee was held on 11.5.1994 and annual programme for the year 1994-95 was prepared.

Thirty five Hindi workshops were conducted in the Regional Offices at Nagercoil, Nedumangadu, Trivandrum, Punalur, Pathanamthitta, Kottarakkara, Adoor, Changanacherry, Kottayam, Kanjirappally, Erattupetta, Pals, Moovattupuzha, Thodupuzha, Kothamangalam, Ernakulam, Thrissur, Palakkad, Mannarkkad, Kozhikode, Thalassery, Taliparamba, Sreekanthapuram, Nilambur, Manjeri, Kanhangadu and Mangalore. Besides workshops were held in Headquarters, RRII and CES Chethackal. Training in noting and drafting, preliminary grammar and correspondence in Hindi etc. was given to the employees.

A state level Hindi workshop was conducted on 19th September 1994 at Trivandrum in connection with the state level Hindi Week Celebration.

Hindi Week Celebration

Hindi Week was celebrated from 12th September 1994. Competitions in Hindi Noting and Drafting, Elocution and Essay writing were conducted. Token prizes and certificates were awarded to employees who won 1st and 2nd prizes.

Official Language Conference

An Official Language Conference was held on 24th October 1994. About 600 persons participated in the conference.

Hindi Publications

Four issues of the Hindi bulletin "Rubber Samachar" were published and distributed.

Hindi Teaching Scheme

Hindi classes were conducted. About 42 employees were trained. Training in Hindi typewriting was also given. Facilities were given to learn Hindi through the correspondence course.

11

Sub/Liaison Offices

There are 8 Sub Offices in the major consuming centres outside Kerala; at Ahmedabad, Bangalore, Bombay, Calcutta, Jullundur, Kanpur, Madras and New Delhi. These offices assess suitability of applicants to hold licence to deal in rubber or acquire rubber for rubber goods manufacture. The purchases made by the rubber manufacturers and the stock held by the rubber dealers were verified by the offices at random. The books of accounts and records of the licence holders were also verified to ensure that all rubber procured were brought to book for subjecting to assessment of cess. Surprise inspections were also conducted to detect unlicensed dealing in rubber and unlicensed manufacturing of rubber goods in contravention of the provisions of the Rubber Act and Rules.

Technical support was rendered from four of these offices through Junior Rubber Technologists posted there to the rubber manufacturing units in solving their problems in product manufacture. Problems which could not be solved by the local officials were referred to the Department of R&PD at Kottayam for examination and giving suitable advice to the manufacturers.

IX. STATISTICS AND PLANNING

1 General Statistics

Monitored supply, demand, price etc. of rubber constantly and appropriate recommendations on import/export were furnished. During the period under report the Statistics & Import/Export Committee of the Board met on 28-7-1994 and 27-1-1995 to review the supply-demand position of rubber. The Rubber Board which met on 8-4-1994 and 27-10-1994 also reviewed the subject. Necessary statistical data and notes were prepared for these meetings to make appropriate recommendations on import/export of rubber.

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

The data required for 'Rubber Statistical News' (monthly publication) were prepared. This publication covers details of production, consumption, import, stock etc. of natural, synthetic and reclaimed rubber. Besides, updated tables of 'Indian Rubber Statistics' (Vol.20) (Annual) utilising inhouse computer facility. This covers all latest information connected with natural, synthetic & reclaimed rubber, manufacturers and rubber products, dealers and other topics of interest besides world rubber statistics.

Furnished relevant statistical information to the various organisations connected with the rubber industry. Materials were prepared and presented for answering Parliament questions and Legislative assembly questions pertaining to various aspects of the rubber industry.

Annual reports were collected from processors of centrifuged latex, crumb, PLC and crepe mills to ascertain the production of various grades of rubber, their installed capacity etc. during 1993-94. A comprehensive 'Note on Rubber' was prepared and furnished to the Government.

The census work initiated in 1988 was continued in the reporting period also, for which 250 Enumerators were temporarily engaged for carrying out the field work during 1994-95 and about one lakh reports were collected. The reports were at different stages of processing.

2

Planning

The Annual Plan for 1995-96 was prepared and forwarded to the Government. Mid term appraisal for 8th Plan on Rubber was prepared.

Rendered assistance to the Project Co-ordination Unit in implementation, monitoring and evaluation of the World Bank Assisted Rubber Project. Necessary assistance was provided to organise the baseline survey on the pre-project status of small holders participating in the new-planting, replanting and productivity enhancement scheme. Preparation of short list of consultants, terms of reference for the consultants in carrying out the study, cost estimates etc. also formed part of the work in this connection. Technical and financial proposals received from the consultants were evaluated and assisted the Project Co-ordination Unit in selecting a consultant. Proforma for collection of data from sample small holders was prepared for the use of consultants.

3

Supply of information to 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 International Rubber Study Group (IRSG), London.

The 35th Assembly of the International Rubber Study Group was held in Colombo, Sri Lanka during 23-28 May 1994, which the Chairman and the Rubber Production Commissioner attended representing India. An International Rubber Forum was also held in conjunction with the Assembly. The Chairman also attended the fourth meeting of the Committee on processing, quality and marketing of ANRPC held from 30th May to 2nd June 1994 at Colombo and the 18th Assembly and the 17th meeting of Committee of Experts of the ANRPC held from 9th to 13th December 1994 in Thailand.

The 36th Assembly of the IRSG was held in Tokyo, Japan during 27th February to 3rd March 1995. The Rubber Production Commissioner represented India at the Assembly. Prepared 'National statement on progress and development of rubber industry in India' for presentation at the Assembly.

X. FINANCE AND ACCOUNTS

The following activities were undertaken during the year.

- 1 Preparation of Annual Budget, Performance Budget, Foreign Exchange Budget etc. and exercises budgetary control.
- 2 Maintenance of accounts of the Board, preparation of Annual Accounts, presentation of accounts for audit by the Accountant General Kerala and the audited accounts to the Rubber Board/Ministry/Parliament.
- 3 Place demands for grant from the Government from time to time, collect funds and distribute funds to various departments.
- 4 Advising financial propriety and regularity of transactions on matters related to pay, service rules etc.
- 5 Assist the Cost Accounts Branch of the Ministry of Finance in ascertaining cost of production and in fixing price of natural rubber.
- 6 Prepare financial statements for project reports and schemes.
- 7 Deal with Central Income Tax, Agricultural Income Tax and Sales Tax matters relating to the activities of the Board.
- 8 Co-ordinate and assist the RPSs and companies jointly promoted by the Rubber Board and RPSs.
- 9 Data processing using Computers in the field of financial accounting, pay roll etc.

Annual Accounts 1993-94

Statutory Annual Accounts for the year 1993-94 were prepared and given to 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 Ministry.

Funds Management

Funds amounting to Rs.40.42 crore received from Govt. as budgetary support included Rs.17.95 crore towards Foreign Aid. The internal resource during the year was about Rs.7 crore. The total expenditure for the year was Rs.44 crore (provisional). The accumulations in the General Provident Fund and Pension Fund were invested to maximise the return. For the year 1994-95, declared interest on the GPF accumulations at 13% p.a.

Revised Estimate 1994-95 and Budget Estimate 1995-96

The Revised Budget for 1994-95 and Budget Estimate for 1995-96 were prepared within the stipulated time limit and forwarded to the Government. Budget sanctioned for the year 1994-95 both Plan & Non Plan put together was Rs.46.60 crore. As against this, budget sanctioned for 1995-96 is Rs.56.87 crore including provision for implementation of the World Bank Scheme for Rubber Project (Rs.30.24 crore).

FGA Division of Administration Department

In addition to the routine functions/activities like preparation of pay bill, processing of personal claims, processing of payments and receipts of interest bearing advances etc., maintained 2100 PF Accounts and paid pension to 225 pensioners.

Cost Accounts

Continued to collect cost data for furnishing to the Government and to ANRPC. Cost of raising rubber plantation in one hectare in different regions has been updated. Assisted the Cost Accounts Branch of the Ministry of Finance furnishing cost details during October, 1993, in the quick desk study for fixing benchmark price of RSS IV grade rubber. Conducted study of cost of production of planting materials in own nurseries for fixing selling price of planting materials.

Also handled Sales Tax and Agricultural Income Tax matters. Project Reports in respect of large scale plantations in Tripura, in Karnataka and in tribal land in Kerala was prepared and Management Information System was monitored.

Electronic Data Processing

Processed pay roll of above 1100 employees and handled the financial accounting for the year. For the purpose of Revised Budget, Nominal Rolls and for the purpose of payment of pension arrears, bank-wise statement of pensioners were prepared.

Financial statements in respect of various Project Reports have been prepared during the year. Computerisation of the GPF Accounting System of all the employees of the Board has been undertaken. Credit slips of GPF account holders were printed out.

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PART - XI

STATISTICAL TABLES

TABLE - 1

PRODUCTION, IMPORT AND CONSUMPTION OF NATURAL RUBBER (TONNES)

<u>Month</u>	<u>Production</u>	<u>Import*</u>	<u>Consumption (Indigenous & Imported)</u>
April 1994	31, 880	793	37,745
May "	39,275	728	30,330
June "	26,560	125	39,280
July "	27,610	673	39,720
August "	36,210	606	39,850
Sept. "	46,930	1,375	39,985
October "	52,660	2,039	38,705
November,,	53,330	55	40,220
December,,	54,650	143	43,940
January 1995	51,210	229	44,070
February,,	23,790	855	41,655
March "	27,710	910	42,350
<hr/>			
TOTAL:	471,815	8,531	485,850

*Provisional.

TABLE - 2

STOCK OF NATURAL RUBBER AT THE END OF EACH MONTH

(Tonnes)

Month	Crowers, dealers & processors	Manufactu- rers	Total (Rounded)
April 1994	39,120	32,780	71,900
May "	42,905	30,670	73,575
June "	31,115	29,735	60,850
July "	25,895	23,475	49,370
August "	30,085	16,180	46,265
September,,	35,255	19,305	54,560
October "	48,990	21,505	70,495
November,,	59,055	24,520	83,575
December,,	62,935	31,125	94,060
January 1995	59,770	41,205	100,975
February,,	41,240	42,290	83,530
March "	27,490	42,060	69,550

TABLE - 3

PRODUCTION, IMPORT AND CONSUMPTION OF SYNTHETIC RUBBER
(TONNES)

Month	Production*	Import*	Consumption
April 1994	4,102	4,090	9,385
May "	4,071	5,204	9,565
June "	5,376	4,985	9,750
July "	5,515	4,191	10,095
August "	5,987	5,400	10,020
September,,	5,052	4,422	9,960
October "	3,107	5,225	9,855
November,,	5,843	4,960	9,875
December,,	6,636	5,259	10,825
January 1995	6,054	5,780	10,830
February "	4,400	5,639	11,005
March "	4,393	8,682	11,545
TOTAL:-	60,536	64,437	122,710

*Provisional.

TABLE - 4

PRODUCTION & CONSUMPTION OF RECLAIMED RUBBER
(TONNES)

<u>M o n t h</u>	<u>Production*</u>	<u>Consumption</u>
April 1994	5,380	5,340
May "	4,940	5,215
June "	5,125	5,295
July "	5,020	5,135
August "	5,395	5,380
Sept. "	5,370	5,315
October "	5,550	5,235
November, "	5,415	5,370
December, "	5,515	5,690
January 1995	5,580	5,595
February, "	5,415	5,470
March "	5,720	5,615
TOTAL: 64,425		64,655

*Indigenous purchase by manufacturers.

MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF NATURAL RUBBER IN INDIA / Table -

M O N T H	RSS 1	RSS 2	RSS 3	RSS 4	RSS 5	Un- graded	ISNR 5	ISNR 10	ISNR 20	ISNR 50
April 1934	2655	2755	2705	2621	2577	2514	3000	2600	2950	2450
May "	2967	2836	2775	2749	2674	2645	3000	2711	2661	2561
June "	3115	3050	2940	2851	2751	2685	3000	2779	2729	2629
July "	3175	3055	N.T.	3014	2949	2862	3000	2921	2871	2771
August "	3950	3800	3793	3559	3269	3112	3682	3123	3074	2974
September "	4506	4363	4300	4148	3888	3517	4443	3524	3474	3374
October "	3831	3550	3475	3548	3411	3350	3921	3539	3489	3389
November "	3657	3405	3226	3219	3172	3033	3573	3177	3127	3027
December "	4275	4175	4075	3841	3768	3574	4042	3565	3515	3415
January 1935	4688	4600	4467	4273	4088	3894	4573	3953	3913	3813
February "	5104	5040	4777	4637	4545	4501	5483	4742	4680	4585
March "	5486	5474	5297	5195	5091	5042	5982	N.T.	5087	N.T.
Yearly Average 1934-35	3968	3845	3803	3638	3517	3396	3975	3331	3431	3183

N.T. : No transaction.

MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF NR IN INTERNATIONAL MARKET / T a b l e - 6 /

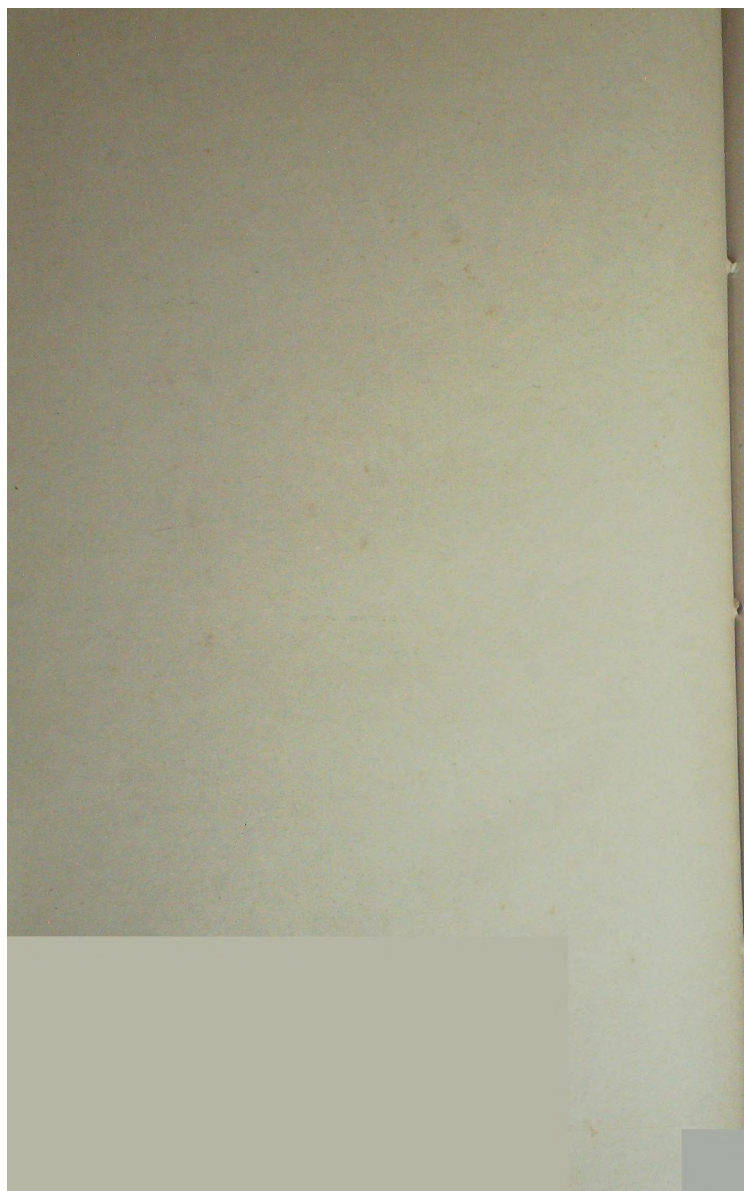
M O N T H	RSS 1	RSS 2	RSS 3	RSS 4	RSS 5	ISNR 5	ISNR 10	ISNR 20
April 1994	2963	2901	2881	2784	2725	3305	3278	3256
May "	3064	3005	2987	2900	2841	3260	3136	3129
June "	3281	3234	3216	3125	3065	3380	3195	3180
July "	3911	3904	3885	3800	3740	3718	3541	3534
August "	3937	3931	3913	3827	3766	3809	3703	3702
September "	3975	3969	3950	3864	3803	3825	3774	3764
October "	4285	4278	4260	4174	4113	4291	4167	4143
November "	4210	4203	4187	4100	4038	4289	4193	4173
December "	4594	4566	4553	4461	4400	4944	4908	4877
January 1995	5129	5092	5079	4987	4926	5718	5659	5642
February "	5536	5492	5480	5388	5327	5850	5739	5716
March "	5714	5671	5658	5565	5503	5721	5574	5520
Yearly Average 1994-95	4217	4187	4171	4081	4021	4343	4237	4220

LIST OF MEMBERS OF THE RUBBER BOARD AS ON 31.3.1995

- | | | |
|-----|--|--|
| -1 | Smt J Lalithambika IAS | : Chairman, Rubber Board |
| -2 | Shri MS Joseph
Agricultural Production
Commissioner,
Govt. of Kerala
Thiruvananthapuram. | Nominated by the Govt. of
Kerala to represent that
State. |
| -3 | Major General FM Menon
Chairman
Plantation Corporation
of Kerala Ltd.
Kottayam. | -do- |
| -4 | Vacant | : Nominated by the Govt. of
Tamil Nadu to represent them. |
| -5 | Shri George John
Kailash Rubber Company
Ltd., Ancheril Bank
Building, Kottayam,
Kerala. | Elected by the Large
Growers in the State of
Kerala. |
| -6 | Shri MD Joseph
Manniparampil
Kanjirappally
Kottayam, Kerala | -do- |
| -7 | Shri KJ Thomas
Akkarakalam
Manager
South Indian Planta-
tions Ltd.,
Devi Vilas Buildings
Jetty Road
Alappuzha, Kerala | -do- |
| -8 | Shri PN Subramaniam
Pioneer Nagamony
Plantations
Town Junction
Nagercoil
Kanyakumari Dist. | Elected by the Large
Growers in the State of
Tamil Nadu |
| -9 | Shri Dwarka Nath Dass
Member of Parliament | Elected by
Lok Sabha |
| -10 | Shri Ramesh Chennithala
Member of Parliament | They will hold Office
upto 23rd December '94
or till the date on
which they cease to be
Member of Parliament,
whichever is earlier. |

- | | | | |
|----|---|------------------------------|--|
| 11 | Shri Vayalar Ravi
Member of Parliament | Elected by
Rajya
Sabha | He will hold office upto 20th Jan. '97 or till the date on which he ceases to be Member of Parliament, whichever is earlier. |
| 12 | Prof. KC Abraham
Kayathinkara, Pala
Kerala. | | Nominated by the Central Govt. to represent small growers of Kerala. |
| 13 | Shri K Joseph Monipally
General Secretary
Indian Rubber Growers
Association, Cochin. | | Nominated by the Central Govt. to represent small growers of Kerala. |
| 14 | Shri Kodumon Gopinathan Nair
President, National Federation
of Rubber Producers, Kodumon
East, Pathananthitta Dist.
Kerala. | | -do- |
| 15 | Shri VK Modi
Vice Chairman & Mg. Director
M/s. Modi Rubber Ltd.
6/7, DDA Shopping Complex
New Friends Colony
New Delhi. | | Nominated by the Central Govt. to represent rubber goods manufacturers. |
| 16 | Shri SA Shah
Partner,
Kantilal Chhotalal & Company
KC Estate, Subhash Road
Jogeshwari (East)
Bombay. | | -do- |
| 17 | Shri PV Sankaranarayanan
General Secretary
INTUC, Kerala Branch
Asha, Azhavattom
Kozhikode (Kerala). | | Nominated by the Central Govt. to represent Labour interests. |
| 18 | Shri PK Gopalan
General Secretary
Malabar Estate Workers Union
(INTUC) PO Meppadi
Wyanad Dist., Kerala. | | -do- |
| 19 | Shri Tom Thomas
Secretary,
Hind Mazdoor Sabha
Ponkunnan, Kerala | | -do- |

- | | | |
|----|--|---|
| 20 | Shri PD George
Mundakayam
Kerala | Nominated by the Central Govt.
to represent Labour interests. |
| 21 | Shri T Basheer Ex.MP
Thalekunnil, Kochar Road
Sasthamangalam PO
Thiruvananthapuram, Kerala. | Nominated by the Central Govt.
to represent 'other interests'. |
| 22 | Shri Jacob Thomas
Kalapurackal House
Muttambalam
Kottayam Dist., Kerala. | -do- |
| 23 | Shri ET Varghese
President
Rubber Dealers Association
Kottayam. | -do- |
| 24 | Shri Ashok Bhattacharya
Jay Nagar
(CpP.Agartala Judicial Court)
Agartala, Tripura. | -do- |
| 25 | Shri FK Narayanan
Rubber Production Commissioner
Rubber Board, Kottayam. | (Ex-officio) |
| 26 | Vacant.
(Executive Director) | |

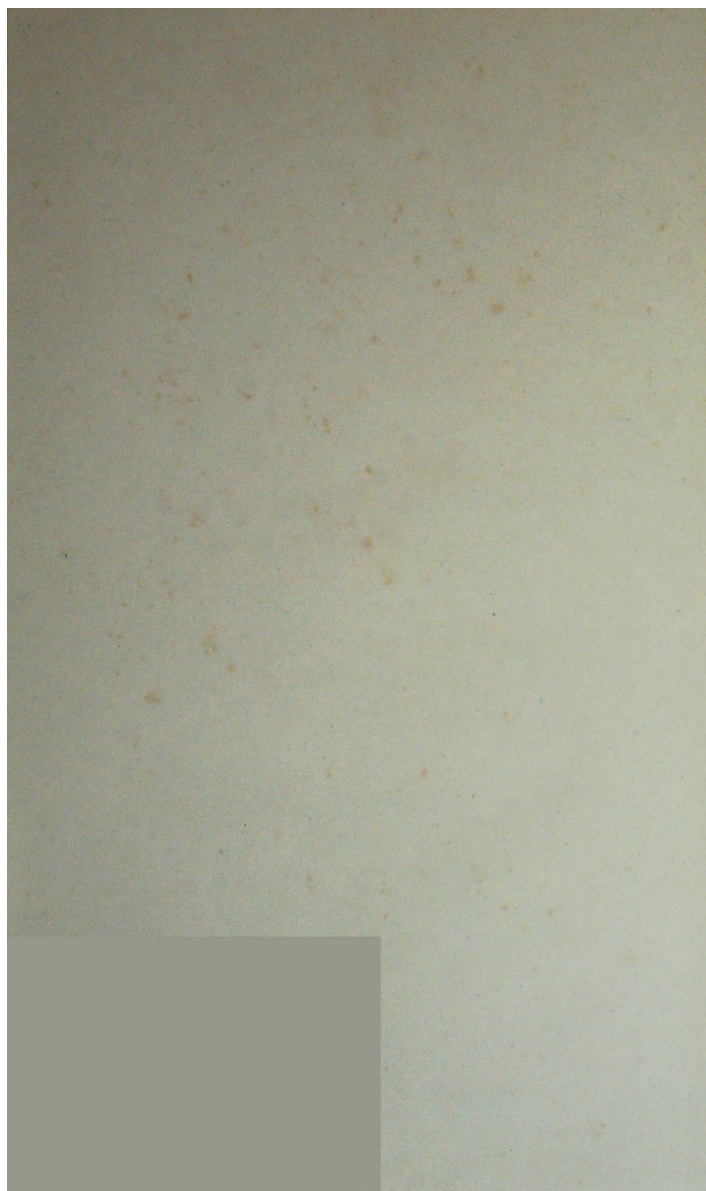


MONTHLY AVERAGE PRICE OF VARIOUS GRADES OF NATURAL RUBBER IN INDIAN

Table - 2

M O N T H	RSS 1	RSS 2	RSS 3	RSS 4	RSS 5	Un- graded	ISNR 5	ISNR 10	ISNR 20	ISNR 50
April 1994	2855	2755	2705	2621	2577	2514	3000	2600	2550	2450
May "	2967	2838	2775	2749	2674	2645	3000	2711	2661	2561
June "	3115	3050	2940	2851	2751	2685	3000	2779	2729	2629
July "	3175	3035	N.T	3014	2949	2882	3000	2921	2871	2771
August "	3950	3800	3793	3550	3219	3112	3682	3124	3074	2974
September "	4500	4363	4300	4148	3880	3517	4443	3524	3474	3374
October "	3831	3550	3475	3548	3411	3350	3921	3539	3480	3389
November "	3657	3405	3225	3213	3172	3033	3573	3177	3127	3027
December "	4275	4175	4075	3841	3768	3574	4042	3565	3515	3415
January 1995	4688	4600	4467	4273	4088	3894	4573	3963	3913	3813
February "	5104	5040	4777	4637	4545	4501	5483	4742	4680	4605
March "	5486	5474	5297	5195	5091	5042	5982	N.T	5087	N.T
Yearly Average 1994-95	3968	3845	3803	3638	3517	3396	3975	3331	3431	3183

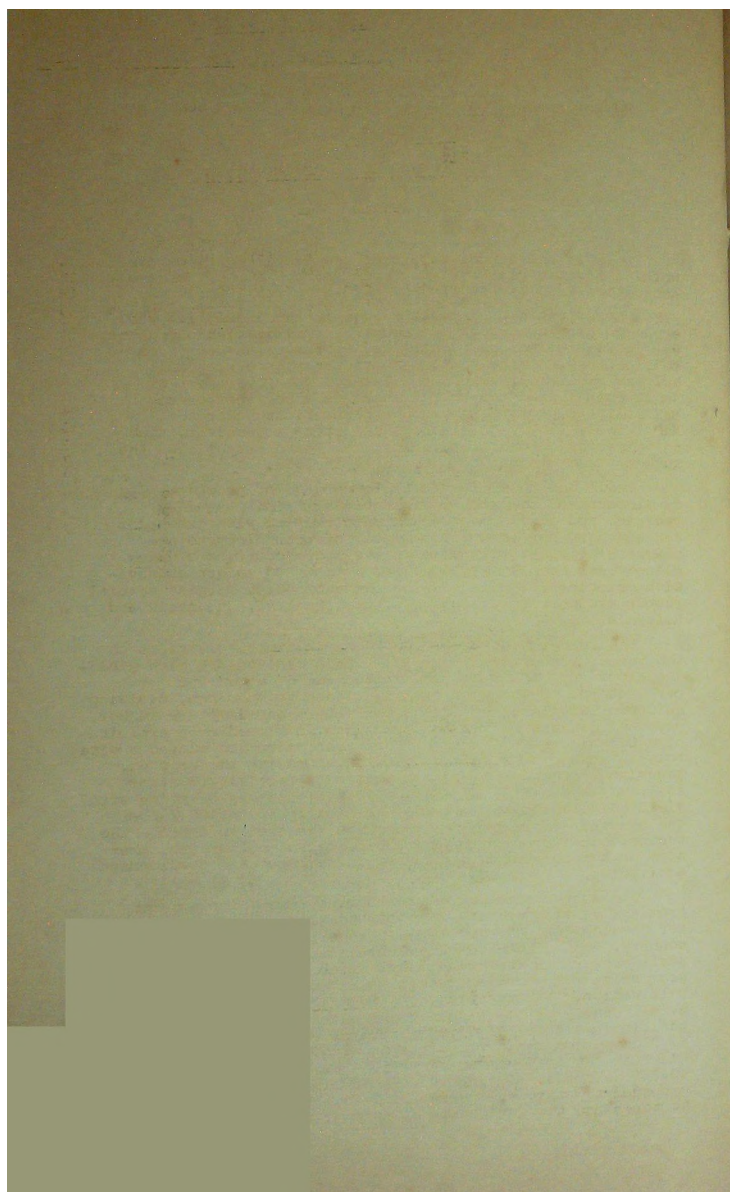
N.T : No transaction.



THE RUBBER BOARD

Annual Report on the activities for the year 1992-93

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ANNUAL REPORT FOR THE WORKING OF THE RUBBER BOARD
FOR 1992-93

PART - I

INTRODUCTION

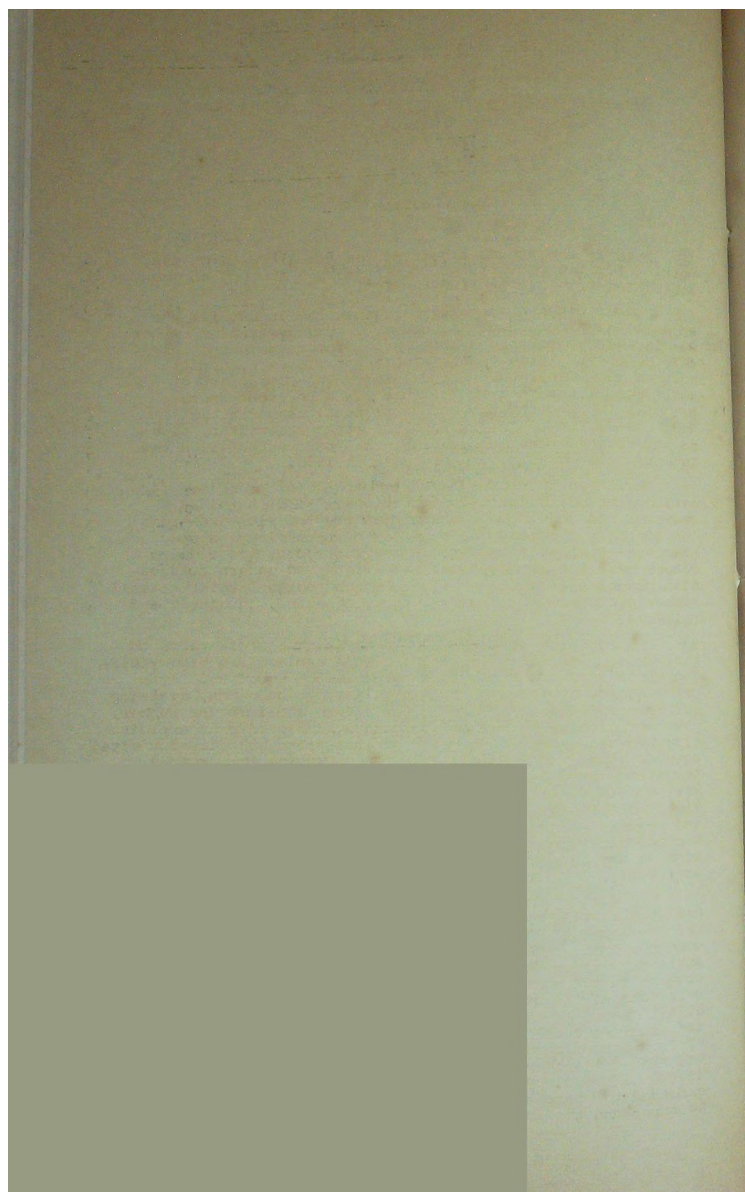
This is the annual report of the Rubber Board on its working for the year 1992-93, containing a summary of the activities from 1st April 1992 to 31st March 1993.

Rubber plays an important role in the industrial and economic development of the country. Cultivation of rubber was introduced to the country during the first decade of this century. Large planters were the pioneers. Small holders made their appearance later. The Government of India constituted the Rubber Board as a body corporate primarily to promote the rubber plantations under the Rubber Act, 1947. In order to undertake scientific, technological and economic research, the Board established the Rubber Research Institute of India in 1955.

India had to evolve suitable package of practices for development of the rubber plantations. With sustained research and development activities coupled with extension and advisory services for transfer of technology to the planters' fields, the rubber producing sector had a quick change-over from the traditional methods to modern cultivation practices. India soon became the fourth largest natural rubber producer in the world, after Thailand, Indonesia and Malaysia.

The research efforts made significant contributions to the rubber plantation industry. India evolved the high yielding clone RR11 105 with yield potential of about 2500 kg per hectare. Switchover from seedlings to buddings, evolving suitable fertiliser schedules for mature and immature rubber, pest and disease management practices, improved crop exploitation techniques and improved crop processing had played a vital role in enhancing rubber production. Growing the crop with leguminous ground cover, application of fertilisers after soil and leaf analysis, crop exploitation in association with yield stimulation, processing technically specified rubber and process aid rubbers, consumption research to improve the technological properties of rubber, tissue culture etc. are some of the current 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 financial assistance to small growers in the traditional areas and for all types of growers in the non-traditional areas to undertake rubber cultivation. Input subsidy and technical advice and assistance at all stages of the planting and maintenance are extended in addition. A total of 72,670 hectares was planted during the VI Plan period against the target of 60,000 ha. During the VII Plan the achievement was 74,364 ha. against the target of 40,000 hectares. During 1990-91 and 1991-92 the achievement exceeded the target. During 1992-93, the target was 15,900 hectares and the indication is that it would be achieved.



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Performance during 1992-93

The overall performance of the rubber plantation industry during 1992-93 has been impressive. Production of natural rubber increased to 393,490 tonnes from 366,745 tonnes, recording a growth rate of 7.3%. The continuous heavy rains during the monsoon had adversely affected the production. Usually the rainy season will be over by around mid August, but in 1992 it continued up to the middle of October. This resulted in heavy loss in tappable days.

The consumption of natural rubber during the year increased by 8.9% to 414,105 tonnes against a growth rate of 4.3% during 1991-92. The notable improvement in consumption was mainly due to the excellent export performance of the auto tyre sector. The auto tyre manufacturing units recorded a growth rate of 12.2% in the use of rubber.

Price

During the year the price of rubber fluctuated between Rs.2275/- and Rs.2800 per quintal for RMA-IV grade depending on supply and demand position. The average price during the year was Rs.2550/- as against Rs.2141/- in the previous year. A quantity of 5,999 tonnes of RMA-V grade rubber was exported during April-June period from the carry over stock held by the STC from the previous year. A private plantation company has also exported 11 tonnes DRC of centrifuged latex. On 5th January 1993, the Government of India revised the benchmark price as Rs.23.45 for RMA-IV grade rubber and as Rs.22.95 for RMA-V grade per quintal.

International developments

The world production of natural rubber during 1992 went upto 5.54 million tonnes from 5.32 million tonnes during 1991, recording an increase of 4.1%. World consumption of natural rubber improved to 5.47 million tonnes from 5.19 million tonnes recording a growth of 5.4%. The average price of RSS-3 grade rubber during 1992 declined to 212.5 Ringgits in Malaysia from 216.7 Ringgits during 1991. The fall in price was mainly due to the poor demand for rubber. The projected production and consumption of the International Rubber Study Group for 1993 are 5.59 million tonnes and 5.52 tonnes respectively. Actuals for 1991, 1992 and production for 1993 clearly indicate that supply continues to be in excess of the demand.

The Association of Natural Rubber Producing Countries (ANRPC) organised a special meeting of Member Countries at Ministerial level in Thailand in April 1992. The exporting countries were very much concerned about protracted low price of natural rubber (NR) and its implications on the livelihood of the small farmers. The meeting noted that the International Natural Rubber Agreement (INRA) has an important role to play in the development of the natural rubber industry. While acknowledging that the INRA 1987 has brought about a measure of price stability, the Ministerial Meeting concluded that the price has, however, been stabilised at low levels and the development objectives have yet to be adequately addressed. They urged the exporting countries to work for the attainment of the price stabilisation objectives and also the developmental objectives of the Agreement in the interests of the viability of the NR industry. The meeting of Ministers resolved to seek a decision on renegotiation at

the INRO Council session in May 1992. The meeting noted that structural changes in the NR market and associated factors have affected the efficiency of the price determining mechanism. It was decided that all matters relating to the marketing of NR should be examined in detail with a view to overcoming the imperfections in the NR market and developing appropriate marketing arrangements to ensure sustained and continued investment in the NR industry. The Ministry reaffirmed their confidence in the NR industry as a major contributor to the export earnings and economic development of the Association of Natural Rubber Producing (ANRPC) countries.

The 16th Assembly of the ANRPC and its connected meetings were held during the first week of October 1992. The Assembly noted that the depressed NR market was the result of poor demand and structural oversupply caused by the poor performance of OECD countries and developments in the Commonwealth of Independent states. Globalisation of tyre industry and related developments had also eroded the bargaining position of producers. The INRA did not bring about the expected results in terms of remunerative prices for NR.

One of the most important measures recommended by the Assembly was the development of a programme to coordinate production and marketing strategies with a view to bringing about a supply/demand balance which would favour remunerative prices. The assembly approved the recommendation on the multi-lateral clone exchange programme submitted by the Expert Committee. Smt. J. Lalithambika, Chairman and Sri Jacob Thomas, Vice-chairman of the Rubber Board represented India at the meetings.

The 34th Assembly of the International Rubber Study Group (IRSG) was held in Singapore from 16th to 21st November, 1992. The Assembly estimated the demand and supply position of rubber during 1992 and 1993. The projections made by the Assembly indicate that the share of NR in total consumption may decline from 64% in 1991 to 63% in 1992 and again to 62% in 1993. In 1992, the global consumption of natural and synthetic rubbers was 14.69 million tonnes. The Assembly also reviewed the developments in the NR and SR industry in member countries.

The 'International Rubber Forum' held in conjunction with the Assembly covered a period of 2 days and over 400 delegates in the rubber field participated in the deliberations. The Sessions covered 'SR Industry' and 'packaging of natural rubber'. The Session on SR industry was chaired by the chairman, Rubber Board. The paper presented from the Indian side on behalf of one SR producer indicated that as far as general purpose SBRs like SBR and BR are concerned, producers have expansion plans which would make the country self-sufficient in these rubbers. The production of other varieties of rubbers like butyl and speciality rubbers would have to be considered seriously as the main raw materials required would be available from the downstream products of the petrochemical complex which are expected to come up by 2000 AD. As far as NR is concerned the demand will be met by the domestic supplier.

Another paper presented stressed that with the internal consumption growth and tremendous potential in exports, Asia and Oceania is positioned for prolonged growth. Having the World's most modern SR facilities, a growing and immense population base and the contemporary rise in wealth, this region will double the growth projected for the rest of the world. India and China provides the basis for the confident optimism.

One issue of great concern for consumers was the inadvertent contamination introduced by the timber used in the one tonne crates. More often, the crates get damaged in transit or during handling at the docks and the timber debris get included in the rubber. While the consuming countries were attempting to find out solutions through the use of specially constructed steel pallets, the need for producers efforts in this area was emphasised. The Group put up a proposal for a study of alternatives to timber and steel for NR packaging. The proposal to commission RAPRA Technology Ltd. to undertake this project with common fund financing was approved.

For the first time India was elected to the Executive Committee of the IRSG.

.....5/-

PART - IICONSTITUTION AND FUNCTIONS1) Introduction

The Indian Rubber Board was constituted under the Rubber (Promotion and Marketing) Act, 1947 which came into force on 19th April 1947 'to promote by such measures as it thinks fit' the development of the rubber industry in India. The Rubber Production and Marketing (Amendment) Act of 1954 made certain changes in the constitution of the Board and its name was changed as Rubber Board. This Act came into force on 1st August 1955. The Rubber Act was further amended by the Rubber (Amendment) Act, 1960 and by the Rubber (Amendment) Act, 1982. The amendment in 1982 was made by the Government to appoint a part time/whole time Chairman for the Board and an Executive Director on whole time basis (if considered necessary).

2) Constitution

The Rubber Board functions under the Ministry of Commerce of the Government of India. The Board has at present a full time Chairman as principal executive officer responsible for implementing its decisions and for discharging the duties under the Rubber Act. There are 25 other members consisting of -

- a) Two members to represent the State of Tamilnadu, one of whom shall be a person representing the rubber producing interests;
- b) Eight members to represent the State of Kerala, six of whom shall be representing the rubber producing interests, three of such being persons representing the small growers;
- c) Ten members to be nominated by the Central Government, 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 created so far.

List of the members of the Board as on 31/3/1993 is given at the end of this report.

One of the members is elected as Vice-Chairman. Various Committees are formed to review existing programmes, to examine proposals for development of natural rubber industry and to make recommendations to the Board. Seven such Committees, viz., Executive Committee, Research and Development Committee, Planting Committee, Statistics and Import/Export Committee, Market Development Committee, Labour Welfare Committee and Staff Affairs Committee were constituted.

Smt. J. Lalithambika, IAS, continued to be the Chairman of the Board.

.....5/-

Sri K Jacob Thomas representing large rubber growers continued to be the Vice-Chairman till 28/12/1992. The Board elected Sri Charupara Ravi, representative of labour as Vice-chairman at its 120th meeting on 29/12/92 for the remaining tenure of the Board till 12/8/1993.

3) Functions

The functions of the Board according to Section 8 of the Rubber Act are:

- (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 Government on all matters relating to the development of the rubber industry, including the import and export of rubber;
 - b) to advise the Central Government with regard to participation in any international conference or scheme relating to rubber;
 - c) to submit to the Central Government 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 Government from time to time.

4) 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 : On 2 occasions; the 119th meeting on 19/6/92 and the 120th meeting on 29/12/1992.
- b) Committee Meetings
 - Executive Committee : 28/9/1992
 - Statistics & Import/Export Committee : 14/5/92 and 10/2/1993

Combined Meeting of Executive Committee and Market Development Committee.	: 12/11/1992
Planting Committee	: 17/7/1992
Labour Welfare Committee	: 10/7/1992
Research & Development Committee	: 14/8/1992

5) Organisational set up

The activities of the Rubber Board were carried out by five Departments, viz., Administration, Rubber Production, Rubber Research, Processing and Product Development and Finance and Accounts; headed respectively by the Secretary, the Rubber Production Commissioner, the Director of Research, the Director (P&D) and the Director (Finance).

The headquarters of the Board along with the Administration, Rubber Production and Finance and Accounts Departments remained located at the Kottayam Public Library Buildings, Sastri Road, Kottayam - 686 001. There are eight Sub/Liaison Offices under the Administration Department. The Rubber Production Department has 4 Zonal Offices, 34 Regional Offices, 160 Field Offices, 20 Regional Nurseries and 32 Tappers' Training Schools located at different rubber growing regions.

The Research Department and the Department of Processing and Product Development function in the Board's own buildings at Kottayam -9. The Research Department runs two Regional Research Stations in Kerala, one each in Tamil Nadu, Karnataka, Maharashtra (Dapchari), Orissa, West Bengal, Assam, Mizoram, Meghalaya and Tripura. The Pilot Crumb Rubber Factory located at Kottayam and the Pilot Latex Centrifuging factory located at Chethackal were run by the Department of Processing and Product Development which has also established a pilot plant for Radiation Vulcanisation of Natural Rubber.

The Chairman exercises administrative control over all the departments and offices. The total officers and staff under the Board as on 31/3/1993 were 1989; 177 under Group 'A', 546 under Group 'B', 1135 under Group 'C' and 131 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:

.....8/-

III. RUBBER PRODUCTION

FUNCTIONS

The following main functions were executed during the year to promote natural rubber production in the country:

- i) Registration of rubber estates.
- ii) Planning, formulation and implementation of schemes for expansion, development and modernisation of rubber plantations.
- iii) Rendering advisory and extension services.
- iv) Production, procurement and distribution of high yielding planting materials.
- v) Facilitation of distribution of agro-inputs requiring popularisation.
- vi) Training of tappers.
- vii) Demonstration and training in scientific planting and production of rubber in non-traditional rubber growing areas.
- viii) Insurance of rubber plantations.

REVIEW OF ACTIVITIES

1. Registration of rubber estates:

This is a statutory function enjoined on the Board by the Rubber Act, 1947.

During 1992-93, a total of 5074 plantations were newly registered and the additional area brought under registration amounted to 3187.02 ha. Areas removed from records through cancellation of registration covered 841.65 ha. The total area progressively registered as on 31-3-93 was 3,20,295 ha and total registered units numbered 2,69,357. A large number of units and extensive areas remained to be registered.

The Board had recommended to the Government that the practice of registration should be altogether discontinued, excepting in the case of large estates and that the work of collection of statistics of area under cultivation, production etc., might be gathered through periodic census operations. Owing to extensive proliferation of units, the Board is not in a position to physically complete the registration work. Amendment to the Rubber Act is required for dispensing with the registration of small holdings. The matter is being pursued.

2. Rubber Plantation Development Scheme, Phase I:

This scheme aimed at integrated promotion of newplanting and replanting of rubber, replaced all the earlier planting subsidy schemes. The target set out was 12,000 ha per year for 5 years, 1980-81 to 1984-85.

The following incentives were offered for both replanting and newplanting of rubber:

- (i) Capital subsidy of Rs.5,000/- per ha to growers owning upto 20 ha including any area planted under the scheme and Rs.3,000/- per ha to growers owning more than 20 ha.
- (ii) Input subsidy to the weaker sections of growers possessing not more than 6 ha of rubber for using approved planting materials and approved fertilizers and a subsidy of Rs.150/- per ha for undertaking soil conservation work.

(iii) The beneficiaries could avail of long term agricultural credit from banks under NABARD's refinancing scheme to supplement the assistance from Board. The maximum credit per ha was limited to Rs.15,020/- Rs.17,000/- and Rs.18,700/- respectively for growers owning upto 5 ha of rubber, above 5 ha and upto 20 ha of rubber and above 20 ha of rubber. The loan advanced in 7 annual instalments was repayable in 5 instalments from the 10th to the 14th years of planting. The interest accrued upto the 7th year was payable during the 8th and 9th years. During repayment only current interest was payable.

(iv) The rate of interest on loans was 12%. The Board subsidised 3% interest to all categories of growers upto the 10th year of planting subject to limitations on the quantum of loans.

(v) Free advisory and extension support at all stages of planting and maintenance.

The cumulative progress of the scheme as on 31.3.93 is summarised below:

	Years to which planting related					Total
	1980	1981	1982	1983	1984	
No. of subsidy permits issued	17554	19180	13970	21533	25508	102745
Area covered by permits (in ha)	12123	13603	13875	15580	17552	72733

During the year under review, an amount of Rs.15,08,548.15 was disbursed as subsidy. The total disbursement of subsidies since the inception of the scheme came to Rs.39,87,85,202.43 as on 31-3-93.

3. Rubber Plantation Development Scheme Phase II:

The Rubber Plantation Development Scheme, Phase II was implemented from 1985 onwards for a period of 5 years. The target under Phase II scheme was only 40,000 ha in view of resource constraints.

The assistance offered under Phase II scheme were the following

(i) Capital subsidy at the rate of Rs.5000/- per ha for growers owning upto 5 ha of rubber in traditional areas and for all categories in the non-traditional areas.

(ii) Input subsidy for the use of high yielding planting materials of advanced growth (polybagged plants) is granted at the rate of Rs.6/- per plant subject to a maximum of 450 plants per ha. Growers in the traditional region having more than 5 ha of rubber and carrying out planting under the schemes were also eligible to receive this assistance.

(iii) The beneficiaries could avail of bank loans under the agricultural refinancing scheme of NABARD. The loans were advanced in 7 annual instalments and were repayable in 5 annual instalments from the 10th year of planting with a moratorium on payment of interest till the 7th year. The interest accrued upto the close of the 7th year was payable during the 8th and 9th year.

(iv) The normal rate of interest for the loan was 12% per annum. The Board subsidised 3% of the interest from the first to the 9th year to those eligible for the capital subsidy.

(v) Free advisory and extension support at all stages of planting, maintenance, tapping and processing of the crop.

05/2/94

Permits were issued for planting 75,782 hectares under this phase.

During the year 1992-93, a sum of Rs.2,73,50,676.00 had been paid as subsidy. The total disbursement of subsidy since inception of the scheme amounted to Rs.38,55,47,031.85.

4. Rubber Plantation Development Scheme Phase IIIA:

Pending approval of the 8th Five Year Plan proposals, the Board was not able to formulate Phase III of the Rubber Plantation Development Scheme. However, Annual Plans within a broad framework of VII Plan proposals were approved and budget provisions were also granted. The Board tentatively implemented the Phase III for 1990-91 and 91-92 on the same lines as approved for Phase II as annual schemes.

The progress of implementation are summarised below:

	Planting(ha)		Total
	1990	1991	
No. of applications received	30528	31501	62029
No. of cases in which planting had reportedly materialised	30502	31493	61995
No. of cases inspected in the field	29444	29778	59222
Balance pending for inspection	1058	1715	2773
No. of reports due from inspecting staff	193	333	526
Permits issued	21034	21727	42761
No. rejected/withdrawn	3971	2657	6628
Area covered by permits	13669	13685	27354
Applications pending disposal	5495	7109	12604

During the year 1992-93 an amount of Rs.3,23,13,483.95 was disbursed as subsidy. The total amount disbursed since the inception of the scheme came to Rs.11,38,41,332.00 as on 31.3.93. An amount of Rs.117,02,316/- has been disbursed as interest subsidy during 1992-93.

5. Rubber Plantation Development Scheme Phase IIIB:

This is the proposed 8th Plan Scheme, successor of Phase IIIA being implemented from 1992 onwards, subject to the approval of the Govt. of India. The physical target for the plan period is 92,000 ha comprising of 42,000 ha of replanting, mainly in traditional rubber growing belt and 50,000 ha of newplanting both in traditional and non-traditional areas. Of this, 70,000 ha would be covered under the World Bank Aided Rubber Development Project. The physical target fixed for 1992-93 was 6,400 ha for replanting and 9,500 ha for newplanting. The target could not be achieved fully due to disturbance in non-traditional areas. Details are as follows:

	1992
No. of applications received	27796
No. of cases in which planting had reportedly materialised.	27771
No. of cases inspected in the field	23158
Balance pending for inspection	4573
No. of reports due from inspecting staff	800
No. of cases rejected/withdrawn	1781
No. of permits issued	14052
Area covered by permits	9798
No. of applications pending disposal	11938
During the year 1992-93 an amount of Rs.3,48,08,071/- was disbursed as subsidy.	

6. Insurance for rubber plantations

The insurance scheme drawn up in collaboration with the Public Sector National Insurance Company Ltd. and launched during 1988-89 was continued during the year under review. As arranged with the Insurance Company, the Insurer, the Board takes out a master policy in advance and arranges to issue thereunder policy certificates to individual rubber growers who desire to obtain insurance cover for their rubber plantations and make a remittance of premium amounts to the Board. Claims are investigated in the field by Board's field personnel and reports furnished to the Insurer. The latter in turn settles admitted claims through the Board. Thus, as the Board undertakes and discharges the bulk of the administrative work, the Insurer is enabled to keep down premium rates and to effect claim settlement quickly and effectively.

The perils covered are fire, fire resulting from explosion, lightning, bush fire and forest fire, wind, storm, tempest, hurricane, landslides, hailstorm, rockslide and subsidence. The scheme covers all immature plantations under the Rubber Plantation Development Scheme as well as all mature plantations upto 22 years of age.

The rate of premium for immature areas is Rs.500/- per ha, irrespective of the year of planting to cover immaturity period of 1 to 8 years. Part thereof and Rs.473/- for mature areas to cover three year consecutive period.

The maximum liability of the insurer for plantations in the age group of 1 to 8 years is Rs.45,000/- per ha. and upon Rs.60,000/- per ha for mature trees. No salvage value of tree destroyed is deducted from the amount of compensation. Claims can be admitted after an initial waiting in period of one year for newly planted rubber and 30 days for established plantations. The insured grower has to bear 10% of the loss in the case of immature rubber and 10% or Rs.1000/- whichever is more in the case of mature rubber.

As on 31.3.93, the Board had obtained two master policies covering 9408.79 ha. of immature area and 2250 ha. of mature area and issued a total of 11042 individual policy certificates for 8780.15 ha. of immature and 2374.74 ha. of mature area. Premium amount paid for the master policies amounted to Rs.51.64 lakh including payment of Rs.12,78,400/- during the current year. Amount recovered against issue of policy certificates to individual growers was Rs.46.29 lakh including current year recovery of Rs.6.64 lakh. Individual policies are being issued against the premium of Rs.6.50 lakh paid during the close of the current financial year.

The compensation paid since the inception of the scheme is Rs.21,53,881.30 to 642 certificate holders as at the close of the year. The current year's payment is Rs.12,17,645/- covering 253 nos. of policy holders.

7. Production and Distribution of Planting Materials

The Board publishes every year a list of high yielding planting materials. During 1992-93 also the list was published.

To ensure easy availability of the recommended clones at reasonable prices the Board continued to maintain departmental rubber nurseries in all important rubber growing centres. The details of nurseries are given below:

<u>Kerala</u>	<u>Total extent in ha.</u>	<u>Region</u>
1. CM Karikkattoor	20.23	Kottayam Dist.
2. RN K-dackemon	4.04	Punalur
3. RN Perumpulickal	3.00	Adoor
4. RN Kanhikulam	4.88	Palghat
5. RN Ulickal	5.20	Tellicherry
6. RN Manjeri	2.00	Nilambur
7. RN Peruvannamooshy	3.60	Kozhikode
8. RN Alakode	3.41	Taliparamba
Total	47.36	
=====		
<u>Non-traditional areas</u>		
1. RN RDSS (NRRTC)	1.85	S. Andamans
2. RN Shoal Bay	2.29	S. Andamans
3. RN Devarapally	2.00	Andhra Pradesh
4. RN Kanibaro	8.00	Orissa
5. RN Derrangiri	10.62	Guwahati, Assam
6. RN Tesso Ajur	5.60	Diphu, Assam
7. RN Mijungdisha	14.00	Diphu, Assam
8. RN Balacherra	13.00	Silchar, Assam
9. RN Hilera	14.32	Silchar, Assam
10. RN Jengitchikgre (DDC)	---	Tura, Meghalaya
11. RN Rangutia	5.27	Agartala, Tripura
12. RN Tulakona (NRRTC)	3.50	Agartala, Tripura
Total	79.85	
=====		

(a) Production and Distribution of Planting Materials in 1992.

During 1992-93 season the entire area in Board's nurseries could not be utilised which led to lower production of planting materials. The increase in fertilizer cost, wages etc. led to an overall increase in the cost of production of planting materials during 1992. So budded plants were sold at the rate of Rs 3.25 per stump and budwood at the rate of Rs 5 per metre allowing a concession of Rs 2.15 and Rs 3.50 per metre respectively for small growers.

During 1992, a total of 4,68,426 nos. of brown budded stumps, 40,529 metres of budwood, 300 nos. of poly-bagged plants and 7534 nos. of green bud sticks of various clones have been supplied to planters in the traditional area of Kerala & Tamilnadu. Distribution of planting materials at concessional price or free of cost to small growers had resulted in an expense of Rs 9,30,773.70 in 1992-93 which is treated as subsidy.

In addition to this, 1,36,260 budgrafts raised in Tripura and 2,53,400 budgrafts out of 3,57,250 raised in Board's nurseries in Assam were distributed to interested growers.

Consequent on the change over to planting of poly-bagged plants the entire quantity of plants raised in Board's nurseries could not be sold out before the nursery planting season. This resulted in the nonutilisation of the entire nursery area during 1992 nursery planting season.

(b) Procurement and despatch of budded stumps to non-traditional Areas:

During 1992, good quality budded plants were purchased from private rubber nurseries in N.E. Reg on to meet the full requirements in North East. Therefore, it was necessary to despatch only 42,250 nos. of brown budded stumps to Goa during 1992-93. There was no procurement of budded stumps from private rubber nurseries in the traditional area for despatch to N.E. Region.

(c) Procurement and supply of rubber seeds in 1992:

During the year 1992 against a requirement of about 100 lakh it was possible to procure only about 76.80 lakh seeds from the traditional area of Kanyakumari District due to the unprecedented very heavy and continuous rains during the seed collection season. The rains caused widespread decay of the pods and seeds. Therefore, the Board was forced to procure seeds from all available sources.

8. Advisory and extension services:

Officers of the Board continued to visit rubber holdings to advise growers on scientific methods of rubber cultivation, production and processing. A total of 3,669 visits were made exclusively for advisory work. Further 60 radio talks on various aspects of rubber cultivation were conducted.

Utilising the service of the Mobile Soil and Tissue Testing Laboratories a total number of 9928 soil samples were analysed and recommendations were given to growers for adopting discriminatory fertilizer application in their holdings.

(a) Demonstration of scientific tapping in small holdings:

The services of the Tapping Demonstrators were utilised for demonstration of scientific methods of tapping and processing by visits to 7125 small holdings.

In association with the Research Department the new system of controlled upward tapping (CUT) was popularised among the large growers as well as the small growers. Proper training was given to the Rubber Tapping Demonstrators attached to various regional Offices as well as P.T. Schools.

(b) Imparting training to tappers through P.T. Schools

Regular training of growers/tappers in tapping and related activities was undertaken through the P.T. Schools at different locations.

At present 24 regular P.T. Schools are functioning in the traditional area and 8 in non-traditional area. They are:

<u>Sl. No.</u>	<u>Name of Regional Office</u>	<u>Name of P.T. School</u>
1.	Nagercoil	Aithully
2.	Thiruvananthapuram	Valaked
3.	Punalur	Nellikunnam
4.	Punalur	Cheriyavellinellur
5.	Adoor	Kalanjoor
6.	Pathanamthitta	Mandiram (Ranny)

7.	Changanacherry	Chengaroor
8.	Kottayam	Anicadu
9.	Kanjirapally	Vanchimala
10.	Palai	Kadaplammattom
11.	Thodupuzha	Vengalloor
12.	Muvattupuzha	Amelasserry
13.	Ernakulam	Karukulam
14.	Tissur	Chengalloor
15.	Palakkad	Andur
16.	N. Iambur	Chulliyode
17.	Kozhikode	Athipara
18.	Tellicherry	Kelakom
19.	Tellicherry	Mananthavady
20.	Tellicherry	Keezhapally
21.	Taliparamba	Padiyoor
22.	Taliparamba	Olaiampadi
23.	Kanhangadu	Periya
24.	Kanhangadu	Sandaduka
25.	Mangalore	Mundaje
26.	Mangalore	Shirady
27.	Agartala (Tripura)	Pathicherry - HATEC
28.	Agartala	Jurie
29.	Agartala	Pathalia
30.	Guwahati	Ouguri
31.	Diphu	Dillai
32.	Udaipur	Sachirambari

A total of 2,356 tappers were trained in 143 batches and an amount of Rs 708,384.50 was spent towards stipend. Also collected Rs 261108.50 towards tuition fee.

Apart from this, arranged short term refresher training courses for tappers in batches of 20 to 25 in selected small holdings. A total number of 992 such refresher training camps were conducted giving training to 11,532 tappers.

9. Extension activities for the development of rubber cultivation in non-traditional areas.

The Board continued to promote development of rubber cultivation in non-traditional areas, where the agro-climatic conditions are found to be more or less suitable for rubber cultivation. A large number of new entrepreneurs have taken up rubber plantations. Apart from giving guidance on all aspects of rubber cultivation, the service of one Rubber Tapping Demonstrator each were utilised in the four R.T. Schools opened under the Regional Offices at Udaipur, Agartala and Guwahati for imparting practical training in scientific methods of crop exploitation and processing.

10. Procurement and distribution of seeds of Pueraria (Leguminous ground cover)

In order to popularise the use of Pueraria as a leguminous ground cover in small rubber holdings, continued to operate a scheme for bulk procurement of the seeds for distribution in small polythene packets at subsidised rates to small growers in traditional and non-traditional areas. A quantity of 8,198.5 kg was sold to small growers at concessional rate.

Board is also raising rooted mucuna cuttings in polybags for distribution among the small as well as the large growers through Board's various nurseries.

11. Scheme for supply of low volume power operated sprayers/dusters

The scheme aimed at popularising the use of low volume power operated sprayers/dusters among small growers for control

of leaf diseases was continued. During the period 1992, low volume sprayers/dusters were supplied to Rubber Producers' Societies, Co-op. Societies and individuals, disbursing Rs 3,87,550/- towards subsidy.

12. Financial assistance to small growers for purchase of rubber sheeting rollers

With a view to improving the quality of the rubber produced in small holdings, the board implemented a scheme to extend financial assistance to small and marginal farmers, for purchase of rubber sheeting rollers of standard specification. A total amount of Rs 21,55,000/- was granted as subsidy for the purchase of 2,155 rollers during the period.

13. Financial assistance for construction of small smoke houses

In order to persuade and help the small rubber growers to adopt better processing technique, implemented a scheme by offering financial assistance in the form of subsidy for construction of 85 kg capacity smoke houses. During the period 475 smoke houses were constructed under the scheme for which a subsidy of Rs 13,97,250/- was disbursed.

14. Financial assistance for irrigation in rubber plantation against drought

Irrigation has been found beneficial for establishment of young plants in the field, ensure proper growth, reduction of immaturity period, increase in yield and quick rejuvenation of tired mark. Installation for irrigation system is capital intensive. Hence in order to motivate and promote irrigation in rubber estates, implemented a scheme for giving financial assistance against capital investment incurred by rubber growers for establishing proper irrigation facilities.

The scheme evoked very good response, bringing in a large number of applications which could not be disposed of within the allocation of funds and therefore, had to be carried over to subsequent years. An amount of Rs 2,96,817/- had been disbursed to 228 rubber growers in the traditional areas. In the non-traditional area, a sum of Rs 2,72,250/- had been disbursed among 62 growers.

15. Assistance for fencing in non-traditional areas.

One of the major constraints in the expansion of rubber cultivation in non-traditional areas is the difficulty in establishing the young rubber plants in the field during the early years due to the menace from cattle and trespassers. In order to protect the plants from stray cattle and trespassers proper boundary protection is needed. Heavy expenditure make small and marginal farmers unable to make investment on this. Therefore, to motivate them, implemented two schemes offering financial assistance at two different rates for SC/ST categories and general category of growers for fencing on standard pattern in non-traditional areas.

During the year '91-'92 firm orders had been placed for the supply of 134 M tonnes of barbed wire worth Rs 25,84,256/-. As the suppliers could not supply the entire quantity of barbed wire before 31/3/92, they were asked to supply balance quantity at the same rate during '92-'93. Accordingly 126 M.T. barbed wire was purchased and distributed to 187 members of SC/ST and 127 members of general category growers.

16. Extension Activities for Rubber Growers in non-traditional areas

Majority of the rubber growers in the non-traditional areas are either small or marginal who have taken up rubber planting with the aid/assistance from Rubber Board. A fairly good number of the plantations have reached the yielding stage. Materials like tapping knives, latex collection cups, coagulating pans, rubber sheeting rollers and such other materials connected with crop exploitation and processing are not available in those areas and the growers are experiencing great difficulties in getting them.

The scheme provides for procurement of the materials at competitive rates from available sources and to transport them to non-traditional areas at Board's expenses and distribute to needy small growers allowing the subsidy as applicable in traditional areas.

Under the scheme, the following materials were supplied to various offices of the Board in non-traditional areas for distribution to eligible growers during 1992-93.

Item	Number	Amount
1. Rubber sheeting rollers	68 nos	Rs 5,97,040.00
2. Plastic cups	52,000 "	Rs 56,100.00
3. Aluminium Dish	2,206 "	Rs 1,01,476.00
4. Aluminium Sieves	110 "	Rs 8,690.00
5. Cup hanger	61,300 "	Rs 33,102.00
6. Spout	60,000 "	Rs 3,960.00
7. Rubber Coat	1,460 kg	Rs 12,337.00
8. Adhesive	50 "	Rs 280.00
9. Ethaphon	1 Lit.	Rs 108.80
10. Polythene sheet	105 kg	Rs 5,512.50
11. Jabong knives	340 nos.	Rs 6,120.00
12. Michigolledge knives	62 nos.	Rs 2,514.00
13. Template	6 nos.	Rs 102.24
14. Emissan	46 kg	Rs 4,862.20
15. Sodium bisulphite	10 kg	Rs 264.00
16. Paranitrophenol	21 kg	Rs 1,617.00
17. Marking knives	75 nos.	Rs 375.00
18. Formic Acid	1,120 kg	Rs 50,295.00
Total		Rs 8,84,755.74

Insurance	:	Rs 3,070.00
Transport	:	Rs 1,16,850.00
Labour Transport	:	Rs 4,780.70
Subsidy	:	Rs 66,000.00

Total Rs 1,90,700.70

17. Extension Activities for the Development of Rubber Cultivation in N.E. Region

The Board continued to promote development of rubber cultivation in non-traditional areas, where the agro-climatic conditions are suitable for rubber cultivation. Large number of farmers are taking up rubber plantation in the region. An area of 761 ha has been planted in Tripura under RPD Scheme and 127.82 ha under Block Planting Scheme in Assam. 255.41 ha was planted in 1992-93. The Block Planting & Group Planting Schemes are being taken up on priority basis especially for the benefit of the SC /ST growers in the NE Region. The proposed area under the scheme for 1993-94 is 500 ha.

For the functional efficiency, the two Regional Offices in Tripura have been brought under the Jt. RPC, NRETC, Agartala detaching them from ZO, Guwahati.

Two farms developed under NRETC are located at Surendranagar and Harimangalpara. Now the plants in the 1987 area in Surendranagar have attained bearing girth and preparation for commencement of tapping are in progress.

Training programmes for farmers and tappers have been offered in different centres to demonstrate and educate modern and scientific practices in planting, maintenance, exploitation, processing etc.

18. Nucleus Rubber Estate & Training Centre, Andamans

The project was originally conceived as part of the Special Area Development Programme for Andaman & Nicobar Islands to serve the following twin objectives:

- i) To serve as a pilot project for development of rubber plantations in the Islands.
- ii) To provide facilities for resettling repatriates of Indian origin from Burma and Sri Lanka on the plantation.

The project was formulated and implemented at the instance of the Govt. of India in the Ministry of Rehabilitation. The land required for the purpose is made available rent free by the Andaman & Nicobar Administration. Execution of the project was entrusted to the Rubber Board. A Rubber Research Cum Development Station was established at Shaithankari in South Andamans about 35 km road distance from Port Blair. Rubber plantation was raised progressively in an area of 202.55 ha between 1965 and 1968. Subsequently in 1975, the project was handed over to the Board to be run as a demonstration plantation.

In 1986, the Govt. of India approved a project for conversion of the Rubber Research Cum Development Station into a Nucleus rubber Estate and Training Centre (NRETC) to serve the training and demonstration needs of the entire islands, at a total estimated cost of Rs 114 lakhs. This was due to be completed by the close of the 7th Five Year Plan period in 1989-90. But the project implementation suffered setbacks owing to refusal of local agencies including Andaman Public Works Dept. to take up the civil constructions and other works and prevalence of protracted industrial disputes with the plantation labour. The civil works were therefore entrusted with the National Building Construction Corporation Limited (NBCC). It is expected that the work would be completed by 1993-94. The labour disputes have been settled during the year and normalcy is being steadily regained. At present there are only about 48,300 trees which will be regrouped into 161 blocks of 300 trees. The production of rubber during 1992-93 from the NRETC is given below:

Sheet rubber	64,852.00 kg
Scrap rubber	16,527.50 "
Foam sheet rubber	362.50 "
Total	81,742.10 kg

The Board has incurred an expenditure of Rs 75,62,723.79 towards running expenses of the NRETC during the year 1992-93.

A rubber nursery of 1.5 ha also is maintained for production and supply of high yielding planting materials to interested growers.

19. VIGILANCE FLYING SQUAD

In order to maintain constant vigil against delays, possible malpractices and corruption in field work and to arouse awareness of devotion to duty amongst the staff working in the field, an Anticorruption Cell (Vigilance Flying Squad) under a Ly. Rubber Production Commissioner during 1989. The working of the unit has indeed given the needed alert to the field staff and others in Regional Offices, Field Offices, Nurseries and Tappers' Training Schools. The effect has been mostly in the nature of preventive Vigilance. It has brought about high level of integrity and promptness amongst the field staff and others and effectively checked the tendency towards malpractice and indiscipline.

During the period Vigilance Flying Squad visited a total of 359 units. Surprise visits and inspections were conducted in 197 offices (both Regional Offices and Field Offices), 10 visits to Nurseries, 20 visits to Tappers Training Schools and 132 visits to holdings/estates connected with the various schemes of the Board to ascertain the genuineness of the reports submitted by the inspecting officers. This included 46 cases of overchecking and enquiries in response to the complaints received. Irregularities were observed in 7 cases and appropriate action was taken against five officers responsible for the same. The remaining two cases were referred to the Vigilance Officer for detailed investigation. Minor lapses were noticed in 19 cases and suitable instructions/advice were issued for future guidance.

20. RUBBER PROMOTION

Organisation of Rubber Producers Societies among Village level small growers and implementation of short term productivity improvement measures formed the major rubber promotional activities. During the period under reference approval was given to 59 RPSs. Key card system of documentation was introduced for bringing better control and for facilitating compilation of information. Regular collection of returns on the performance of RPSs was continued. Annual Accounts and progress reports received from the RPSs were scrutinised and wherever defects/omissions were noticed, appropriate suggestions and remedial measures were offered. Classes were conducted at Regional Office levels to enable the Societies to familiarise themselves with the accounting procedures of RPSs. Detailed printed instructions on proper maintenance of records were issued to all the Societies. Required registers were also printed and given to the RPSs.

Pool Fund Scheme for supply of Estate Inputs

During the period under report various schemes were operated for the supply of various estate inputs to small growers at concessional rates. Under the schemes, the following materials were supplied to the growers.

Item	Qty. of material purchased and distributed
Urea	2767 MT
Potash	1938 "
Amssorie	5876 "
Copper Sulphate	236 "
Copper Oxychloride	72 "
Spray Oil	368 KL
Rubber Coat	17 MT
Sieves	4050 Nos.
Headlight	3600 Nos.

contd..

Aluminium Lish	72000 Nos.
Aluminium Can	1100 Nos.
Polythene Sheet	154.5 MT
Rainguarding Compound	470 MT
Plastic Cup	15.8 lakh

21. NRETC AGARTALA

NRETC had two farms, one Nursery-Cum-Demonstration plot and one Nursery at the beginning of the year. The Nursery which was on lease was wound up.

(1) Marimangal Farm

Total of 73 ha. was planted as on 1.4.1992. No further extension of the planting was possible due to security reasons. The routine maintenance was carried out. The Bailey bridge which was proposed to be installed in the Project, though procured, was decided to be disposed. A total number of 3602.5 mandays were engaged and an amount of Rs.74,253/- paid as labour wages.

(2) Surendranagar Farm

The farm had a net area of 98.07 ha. The routine maintenance was carried out. The work was spread over 12,752.5 mandays and Rs.2,57,599.50 paid as labour wages. 15% of the trees have exceeded 50cm. girth and another 40 to 50% of the trees will be achieving tappable girth by September 1993.

Construction of Office, Staff quarters, labour quarters (20 Nos.) are in progress. The total value of construction work done during the period is approximately Rs.54 lakh. In addition, NECC had already completed fencing at a cost of about Rs.23 lakh. A deep tube well also was drilled in the farm.

(3) Tulakona-Nursery-Cum-Demonstration Plot.

The centre has an area of 14.32 ha. of which 8.86 hectare is under plantation. There are 3,716 budwood points and during the period from 1.4.1992 to 31.3.1993 66,941 budwood stumps were distributed from this nursery. A new seedling nursery has been started and at present 79,596 seedling stock is available. Workers were engaged for 4,732 man-days and Rs.89,763.50 was paid as labour wages.

(4) Surendranagar Nursery

The Tripura Rehabilitation and Plantation Corporation Ltd. was distributed 13,119 budgrafted stumps. The nursery was wound up in August, 1992.

(5) Training

One batch of farmers (21 growers) were offered 5 days Training and 15 batches of farmers (147) were offered one day training. Apart from this training programmes were offered in all the 14 group plantation centres and 9 block plantation centres periodically on various cultural operations.

(5(A)) Tappers Training.

In all the four tappers Training Schools in the State regular training was offered. However there was some disruption in two schools, one located in North Districts and under the jurisdiction of Regional Office, Agartala and the NRETC School at Paticherry due to security problems and lack of sufficient trainees sponsored by the TLPC.

In T.T.School, Paticherry of NRETC, two batches were offered training. NRETC also arranged off campus Tappers

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Training under the Rubber Producers Societies in two centres covering 36 trainees. The T.T.School, Pathalia attached to Regional Office, Agartala offered training for 5 batches (86 students) and T.T.School Jury also under Regional Office. Agartala offered training for two batches involving 46 number of trainees.

(6) Publicity

Publication of Rubber Samachar on a Bi-Monthly basis was continued. Arranged a press tour for UNI, FTI and other members of the press to various farms and block plantation centres. Media(Press as well as AIR) gave wide coverage to the activities.

(7) Group Meetings

The Regional Offices arranged 58 group meetings besides conducting six one day training programmes.

(8) Development Activities

The issue of subsidy cheques further to the bifurcation of activities of North Eastern Regional commenced during 1991-92. However, functions of a full fledged Zonal Office were attached to NRETC from 1.4.1992 onwards. A new scheme on block Plantation was implemented in collaboration with the Government of Tripura during this year. The activities of the NRETC thus were diversified to accommodate development activities. The R.P.L.scheme being implemented had problems and a group approach was felt to be the ideal one and hence a new scheme for group planting was initiated. Details of financial assistance to farmers are given below.

1) Phase -I	Rs.	82,935.20	
2) Phase -II	Rs.	9,95,294.00	
3) Phase -III	Rs.	21,29,422.50	
4) Maintenance Grant	Rs.	8,27,962.40	
5) Construction of Smoke house	Rs.	49,000.00	
6) Interest Subsidy	Rs.	7,81,187.00	
7) Assistance for Boundary protection	Rs.	64,855.00	
8) Cost of budged stumps	Rs.	14,31,131.00	
9) Bee-keeping	Rs.	2,117.00	
10) Cost of Fertilizer	Rs.	4,69,889.00	
11) Cost of barbed wire	Rs.	9,76,430.25	(payment effected from Zonal Office, Gauhati.)
Total	Rs.	78,10,223.35	

(9) Block Planting

Block planting was started initially in 4 centres in April, 1992 itself. Subsequently action has been initiated to raise polybag nursery in 5 more centres for field planting in 1993. Out of 9, one colony is a Scheduled Castes settlement Colony. Four more centres have already been identified covering an area of 350 ha. Including this total area identified for the block plantation/as on 31.3.1993 is Rs.57.47 lakh. We have received an amount of Rs.41.08 lakh being the contribution from the Government of Tripura. The expenditure incurred includes advance paid to NBCC for providing fencing /will be 916 ha. The total expenditure incurred under the Block Plantation

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in 4 block plantation centres where field planting was carried out. Details of block planting are given below:

1. No. of Centres	: 9
2. Total area	: 566 ha.
3. No. of beneficiaries	: 366
4. Area planted during 1992.	: 127.82 ha.
5. Area proposed for 1993 planting	: 305.00 ha.
6. No. of polybags prepared	: 1,64,390
7. No. of budded stumps planted in polybags	: 85,224

(10) Group planting

Group Nurseries were started in 14 centres for promoting group planting. The scheme cover 265 beneficiaries over an area of 250.78 ha.

(11) Construction.

The entire construction works at Agartala have been coordinated by the NRETC. All works under Phase-I programme entrusted with the IBOC have been completed. A new agreement has been signed with the NECC. An amount of Rs.53.58 lakh was paid against running bills for Surendranagar works and Rs.64.56 lakh as advance for works at Agartala Complex and fencing (Phase-II construction).

The total expenditure of the NRETC from 1.4.1992 to 31.3.1993 was Rs.2,95,31,811.00

22. EASTERN INDIA RUBBER DEVELOPMENT PROJECT

Considering the scope for expansion of rubber development in the non-traditional areas of Orissa, Coastal Andhra Pradesh, West Bengal and Bastar District of Madhya Pradesh, the Board had in 1987 submitted comprehensive proposals for organised development of rubber plantations in these areas. The Government had accordingly, sanctioned a project in 1988 with the following components:

- 1) Establishment of a 200 ha. Research Farm in Orissa.
- 2) Establishment of a 250 ha. Nucleus Rubber Estate & Training Centre (NRETC)
- 3) Assisting Development of Rubber Plantations in 1000 ha. in the region by the end of 7th Five Year Plan period (i.e. 1989-90)

In order to execute the work, a Zonal office was opened in Bhubaneswar in 1988 followed by 3 regional offices at Baripada (Mayurbhanj District), Bhubaneswar (Puri dist.) and Berhampur (Ganjam District). The establishment included a Field Office at Mareduville in East Godavari District of Andhra Pradesh. A regional nursery was also established at Ranibaro in Ganjam Dist. and another at Tevareppally in Mareduville in East Godavari District of Andhra Pradesh. However, regional nursery at Ranibaro has been closed down during the year. Work on the NRETC could not be started due to non-allotment of land by the State Government.

contd...

Activities undertaken upto the close of 1991-92 had resulted in establishing rubber plantations as follows:

Orissa	286.75 ha.
Andhra Pradesh	178.00 "
Madhya Pradesh	2.00 "
	466.75 "

In Andhra Pradesh, rubber planting is undertaken under Tribal Development Programme by the concerned Government agencies.

23. REGIONAL OFFICE PORT BLAIR

A Regional Office was started at Port Blair in 1985 to cater to the needs of the prospective rubber growers of Andaman and Nicobar Islands, where from 87 subsidy permits were issued covering an area of 65 ha.

IV. RUBBER RESEARCH

The Rubber Research Institute of India - the Research Department of the Rubber Board - had its inception in 1955. It is located about 8 Km. east of Board's Headquarters, at Kottayam. Research activities are focussed on productivity increase, quality improvement, reduction in immaturity period as well as reduction in cost of production and NR conservation by improving service performance of products. Agrotechnological upgradation is given due thrust both for the traditional and for the nontraditional rubber growing areas.

At the headquarters, the Institute has major research divisions and research supporting sections. Regional research stations are established in different states where rubber is grown, or likely to be grown on a commercial scale to concentrate on location specific problems.

The Institute maintains healthy liaison both at the national and at the international level. The Director of Research is co-ordinating the international research programme on tapping panel dryness. The Institute publishes the Indian Journal of Natural Rubber Research and during the period under review two issues were brought out.

Scientists of the RRII served as teaching faculty for various training programmes. They also undertook a number of visits for on the spot study of problems and advisory services, in addition to participating in seminars.

1. AGRONOMY AND SOILS DIVISION

The Agronomy and Soils Division continued investigations on nutritional requirements of high yielding clones of rubber at various stages of growth in the different agroclimatic regions of South India. Irrigation and water requirement, soil moisture management, soil conservation, intercropping, forms and methods of fertilizer application and standardization of analytical methods were also under investigation. The project on DRIS, a modern approach for interpretation of foliar analytical values, were in progress. Discriminatory fertilizer recommendations were offered to estates and small holders from the RRII and also from the eight Regional Laboratories.

The three experiments laid out in three locations with a view to assessing fertilizer requirement of clone RRII 105 were in progress. Girth was measured at periodic intervals and the data taken till 1992 revealed that maximum growth was obtained by the combined application of 30 kg each of N and P_2O_5 ha⁻¹. The two experiments, laid out at Konney Estate and RRII Experiment Station in 1988 with a view to assess the nutrient requirement of experimental clones, were being continued. The girth data indicated that there was no interaction of clone X fertilizer treatment. Among the 10 clones, performance of RRII 203 was much better followed by RRII 100. Seven field experiments in four locations, to find out the optimum fertilizer requirement, were in progress. Yield obtained from different estates were worked out and the following combinations recorded the maximum yield.

<u>Region/estate</u>		
	NPK	20:20:60
Vaniampara Estate	NPK	20:40:30
Kinalur Estate	NPK	20:0:60
Malankara Estate	NPK	20:0:30
New Ambadi Estate		

Multilocal trial on fertilizer use efficiency was laid out in seven locations. Yield data recorded during the eight years did not show any significant difference among the treatments. This shows that the sources of fertilizers may be selected based on cost and a combination of urea, MRP and MOP would be cheap. If discriminatory fertilizer recommendation is followed the doses of these fertilizers could be reduced.

The experiment on density of planting, growth and yield was in progress at Shaliacary Estate. Girth data recorded till 1992 indicated that there was no significant difference in girth of plants even six years after planting between a population range of 445 to 598. Thus the density of planting within the range studied in this experiment has not affected the growth of rubber.

Based on lysimeter studies, the mean evapotranspiration for a three year old plant was found to be 4.97 mm d^{-1} which works out to be 40 litres of water per plant per day. Between drip irrigation and basin method, there was no difference. The project on utilization of diagnosis and recommendation integrated system (DRIS) to formulate optimum nutrient ratios is being continued. Computer programme was developed with the help of TNAU for the calculation of DRIS indices and the indices for different levels of N, P, K, Ca and Mg. were worked out.

The experiment laid out during 1990 to study the effect of different levels of K fertilizer on yield and latex flow was in progress. After continuous application of graded level of K_2O for two years, the yield data recorded during October 1992, December 1992 and January 1993 revealed that the highest dry rubber yield was recorded from $60 \text{ kg K}_2\text{O ha}^{-1}$ applied plots, followed by 30 kg ha^{-1} . It was also found that the application of higher level of K_2O (above 60 kg ha^{-1}) decreases dry rubber yield.

The possibility of using dilute HCl for extraction of K, Ca and Mg in *Hevea* foliage was investigated. The values obtained were correlated with dry ashing method. Significant positive correlation was obtained between the two methods.

The division analysed 8550 soil and 2520 leaf samples for advisory purpose and discriminatory fertilizer recommendations were offered to estates and small holdings based on analytical results.

2. BIOTECHNOLOGY DIVISION

Propagation of rubber by in vitro culture of shoot tips was continued. These plants would be planted in the field alongwith the bud-grafted control plants. This would facilitate the comparison between tissue culture plants with bud-grafted plants. Progress is being achieved in refining the plant regeneration pathway of somatic embryogenesis. A population of budded plants were produced and put in the field from a somaclonal variant obtained through tissue culture. Recombinant DNA technology has been initiated for developing means for incorporating 'foreign' genes into rubber genome for crop improvement.

Isoelectric focusing was done for fingerprinting five different isoenzymes in budded *Hevea* plants (clone RRII 105) to study the enzyme polymorphism due to stock-scion interaction. This may be due to the polymorphic root stock genome.

3. BOTANY DIVISION

The Botany Division continued to concentrate on genetic improvement through hybridization, clonal selection and ortet selection. Investigations on propagation, anatomy and cytogenetics were also in progress.

Breeding and selection

Annual observations on girth and secondary characters were recorded from 39 small scale trial (belonging to hybridization and clonal selection, ortet selection and special techniques), 11 large scale trials and 20 block trials. Monthly yield was recorded from all mature trials. Sixty three clones of 1982 HP in three small scale trials were opened for tapping and data on yield and yield components were recorded periodically. Thirty four clones selected from the 1986 and 1988 HP series were planted in three small scale trials. Ten ortet selections from small holdings were also laid out in a small scale field trial. A total of 24 and 47 clones of 1986 and 1988 HP series respectively were laid out in field experiments for clonal nursery evaluation alongwith RRII 105 as control after recording juvenile growth. A block trial of six clones was laid out at Shallicary estate and another six clones were supplied for a block trial proposed for 1993. A polybag nursery of five selected clones was established at Wyanad. Monthly yield and d.r.c were recorded from a block trial of 12 clones which was newly opened for tapping. Monthly girth and juvenile yield were recorded from two multidisciplinary trials on clone evaluation. Four new field experiments were planned and the corresponding planting materials were multiplied and established in a polybag nursery. These include 15 ortet clones, 15 heterotic hybrid clones, five selections resultant of mutation and polyploidy, 150 selections from progenies of prepotent parent and 30 seedlings each, selected from 11 families resultant of hybridization. The 1993 hybridization programme was carried out employing parent clones selected on the basis of components of yield, drought tolerance and canopy characteristics. A total of 9300 hand pollinations involving 29 cross combinations were attempted.

With a view to study the performance of clonal composites, five experiments were laid out. These comprised various proportions of clone blends and a control monoclonal plot of RRII 105 at the Central Experiment Station, Chethackal. One set of experiments on clonal composites was also laid out at the Regional Experiment Station, Nagrakata, West Bengal. One nursery experiment and another field trial incorporating 10 clones of high, medium and low yields were laid out for studies on early evaluation.

Propagation and planting techniques

All the field trials connected with propagation and planting techniques were maintained properly and annual recording of growth and secondary characters was carried out. The trial on depth of planting was opened for tapping. Nursery experiments were initiated for comparative studies on polyclonal and assorted seedlings, twin stocks and single stocks, bench grafts and green buddings. Monthly yield recording was carried out in the experiment on genetic basis of stock scion relationship.

Anatomy

Detailed observations on 52 clones were recorded for characterization of populac clones on the basis of bark anatomical parameters. Latex vessel rows of four cytotypes were assessed. In association with the Biotechnology Division, a study of embryo development in germinating seeds was initiated. Developing embryos at different stages were fixed and processed.

The study on wood quality was continued and ethrel application was carried out. The bark renewal study was also continued. Seventy five bark samples were processed and observed. A new study on ovule development was initiated. Hand pollinations of specific clone combinations were attempted and ovules at different stages of growth were fixed and processed.

Cytogenetics

Monthly yield recordings and annual girth measurements were done in polyploid and irradiated trials. Incorporating seven selected clones from the irradiated population and RRII 105 as control, a trial was laid out at CES, Chethackal. Pollen studies were carried out in 10 popular clones and studies on pachytene and karyotype analysis were initiated.

4. GERMPLASM DIVISION

The Germplasm Division continued its activities of introduction, collection conservation, exchange and evaluation of genetic resources of Hevea.

Budwood materials of 12 clones of exotic and indigenous origin were supplied to North East Research Complex, for establishing a source bush nursery. Nucleus materials were also supplied to research divisions, when needed. Five IRCA clones were planted at Central Experiment Station and quarterly observations on these genotypes are being continued. These clones were also supplied to Botany Division for large scale trials. A few genotypes from the 1984-85 introduction of the wild germplasm from 1981 IRRDB exploration were selected and being observed for morphological and anatomical traits.

Evaluation of the Wickham materials conserved in the three gardens were continued. Monthly yield recordings and annual girth measurements of all the clones were taken.

Preliminary studies on the variation of the structure of bark of 100 genotypes from 1981 collection indicated that the genotypes from Mato Grosso are comparatively better than those from Acre and Rondonia. Seventy two genotypes from 1989 planting were studied for variability, degree of associations among characters and their direct and indirect effect on juvenile yield. Higher estimates of heritability and genetic advance for most of the characters studied indicated their significance in breeding programme. Growth performance and other morphological observations were taken from 175 wild genotypes of 1990 evaluation trial. The data generated after the first four seasons were classified based on their performance using metro-glyph and index-score analysis. The study revealed that there are a few wild genotypes showing stable performance with high score irrespective of the seasons. Two evaluation trials were initiated, one with 80 and the other with 63 genotypes from the 1981 IRRDB collection at Central Experiment Station. Another set of 50 genotypes were planted for ortets trial.

Search for an alternative source of natural rubber suitable for the non-traditional marginal lands points to the possibility of trying Ceara rubber (*Manihot glaziovii*). An exploration to the hill tracks of Tamilnadu resulted in the identification of a large population of *Manihot* genotypes growing wild. Action is in progress to procure germplasm for further studies.

5. MYCOLOGY AND PLANT PATHOLOGY DIVISION

The field experiments on clonewise and regionwise recommendation of rubber spraying against abnormal leaf fall disease combined with crop loss studies were carried out at three locations. In the highly susceptible clone RRIM 600, over the higher dose of 10 kg or COC per ha was found to be inadequate in high rainfall area resulting in 30% crop loss, whereas in low rainfall area (Kanyakunari District) 4 kg per ha was found to be adequate and can result in crop gain in 18.5%. In high volume experiment, for high rainfall areas, even for the tolerant clone RRII 105, 3000 l of 1% Bordeaux mixture per ha was found to be essential. Zinc-Bordeaux mixture combination at 0.5% was found to be equally effective as 1% Bordeaux mixture with a cost reduction of 30%. In the permanent crop loss experiment at Central Experiment Station, in the fourth year 57% crop loss was found in RRIM 600. The trend was irregular in clones RRII 105, RRII 119 and C 1. The new fungicide 'Atonin' was found to give better control of shoot rot disease along with better growth of plants. Systemic fungicides Bavistin and Calixin as 1.5% dust were field tested against powdery mildew disease at Wayanad and better control was achieved over sulphur dusting. Prophylactic spraying of 3 to 4 rounds of 1% Bordeaux mixture or 1% Cobox L which can give about 25% better control of pink disease at an additional cost of Rs.64/- per ha. Certain wood extracts were found to highly inhibit pink disease pathogen in culture.

Field experiment on dual inoculation of Rhizobium and Beijerinckia indicated enhanced growth for the cover crop compared to Rhizobium alone. Eight promising V A Mycorrhizae were isolated. 75% rock phosphate with phospho bacteria was found to be equivalent to 100% rock phosphate in pot culture studies. The results of the field trials on biological control of white grubs indicate the scope for recommending Beauveria brongniartii, phorate 10 G kept in the field in cloth bags was found to repel vertebrate pests.

6. PLANT PHYSIOLOGY AND EXPLOITATION DIVISION

The Plant physiology and Exploitation Division conducted experiments in the fields of exploitation, environmental plant physiology, biochemistry, tapping panel dryness (TPD), intercropping of medicinal plants, etc.

Extensive efforts were made for popularising controlled upward tapping (CUT). Fifty one tapping instructors were given training to use the modified gouge knife for CUT. The Development officers of 11 regional offices were also given orientation training on CUT. Tappers of 5 major estates and a number of small holdings were also given training on CUT. Results of the ongoing trial showed high returns from CUT. In clone RRII 105 acceptance among planters and tappers alike. In clone RRII 105 sufficient data was generated to justify third daily tapping instead of alternate daily tapping. Incidence of TPD is lower in the former. In the long run, third daily tapping results in higher returns. Tapping of one third spiral cut also appears promising. In this case, alternate daily tapping is possible in clone RRII 105 with less incidence of TPD and reasonably good yield. In clone RRII 203, daily tapping of one third spiral cut for three years resulted in 22% additional income. These systems will be useful to growers under special circumstances. In clone RRII 105, weekly tapping with stimulation showed good response. In another trial comprising mixed clones also, weekly tapping with stimulation showed good response. Two hectare area was planted with 13 clones for clone blend studies.

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In the high elevation, clone RRII 118 showed higher girth and yield. In the North Konkan, clone RRIM 600 showed higher yield. High mortality of clone RRII 105 in the initial stages of establishment under drought conditions was found to be associated with high inhibition of photosynthesis. In clone RRIM 600, which has better establishment success, such inhibition of photosynthesis is less. Under low light conditions, clone RRII 105 showed higher photosynthetic rate when compared to RRIM 600. Methods were standardised for screening of clones for establishment success in dry situations and for cold tolerance. For cold tolerance, membrane stability and double bond index of membrane lipids are important parameters for screening. More than 25 clones were screened for membrane thermostability and epicuticular waxes. Five hundred plants of 12 clones were planted to screen for establishment success under drought.

In the Konkan region, irrigation resulted in 40% growth increment. Fifty per cent saving of water was possible by drip irrigation. By irrigation, tapping can commence atleast two years earlier.

One year systematic study showed that intercropping of three species of medicinal plants did not cause any inhibition of latex yield. Studies on latex diagnosis have so far shown promising results. Hypodermal extraction of latex was also performed. Extensive studies on TPD gave good results.

7. RUBBER CHEMISTRY, PHYSICS AND TECHNOLOGY DIVISION

The Rubber Chemistry, Physics and Technology Division continued investigations on improvement of natural rubber processing, chemical modification and technological aspects.

Primary processing

Installation of a small solar drier of 200 kg capacity was completed in collaboration with "ANERT" and its evaluation has been in progress. Preliminary results indicated that modifications in the design are essential. Evaluation of the modified solar drier of 800 kg capacity is also being continued. A mini solar dryer with a maximum capacity of 45 sheets was also fabricated and evaluated. Efforts are being made to increase the capacity to around 100 sheets. A detailed study of the ageing aspects of sulphuric acid coagulated sheet rubber is being carried out. Studies on the corrosion aspects of using sulphuric acid indicated no significant corrosion either for the aluminium pans or for the sheeting roller, if the recommended conditions are followed.

Chemical modification of natural rubber

Construction of a pilot plant for the production of epoxidised natural rubber was completed and production of 25 kg batches has commenced. 2, 6 di t-butyl-p-cresol antioxidant was found to impart high PRI for ENR. Bench scale preparation of ENR-50 has been further continued to produce the same at lower reagent concentrations. Phosphorous modification of natural rubber by the reaction between epoxidised liquid natural rubber and dibutyl phosphate was attempted. The reaction was carried out in bulk and solution medium and the products were characterised by chemical analysis and other experimental techniques. Phosphorous modified product revealed good flame retardant properties in a natural rubber formulation.

Studies on the effect of storage on the properties of centrifuged latex and vulcanizates therefrom have been continued. Adhesives consisting of a 5% solution of NR in solvent naphtha alongwith 5 phr PF resin and 10 phr china clay gives high peel strength for rubber to rubber bonding. Acetylation of short sized fibre was found to improve the bond strength between the fibre and rubber. Incorporation of aluminium powder to rubber mixes was found to improve the thermal conductivity of the latter. Attempts have been made to develop products like school bags from NR-BVA blends.

A study was initiated to compare the properties of ISNR-20 with sheet rubber (RMA 4, RMA 5) and Estate Brown Crepe. Samples were being periodically collected and evaluated.

8. AGRICULTURAL ECONOMICS DIVISION.

The Agricultural Economics Division is primarily concerned with the studies relating to economic aspects of natural rubber cultivation, processing, marketing and end uses. Emphasis was given to studies pertaining to ancilliary sources of income such as intercroops, by-products etc.

Commercial evaluation of planting materials was continued and the fourth report is under preparation. A sample survey of rubber small holdings in Tripura was conducted on 1991 by covering 60 sample holdings located in the three planting districts of the State. The major contributing factor for growth of small rubber holdings in Tripura was the introduction of New Planting Subsidy Scheme in 1979. Around 60 per cent of the growers was illiterate and only 25 per cent could avail of the full instalments of the subsidy. Method of tapping was found to be unscientific and the immigrant tappers from Kerala were paid a monthly salary ranging from Rs.1200 to Rs.1500. Only 40 per cent of the sample holdings had proper sheet processing facility while only 35 per cent has sold the produce to the licenced dealers. Nevertheless the price realisation in the Agartala market was comparable to the prevailing prices in the terminal markets of Kerala. The major problems identified were (i) lack of scientific knowledge on cultivation, cultural practices, exploitation and process; (ii) inadequate availability of material inputs and (iii) a primitive mode of marketing network.

A study on transportation of natural rubber was conducted in 1990, which is an updated version of two previous surveys carried out in 1967 and 1978. The total quantity of rubber transported from Kerala to other consuming centres in 1990 was 2.4 lakhs MT. About 67 per cent of the transportation was accounted by manufacturers, 20 per cent by dealers, 9 per cent by estates and 4 per cent by processors. Dominant position was for road traffic, mainly due to acceptance of small quantities, minimum procedural formalities and absence of transhipment costs.

A study was undertaken in 1992 covering 36 rubber marketing co-operative societies in Kerala. Among them 24 were engaged in activities other than rubber marketing such as distribution of planting materials, development of nurseries, rubber processing, rubber goods manufacturing and banking operations. Around 70 per cent of the societies was supplying material inputs to member growers and had own facilities for plant protection activities. The average quantity of rubber handled by a society amounted to 1302 MT during 1991-92.

Experiments conducted by the Agronomy and Soils Division showed that dried latex sludge, a waste material from latex centrifuging industry could be used as a phosphatic source for immature rubber. Economic analysis indicates promise. Studies on ancillary products (rubber wood, rubber seed oil and cake, rubber honey) were continued with the main objective of estimating annual production and consumption. During the period under review, estimated rubber wood production is 12 lakh cubic metres and the packing case manufacturing industry was the single largest consuming sector accounting for about 63.5 per cent of stem wood. The relative share of rubber wood consumed in the treated wood processing industry registered a substantial increase from 3.90 per cent in 1991-92 to 6.90 per cent in 1992-93. During 1992-93 rubber seed oil production is estimated to be 4300 MT and oil cake 8000 MT.

9. RESEARCH SUPPORTING SECTIONS

(a) Library and Documentation.

The Library and Documentation Centre continued its important role of communication and dissemination of information. During the year 1992-93, 125 new books and 133 bound volumes of journals were added. The library subscribed to 175 journals and 9 dailies. About 150 other journals were also received either as gift or an exchange. Three issues of documentation list, three numbers of rubber alert, 150 issues of SDI Bulletin, one issue of list of new additions and one issue of current list of periodicals for 1992 were compiled and distributed. As part of data base development 5220 documents have been indexed.

(b) Instrumentation

Timely maintenance and proper repairs of all the instruments in the different research divisions and various regional research establishments were promptly carried out by the Instrumentation Section. Installation and calibration of new equipments added to RRII were also undertaken.

(c) Art/Photography

Preparation of photographs, charts, graphs etc. for publication as well as for presentation of scientific papers in conferences and symposia was attended to.

(d) Statistics

Experimental data from different research divisions were statistically analysed. Statistical layouts for field experiments and laboratory investigations were prepared. Local area network (LAN) was established at RRII and file movements relating to purchases were computerised. A computer programme for fertilizer recommendation was designed and is being tested. Training was given to a batch of Scientists of the RRII on MS-DOS, DBASE IV, LOTUS 1-2-3 and wordstar.

10. EXPERIMENT STATIONS

The RRII has two experiment stations, the central Experiment Station at Chethackal near Ranni and the Experiment Station at its headquarters at Kottayam.

Central Experiment Station has a total area of 254.8 ha. An area of about 20 ha, was planted for different experimental purposes during 1992-93. The total crop during the period was 1,72,164.30 kg. The total rainfall received during the period was 4138 mm. There were 209 permanent workers and 202 casual workers on the rolls. The total mandays engaged for different operations in the station during 1992-93 was 63,968.50. The dispensary functioning in the station provided services to 12,864 patients.

The Experiment Station at the headquarters of the RRII has a total area of 32.87 ha. The area under rubber planting is 25.23 ha, of which 4.13 ha was under tapping during the last part of the year under report. There were 38 permanent and 56 casual workers on the rolls. The total mandays engaged during different operations was 13,520. The total rainfall received during the year was 4080.7 mm.

11. RESEARCH COMPLEX FOR NORTH EASTERN REGION AND REGIONAL RESEARCH STATIONS.

Research activities in the regional research establishments in the different states of the North East and West Bengal were co-ordinated by the Research Complex having its headquarters at Guwahati.

RRS Guwahati

The Regional Research Station, Assam concentrated mainly on clone evaluation, germplasm, nutritional requirements and cover crops. The station has undertaken trials in the planters' field in the different agro-climatic zones and 16 blocks of high yielding clones were planted to study their yield performance. Plants were regenerated from undifferentiated callus of Pueraria and Mucana and from anther callus and mature and immature embryos of Hevea. However, the regenerated plants established in soil culcrite, did not survive the second stage of hardening in soil medium due to lack of proper hardening facilities. Several strains of Agrobacterium were also tested to study their ability to transfer oncogenic gene to Wickham and Brazilian germplasm materials. Survey of diseases and pests and experiments for their effective control were also in progress.

RRS Agartala

The Regional Research Station, Tripura continued investigations on 18 ongoing projects. It was observed that generally rubber plants respond to higher doses of fertilizers both in the immature and in the mature phases. Trials on planting in density, clone evaluation and exploitation system were also in progress. Characteristics of the rubber growing soils was also undertook analysis of 1053 soil samples, 823 leaf samples and 3059 latex samples for advisory and experimental purposes. An adjoining area of over 12 ha was purchased for laying out new field experiments.

RRS, Meghalaya

The Regional Research Station, Meghalaya concentrated on evaluation of clones, potential intercrops, fertilizer requirements under different ground cover, rubber based cropping systems and nursery studies, survey of diseases and pests, mushroom culture and rabbit rearing. About 50% of the trees in the clone trial laid out in 1985 at the Ganolgre experimental farm have attained tappable girth and are proposed to be opened during 1993.

RRS, Mizoram

At the Regional Research Station, Mizoram, multidisciplinary evaluation of clones, upkeep of polyclonal seedgarden, chemical control of lalang and planting techniques for cover crop were under progress. Evaluation of the effect of splitting of fertilizers on the growth of young rubber plants was initiated. Influence of physiographic features on growth was also under study.

RRS, West Bengal

The Regional Experiment Station, West Bengal, was established in 1989 to evolve suitable agrotechnology for successful rubber plantation ventures in North Bengal region. Three clone trials, which include 22 high yielding clones, have been attempted. A nutritional trial has also been laid out.

RRS, Maharashtra

Plant Physiological investigations and studies on irrigation were continued in the Regional Research Station, Maharashtra. Evaluation of clones, studies on intercropping, observations of polyclonal trees for location specific selection of genotypes, etc. were also under progress. Results of an experiment on mulching revealed that mulched plants with irrigation recorded significant growth.

RRS, Orissa

Of the total area of 40.0 ha, 22.0 ha has been brought under planting at the Regional Research Station, Orissa. Regular mulching of plant bases, drawing of silt pits and life sourcing irrigation were adopted to ensure proper growth and development of the plants. The clone evaluation trials, field experiment on polyclonal seedling trees, nutritional studies and trial on planting densities were continued. During 1992, the total precipitation was 1663.4 mm, mostly concentrated in the period June to September. The maximum and minimum temperatures recorded were 42.5°C and 10.0°C respectively, the former in May and the latter in December.

RRS, Madhya Pradesh

The Regional Research Station, Madhya Pradesh, has an area of 47 ha for experimental planting. Polyclonal seedlings planted during 1991-92 over an area of 2.5 ha were under proper upkeep.

HBS, Karnataka

Field trials on growth and exploitation systems, ortet selections, clones and genetic parameters were properly maintained at the Hevea Breeding Sub-station, Karnataka. The total rainfall recorded was 4795.5 mm, of which over 1200.0 mm was received during the month of July. The maximum and minimum temperatures recorded were 38.5°C and 10.0°C respectively, the former in March and the latter in January.

HBS, Tamilnadu

Both the breeding orchards in the Hevea Breeding sub-station, Tamilnadu, were maintained and the trees were induced to flower. Casualties were filled in the large scale trial. Cover crop establishment was also done. Potential high yielding genotypes were spotted, after test tapping in the nursery. Attempts were in progress to clone them for further studies.

12. TRAINING

Short-term training course on rubber culture and estate management.

Three batches of this eighteen-day course were organised and 52 participants from the States of Assam, Andaman & Nicobar Island, Goa, Kerala, Karnataka, Tamilnadu and Tripura attended.

Training course for rubber goods manufacturers.

Separate courses were held for persons interested to set up rubber goods manufacturing industries based on latex and dry rubber during the period under report.

Four batches of the course on manufacture of products from latex were organised. The total number of participants was 81 from Kerala, Tamilnadu, Maharashtra, Karnataka, Maryana, West Bengal, Andhra Pradesh, Meghalaya and Goa.

Three batches of the course on manufacture of products from dry forms of rubber were conducted for 50 participants from Gujarat, Andhra Pradesh, Madhya Pradesh and Kerala, including four deputies from Naval Base, Cochin.

Training course on rubber processing.

One batch of this course was held exclusively for twelve deputies of the State Farming Corporation of Kerala Ltd., Punalur from 8th to 12th March, 1993.

Training course on production of latex thread.

A four-day course on production of latex thread was organised for nine entrepreneurs from Hariana, Kerala and Tamilnadu from 2nd to 6th November, 1992.

Training course on production of latex foam.

Two participants, one from Messrs. Varanath Industries, Aruvithura and one from Goa attended the training course on latex foam held from 18th to 22nd January 1993 and 22nd to 26th February 1993 respectively. Another course, for three participants, from Andhra Pradesh was in progress.

One-day course on Beekeeping.

Fourteen rubber growers had undergone a one-day training on beekeeping convened on 23rd February, 1993.

One-day course on Mushroom culture.

Two batches of this one-day training course were held, one on 17th December 1992 and the other on 25th February 1993. A total number of 21 small growers participated.

Training course on rubber sheet grading.

Four participants had undergone this one-day training held on 2nd November 1992, 4th January 1993, 15th February 1993 and 23rd March 1993. The courses were arranged at the Marketing Division of the Board.

COURSES ON SPECIALISED SUBJECTS, ORGANISED ON REQUEST FROM
GOVERNMENT DEPARTMENTS AND OTHER AGENCIES.

Course on development of products from latex and
dry rubber.

One batch of the combined course, of ten days duration, on development of products from latex as well as dry rubber was organised for seven deputies of the North Eastern Industrial Consultant, Agartala, Tripura from 17th to 30th November 1992.

Course on manufacture of Catheter.

One representative from Messrs. Biomedicals (P) Ltd., Ahmedabad had undergone a five-day specialised course on manufacture of catheter held from 2nd to 6th November, 1992.

TRAINING PROGRAMME FOR INSERVICE PERSONNEL.

Training for newly recruited Jr. Field Officers

Two batches of pre-entry training on familiarisation on rubber were held for 18 newly recruited Junior Field Officers from 23rd June to 26th July 1992 and 7th to 11th December, 1992.

Training for Excise Duty Inspectors

Under this programme, one Excise Duty Inspector had undergone two days training on the principles of rubber compounding of latex and dry rubber, assessment of rubber content in rubber products, machinery used in rubber products manufacture, etc. on 22nd and 23rd December, 1992.

SEMINARS AND FIELD TRAINING.

During the period under report, fourteen one-day training programmes were organised on various aspects of rubber cultivation, for familiarisation of scientific methods of rubber cultivation and crop processing. 442 growers visited the RRII under the Sasthra Darshan programme. Of the fourteen one-day programmes, three were one-day practical-cum-demonstration training programmes in the farmers fields.

V. Processing and Products Development

The Department of Processing & Product Development continued activities in areas of technical consultancy to rubber processing and rubber goods manufacturing industries, quality control of raw rubber and latex produced in the country, monitoring the working of the factories set up under the Kerala Agricultural Development Project, and under the RPS Companies, management of the two factories set up under Rubber Board, executing the civil works undertaken at various locations and also providing engineering support to rubber processing and manufacturing units established under public and private sector companies. During the period a radiation vulcanisation plant was commissioned and regular production of radiation vulcanised latex has started. The latex produced in the unit is being sold to manufacturing units to produce nipples, soothers and surgical tubes. Usefulness of this latex in the production of catheters is being assessed. The Department also provided assistance to Fertilisers and Chemicals, Travancore Ltd in solving one of their major production problems by producing indigenously a set of gaskets made of silicon rubber which was needed in their caprolactum plant in Cochin. This development of the gaskets helped FACT in saving substantial foreign exchange. A summary of the work done by different divisions during the year ending 31st March, 1993 is described under.

Engineering Division

Engineering and technical assistance was provided to six Crumb Rubber Factories functioning under the Kerala Agricultural Development Project.

During the year a 10 tonnes per day crumb rubber factory was commissioned for Pamba rubbers under the direct supervision of the Engineering Division. A latex centrifuging factory was also established under the Thiruvalla Taluk Rubber Marketing Co-operative Society. The factory is now ready for production. A pale latex crepe factory was also established and started production in Sreekandapuram in Thaliparamba under the name Sreekandapuram Latex (P) Ltd. The entire engineering services for commissioning this factory was also provided.

Establishment of a latex based crumb rubber factory at Palai under the name Kavanar Latex Pvt Ltd is nearing completion. All the engineering services for this factory are provided. Another 10 tonnes per day Crumb Rubber Factory is being established near Vithura under the name Ponnudy Rubbers. Civil works for this factory are nearing completion. A latex centrifuging factory is under construction at Kannur under the management of Kannur District Co-operative Rubber Marketing Society. The interim factory that is being established by the Kerala State Cooperative Rubber Marketing Federation at Kaduthuruthy has almost reached the stage of commissioning. Also provided support to M/s Malankara Rubber and Produce Company Ltd for the expansion of their existing crumb rubber factory and for establishing a latex centrifuging unit under this estate. For establishment of latex centrifuging factory under the State Farming Corporation at Punalur, civil works are nearing completion. The factory has procured the necessary machinery for the processing operations.

Development Works.

During the period developed a pre-breaker for use in crumb rubber factory. This is a machine which can substantially improve the productivity in crumb rubber factories.

.....

The first pre-breaker developed was installed in the Indiar crumb Rubber Factory, Palai. The machine is giving very useful service and the production in that factory has substantially enhanced after its installation. Also developed a shredder and installed at PCRF. The machine is giving useful service in the factory and is found to be an efficient replacement for the hammer mill. Power requirements at the crumb production stage can be almost reduced to half by using shredders.

2. Quality Control

During the period the Quality Control Laboratory has analysed latex and dry rubber samples for assessing various properties. The total number of parameters determined during the period is 49,276. In addition, specification laboratory has analysed inspection samples for determining 5586 parameters. The details of analysis done and the number of inspections done are given in table 1 below.

Table - 1

Month	Central lab		Specification lab	
	No. of samples received	No. of parameters determined	No. of inspections	No. of parameters determined on inspection samples
1) April	..	2632	342	19
2) May	1043	3235	440	10
3) June	1318	3762	423	21
4) July	1654	4243	427	14
5) August	--	3653	424	15
6) September	1652	4484	360	20
7) October	2067	4901	668	18
8) November	1940	4997	630	17
9) December	2509	5736	112	16
10) January	2163	4907	581	21
11) February	1878	2234	576	29
12) March	1785	4492	603	44
Total	18,009	49276	5586	244

Miscellaneous items of work

Provided designs for effluent treatment plant for the centrifuged latex factory of the Rubber Marketing and Processing Cooperative Society, Meenachil and two foam factories. Advice on effluent treatment system was given also to M/s Malankara Rubber and Produce Company and Plantation Corporation of Kerala Ltd.

3. Technical Consultancy

Prepared 16 project reports during the period. Of these seven were for establishing rubber processing units and the remaining for establishment of rubber goods manufacturing units.

a) Development works

An important development work is the production of viton gaskets required by the Caprolactum plant of the FACT. In the plant these gaskets are required in large quantities and have to be replaced once in six months or so. The factory was

importing these gaskets. This helped them in reducing their shut down time. Foreign exchange for importing gaskets also could be saved. Other important items developed are uridrain condoms, natural rubber diaphragms, shoe soles and heels and natural rubber chords required by NPOL.

b) Factories established

Assisted setting up at Palghat a footwear unit under the management of German Leprosy Relief Association. This unit has started production. Another factory for producing hospital sheeting is under construction at Punalur under the management of RPL Ltd.

c) Quality control of rubber chemicals and rubber products.

Analysed rubber products from 280 different parties and necessary advice was given on quality improvement.

d) Seminars, exhibitions.

Organised three seminars during the period for promoting rubber goods manufacturing in different rubber growing regions. Three exhibitions were also arranged at different places along with industrial seminars.

e) Production of Radiation Vulcanised Latex

The establishment of the Pilot Plant for producing Radiation vulcanised Natural Rubber Latex (RVNRL) was completed during the period. 11 batches of latex were radiated in the plant after trial production. The properties of the vulcanised latex are in line with expectations. The product is now being used by small scale industries in different parts of the country for producing articles like nipples, soothers and surgical tubes.

4. Factory Management

During the period produced 310.4 tonnes of technically specified rubber in the pilot Crumb rubber plant and 140.4 tonnes of concentrated latex in the pilot latex processing centre. The details of the production in the two factories are given in table II below.

Table - II

Month	Production in PCRFB in tonnes	Production in PLPC in tonnes
April	7.85	7.06
May	22.45	17.06
June	21.32	8.83
July	24.5	15.00
August	26.42	14.12
September	22.5	4.8
October	27.37	14.91
November	22.87	20.68
December	30.25	14.5
January	40.1	15.5
February	30.83	8.02
March	34.02	
	310.48	140.45

Production in the two factories were not satisfactory during the initial months owing to difficulties like non-availability of raw materials, shortage of power and water. Production picked up during subsequent months and a satisfactory level was maintained after the month of October-November 1992. There is also substantial improvement in the quality of produce in the two factories. A major constraint in the latex processing centre is the non-availability of latex for processing as the production in Board's estate is not adequate to meet the installed capacity. Rubber Producers Societies in the neighbourhood are being encouraged to collect latex and sell to this unit for ensuring better capacity utilisation. A few RPSs are already supplying latex to this centre.

The performance of the factories established under the Kerala Agricultural Development project were also satisfactory during the period. One of the factories, viz. M/s Indiar Crumb Rubber Factory Palai has exceeded their installed capacity during the period. Performance of the Crumb rubber factories at Muvattupuzha and Thodupuzha is also impressive. Although improvement was recorded in the performance of the crumb rubber factories at Palghat and under the Federation these were not adequate to ensure proper profitability. Three of the companies established under the Rubber Board with equity participation from RPSs have also started production during the period. They are M/s Pazhassi Rubbers, Periyar Latex and Pamba Rubbers. All these factories have not achieved sufficient production during the first year of operation for ensuring adequate return on investments. The position is being conveyed to their management for making necessary improvement in production and profitability targets.

5. MARKETING ACTIVITIES

Provided marketing support to six trading companies on procurement of latex sheet and scrap rubber. All the marketing activities of the three trading companies namely M/s Kanhangad Rubbers (P) Ltd., M/s Kunhalimarakkar Rubbers (P) Ltd and M/s Bharathapuzha Rubbers (P) Ltd were directly handled and provided support and assistance to them for the successful operation of latex and sheet collection activities.

Marketing support and assistance was also provided to processing companies whenever required. Special efforts were taken to find out marketing outlets for M/s Pamba Rubbers (P) Ltd which started commercial production during the period. Assistance was rendered to M/s Indiar Crumb Rubber Factory to dispose off their piled up stocks.

Marketing support to PCRF, PLFC & Others.

Was in constant touch with potential buyers of crumb rubber and concentrated latex and secure orders for 191 MT of various grades of crumb rubber and 62 KL of concentrated latex processed by the Pilot Crumb Rubber Factory and Pilot Latex Processing Centre. The trading operations undertaken by M/s GAICO Ltd., Kurevilangad were regularly monitored.

Price Collection & Price support operation.

During the reporting period also collected and compiled market prices of various forms and grades of rubber and disseminated through the press. Also furnished these information to the Ministry and other Governmental agencies. Price details compiled and publicised are:-

- 1) Daily prices of RMA-4 and ungraded rubber at Kottayam & Kochi.
- 2) Prices of scrap rubber twice a week.
- 3) Weekly average price of RMA-1 to 5.
- 4) Weekly and monthly prices of centrifuged latex.

Also collected and compiled the Malaysian prices of RSS and SMR grades and concentrated latex for official use.

Price Support Operation

Since the prices of rubber were ruling above the trigger level, no action was warranted during the period. However, follow up work of the procurement operations which ended on March 1992 had to be continued during the early months of the reporting period.

Export of Natural Rubber

Since the Government removed natural rubber from the negative list of exports, attended to numerous enquiries from potential exporters as well as foreign buyers. Information in this regard were collected from various sources such as the office of the Jt. Controller of Imports & Exports, Cochin Export Processing Zone etc and the available details were passed on to the required parties. All the promotional activities in this matter were also handled.

Natural Rubber Subsidy

Continued to compile Natural Rubber Subsidy and intimated the same to the Ministry of Commerce, CAFEXIL, Sports Goods Export Promotion Council and various offices of the Controller of Imports and Exports.

Directory of Rubber Goods Manufacturers in India.

Steps were initiated to bring out a revised edition of the directory.

Training, Quality Control & Inspection

Conducted training classes for collection agents/ representatives of RPS and co-operative Societies on sheet rubber processing and grading. Collection agents of latex collection centres were given training on drc estimation, preservation procedure and other aspects related to latex collection centres. Sixty one representatives of RPS/ co-operative Societies were trained in processing and grading of sheet rubber and 25 persons from the latex collection centres were given practical training in drc estimation, preservation of field latex, maintenance of records etc. Gave technical support to the Trading companies to organise sheet procurement, in connection with the 'Peak Season Procurement Scheme' implemented by the Kerala State Co-operative Rubber Marketing Federation. Practical training in the grading of sheet rubber was imparted to the representatives of RPSs.

Inspection

During the period under report, 66 latex collection centres were visited for cross checking drc estimation and for verifying the records maintained at these centres on preservation and storage of latex. Suitable follow up actions were taken wherever found necessary.

PART VI - ADMINISTRATION

The major functions in Administration consists of constitution/reconstitution of the Board and its committees, maintenance of establishments, collection of cess, licensing and market intelligence, collection of statistics, publicise Board's schemes and activities, carry out labour welfare measures, attend to vigilance and legal functions, official language implementation and disbursement of retirement benefits.

The functions are carried out through the following sections/divisions/offices:

- 1 Establishment (General Administration & Board Secretariat, Personnel Administration and entitlements)
- 2 Excise Duty
- 3 Market Intelligence
- 4 Licensing
- 5 Statistics & Planning
- 6 Publicity
- 7 Labour Welfare
- 8 Internal Audit
- 9 Legal
- 10 Vigilance
- 11 Official language implementation, and
- 12 Sub Offices and Liaison Offices.

1.1 General Administration/Staff Welfare/Labour Welfare:

The activities of the Board for the year 1991-92 were documented through Annual Report which was presented to the Government as required under clause 8(3)(c) of the Rubber Act.

During the period 39 employees were given financial assistance for the construction of their houses by advancing Rs.22,63,570/- and Rs.3,54,320/- to 52 employees as vehicle advance. In addition an amount of Rs.19,01,500/- was drawn from the HDFC and distributed to 24 employees towards house building advance. Maintenance works of the office buildings and the staff quarters were done as necessary. Work on the new headquarters building was in progress. It is expected that construction of the seven storey building would be completed by January 1994. The services of the post, telegraph, telephone and telex were harnessed to provide good communication facilities between the Board and its clientele. In order to improve upon the telecommunication service an electronic telephone branch exchange was commissioned in March 1993.

1.2 Personnel administration

Selection of suitable personnel to vacant posts for the smooth functioning of the Board was ensured by following recognised recruitment rules and statutory provisions relating to reservation of posts for candidates from the SC/ST community. There were properly constituted selection

committee/DPCs for selection of personnel by evaluating the merits/skills of the candidates. Periodical returns on the personnel recruited were sent to the Government and to the Employment Exchange. Service books, leave accounts and personal files of employees were properly maintained. Retirement benefits were given to 17 employees including 1 who had left on voluntary retirement.

The total number of officers and staff under the Board as on 31-3-1993 was 1989 as detailed below:

Name of Department	Group A	Group B	Group C	Group D	Total
Administration Dept.	26	66	163	20	275
Rubber Production Dept.	74	330	716	72	1192
Research Department	56	113	195	34	399
Dept. of P&PD	17	27	37	4	85
Finance & Accounts Dept.	4	10	23	1	38
GRAND TOTAL	177	546	1135	131	1989

2 Excise Duty

The Rubber Board has been entrusted with the responsibility of collecting the duty of excise (cess) on all rubber produced in India under section 12(2) of the Rubber Act, 1947. The cess is collected on the quantity of rubber acquired by the manufacturers. Every manufacturer has to obtain a licence from the Board to acquire natural rubber, who is bound to give monthly and half yearly returns showing the quantity of rubber acquired and consumed. It is on the basis of the purchases reported in their half yearly returns that the **assessment of cess** is normally made.

(a) Issuance of licence for the year 1992-93

The function of issue of licences include the work of issue of fresh licences and renewal of the existing licences for the subsequent years. The details of licences issued for 1992-93 are given below:-

Fresh Licence	- 506
Renewal of licence	- 4814

Total	- 5320

During the period, the licence in respect of two manufacturers were suspended on account of serious irregularities and malpractices detected in their business. Besides, the licences in respect of 16 units were cancelled at their request. Thus the total number of licensed manufacturers at the end of 31-3-1993 was 5302. The statewide distribution of licensed manufacturers as at the end of 31st March 1993 are furnished hereunder:-

Sl.No.	Name of the State/ Union Territory	No. of units
-1	Kerala	
-2	Punjab	909
-3	Maharashtra	661
-4	Tamil Nadu	585
-5	West Bengal	549
-6	Uttar Pradesh	498
-7	Delhi	492
-8	Gujarat	370
-9	Haryana	344
10	Karnataka	247
11	Andhra Pradesh	241
12	Madhya Pradesh	177
13	Rajasthan	94
14	Bihar	41
15	Pondicherry	25
16	Goa	24
17	Chandigarh	22
18	Orissa	16
19	Himachal Pradesh	12
20	Assam	5
21	Tripura	4
22	Jammu & Kashmir	2
23	Sikkim	1
24	Manipur	1
Total		5302

Prepared and supplied the list of licensed manufacturers for reference and to the rubber dealers and the public.

(b) Issue of licence for the year 1993-94

In addition, issued 2853 licences (38 licences to new manufacturing units and 2815 licences to the existing units by way of renewal of licence) for the year 1993-94.

Registration of letters of authorisation to purchase rubber by Dealers on behalf of Manufacturers as Agents:

Apart from the issuance of licence to the manufacturers, registered 1216 letters of authorisation issued by various manufacturers in favour of dealers to purchase and despatch rubber in their behalf.

Registration of Branch/Purchase Depot:

On the basis of the applications received from the manufacturers, 3 new branches/purchase depots were registered during the year under report.

Letter of authorisation to purchase rubber:

Apart from the regular licences, special authorisations to 8 organisations/institutions to acquire rubber for experimental purposes were issued, after collecting the relevant cess in advance.

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10	Karnataka	247
11	Andhra Pradesh	241
12	Madhya Pradesh	177
13	Rajasthan	94
14	Bihar	82
15	Pondicherry	41
16	Goa	25
17	Chandigarh	24
18	Orissa	22
19	Himachal Pradesh	16
20	Assam	12
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Apart from the regular licences, special authorisations to 8 organisations/institutions to acquire rubber for experimental purposes were issued, after collecting the relevant cess in advance.

Assessment of duty of excise (cess) on rubber:

During the financial year 1992-93, obtained 10125 half yearly returns from various rubber goods manufacturers and sole crepe producers. Individual reports of inspection of the books of accounts of manufacturers numbering 3202 were received from various Liaison Officers and other inspecting officials. On the basis of such reports and based on cross checking of monthly returns of dealers and manufacturers, additional assessments were made in 217 cases on the quantity of 2086 tonnes of rubber involving a cess amount of Rs.10.43 lakhs.

The total amount of cess assessed during the period was for Rs.17.76 crores.

Collection of Duty of excise (cess) on rubber:

The collection of cess on rubber reached an all time high of Rs.18.05 crores during 1992-93 exceeding the target of Rs.18.00 crores. The said amount was duly remitted to the bank for being credited to the Consolidated Fund of India. Viewed against the backdrop of Rs.17.76 crore assessed during the period, this superb collection was made possible by the constitution of an Arrear Clearance Cell which helped in recovering a substantial amount of arrears of cess on rubber.

3 Market intelligence

Detection of bogus/unlicensed dealings in rubber, arranging surprise inspections of the business premises of dealers for verification of their books of accounts and correctness of physical stock and cross verification of the correctness of statutory returns filed by dealers/manufacturers and processors for ascertaining the correctness of the quantity of rubber acquired to prevent evasion of cess on rubber formed the major part of market intelligence activities. A total of 2316 inspections are also conducted for ascertaining the suitability of the applicants and their business premises to issue licences to deal in rubber, registration of branches of the dealers and approval of new/additional premises.

Detection of irregular transactions

With a view to curtail bogus transactions and detect bogus dealers, timely watching and scrutiny of Form N declarations and connected returns were undertaken. As a result, suspicious transactions of certain dealers and manufacturers could be detected in time and loss of revenue to the Board and Government could be prevented. Based on the irregularities/malpractices detected, the licences in respect of 6 dealers were suspended.

The surveillance exercised through the 3 check posts at Walayar, Manjeswaram and Kavalikinar supplemented by inspections helped in unearthing many malpractices.

An amount of Rs.29,150 towards arrears of cess on rubber was realised at the check post from a manufacturer's consignments of rubber without valid licence. Three consignor after collecting a sum of Rs.15,000/- (Rs.5000/- each) towards security deposit as the documents which accompanied the goods were defective. During the course of road checking a consignment of rubber with false documents was detected, upon which collected a sum of Rs.10,000/- towards penalty. In another instance, a sum of Rs.25,000/- was collected from an unlicensed dealer who was unauthorisedly transporting rubber in a tourist bus from Thirissor to Bangalore through Walayar Checkpost. Besides, a sum of Rs.18,000/- was collected towards cess on rubber through the Liaison Officer, Bangalore on detection of 4 unauthorised consignments of rubber at the Commercial Tax Checkpost, Hosur near Bangalore. An amount of Rs.1223/- was collected from a dealer at the checkpost being the cess on rubber for transporting latex without obtaining special authorisation from the Board. A complaint was filed before Walayar Police under Crime No.155/92 on detection of attempted transport of two loads of rubber without proper documents, out of which one load of rubber was ordered to be disposed of and the value thereof amounting to Rs.2,35,491.40 was deposited in the Court pending investigation.

Cross checking of monthly returns/N form declarations of 143 dealers & manufacturers with those of their suppliers/purchasers resulted in detecting unaccounted transactions. Action initiated to realise cess involved on the quantities has yielded an amount of Rs.10.88 lakh.

Supply of declaration forms for inter-state transport of rubber.

Form N books numbering 2369 were supplied to various estates, processors, dealers and manufacturers. Copies of 50812 Form N declarations were scrutinised and where discrepancies were noticed, explanations/clarifications were called for. As per the daily statements received from checkposts, Walayar, Manjeswaram and Kavalkinar, 38,583 consignments of rubber had passed through the 3 checkposts during the period under report.

A total of 124693 N forms were issued for inter-state transport of rubber during 1992-93, through all the issuing offices under the Rubber Board.

4 Licensing of dealers.

Rule 39 and 39A of Rubber Rules 1955 provides for licensing of rubber dealers and processors. Registration of branches/purchase depot of dealers and processors, registration of agency of rubber dealers and their trade names, shifting of licensed premises of firms, supply of Form 'N' approval of reconstitution of firms, supply of Form 'N' declarations for inter-state transport of rubber and preparation of list of licensed rubber dealers in India are related activities.

The strength of rubber dealers was 7365 at the beginning of 1992-93 which fell to 7135 at the close of the year. At the same time, the number of licensed processors went up to 147 from 142 as on 31-3-1993.

A. Dealers Licence

During the year 1561 dealers licences were issued including 835 new licences. Of these 1229 were for one year with validity upto 31-3-1993 (834 fresh licences and 395 renewal cases), 71 were for a duration of 2 years with validity upto 31-3-1994 and 261 licences for 3 years with validity upto 31-3-1995 (one fresh licence and 260 renewal cases).

In addition 2343 licences were renewed with validity from 1-4-1993. Of these 220 were for the year 1993-94, 56 for the years 1993-95 and 2067 for the years 1993-96. So also, 81 new licences were granted during the month of March 1993 valid for 1993-94.

Statewise Distribution of Dealers and Processors having valid licence during 1992-1993

Sl. No.	Name of State	No. of dealers	No. of Processors
-1	Kerala	6215	122
-2	Tamil Nadu	192	16
-3	Delhi	164	
-4	Punjab	138	
-5	West Bengal	95	
-6	Uttar Pradesh	71	
-7	Maharashtra	65	
-8	Karnataka	61	7
-9	Haryana	40	
-10	Gujarat	25	
-11	Tripura	24	1
-12	Madhya Pradesh	8	
-13	Rajasthan	8	
-14	Chandigarh	6	
-15	Andaman and Nicobar	6	
-16	Assam	5	
-17	Meghalaya	4	
-18	Jihar	3	
-19	Andhra Pradesh	2	1
-20	Himachal Pradesh	1	
-21	Jammu Kashmir	1	
-22	Orissa	1	
Total		7135	147
		=====	=====

B. Suspension/Revocation/Cancellation of Dealers Licence.

During the year 13 licences were suspended on detecting serious irregularities. 2 licences were revoked on violation of the provisions in the Rubber Act and Rubber Rules. However the order of suspension of one licence was later revoked after receiving satisfactory explanation with supporting documentary evidence. Due to death of licensees and on receipt of specific requests 68 valid licences were cancelled.

C. Processors Licence

During the period under report 15 processors licences were granted. Of these 9 were fresh cases. Besides 29 licences were renewed with validity effective from 1-4-1993. Of these 28 licences were for the year 1993-98 and one for the year 1993-94.

A licence of a processor was suspended due to failure to grade and market their product in conformity with JIS specifications. However, the order of suspension was revoked on the basis of their undertaking and assurance with regard to grading and marketing of their product as required under Rule 48 of the Rubber Rules 1955, as amended in 1975.

As on 31-3-1993 there were 147 licensed processors all over the country.

D. Registration of Branches

During the year 406 branches of the dealer and processors were registered. As on 31-3-1993 there were 621 branches of the dealers and processors including the registrations granted during 1991-92. Also registered 224 branches for 1993-94/1993-96.

E. Registration of Agents for dealers and processors

Based on letter of authorisation received from dealers/processors, 416 agencies were registered to purchase rubber on commission basis. As on 31-3-1993, there were 596 registered agents, inclusive of 180 already registered in March 1992 valid for the year 1992-93. For the year 1993-94 224 agencies were also registered in March 1993. Also registered 2 selling agents on the basis of request received from 2 licensed processors.

F. Shifting of business premises

On the basis of applications received from the dealers changes in 122 place of business/storage were approved.

G. Change in constitution of firm

Changes in the constitution of 22 firms were approved during the period under report.

H. Collection of cess on rubber from Dealers and Forfeiture of Bank Guarantee

An amount of Rs.77,717/- was collected from dealers towards cess on rubber and Bank guarantees worth Rs.35,000/- was forfeited for unlawful trade practice/violation of the conditions of the licence issued.

I. Collecting pending returns

Since it was noticed that dealers and processors are not filing statutory returns in time, while inviting application for renewal of licences, they were required to file a declaration regarding submission of returns. Those cases, which are not accompanied by the requisite declarations, were verified at HO and the returns due were called for. Almost all the dealers and processors who were not filing returns in time, came forward to file statutory returns.

J. Receipt of money

During the year under report a sum of Rs.32,28,721.70 was collected towards licence fee, service charge, cess on rubber, cost of Form N declaration etc., break-up of which is given below:

Sl. No.	Item	Amount Rs.
-1	Licence fee of dealers/processors	10,73,595.00
-2	Service charge	20,09,520.00
-3	Cess on rubber	77,717.00
-4	Forfeiture of Bank guarantee	35,000.00
-5	Cost of Form N declaration	28,413.00
-6	Sale proceeds of manufacturers/ dealers list	2,260.00
-7	Sale of waste paper etc.	602.00
-8	Guest room rent	15.00
-9	Private trunk call charge	281.80
10	Rebate on franking machine	1,317.90
		32,28,721.70
		=====

K. Rubber Price

The daily market of RMA 4 and ungraded rubber was collected from Kochi market and passed on to Marketing Division for publication in the newspapers.

5 General Statistics

The statutory monthly returns collected from rubber growers, dealers, processors and manufacturers were compiled and analysed every month. The sample studies in small holding sector by field visits were continued with the help of the field staff in order to ascertain the monthly variation in production, stock etc. pertaining to small growers. The data collected from various sources were computed and production, consumption, import and stock of rubber were worked out on monthly basis. These details are presented in tables attached as Part VIII of the report.

Monitored supply, demand and price of rubber periodically and appropriate recommendations were made. During the period under report the Statistics & Import/Export Committee met twice to review the demand and supply of rubber. The Rubber Board which also met twice and inter-alia reviewed the subject.

Continued to furnish relevant information to the various organisations connected with the rubber industry as in the previous periods. The statistical information required for publishing the 'Rubber Statistical News' (monthly) was prepared. This publication covers among other things details of production, consumption, import and stock position of natural, synthetic and reclaimed rubber and price of natural rubber.

Almost all tables of 'Indian Rubber Statistics' Vol.19 have been made up-to-date. In-house computer facilities were used for the purpose.

Materials were prepared for answering Parliament questions and Kerala Legislative Assembly questions pertaining to various aspects of the rubber industry. A comprehensive 'Note on Rubber' was prepared and forwarded to the Government.

The census work of rubber area initiated in March 1988 was continued, for which 297 enumerators were temporarily appointed at the Regional Office level for carrying out the field work. Data pertaining to 121,575 small holdings were collected during the year. In connection with the IDPAD project study a field survey on small holders' response to market prices, newplanting, replanting, choice of alternative crops etc. was undertaken. The survey was carried out by the enumerators recruited for the census of rubber area during 1992-93, who filled up 4409 questionnaires. The IDPAD survey reports were processed and the results were sent to the ESI, Amsterdam in floppy disc.

Planning

The project study on 'policy formulation and perspectives for the Indian Natural rubber industry in a changing national and international context' initiated at the end of 1990-91 jointly by the Rubber Board and Economic & Social Institute (ESI), Free University, Amsterdam, under the Indo-Dutch Programme on Alternatives in Development (IDPAD) continued during the year.

Various details relating to the rubber industry were collected and supplied to the ESI. Two members of ESI visited India during September 1992 and had detailed discussions on the project. Besides the Rubber Board, the team along with Dy. Director (S&P) visited Delhi, Bombay, Coonoor, Cochin etc. and had joint discussion with ATMA, SIC, AIRIA, UPASI, APK etc.

The Annual Plan for 1993-94 was prepared and forwarded to Government. Also furnished a quarterly progress report on Plan Schemes to Government.

Supply of information to world organisations

Continued to supply information to world organisations like the International Rubber Study Group (IRSG) London and the Association of Natural Rubber Producing Countries (ANRPC), Kuala Lumpur. The 34th Assembly of the International Rubber Study Group (IRSG) was held in November 1992 at Singapore. The Chairman, Rubber Board led the Indian delegation at the Assembly. A meeting of senior officials, Executive Committee and a special meeting at Ministerial level were organised by the ANRPC at Chiangmai, Thailand during 24 - 30th April 1992. The Chairman, Rubber Board represented India at the meetings. The 16th Assembly and connected meetings of the ANRPC were held in Kuantan, Malaysia in October 1992. The Chairman and the Vice Chairman, Rubber Board represented India at the Assembly and meetings.

6 Publications and publicity

Circulation of the 'Rubber' Malayalam monthly recorded an average number of 11,100 copies a month during the period under report. The scheme for enrolling life membership was continued and 210 subscribers were enrolled, bringing up the total number under life membership to 4277. Two issues of the Rubber Board Bulletin were brought out, each with 1100 copies. Also brought out leaflets on various aspects of rubber cultivation. The sale of the publications 'Rubber Vithu Muthal Vipani Vare' and 'Rubber Enna Kalpadhenu' was continued. Twelve issues of Rubber Statistical news, each with 600 copies were brought out and sent to subscribers.

The 'Rubber Growers' Companion 1993" was brought out with 6500 copies (Deluxe 250, with text 3500 and without text 2750) along with 1000 copies of the 'Rubber and its cultivation'.

Press releases, Farm features and Advertisements

Press handouts on various topics were released to the national as well as local dailies which secured wide coverage. A total of 56 Press releases and 47 advertisements were issued, apart from 27 farm features to 'Karshikarangam' pages of the Malayalam dailies.

Exhibition

During the period under report, three exhibitions were arranged at Mangalore, Kottayam and Palode.

Broadcasting of Calendar of operations

In association with All India Radio, Thrissur, finalised a programme for broadcasting the Calendar of operations to be followed in rubber plantations in each month. The first of the series went on air on 3rd January 1993.

Other activities

Utilised all channels of communication in popularising the activities of the Board. Both Doordarshan and Akashvani covered important functions and highlighted the achievements in various areas.

7 Labour Welfare

Section 8 of the Rubber Act 1947 states that it shall be the duty of the Board to promote by such measures as it thinks fit for the development of the Rubber Industry. One of such measures by virtue of Sub Section 2(f) is to secure better working conditions and the provisions for the improvement of amenities and incentives to workers.

In compliance with Section 8(2)(f) of the Rubber Act, 1947, the Board implemented seven schemes during the financial year 1992-93, spending Rs.41,04,516.25. The details are as follows:-

I Non-Plan Schemes:

(a) Educational Stipend Scheme

The scheme provides for the payment of stipend to children of rubber plantation workers for undertaking courses in Arts, Science, Commerce, Engineering, Agriculture and Medicine. The Stipend consists of tuition fee, hostel/boarding fee and lumpsum grant for the purchase of books, instruments etc. A total number of 10,302 applications were received of which 8875 were paid, 735 were cancelled and 692 were pending for want of compliance of necessary formalities. The amount paid under the scheme was Rs.15,62,325.25. All the eligible cases were paid stipend during the financial year itself.

(b) Medical Attendance Scheme

It provides for reimbursement of medical expenses incurred by workers, and for compensation in lieu of their inability to attend duty on account of illness. The scheme applies only to workers employed in plantations not covered by the Plantation Labour Act 1951. All the applications during the year were processed and eligible cases were paid, amounting to Rs.1,50,816/- to 229 workers.

(c) Group Insurance-cum-Deposit scheme (4 phases)

This scheme provides for payment of compensation to workers employed in estates not covered by the Plantation Labour Act 1951 against death/injuries by accidents besides encouraging a habit of saving among them. First

phase of the scheme was started from 1986-1987, the second phase in 1990-1991, the third in 1991-1992, and the fourth from the financial year 1992-93. Each phase will be in operation for a period of ten years. The total number of workers enrolled by the year was 3,934. An amount of Rs.3,93,400/- was remitted in favour of workers towards Board's share. An amount of Rs.31,412 was paid to 21 workers as accident compensation.

II Plan Scheme

Housing subsidy scheme was implemented as a Plan Scheme during the year. The scheme provides for the payment of housing subsidy amounting to a maximum of Rs.5,000/- per worker for construction of own house. The plinth area and the estimate cost of the house shall not exceed 70 sq.m. and Rs.70,000 respectively. The subsidy is released when the construction reaches lintel level. During the year 1358 applications were received and an amount of Rs.19,97,975 was paid to 402 workers.

6 Internal Audit

The main function of the internal audit is to check whether activities are carried out according to rules and regulations and public funds are incurred properly. During the period under report internal audit/inspection was conducted in 56 offices/units.

Replies to internal audit report from 24 offices were reviewed and settled. Replies to the review report of Attendance Register of offices located at Kottayam were reviewed and objections were settled.

Files/Cases referred for examination numbering 155 on various subjects such as pension, pay fixation, service verification, anomaly rectification, counting of past services etc. were scrutinised with reference to the latest rules and Government orders and endorsements were issued.

Scrutiny was made on monthly returns of vehicles/fuel consumption aiming at enforcing strict economy in the use of vehicles, consumption of fuel and repairs and periodical review reports/statements were prepared and presented.

Training programme

Two training batches for Junior Assistants and a refresher course for Section Officers/Assistant Section Officers were conducted in July, August 1992 and January 1993 (from 2-7-92 to 23-7-92 and 27-1-93 to 29-1-93 respectively).

Replies to enquiries on audit of the accounts of the Rubber Board for the year 1991-92 were collected and furnished to the Inspection team. Replies to outstanding paras in the inspection reports for the following years were also handed over to the inspection team before the conclusion of the inspection.

<u>Year</u>	<u>Balance paras outstanding</u>
1979-80	
1983-84	2
1985-86	2
1986-87	20
1987-88	8
1988-89	23
1989-90	21
1990-91	51
	33

160

On the basis of the replies furnished to the Audit all the outstanding paras of 1979-80 and 1983-84 were dropped. Out of the 160 paras outstanding as on 1-1-1992, the Accountant General had dropped 106 paras.

9 Legal matters

During the year under report timely advice was rendered on 785 files. In 205 applications for House Building Advances, scrutinised documents for determining the eligibility of applicants. Drafted and examined legal documents to be executed. Steps were taken through lawyers to safeguard the interest of the Board in 70 litigations pending in various courts. Parawise comments and necessary instructions were given to Standing Counsels in cases pending in High Courts.

In 12 loan permit cases, the entire decree amounts were realised through Execution Petitions in the court.

In the complaints filed in Consumer Disputes Redressal Forum, the Board's case was presented with evidence/documents. Two complaints were successfully contested and got disposed of in Board's favour.

10 Vigilance

During the year under report took up for enquiry/verification of 23 complaints containing allegations against 6 officers of Group A & B status and 15 employees of Group C & D status. The allegations mainly related to recommendation of subsidy/financial assistance to ineligible growers, dereliction of check post duties resulting in smuggling of rubber and causing financial loss to the Board, tendering of false evidence before the inquiry authority, insubordination and misbehaviour towards senior officers/superiors, negligence and carelessness in driving Board's vehicles causing accidents/financial loss, failure to comply with Board's directions/orders, habitual unauthorised absence etc.

Major penalty proceedings against 10 officials and minor penalty action against 12 officials were initiated during the year under report.

Annual statements of immovable property as on 31-12-1992 were called for from all officers of Group A and B status. The statements were scrutinised.

11 Hindi work

Administrative reports like Annual Reports and Annual Accounts to be placed before the Parliament were prepared bilingually. Efforts were continued to accelerate the implementation of the Official Language Scheme through the following measures:

Official Language Implementation Committee

Two meetings of the Official Language Implementation Committee were held during the year. Annual programme for the year 1992-93 was prepared. Two meetings of the Hindi Advisory Committee of the Ministry of Commerce were attended.

Hindi Workshop

Twenty Hindi Workshops were conducted in the Regional Offices at Punalur, Adoor, Pathanamthitta, Changanacherry, Kottayam, Kanjirappally, Pala, Erattupetta, Muvattupuzha, Thodupuzha, Kothamangalam, Arnakulam, Thrissur, Nilambur, Palakkad, Kozhikode, Thalassery, Taliparamba, Kanhangad, and Mangalore. Training in noting and drafting in Hindi, correspondence in Hindi etc. were given at the Workshops. A state level Hindi Workshop was conducted in the VJT Hall, Trivandrum on 17-9-1992. An official language conference was conducted on 12 May 1992.

Hindi Week Celebration

Hindi Week was celebrated from 14th September 1992. Competition in noting and drafting, elocution, translation, quiz, typewriting etc. were conducted and prizes were awarded to the winners. Competition were also conducted for the children of the employees of the Board.

Hindi Bulletin

Five issues of the Hindi Bulletin were published in the year. Special awards were given to Smt L Thankamma and Dr. Saraswathy Amma, RRII for the best articles published in Rubber Samachar, the Hindi Bulletin.

Purchase of Hindi Books

Hindi books worth Rs.4,000/- were purchased during the year. Hindi novels, epics like Ramayan, Mahabharat etc. little story books, poems, essays, literatures, dictionaries, glossaries etc. are available in the Hindi Library.

Programme of Hindi teaching/Hindi Typewriting

Hindi classes were conducted in which 60 employees were trained. Of them 42 became eligible for cash award, and special pay was sanctioned to 18 employees. Training in Hindi Typewriting was given to 15 employees. Facilities for learning Hindi through correspondence course were also arranged.

Award from the Ministry

An award was secured by the Board from the Ministry of Commerce for the best service in the implementation of Official Language Policy of the Union.

12 Sub/Liaison Offices

There are 8 Sub Offices in the major consuming centres outside Kerala; at Ahmedabad, Bangalore, Bombay, Calcutta, Jullundar, Kanpur, Madras and New Delhi. These offices assess suitability of applicants to hold licence to deal in rubber or acquire rubber for rubber goods manufacture. The purchases made by the rubber manufacturers and the stock held by the rubber dealers were verified by the offices at random. The books of accounts and records of the licence holders were also verified to ensure that all rubber procured were brought to book for subjecting to assessment of cess. Surprise inspections were also conducted to detect unlicensed dealing in rubber and unlicensed manufacturing of rubber goods in contravention of the provisions of the Rubber Act and Rules.

Technical support was rendered from four of these offices through Junior Rubber Technologists posted there to the rubber manufacturing units in solving their problems in product manufacture. Problems which could not be solved by the local officials were referred to the Department of P & PD at Kottayam for examination and giving suitable advice to the manufacturers.

PART VII - FINANCE AND ACCOUNTS

Preparation of Annual budget, Performance budget, Foreign Exchange Budget and budgetary control, maintains the accounts of the Board, preparation of Annual Accounts, places demands for grants from the Government from time to time, collect funds and distribute to various departments, advising financial propriety and regularity of transactions, and on matters related to pay, service rules etc. were the major function of Finance and Accounts. Also assisted the Cost Accounts Branch of the Ministry of Finance in ascertaining cost of production and fixing price of Natural Rubber. Prepared financial statements for project reports and schemes. Dealt with Central Income Tax, Agricultural Income Tax and Sales Tax matters relating to the activities of the Board. Data were electronically processed in the field of financial accounting, pay roll and subsidy payment.

Annual Accounts 1991-92

Statutory Annual Accounts of the Board for the year 1991-92 were prepared and given to AG Kerala within the stipulated time. The Audit Report and the Audited Accounts with the certificate were received from the AG and the same were forwarded to the Ministry.

The income and expenditure account for 1991-92 and a balance sheet as on 31-3-1992 covering an elaborate Schedule of Assets have been drawn up.

Funds Management

During the financial year 1992-93, funds amounting to Rs.30.59 crore have been received from Government. The internal resources during the year was about Rs.3 crores. The total expenditure of the Board for the year was Rs.32 crores (Provisional). The accumulations in the General Provident Fund and Pension Fund were judiciously invested to maximise the returns. For the year 1992-93, the Board could declare interest on the GPF accumulations of the employees at 13% p.a. as against 12% p.a. during the previous year.

Revised estimate 1992-93 and Budget estimate 1993-94

The Revised Budget for 1992-93 and Budget Estimate for 1993-94 were prepared within the stipulated time and forwarded to the Government. Budget sanctioned for the year 1992-93 both Plan and Non-Plan put together, was Rs.32.89 crore. As against this, budget sanctioned for 1993-94 is Rs.49.98 crore including provision for implementation of World Bank Scheme for Rubber Plantation Development.

F&A Division of Administration Department

In addition to the routine functions/activities like preparation of pay bill, processing of personal claims, processing of payments and receipts of interest claims, advances etc., PF Account numbering about 2100 and payment of pension to 186 pensioners were attended. Centralised payment of Life Insurance Premium, Savings Linked Group Insurance, Income Tax and disbursement of subsidies to rubber plantation workers were also carried out.

Cost Accounts

Continued to collect cost data for furnishing to the Government and to ANRPC. Cost of raising rubber plantation in one hectare in different regions has been updated. Assisted the Cost Accounts Branch of the Ministry of Finance by furnishing details during December 1992 in the quick desk study for fixing benchmark price of RMA IV grade rubber. Conducted study of cost of production of planting materials in the Board's nurseries for fixing the selling price.

Project Reports in respect of large scale plantations in Tripura, in Karnataka and in tribal land in Kerala were prepared.

Electronic Data Processing

Processed pay roll of over 1000 employees and handled the financial accounting for the year. The Asset Register of the Rubber Board and the balance sheet as on 31-3-1992 have been processed. Financial statements for 27 project reports have been prepared during the year. For the purpose of Revised Budget, Nominal Rolls and for the purpose of payment of pension arrears, bank-wise statement of pensioners were prepared.

PART - VIIISTATISTICAL TABLESTable - 1PRODUCTION, IMPORT AND CONSUMPTION OF NATURAL RUBBER

		(Tonnes)		
Month		Production	Import ^P	Consumption (indigenous & imported)
April	1992	26,520	1,546	33,250
May	"	31,630	1,652	32,150
June	"	22,880	1,942	33,115
July	"	23,835	2,206	33,795
August	"	26,815	1,985	33,995
September	"	34,980	2,699	33,450
October	"	39,695	2,163	34,280
November	"	45,100	619	35,585
December	"	54,240	773	35,920
January	1993	44,805	530	36,780
February	"	20,550	257	35,565
March	"	22,440	126	36,220
TOTAL		393,490	16,498	414,105

p - provisional

Table - 2

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

Month		Growers & Dealers	Manufact- urers	STC	Total (rounded)
April	1992	24,140	22,785	24,919	71,845
May	"	27,990	23,780	21,199	72,970
June	"	26,695	26,550	9,605	62,850
July	"	26,340	25,340	3,414	55,095
August	"	27,490	20,710	1,699	49,900
September	"	34,430	19,040	659	54,130
October	"	41,885	19,340	486	61,710
November	"	48,990	22,370	486	71,845
December	"	66,160	24,290	486	90,935
January	1993	74,205	24,735	486	99,425
February	"	58,605	25,575	486	84,665
March	"	42,930	27,725	486	71,140

PART - VIIISTATISTICAL TABLES

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September	"	34,430	19,040	659	54,130
October	"	41,685	19,340	486	61,710
November	"	48,990	22,370	486	71,845
December	"	66,160	24,290	486	90,935
January	1993	74,205	24,735	486	99,425
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(Tonnes)

Month		Growers & Dealers	Manufact- urers	STC	Total (rounded)
April	1992	24,140	22,785	24,919	71,845
May	"	27,990	23,780	21,199	72,970
June	"	26,695	26,550	9,605	62,850
July	"	26,340	25,340	3,414	55,095
August	"	27,490	20,710	1,699	49,900
September	"	34,430	19,040	659	54,130
October	"	41,885	19,340	486	61,710
November	"	48,990	22,370	486	71,845
December	"	66,160	24,290	486	90,935
January	1993	74,205	24,735	486	99,425
February	"	58,605	25,575	486	84,665
March	"	42,930	27,725	486	71,140

Table - 3

PRODUCTION, IMPORT AND CONSUMPTION OF SYNTHETIC RUBBER
(Tonnes)

Month		Production	Import ^p	Consumption
April	1992	4,139	3,660	9,065
May	"	4,637	3,866	8,600
June	"	3,939	4,033	8,565
July	"	3,184	4,576	9,130
August	"	4,847	4,029	9,095
September	"	5,067	4,656	8,955
October	"	5,223	3,505	8,870
November	"	1,724	4,200	9,160
December	"	4,057	4,065	8,960
January	1993	4,679	3,863	9,080
February	"	5,169	4,655	8,920
March	"	5,126	5,010	9,040
TOTAL		58,136*	50,118	107,440

p - provisional

* - Including a quantity of 6345 tonnes, for which
monthwise break up is not available.

Table - 4

PRODUCTION & CONSUMPTION OF RECLAIMED RUBBER

(Tonnes)

Month		Production*	Consumption
April	1992	4,840	4,930
May	"	4,690	4,845
June	"	4,970	5,075
July	"	5,020	5,170
August	"	5,190	5,285
September	"	5,205	5,335
October	"	5,415	5,490
November	"	5,260	5,570
December	"	5,255	5,205
January	1993	5,300	5,460
February	"	5,265	5,150
March	"	5,080	4,955
TOTAL		61,490	62,470

* Indigenous purchase by manufacturers.

Table - 3

PRODUCTION, IMPORT AND CONSUMPTION OF SYNTHETIC RUBBER
(Tonnes)

Month		Production	Import ^p	Consumption
April	1932	4,139	3,660	9,065
May	"	4,637	3,866	8,600
June	"	3,939	4,033	8,565
July	"	3,184	4,576	9,130
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* Indigenous purchase by manufacturers.

ANNEXURE-1LIST OF MEMBERS OF THE RUBBER BOARD AS ON 31-03-1993

- | | | |
|----|---|---|
| -1 | Smt J Lalithambika, IAS | : Chairman, Rubber Board |
| -2 | The Agricultural Production Commissioner, Kerala, Trivandrum-695 001 | } Nominated by the Govt. of Kerala to represent that State. |
| -3 | The Chairman, Plantation Corporation of Kerala Ltd., Kottayam-686 004, Kerala. | |
| -4 | The Chairman Arasu Rubber Corporation Ltd Vadassery, Nagercoil Tamil Nadu | } Nominated by the Govt. of Tamil Nadu to represent them. |
| -5 | Sri PK Abdullakutty Managing Director KWA Estate & Timbers Pallikkandy Road Kallai, Kozhikode-673 003. | } Elected by the Large growers in the State of Kerala. |
| -6 | Michael A Kallivayalil Kuttikkanam PO Peermade Idukki Dist., Kerala | |
| -7 | Sri K Jacob Thomas Managing Director Vaniampara Rubber Co.Ltd. Vazhakkala Buildings Kottayam - 686 001, Kerala. | |
| -8 | Sri A Kurian Opppotttil Parvathipuram Nagercoil | } Elected by large growers in the State of Tamil Nadu |
| -9 | Sri Dwaraka Nath Das, MP 187 South Avenue New Delhi | } Elected by the Lok Sabha |
| 10 | Sri Ramesh Chennithala, MP 14, Teen Murthi Lane New Delhi | |
| 11 | Sri Nyadek Yonggam, MP 66 South Avenue New Delhi-110 011 | } Elected by Rajya Sabha |
| 12 | Sri KJ Sohan Ex-Mayor, Cochin Corporation, (11/307 Thekke Thamaraparambu Fort Kochi) Ernakulam. | |
| 13 | Sri Charupara Ravi, Vasantha Vilasam Vithura, Nedumangad Trivandrum | |
| 14 | Shri A Kunheeran General Secretary, Kerala State Plantation Workers Federation, Kondotty PO Malappuram. | } Nominated by the Central Government to represent Labour. |
| 15 | Sri RS Unni, UIUC Office Curzon Road, Kollam-13. | |

17 Sri K Joseph Monippally
General Secretary
Indian Rubber Growers
Association, 7/508 A, Mavelipu-
ram Housing Colony, Kakknad,
Cochin-682 030, Kerala.

18 Sri MK Vidyadharan
Uthamam, LIC Lane
Pattom Palace PO
Trivandrum-695 004

19 Sri M Assainarkutty
Malickandath
Chapparappadavu
Via, Taliparamba
Cannanore Dist., Kerala

20 President,
All India Rubber Industries
Association
Navjivan Society Bldg.,
No.3, 8th Floor
Lamington Road
Bombay-400 008.

21 President
Automotive Tyre Manufacturers
Association
P.H.D House
Opp: Asian Games Village
Siri Fort Industrial Area
New Delhi-110 016

22 Sri Gagan Behari Jena
Village Rampur
PO Ramchandrapur
Cuttack, Orissa

23 Sri NJ Mathew
Nambiaparambil
Advocate, Thodupuzha

Nominated by the Central Government to represent 'Other interests'

24 Sri RG Ketkar
34, Mysore Colony
Bombay - 400 074

25 Prof. KR Raman Kartha
Kuthiathode
Alleppey

भारतीय रक्षा विभाग
Rubber
मुद्रा
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ANNEXURE-1

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| 10 | Sri Ramesh Chennithala, MP 14, Teen Murthi Lane New Delhi | } Elected by the Lok Sabha |
| 11 | Sri Nyadek Yonggan, MP 66 South Avenue New Delhi-110 011 | |
| 12 | Sri KJ Sohan Ex-Mayor, Cochin Corporation, (11/307 Thekke Thamaraparambu Fort Kochi) Ernakulam. | } Elected by Rajya Sabha |
| 13 | Sri Charupara Ravi, Vasantha Vilasam Vithura, Nedumangad Trivandrum | |
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| 15 | Sri RS Unni, UIUC Office Curzon Road, Kollam-13. | |

- | | | |
|----|---|---|
| 16 | Sri PK Narayanan
Rubber Production
Commissioner
Rubber Board, Sastrai Road
Kottayam-686 001 | (Ex-officio) |
| 17 | Sri K Joseph Monipally
General Secretary
Indian Rubber Growers
Association, 7/508 A, Mavelipu-
ram Housing Colony, Kakkanad,
Cochin-682 030, Kerala. | Nominated by the Central
Government to represent
small growers of Kerala |
| 18 | Sri MK Vidyadharan
Uthamam, LIC Lane
Pattom Palace PO
Trivandrum-695 004 | |
| 19 | Sri M Assalnarkutty
Malickandath
Chapparappadavu
Via, Taliparamba
Cannanore Dist., Kerala | |
| 20 | President,
All India Rubber Industries
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Navjivan Society Bldg.,
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| 21 | President
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PHD House
Opp: Asian Games Village
Siri Fort Industrial Area
New Delhi-110 016 | |
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Village Rampur
PO Ramchandrapur
Cuttack, Orissa | |
| 23 | Sri NJ Mathew
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| 25 | Prof. KR Raman Kartha
Kuthiathode
Alleppey | |

संस्कृत विश्वविद्यालय
संस्कृत विश्वविद्यालय, प्रवेशिका विभाग
प्रवेशिका - प्रवेशिका

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