

# **ANNUAL REPORT**

**2010 - 11**



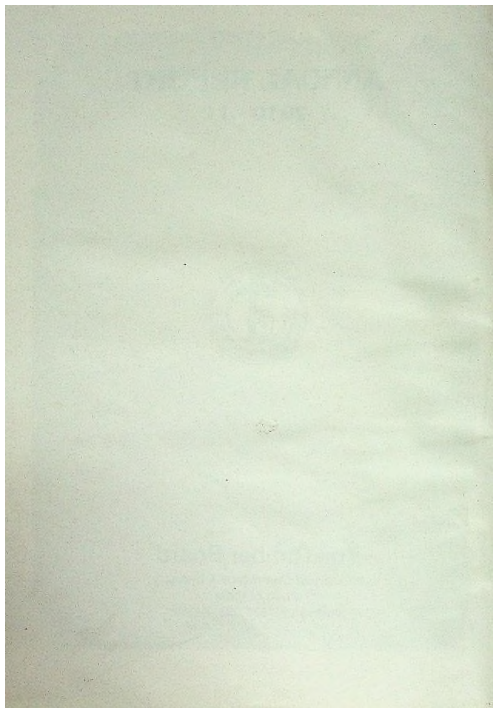
**The Rubber Board**

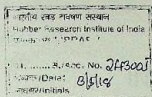
Ministry of Commerce & Industry

Govt. of India

Kottayam - 686 002, Kerala

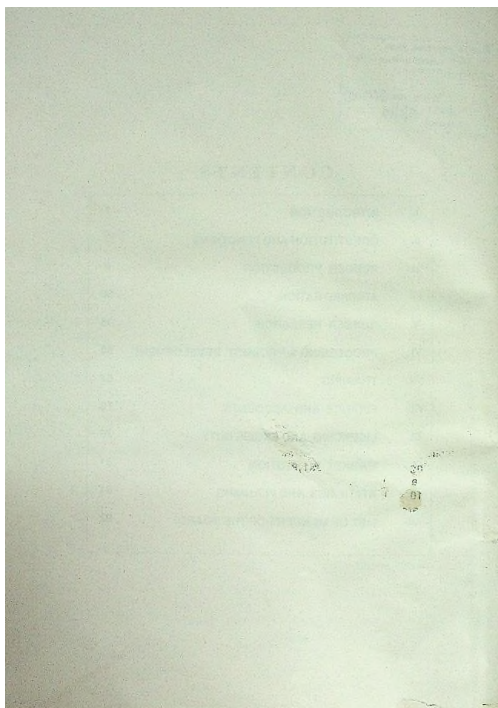






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**PART - I****INTRODUCTION**

The Rubber Board was constituted by Government of India as a body corporate under the Rubber Act 1947 with the primary objective of overall development of rubber industry in the country. The Board established a strong development and extension network and as a result, the rubber plantation sector achieved impressive overall growth in area expansion as well as production and productivity. Simultaneously, the Board took up research and Rubber Research Institute of India (RRII) was established in 1955 for ensuring biological and technological improvement of natural rubber in the country. Today, India is one of

the leading players in the global natural rubber sector, with the highest productivity in NR. Coordinated efforts at research and extension coupled with total acceptance of the recommended package of practices by the smallholders paved way for this remarkable achievement. Research on environment protection systems and energy saving mechanisms for rubber and rubber wood processing has evolved cost effective technologies. The impetus provided by ancillary income generation activities such as inter-cropping and bee-keeping have also yielded useful results.

**Performance of the NR Sector during 2010-11****Production Sector**

Production of Natural Rubber in the country during 2010-11 was 8,75,50 tonnes compared to 831,400 tonnes during 2009-10 and recorded a growth of 3.7% compared to the previous year. The factors that contributed to the growth in production were, favourable weather conditions except in October and November 2010 and intensive harvesting due to attractive price. India continued to be in the first position in productivity of rubber plantations. In 2010-11, productivity increased to 1806 kg/ha from 1775 kg/ha in 2009-10. Production of NR for the year 2011-12 is projected

at 9.02 lakh tonnes with a growth rate of 4.6%.

**Consumption Sector**

Total consumption of NR in 2010-11 was 947,715 tonnes with a growth of 1.8% against 930,565 tonnes during 2009-10. Auto tyre sector registered a growth of 3.7% during 2010-11 as against 13.4% achieved during 2009-10. General rubber goods sector recorded a negative growth of 1.2% during 2010-11 as compared to a negative growth of 2.5 % in the previous year. Projected consumption for the year 2011-12 is 9.77 lakh tonnes with a growth of 3.1%.

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Production and consumption of NR with growth rates for the year 2010-11 and the immediately preceding four years are furnished below:

Year	Production (in tonnes)	Growth (%)	Consumption (in tonnes)	Growth (%)
2006-07	8,52,895	6.3	8,20,305	2.4
2007-08	8,25,345	- 3.2	8,61,455	5.0
2008-09	8,64,500	4.7	8,71,720	1.2
2009-10	8,31,400	- 3.8	9,30,565	6.8
2010-11p	8,61,950	3.7	9,47,715	1.8

p - provisional

### Import & Export of NR

As per the import figures collected from various ports up to 31<sup>st</sup> March 2011, the country imported **188,337 tonnes** during 2010-11. Total NR import was 177,130 tonnes during 2009-10 as per the statistics published by Directorate General of Commercial Intelligence and Statistics (DGCI & S), Kolkata.

Exporters have utilized the advantage of price differential between domestic and international price during the initial and terminal months and exported **29,851 tonnes** of NR during 2010-11 compared to 25,090 tonnes in the previous year.

### Stock of NR

Stock of NR at the end of March 2011 was **288,300 tonnes** as against 211,290 tonnes at the end of March 2010.

### Price of NR

The annual average prices of RSS 4 in the domestic market and the comparable grade RSS 3 in the international market for the last five years are furnished below: -

Year	Price (Rs. per kg)	
	RSS 4	RSS 3
2006 - 07	92.04	97.79
2007 - 08	90.85	96.75
2008 - 09	101.12	103.79
2009 - 10	114.98	111.13
2010 - 11	119.03	195.55



**PART - II****CONSTITUTION AND FUNCTIONS**

The Rubber Board, established under the Rubber Act, 1947, has been promoting the development of the Indian Rubber Industry by various measures. The Rubber (Amendment) Act, 2010 notified in the gazette on 22<sup>nd</sup> January 2010 brought about changes to its Act. Amendments to Section 4(3)(da) and Section 8(da) are worth mentioning.

Sub-section (3) of Section 4, which provides for the constitution of the Board as follows: *The Board shall consist of :*

- a) A Chairman to be appointed by the Central Government;
- b) Two members to represent the State of Tamilnadu, of whom one shall be a person representing the rubber producing interests;
- c) Eight members to represent the State of Kerala, six of whom shall represent the rubber producing interests, three of such six being persons representing the small growers;
- d) Ten members to be nominated by the Central Govt., of whom two shall represent the manufacturers and four labour;
- da) Three members to be nominated by the Central Govt., of whom two shall be from the Department of Commerce and one from the Department of Agriculture and Co-operation.

- e) Three members of Parliament, of whom two shall be elected by the Lok Sabha and one by the Rajya Sabha;
- ee) The Executive Director (ex-officio); and
- f) The Rubber Production Commissioner (ex-officio).

The position of Executive Director has not been filled so far. List of members of the Board as on 31.03.2011 is given in Part – XII of this report.

Section 8 of the Rubber Act 1947 which lays down the functions of the Board was amended as follows :

- (1) to promote by such measures as it thinks fit the development of the rubber industry
- (2) the measures may provide for –
  - a) undertaking, assisting or encouraging scientific, technological and economic research;
  - b) training students in improved methods of planting, cultivation, manuring and spraying;
  - c) the supply of technical advice to rubber growers;
  - d) improving the marketing of rubber;
- da) improving the quality of rubber and implementing the standards for quality, marking, labeling and



## Rubber Board

- packing for the rubber produced or processed in imported in to or exported from India.
- e) the collection of statistics from owners of estates, dealers and manufacturers;
  - f) securing better working conditions and the provisions and improvement of amenities and incentives for workers; and
  - g) carrying out any other duties which may be vested in the Board under rules made under the Act.
- (3) It shall also be the duty of the Board -
- a) to advise the Central Government on all matters relating to the development of 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 annual report 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.

The Board had constituted six sub-committees to review its activities, to monitor progress of implementation of various schemes and to discharge functions as laid down under Section 8 of the Rubber Act. These are Executive Committee, Research & Development Committee, Planting Committee,

Staff Affairs Committee, Statistics & Market Development Committee, and Labour Welfare Committee.

Shri Sajen Peter, IAS held the office of Chairman up to November 2010. From November 2010 to February 2011, Shri. V. J. Kurien IAS served as the Chairman of the Board on additional charge. Smt. Sheela Thomas, IAS assumed the position of Chairman of the Board from February 2011.

### ORGANISATIONAL SET UP

Activities of the Rubber Board are carried out through **nine** departments namely Rubber Production, Rubber Research, Administration, Processing & Product Development, Training, Finance & Accounts, Licensing & Excise Duty, Statistics & Planning and Market Promotion; headed respectively by the Rubber Production Commissioner, Director (Research), Secretary, Director (P&PD), Director (Training), Director (Finance), Director (L&ED), Joint Director (Statistics) and the Chairman. The Publicity & Public Relations Division, Planning Division and Vigilance Section are functioning directly under the Chairman.

Headquarters of the Board along with Administration, Rubber Production, Finance & Accounts, Licensing & Excise Duty and Statistics & Planning Departments are located at Keezhukunnu, Kottayam - 2. Departments of Rubber Research, Processing & Product Development and Market Promotion are located at Rubber Research Institute of India (RRII) campus at Puthupally (Kottayam - 9) and the Department of Training is at Rubber Training Institute (RTI) adjacent to RRII campus.

Under the Licensing & Excise Duty Department, there are Nine Sub Offices viz., New Delhi, Mumbai, Kolkata, Chennai, Kanpur, Jaalandhar, Ahmedabad, Hyderabad, and Bangalore. The Rubber Production

Department has Five Zonal Offices (3 ZO's in Kerala and 2 ZO's in NE region), Forty one Regional Offices (26 RO's in Traditional areas covering Kerala and Tamilnadu, 4 RO's in Non-Traditional (NT) area other than NE region and 11 RO's in NE region), 172 Field Stations, Nine Regional Nurseries, One Central Nursery in Karikkattoor, Two Nucleus Rubber Estate and Training Centres, Two District Development Centres, One Regional Demonstration Centre, and Fifteen Tappers' Training (TT) Schools located at different rubber growing regions (12 TT schools in Traditional & NT areas and 3 TT schools in NE region).

The Rubber Research Department runs two Regional Research Stations in Kerala and one each in Tamilnadu, Karnataka, Maharashtra, Orissa, West Bengal, Assam, Meghalaya and Tripura. Department of

Research also runs a Pilot Block Rubber Factory and a Pilot Plant for Radiation Vulcanisation of Natural Rubber Latex (RVNRL) at Kottayam. The Pilot Latex Processing Factory located at the Central Experiment Station at Chethackal and the Model TSR Factory established under the World Bank Assisted Rubber Project are under the administrative control of the Department of Processing and Product Development. Chairman exercises administrative control over all the Departments and Offices of the Board. Total number of officers and staff under the Board as on 31.03.2011 was 1894 consisting of 379 Group 'A' Officers, 717 Group 'B' Officers, 795 Group 'C' staff and 3 Group 'D' staff.

Activities of the different departments are summarized in the forthcoming chapters.





**PART - III**

## **RUBBER PRODUCTION**

Rubber Production (RP) Department is responsible for planning, formulation and implementation of schemes for promoting rubber cultivation, production of natural rubber and improving the quality of produce. Major programmes formulated and implemented during the year are :

1. Rubber Plantation Development Scheme
2. Rubber Development in North-East Region
3. Promotion of Rubber cultivation among Scheduled caste / Scheduled Tribe (SC/ ST) through Block Planting Schemes
4. Advisory and Extension services to growers for scientific planting and production
5. Supply of planting materials and inputs for popularization and improving production and processing.
6. Scheme for improvement and upgradation of small holders' produce.
7. Promotion of group activities among small growers through Rubber Producers' Societies (RPS) and Self Help Groups (SHG).
8. Training of rubber tappers and growers.

### **I. Rubber Plantation Development Scheme**

Achievements under various components of the RPD scheme are given below:

#### **a) *Replanting and New Planting :***

Planting target for 2010-11 was 8350 ha. (New planting -2000ha. + Replanting-6350 ha.)

RP Department implemented many schemes aimed at development of rubber plantation sector in respect of area expansion, production and productivity increase, reduction of cost, farmer group empowerment, quality upgradation of small growers' produce, etc.

The Board has launched Integrated Tappers Training Programme as one of the remedial measures to address the problem of shortage of tappers in the traditional region by bringing non-Keralite youths from NE region, Orissa, Jharkhand, etc and imparting intensive training.

The Rubber Growers Seminar 2010 was held during June 2010 at Rubber Research Institute of India, Kottayam and about 500 participants including 300 growers attended the Seminar. More than 40 presentations were made by growers on their innovations on various aspects of NR cultivation and processing. The main theme of the annual mass contact Campaign 2010 was "Quality Improvement of Sheet Rubber". Campaign meetings were conducted at 2734 centres in which 87061 growers / tappers participated.

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Sl No	Details	2009-10	2010-11
1.	Number of applications received	23030	20534
2.	Area as per applications (ha)	15181	13537*
3.	Number of permits issued	19095	15606*
4.	Total area under permits (ha)	9665	8174*
	a) Replanting (ha)	4831	4250*
	b) New planting (ha)	4834	3924*
5.	Amount disbursed as subsidy (Rs. Cr.) (including spill over payment of previous years)	17.80	18.84

(\*Updated figures, including permits granted during 2010-11 for 2007, 2008, 2009 & 2010 planting)

Field inspection and processing of balance applications are in progress. Permits will be issued in all eligible cases within the next few months as soon as the farmers complete the stipulated items of work in the field.

## b) Insurance of Rubber plantations.

A scheme for insurance of rubber plantations, both mature and immature, was implemented in collaboration with the National Insurance Company. Details of plantations insured and compensation paid are furnished below:

Details	Cumulative total as on 31-03-2010	Achievement from 01-04-2010 to 31-03-2011	Cumulative total as on 31-03-2011
Immature area insured (ha)	179676.77	22671.28	202348.05
Number of holdings	295029	38129	333158
Mature area insured (ha)	14565.03	487.07	15052.10
Number of holdings	7883	439	8322
Compensation paid (Rs. in lakh)	560.55	99.69	660.44
Number of beneficiaries	14094	2368	16462

## c) Block Plantation Project for SC/ST.

This is a scheme operated with financial contribution from the concerned State Governments. Plantations established under the scheme in earlier years were maintained scientifically.

State	Cumulative planting as on 31-03-2010		Planting during 2010-11		Cumulative planting as on 31-03-2011	
	Area (ha)	No. of beneficiaries	Area (ha)	No. of beneficiaries	Area (ha)	No. of beneficiaries
Kerala	2292.00	6651	14.84	19	2306.84	6670
Karnataka	250.00	418	-	-	250.00	418
Andhra Pradesh	113.10	74	27.45	14	140.55	88
Orissa	378.14	981	54.35	88	432.49	1069
Total	3033.24	8124	96.64	121	3129.88	8245

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### d) Planting Material Generation (Traditional area).

No of nurseries owned by the Board	= 6
Area of nurseries	= 40.09 ha
Target for planting material generation	= 7 lakh

### Planting material production in traditional area

Item	During 2009-10	During 2010-11
Green budded stumps (Nos.)	225081	295782
Brown budded stumps (Nos.)	326946	355785
Total (Nos.)	552027	651567

### II Productivity Enhancement Component

NR productivity in India is the highest among the NR producing countries. But, it is far less than the production potential (about 3500 kg. per ha.) of widely planted clone, RR11

105. Hence, there is ample scope for enhancing the productivity of existing plantations. Increase in productivity will help growers to enhance their net income and thus, maintain the industry sustainable. Therefore, the Board has been taking earnest efforts, through various schemes, for enabling productivity enhancement.

#### a) Supply of rubber plantation inputs

Rainguarding and disease control are indispensable for ensuring the envisaged production. One of the measures identified to prompt timely adoption of these cultural practices is arranging inputs required for these operations at attractive prices and assuring their quality. Hence, Board operates a scheme for inputs distribution offering price concession.

During the current year, the Board distributed the following plantation inputs offering 30% price concession on the cost price / market price and could demonstrate the advantage in about 20000 ha. This promoted the use of such inputs in the fringe plantations covering nearly double the area.

Name of cultural practice	Planting inputs	Quantity Distributed	Extent Covered
Rain Guarding	Rain guarding Plastic	259051 kg	21588 ha.
	Rain guarding Compound	757790 kg	19942 ha.
Plant Protection (Disease control)	Copper Sulphate	28100 kg	1124 ha.
	Copper Oxychloride	89478 kg	11185 ha.
	Spray Oil	445693 ltr	11142 ha.

#### b) Rubber Agro Management Units

In India, about 90% of the area of rubber plantation is under smallholdings. Level of adoption of agro-management practices in mature plantations, especially falling under smallholding sector, was reported as only 30-50%, in an impact assessment study

conducted by an external agency. This low level of adoption ultimately results in low productivity. Demonstration of the advantages of adoption of scientific cultural practices in improving yield in farmers' fields is accepted as the ideal method to enhance level of adoption. So, to enhance productivity through demonstrating

these advantages and also to promote cost effectiveness of group approach, a participatory mode of extension through the scheme for setting up of Rubber Agro-management Units is being implemented during the 11<sup>th</sup> plan.

The four vital cultural practices, i.e., manuring, plant protection, rain guarding and scientific tapping were carried out collectively adopting group approach under the supervision of Rubber Producers Society (RPS) and the guidance of Extension Officials in all the selected units with full assistance of the Board, to serve as demonstration units in villages. During the year 2010-11, an area of 2836.41 ha. of demonstration plots could be established, incurring an expenditure of Rs. 370 lakh. This activity was undertaken with the involvement of 130 Rubber Producers' Societies under 27 Regional offices in different locations.

*c) Soil protection and water harvesting*

Moisture content in the soil at the time of tapping influences latex yield from rubber plantations. There is scientific evidence to prove that conserving the rainwater in the plantations by taking silt pits can increase soil moisture level. This will also help in protecting the topsoil from erosion and hence, is an environment friendly programme. To demonstrate the relevance of soil moisture conservation for yield improvement and thereby promote the practice, a scheme for providing financial assistance for soil protection and water harvesting in mature plantations has been in operation since 2007-'08.

Under the scheme, soil protection and moisture conservation measures were adopted in 259.50 ha and Rs. 7.15 lakh was disbursed to 440 small growers for adopting the agro management practices to increase productivity.

### III. Farmer Group Formation and Empowerment

To cater to the extension requirements of over 1.19 million smallholders with the available minimum strength of Extension Officials of the Board, the strategy of promoting group approach has been adopted. Farmer groups viz., Rubber Producers' Societies (RPS) and recently, Self Help Groups (SHG) under their umbrella have been formed and used as effective extension tools in rubber plantation sector. Presently only about 25% of the farmers are members of RPS and constant efforts are being taken to form more RPS and SHG to benefit more rubber growers.

*i) Rubber Producers' Societies /Self Help Groups*

The Board encourages formation of RPS and SHG to promote community approach in rubber development activities. During the year 2010-11, 26 RPS and 95 SHG were formed in traditional area and the cumulative total of RPS and SHG formed so far are 2302 and 1770 respectively. The Board is supporting RPS and SHG through special projects aimed at the socio-economic development of the poor farmers and their families. Technical and financial supports have been extended in the form of various schemes to assist farmer groups to become self-reliant and also to function as positive change agents in the sector.

*ii) Purchase of low-volume sprayer and duster*

High cost of equipments like sprayers and dusters, that are required to ensure proper use of plant protection inputs made available through various schemes, were found to be unaffordable to small and marginal growers. This factor also contributed to low level of adoption. Hence, a scheme to provide assistance to the tune of 50% cost of low

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volume sprayers and dusters to farmer groups is being implemented in which RPS/SHG involve actively. During the year, the Board supplied 84 sprayers through RPS/SHG and an amount of Rs. 23.39 lakh was disbursed under the scheme.

### iii) Purchase of Weed Cutter

To address the issue of labour shortage, farm mechanization is one of the major strategies to be adopted. Weeding has been recommended as one of the cultural practices where mechanization can be safely adopted in rubber plantations. Therefore, to promote mechanized weeding, a scheme to provide 50% financial assistance (limited to Rs. 14,500/- per machine) to RPS/SHGs for the purchase of weed-cutters approved by the RRII is in implementation. The performance during the year 2010-11 elucidates that the scheme is well received by the farmer groups.

No. of weed cutters supplied during 2010-11	- 209
No. of RPSs involved	- 209
Amount paid during 2010-11	- Rs. 28.90 lakh

### iv) Purchase of Computer and Peripherals

Ensuring IT enabled services in RPS is also envisaged in the schemes of the Board. Since 2005-06, the Board has been implementing a scheme for promoting computerization in RPS sector by extending 75% cost of computer and peripherals and 100% training expenses in computer operations. Under the scheme, the Board had provided 27 Nos. of computer/peripherals and an amount of Rs. 10.24 lakh was spent for the benefit of 27 RPS/SHG during the year.

### v) Financial Assistance for conducting training programmes

Rubber Producers Societies and Self Help Groups at village level are envisaged to strengthen participatory extension in the Rubber Plantation sector. To empower the sector, assistance is given for conducting training programmes, related to rubber sector such as bee keeping, nursery management, processing of latex, capacity building, accounts maintenance, mushroom cultivation, vermin-compost, etc. During the year 2010-11, Rs. 4.35 lakh was given as financial assistance to 264 RPS/SHG as detailed below:

No. of batches	No. of trainees			Payment effected				
	Men	Women	Total	Honorarium In Rs.	Refreshment in Rs.	Stationery in Rs.	Journey fare in Rs.	Total in Rs.
361	4278	1585	5863	155550	224678	51391	3575	435194

### Financial Assistance to small growers through RPS /SHG for extra income generation

#### vi) Promotion of apiculture

The objective is to popularize bee - keeping among small rubber growers. Rubber plantations are good source of honey during the months from January to March at the time of re-foliation after wintering and it is an

additional source of income for growers. Under this scheme, Rs. 76.40 lakh was disbursed through 207 RPS/SHG for the benefit of 2555 growers, including 541 women.

#### vii) Scheme for granting transportation subsidy to RPS

The assistance is for transportation of latex from farmers' fields to the processing / collection center and supply of Field Coagulum



to companies in RPS sector. Transportation subsidy is @ 25 paise per kg DRC of latex/field coagulum. Under the scheme, the Board disbursed Rs. 25.94 lakh for the procurement of latex/sheets (97,38,955 kgs) and field coagulum (6,80,302 kgs) through 474 RPS.

**Providing financial assistance to RPS/SHG for developing infrastructure for various activities**

The Board provides technical and financial support to RPS and SHG for setting up infrastructure facilities for taking up various activities for the common benefit of the member small growers.

*viii) Setting up input distribution facilities*

This component is for encouraging and supporting RPSs to set up plantation input distribution centers in remote villages where small rubber growers are concentrated. Availability of materials required in rubber plantations at the doorsteps will facilitate better adoption of agro-technology by small growers. The Board has given Rs.7.29 lakh during 2010-11 towards 50% of the actual rent paid by 181 RPS for running input distribution centers.

*ix) Setting up Common Service Centres*

Objective of this component is to encourage and support more RPS to set up Common Service Centres in villages where small rubber growers are concentrated. RPS provided with computer and internet facilities can render many common services to the member growers and their families.

Some of the common services that can be rendered by such centres are:

- Booking of railway / air tickets
- Providing various types of information required by the members and their family, by searching the relevant web sites.

- Information regarding job opportunities and matrimony
- Educational opportunities
- Payment of Phone bills, electricity charges, land tax, Panchayath tax
- Filing of various applications
- Cooking gas collection and distribution
- Filing income tax returns etc.

During the year 2010-11, the Board has paid Rs.18000 for 6 RPS towards assistance for running common facility centers.

*x) Establishment of nurseries*

Many RPS and SHG have taken up the activity of setting up polybag nursery of rubber plants. The Board had received many complaints about the quality of plants sold by private nurseries. RPS and SHG are encouraged by the Board to promote the production of healthy planting materials of good quality at reasonable price for small growers. An amount of Rs.2.97 lakh was provided as financial assistance to 18 RPS during the year 2010-11.

*xi) Setting up Labour Banks*

Shortage of tappers and general workers in rubber plantation areas is a very serious problem. In order to address this issue to some extent, the Board promoted setting up of labour banks by RPS. Workers registered in the Labour Banks of RPS work in the smallholdings of member growers. These registered workers are given free training in all aspects of agricultural operations in rubber plantations as and when needed. Initially 5 workers are registered in the Labour Bank of each RPS. Incentives are given to the workers enrolled in the Labour Banks of RPS so that they will stick to the rubber plantation sector. Implementation of this component was useful in attracting and retaining workers in the rubber smallholding sector. During the year 2010-11, the Board has

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disbursed Rs.5.40 lakh to 184 labour banks under 106 RPS for procuring registers, dress allowance, weather protective materials and medical allowance.

- xii) *Group management of holdings & plant protection operations, rain guarding, etc. on contract basis.*

As many of the small growers are part time growers they are not in a position to undertake agro management operations in their holdings on their own. So they neglect these operations, which affect the growth of plants and productivity of smallholdings. RPS can collectively undertake these activities scientifically and in a cost effective manner, than individual growers doing their job on their own. For promoting these activities, the Board has proposed some incentives for implementing agro-management operation through RPS. An amount of Rs.3.12 lakh has been disbursed to 136 RPS during the year 2010-11.

- xiii) *Financial assistance to RPS for setting up of training facilities*

RPS are expected to function as technology transfer centers. This scheme aims to provide building and infrastructure required for conducting regular training programmes, group meetings, seminars, etc to member growers. During the year, an amount of Rs.2.62 lakh was disbursed to three RPS under the scheme.

- xiv) *Financial assistance to RPS for setting up Latex Collection Centre cum Office*

The scheme is aimed at providing assistance to RPS to set up latex collection centre for promoting group marketing and improving quality of rubber produced in smallholding sector to achieve competitiveness in the domestic as well as international market. During the year 2010 - 11, an amount of Rs.12.19 lakh has been paid as assistance to 16 RPS under the scheme.

- xv) *Financial assistance to RPS and SHG for procuring latex collection equipments*

The scheme is aimed at supporting RPSs/ SHGs having small farmers for the purchase of equipments for latex / scrap collection from member growers thereby enabling the member growers to fetch better price for their produce avoiding intermediaries. An amount of Rs.1.28 lakh was paid as financial assistance to 12 RPS under the scheme.

- xvi) *Financial assistance to RPS / SHG for setting up eco-friendly group processing centres*

The scheme is aimed at supporting RPS having small farmers in its membership to set up group processing facilities for improving quality of rubber produced in the country to achieve competitiveness in the domestic as well as international markets. The financial assistance sanctioned for the scheme during the year under report is Rs. 11 lakh, (i.e.) 50% of the cost limited to Rs. 10 lakh for construction of GPC and one lakh for development of land. During the year 2010-11, an amount of Rs.18.52 lakh was paid as assistance to 7 RPS.

- xvii) *Model RPSs*

The Board continued to support and monitor the activities of 35 model RPS (30 in traditional area and 5 in non-traditional areas) to function as effective technology transfer and community processing centers.

- xviii) *Revised scheme to provide additional facilities to Group Processing Centres*

Financial assistance is also provided to Group Processing Centres (GPC) for setting up additional facilities such as additional smoke house, replacement of damaged furnace, purchase of utensils and Repair & Maintenance of GPC. An amount of Rs.31.64 lakh was paid to 89 Group Processing Centres in 2010-11.

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### IV. Human Resource Development Programmes

#### i) Annual Mass Contact Programme

The Board has been conducting Annual Mass Contact Programme every year to disseminate modern techniques on rubber cultivation, maintenance, harvesting, crop processing, marketing and additional income generation etc. since 1978 among rubber growers to equip them with the latest developments and trends in the field. This helped in bringing about significant improvement in quality of rubber produced and productivity in smallholdings through effective intervention of Board's extension machinery. The programme has created much enthusiasm among the growers. Currently, RPS are playing vital role in this regard. The theme selected for 2010 was 'Quality Improvement of Sheet

Rubber. Meetings were conducted at 2734 centers in which 87061 farmers / tappers participated.

#### ii) Personal Interaction

To disseminate technical know-how to farmers, the extension officers conducted field visits regularly in connection with various schemes and for advisory purposes. Demonstrations were also organized during such visits.

#### iii) Sastradarsan Programme

Under this programme, rubber growers from NT and NE regions are brought to traditional rubber plantation areas to have first hand information about rubber planting and smallholdings' development activities. Forty-eight growers from Assam were undergone the sastradarsan programme in 3 batches, of which the Tea Board organized 2 batches.

#### iv) Group Interaction

Type of meeting	2009-10		2010-11	
	No. of meeting	No. of participants	No. of meeting	No. of participants
Campaign meeting	2839	84876	2734	87061
Full day seminar	69	7474	75	5433
Half day seminar	237	9444	233	8965
Group meeting	1191	21796	1088	21492
RPS Meeting	4516	44702	3569	41856
Other meeting	876	6845	1146	9222
Use of audio visual equipment	302	11370	254	9561
Training in RPS	1048	18973	795	14741

#### v) Tappers' Training (Excluding NE)

##### 1) Regular Tappers' Training School

The Board has 12 regular Tappers' Training Schools at different plantation centres for imparting training to small growers and workers in tapping.

Region	2009-10			2010-11		
	No. of Batches	No. of Beneficiaries	Assistance Rs (in lakh)	No. of Batches	No. of Beneficiaries	Assistance Rs (in lakh)
Traditional & NT (Other than NE)	93	1515*	35.07	78	1299*	31.21

# General-1297 + SC/ST-218

\* General-1169 + SC/ST-130



## Rubber Board

disbursed Rs.5.40 lakh to 184 labour banks under 106 RPS for procuring registers, dress allowance, weather protective materials and medical allowance.

- xii) *Group management of holdings & plant protection operations, rain guarding, etc. on contract basis.*

As many of the small growers are part time growers they are not in a position to undertake agro management operations in their holdings on their own. So they neglect these operations, which affect the growth of plants and productivity of smallholdings. RPS can collectively undertake these activities scientifically and in a cost effective manner, than individual growers doing their job on their own. For promoting these activities, the Board has proposed some incentives for implementing agro-management operation through RPS. An amount of Rs.3.12 lakh has been disbursed to 136 RPS during the year 2010-11.

- xiii) *Financial assistance to RPS for setting up of training facilities*

RPS are expected to function as technology transfer centers. This scheme aims to provide building and infrastructure required for conducting regular training programmes, group meetings, seminars, etc to member growers. During the year, an amount of Rs.2.62 lakh was disbursed to three RPS under the scheme.

- xiv) *Financial assistance to RPS for setting up Latex Collection Centre cum Office*

The scheme is aimed at providing assistance to RPS to set up latex collection centre for promoting group marketing and improving quality of rubber produced in smallholding sector to achieve competitiveness in the domestic as well as international market. During the year 2010 - 11, an amount of Rs.12.19 lakh has been paid as assistance to 16 RPS under the scheme.

- xv) *Financial assistance to RPS and SHG for procuring latex collection equipments*

The scheme is aimed at supporting RPSs/ SHGs having small farmers for the purchase of equipments for latex / scrap collection from member growers thereby enabling the member growers to fetch better price for their produce avoiding intermediaries. An amount of Rs.1.28 lakh was paid as financial assistance to 12 RPS under the scheme.

- xvi) *Financial assistance to RPS / SHG for setting up eco-friendly group processing centres*

The scheme is aimed at supporting RPS having small farmers in its membership to set up group processing facilities for improving quality of rubber produced in the country to achieve competitiveness in the domestic as well as international markets. The financial assistance sanctioned for the scheme during the year under report is Rs. 11 lakh, (i.e.) 50% of the cost limited to Rs. 10 lakh for construction of GPC and one lakh for development of land. During the year 2010-11, an amount of Rs.18.52 lakh was paid as assistance to 7 RPS.

- xvii) *Model RPSs*

The Board continued to support and monitor the activities of 35 model RPS (30 in traditional area and 5 in non-traditional areas) to function as effective technology transfer and community processing centers.

- xviii) *Revised scheme to provide additional facilities to Group Processing Centres*

Financial assistance is also provided to Group Processing Centres (GPC) for setting up additional facilities such as additional smoke house, replacement of damaged furnace, purchase of utensils and Repair & Maintenance of GPC. An amount of Rs.31.64 lakh was paid to 89 Group Processing Centres in 2010-11.

#### IV. Human Resource Development Programmes

##### i) Annual Mass Contact Programme

The Board has been conducting Annual Mass Contact Programme every year to disseminate modern techniques on rubber cultivation, maintenance, harvesting, crop processing, marketing and additional income generation etc. since 1978 among rubber growers to equip them with the latest developments and trends in the field. This helped in bringing about significant improvement in quality of rubber produced and productivity in smallholdings through effective intervention of Board's extension machinery. The programme has created much enthusiasm among the growers. Currently, RPS are playing vital role in this regard. The theme selected for 2010 was 'Quality Improvement of Sheet

Rubber. Meetings were conducted at 2734 centers in which 87061 farmers / tappers participated.

##### ii) Personal Interaction

To disseminate technical know-how to farmers, the extension officers conducted field visits regularly in connection with various schemes and for advisory purposes. Demonstrations were also organized during such visits.

##### iii) Sastradarsan Programme

Under this programme, rubber growers from NT and NE regions are brought to traditional rubber plantation areas to have first hand information about rubber planting and smallholdings' development activities. Forty-eight growers from Assam were undergone the sastradarsan programme in 3 batches, of which the Tea Board organized 2 batches.

##### iv) Group Interaction

Type of meeting	2009-10		2010-11	
	No. of meeting	No. of participants	No. of meeting	No. of participants
Campaign meeting	2839	84876	2734	87061
Full day seminar	69	7474	75	5433
Half day seminar	237	9444	233	8965
Group meeting	1191	21796	1088	21492
RPS Meeting	4516	44702	3569	41856
Other meeting	876	6845	1146	9222
Use of audio visual equipment	302	11370	254	9561
Training in RPS	1048	18973	795	14741

##### v) Tappers' Training (Excluding NE)

##### 1) Regular Tappers' Training School

The Board has 12 regular Tappers' Training Schools at different plantation centres for imparting training to small growers and workers in tapping.

Region	2009-10			2010-11		
	No. of Batches	No. of Beneficiaries	Assistance Rs (in lakh)	No. of Batches	No. of Beneficiaries	Assistance Rs (in lakh)
Traditional & NT (Other than NE)	93	1515*	35.07	78	1299*	31.21

# General-1297 + SC/ST-218

\* General-1169 + SC/ST-130

## ber Board

### 2) Short Duration Intensive Tappers' Training Programme

Apart from the conventional Tappers' Training Schools, Board is also conducting short-term intensive training course in various practical aspects of scientific tapping with emphasis on tapping processing

Region	2009-10			2010-11		
	No. of Batches	No. of Beneficiaries	Assistance Rs (in lakh)	No. of Batches	No. of Beneficiaries	Assistance Rs (in lakh)
Additional & NT (other than NE)	311	4897*	35.27	307	4714*	35.07

General - 4735, SC/ST - 162

#General - 4552, SC/ST - 162

#### Integrated Tappers Training Programme

To overcome the shortage of skilled tappers Kerala, a pilot programme to train non-alite youths from NT/NE areas was implemented. Accordingly conducted 12 training programmes for 231 non-Keralite tappers in the TT Schools/ RPS. Exclusive training in rubber tapping and processing was given to these trainees and after the training the trainees were evaluated. Of the trainees, 100 completed the training successfully and 100 acquired proficiency in tapping. These Kerala tappers were allotted to RPS in Kerala for tapping in the holdings of small growers. Two to four tappers were allotted to each RPS according to their requirements.

#### vi) Training Programme for Extension Officers/ Company / Office staff/ RPS officials

In order to improve and update the knowledge and skill of the Extension Officers, Company and RPS officials, both the out-station training and training by the outside experts on various topics are being conducted every year.

#### V. Price Stabilization Fund (PSF)

The objective of the PSF is to provide support to small growers when rubber price falls below a price band that would be announced every year. A total of 18,919 growers have enrolled in the scheme as on 31-03-2011. An amount of Rs. 26, 89,000 is received and remitted in the account of 5378 PSF members benefited under the scheme during the year 2010 - 11.



Releasing Hindi version of Tapping Manual in connection with the inauguration of the integrated tapping training

# Annual Report 2010-11

*Details of training imparted during 2010-11 are furnished below.*

Sl. No:	Name of the Institute	Topic	Number of Batches	Number of Trainees
1	Rubber Training Institute, Kottayam	Refresher Training Programme for Extension Officers.	5 batches 6 days each	78
2	IIPM, Bangalore	IT Enabled Managerial System for Rubber Board for Extension Officers at Bangalore.	1 batch 3 days	30
3	IIPM, Bangalore	Strategic Business Development for Small Rubber Growers at Kottarakkara for Extn officers and BODs of RPSs.	1 batch 5 days	30
4	IIPM, Bangalore	Finance for Empowerment of SHGs and Entrepreneurial Teams at Kottayam for BODs of RPS AND Extension officers	1 batch 2 days	29
5	IIPM, Bangalore	Institution Building and BLESS at Mangalore for Extension officers and BODs of RPSs	1 batch 5 days	22
6	IIPM, Bangalore	Institution building and BLESS at Kozhikode for Extension officers and BODs of RPSs	1 batch 5 days	22
7	IIPM, Bangalore	Building and Marketing Rubber Business Excellence with RPD Schemes and NE resources at Guwahati for Extension officers and BODs of RPSs.	1 batch 5 days	19
8	MANAGE, Hyderabad	Different subjects at various centres	12 batches	39
9	Rubber Training Institute, Kottayam	Rubber cultivation and Management for Farm Assistant, Farm officer, Farm Manager category at Kottayam.	4 batches 5 days each	30
10	Rubber Training Institute, Kottayam	Computer Refresher Training Programme for Rubber Board officers and office staff	3 batches 3 days each	36
11	Rubber Training Institute, Kottayam	Training on capacity Building of BODs of 'B' category RPSs	11 batches 3 days	162

## Rubber Board

### II. Rubber Plantation Development in North - East (NE) Region

Rubber development activities in the northeast with special focus on area expansion, productivity increase and quality improvement progressed well during the year under report. Three new Regional Offices were opened, one each in Agia, Nagaon and Ambassa in NE region for ensuring more decentralized and better farm service to planting community. There are eleven Regional Offices in the NE region, viz., four in Tripura, five in Assam and one each in Nagaland and Meghalaya. Field Offices are also functioning under Regional Offices.

In 2010-11, more than 13000 growers took up rubber planting in an area of 12500 ha in NE region. Scientific planting and maintenance practices were taught to them through village level classes, demonstrations and training in the Board's training centres/ farms. Scientific tapping and quality upgradation of sheets was another aspect which the Board concentrated during this year. Training on these aspects was given to farmers and workers through short duration intensive tappers' training programmes in the Tappers' Training Schools and field visits by Tapping Demonstrators. These exercises have yielded good results. Fourteen new RPS were formed in NE region, making the total number of RPS as 146. Board's nurseries were maintained properly and produced/ distributed 2.54 lakh good quality budded stumps and 49356 meters of bud wood to the growers. One nursery in Mendipather had to be closed on expiry of the lease period. Land has been identified to start a new rubber nursery in Boko in Assam, in an

area of 4.00 ha. Distribution of rain guarding materials and fertilizers to small growers through RPS continued as a productivity enhancement measure. Civil construction in RRTC Hahara, residential complexes in Agartala and Guwahati are fast progressing. Leadership training programme for RPS office bearers and selected growers was held in association with the Indian Institute of Plantation Management (IIPM), Bangalore.

Two days 'Rubber Convention' was held in Agartala in association with Confederation of Indian Industries (CII) with the objective of value addition of rubber produced in NE region. The event was a step forward in attracting entrepreneurs to invest in rubber-based industries in the Rubber Park set up in Agartala. The Board also participated in 'Agri -Expos' held in Silchar, Agartala and Dimapur and Board's stalls were visited by a large number of people and rubber development programmes could be explained to them. Under the Research Department, research activities have progressed to address location specific issues in rubber cultivation and to evolve appropriate cost effective agro-technologies suited to the region.

The physical / financial achievements under different components of the Rubber Development schemes in NE region during the year 2010-11 are furnished below: -

#### 1. Rubber Development Scheme

Target for 2010-11 was 6200 ha (New Planting -5850 ha + Replanting -350 ha)

Performance under RPD schemes in North Eastern region are furnished below:

Details	2009-10		2010-11	
	No. of Permits	Area (ha)	No. of Permits	Area (ha)
Application received	14274	12835	13290	12544
Permit issued (NP only)	10973	8330*	10724	8261*
Total amount disbursed	Rs. 15.51 Crore		Rs. 19.97 Crore	

\* Permit area includes a few cases of previous years' plantings processed in 2010-11 also. Inspection and processing of all applications received in 2010-11 could not be completed due to shortage of manpower.

Replanting has been done in 42 ha during 2010-11; but the area is not covered under the scheme because it is not eligible for subsidy.

## 2. Integrated Village Level Rubber Development

This is meant for rejuvenation of plantations (up to the age of 3 years) belonging to marginal growers, which were damaged. Revitalization is meant for rejuvenation of partially damaged plantations and restocking for totally damaged plantations. Achievement is given below.

Components	2009-10		2010-11	
	Area (ha)	No. of Beneficiaries	Area (ha)	No. of Beneficiaries
Revitalization	0.74	2	2.3	3
Restocking	12.73	26	4.4	5

## 3. Block Rubber Planting Project : Target - 550 ha.(NP)

This project is meant for the economic settlement of tribal people in NE region through rubber planting. It is implemented directly by the Board with around 50% financial support from State Governments. In NE region, only the Govt. of Tripura provided the required support to the Board in implementation of the scheme.

Details of progress achieved in Tripura are given below.

Planting up to 2009-10(ha.)	No. of Beneficiaries up to 2009-10	Planting during 2010-11 (ha.)	Beneficiaries during 2010-11	Cumulative total in ha. up to 31-03-2011	Total Beneficiaries up to 31-03-2011
3539.52	3274	137	150	3676.52	3424

## 4. Quality Planting Material generation

Planting material generation in NE region is mostly carried out by private nurseries. The Board is maintaining 5 nurseries of its own, attached to Regional Offices, DDCs etc, in different parts of NE region. This is done with the objective of producing planting materials of excellent quality, which will serve as models. Private nursery owners visit the Board's nurseries and get trained there. One of the nurseries of the Board in NE region had to be closed on expiry of lease period. Action has been initiated to start a new nursery in Assam

in an area of 4.00 ha. Under these circumstances, production of budded stumps remained at 2.54 lakh numbers and bud wood 49356 meters. Every meter of bud wood can produce around 15 budded plants of genuine quality. The entire quantity of planting materials has been distributed to small rubber growers in the region.

## 5. Distribution of Estate Inputs

The Board distributed plantation input items such as fertilizers and rain guarding materials at a subsidy of 50% to the smallholders in NE

## Rubber Board

region, to cover an area of 4200 ha under productivity enhancement scheme, against the target of 5000 ha. Full-targeted area could not be covered due to shortage of input items in the region during the season.

### 6. Farmer Education Programme in NE

Continuous teaching, training and demonstration of scientific planting, harvesting and primary processing practices of rubber are regular extension programmes of the Board in NE region. In order to disseminate technical know-how to farmers directly, field visits are done by Extension Officers regularly in connection with various schemes and for advisory purposes. Demonstrations of agro management practices are also done during such visits. Rubber Tapping Demonstrators of the Board also visit plantations and render technical advice to the farmers on harvesting and processing of latex into good quality sheets. Campaign meetings are also held for one month with particular emphasis on specified subjects.

In addition, the Board holds group meetings of farmers at village level for teaching them on scientific aspects of rubber cultivation, labour welfare programmes and advantages of group activities, etc. These programmes are well received by farmers and farm workers. Such group meetings are held on regular basis in different parts of NE.

Details of different types of meetings held in NE in 2010-11 are given below: -

Type of meeting	2010-11	
	No. of meetings	No. of Participants
Campaign meetings	143	10821
Full day seminars	13	1148
Half day seminars	6	294
Group meetings	425	10233
Total	587	22496

### 7. Training Programmes in NE

Regular training is given to plantation owners, workers and new entrepreneurs on various rubber plantation activities. Board's District Development Centres, Nurseries, Tappers' Training Schools, Rubber Producers Societies, Growers' Farms etc are used as venues for such training programmes. Details of training programmes conducted in NE region and number of trainees who attended such programmes in 2010-11 are given in the following table :-

Type of training	No. of programmes	No. of trainees
Plantation and allied aspects	96	1290
Tappers' Training in T.T. Schools	19	343
Short Duration Intensive Tappers' Training in farmers field	90	1367
Total	205	3000

### 8. Farmer Group Formations and Empowerment

Due to shortage of extension personnel, the Board is not in a position to reach out to all growers individually and hence it has been decided to promote the formation of Rubber Producers' Societies (RPS) at village level. Full technical support and 50% financial support is given to RPS for various programmes. During the year, the Board has newly formed 14 RPS with the cumulative total of 146 in NE region.

### 9. Other Assistance in NE Region

The Board supports growers in NE region in protecting their plantations from animals, purchase of rubber sheeting rollers, construction of smoke houses, setting up



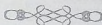
## Annual Report 2010-11

demonstration plantations etc. RPS are supported for setting up Group Processing Centres, purchase of computers, etc. Plantation workers are given assistance for

constructing houses, children's education etc.

The achievements in 2010-11 are given below.

Item	No. of Beneficiaries	Financial support (Rs. in lakh)
Bamboo fencing	8515	324.45
Barbed wire fencing	34	6.63
Group Processing Centre	2	6.54
Smoke House	46	9.00
Rollers	121	12.10
Demonstration plantations in Farmers' fields	29	3.72
Computers supplied to RPS	3	1.73
Housing subsidy and other assistance to plantation workers	22	2.59
Total	8772	364.17





**PART – IV**

## **ADMINISTRATION**

The Administration department consists of the following Sections and Divisions:

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

**1. ESTABLISHMENT DIVISION**

**a) Board Secretariat**

The functions of the Board Secretariat include co-ordination of reconstitution of sub-committees, convening the meetings of the Board and its committees, election of the Vice Chairman of the Board, preparation of notes on agenda and minutes of the meetings of the Board and its committees, monitoring implementation of the decisions of the Board and compilation of the annual report of the Board.

*Meetings of the Board and its Committees*

Shri. Bharatheepuram Sasi, representative of labour interests from the state of Kerala was elected as Vice Chairman of the Board for the remaining term up to 19<sup>th</sup> October 2010 in the 162<sup>nd</sup> meeting of the Board held on 12<sup>th</sup> May 2010. The meetings of the Board held during 2010 – 11 are furnished below :

- 162<sup>nd</sup> Board meeting held on 12.05.2010
- 163<sup>rd</sup> Board meeting held on 31.07.2010
- 164<sup>th</sup> Board meeting held on 18.10.2010

No sub-committee meeting was conducted during 2010 – 11.

**b) Personnel and Administration**

During the year 2010-11, 78 candidates from outside and 23 in-service candidates were appointed against direct recruitment vacancies and 117 regular promotions were awarded. Selection Committees / Departmental Promotion Committees (DPC) were properly constituted for selection of personnel belitting job requirements. Periodical returns on recruitment/promotions at reservation points were sent to the Government.

During the year under report, 4 higher grades under Career Improvement Scheme and 5 under Flexible Complementary Scheme (FCS) were awarded to the officers / Scientists of the Board. Further, 30 posts were advertised and written tests were conducted for selection of Junior Assistants at 29 centres all over India on 20<sup>th</sup> June 2010 for a total of 12283 candidates. For selection of Field Officer, test was held on 24<sup>th</sup> October 2010 at 11 centres for 1561 candidates. Besides, the Division organized 41 interviews for selection of suitable persons for various posts.

**c) Entitlement**

*Sanction of interest bearing advances*

An amount of Rs. 28,71,500/- was disbursed to 14 employees of the Board as House Building advance during 2010-11. On completion of recovery/refund of House Building Advances along with interest, re-conveyance deeds were executed in 25 cases.

A sum of Rs. 22,09,900/- was disbursed towards other advances to employees as shown below:-

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Type of advance	No. of employees	Amount disbursed in Rs.
Computer Advance	28	8,15,300
Car Advance	5	7,36,900
Motor Cycle/Scooter Advance	18	5,28,000
Cycle Advance	43	1,29,000
Total	94	22,09,200

### Retirement and grant of retirement benefits

Retirement benefits were disbursed to 49 employees in time. This include seven employees who retired voluntarily and two employees who left on compulsory retirement during the year 2010-11. In addition, family pension was granted to the family of six employees who died in

harness. The Board had 904 pensioners including family pensioners as on 31.03.2011.

In addition, all service books and personal files of employees were maintained properly. During the year 2010-11, sixty-six service books and personal files were opened for new appointments of the Board.

### d) General Administration (GA)

The GA section deals with the issue of office orders and circulars, inward and despatch of letters, stationery and other local purchases, maintenance of assets and vehicles, and house keeping activities for the headquarters.

Cordial relations were maintained between the staff and the executive personnel and their good work has resulted in taking the Board to greater heights

### I. Overall manpower strength of the Board as on 31<sup>st</sup> March 2011

Total number of officers and staff as on 31/03/2011 was 1894.

Sl.No	Name of the Department	Group "A"	Group "B"	Group "C"	Group "D"	TOTAL
1	Rubber Production	200	450	404	1	1055
2	Research	109	108	207	2	426
3	Licensing & Excise Duty	19	67	49		135
4	Administration	12	26	54		92
5	Processing & Product Devt.	18	25	36		79
6	Finance & Accounts	6	24	20		50
7	Training	8	3	16		27
8	Statistics & Planning	5	9	7		21
9	Market Promotion	2	5	2		9
	TOTAL	379	717	795	3	1894

### II. Groupwise female employees and their percentages as on 31.3.2011.

Group	No. of female employees	Total staff strength	Percentage of Total (%)
A	96	379	25.32
B	358	717	49.93
C	236	795	29.69
D	0	3	0
Grand Total	690	1894	36.43

## Rubber Board

### 2. LABOUR WELFARE SECTION

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

To achieve the above objective, Board has evolved schemes for the benefit of the workers / tappers in rubber plantations, which are being implemented throughout India. The budget allotted was Rs. 300 lakh during 2010 – 11 and the achievement has been 103%.

### 1. Educational stipend

The sub component provides for educational stipend to children of rubber plantation workers for undergoing different courses of studies. The benefits include educational stipend (tuition fee and lump sum grant for purchase of books and instruments) and hostel / boarding fee. The financial achievement was Rs. 69.7 lakh covering 4110 beneficiaries. The sub component is to be continued during 2011-12.

Categorizing the various courses into four groups a consolidated amount has been fixed as educational stipend as noted below:-

Name of the course	Annual stipend (Rs)	Monthly hostel/boarding fee (8 months) (Rs)
Class XI & XII	1000	500
Degree Course	1000	500
Post Graduate Course	1500	500
<b>Professional/Technical Courses</b>		
Certificate Course	1500	500
Diploma Course	3000	500
Degree Course	6000	600
Post Graduate Courses	6000	600
PhD/Post Doctoral Courses	6000	600

#### *Disbursement of Educational Stipend in the NE Region*

An amount of Rs.5000/- has been paid during the year 2010-11 towards Educational stipend sub component in the NE region.

### 2. Merit Award

The subcomponent provides financial assistance under two heads: -

#### *a. Merit award for academic excellence*

The sub component provides for financial assistance ranging from Rs.1000/- to Rs.5000/- to children of rubber plantation workers who creditably pass academic courses. The details are furnished below :-

Name of Course	Minimum marks/grade for all subjects	Maximum amount (Rs.)
SSLC or Equivalent	80% A for all subjects	1000
Class XII or equivalent	60% B for all subjects	1000
Degree Courses	60%	2000
Post Graduate Courses	60%	3000
<b>Professional/Technical Courses</b>		
Certificate Courses	60%	1500
Diploma Courses	60%	2000
Degree Courses	60%	4000
Post Graduate Courses	60%	5000

b. Cash award for exceptional achievements in sports/games and arts

The subcomponent provides cash awards at various levels to children of rubber plantation workers in the age group of 9 to 23 years and studying in Class IV and above for exceptional achievements in Sports/games and arts.

Achievement in sports/games

Quantum of cash award

Winning 1 <sup>st</sup> place at District School/ University level	-	Rs.3000.00
Winning 2 <sup>nd</sup> place at District School/ University level	-	Rs.2500.00
Winning 1 <sup>st</sup> place at State School/ University level	-	Rs.4000.00
Winning 2 <sup>nd</sup> place at State School/ University level	-	Rs.3500.00
Winning 1 <sup>st</sup> place at National School/ Universities	-	Rs.5000.00
Winning 2 <sup>nd</sup> place at National School/ Universities	-	Rs.4500.00

Level of achievement in arts

Winning 1 <sup>st</sup> place at District School/ University level	-	Rs.4000.00
Winning 2 <sup>nd</sup> place at District School/ University level	-	Rs.3500.00
Winning 1 <sup>st</sup> place at State School/ University level	-	Rs.5000.00
Winning 2 <sup>nd</sup> place at State School/ University level	-	Rs.4500.00

An amount of Rs.3 lakh has been paid to 179 beneficiaries. The sub component is being continued during 2011-12 with an estimated outlay of Rs.7 lakh.

**2. Worker's Group Insurance –cum- Deposit sub component**

The sub component provides insurance coverage against accident death and disabilities including temporary / total disabilities due to accidents, for rubber tappers in unorganized sector, operated with the contributions from the tappers and the Board.

Part of the contributions is deposited in their names to encourage the habit of savings.

**Phase 1.**

Under Phase I, each tapper had to contribute annually Rs.50 to become a member in the sub component and the Board in turn contributed annually Rs.100 per member. The total amount deposited in favour of the insured

## Rubber Board

tapper will be released with interest on expiry of the 10-year period. Under this phase, there were 11 sub-components and 10 sub-components had already matured. The XI<sup>th</sup> sub-component commenced for 2000-2010 with 881 members got matured and the amounts were released during June 2011. Insurance Company has paid Rs. 20,286 for one death claim and one personal accident claim during the year.

### Phase II

Phase I was replaced with Phase II of Insurance cum Deposit Sub Component during the year 2001-2002 by enhancing the death compensation to the tappers from Rs.20,000/- to Rs.50,000/-. Under this sub component, each tapper has to contribute Rs.250/- per year and the Board in turn contributes Rs.150/- per tapper. From the total contribution of Rs.400, an amount of Rs.28/- is spent on insurance premium per tapper and the balance of Rs.372/- is invested to pay maximum benefit for the tappers. Each phase of the sub component will run for a period of 10 years and the total amount deposited in favour of the insured workers will be released on expiry of 10<sup>th</sup> year.

An amount of Rs.15 lakh has been spent for 8490 tappers. The Insurance Company has paid compensation of Rs.66, 286 for nine personal accident claims.

A new scheme named Group Life Insurance cum Terminal Benefit Scheme for tappers in smallholding sector have been developed for implementation during the year 2011 - 12.

### 1. Housing Subsidy

The sub component provides financial assistance to workers in the organized sector and tappers employed in the unorganized sector for construction of house on own land. The worker is eligible for Rs.12500/- or 25% of the cost of construction whichever is less. An amount of Rs.131 lakh was disbursed to

1079 beneficiaries during the year 2010-11. The sub component is being continued in 2011-12 with an estimated outlay of Rs.132 lakh.

### 4.a. Housing Subsidy for NE Region

The housing subsidy sub component was modified in order to suit the requirement of the peculiar situations prevailed in the North Eastern Region. The amount of assistance ranges from Rs.14000/- to Rs.15000/- and an amount of Rs.6,84,500 was disbursed during the year 2010 - 11.

### 5. Sanitary Subsidy

The objective of the scheme was to improve the hygienic conditions of the tapper's own premises. The assistance was given only to tappers in the unorganized sector for construction of latrine. The sub component was discontinued with effect from 01.04.2010 but an amount of Rs.14 lakh has been paid to 284 beneficiaries for the pending applications.

### 6. Housing Subsidy for SC/ST tappers

Financial assistance to the extent of Rs.15,000/- or 25% of the cost of construction whichever is less is granted to SC/ST rubber tappers in the unorganized sector for construction of house and latrine on own land. The sub component is being continued during 2011-12 with an estimated outlay of Rs.15 lakh. An amount of Rs.19 lakh has been disbursed to 138 beneficiaries during the year 2010 - 11.

### 7. Medical Attendance

The objective of the sub component is to provide financial relief to the tappers who undergo various treatments for diseases. The assistance is given by reimbursing the expenses on treatment under allopathic/ ayurvedic/homoeopathic systems of medicines up to Rs.2000/- per tapper per annum in the unorganized sector. Compensation of Rs.500/- is paid for absence from work if any due to illness up to a maximum of 20 days @ Rs.25 per day.

In addition to the above-mentioned medical reimbursement, expenses limited to Rs.10000/- is reimbursed for the treatment of major diseases involving high expenditure as one time payment during a tapper's lifetime.

The tappers who undergo sterilization operation are paid Rs.1000/- as incentive. An amount of Rs.14 lakh was disbursed to 574 beneficiaries during 2010-11. The sub component is being continued during 2010-11 with an estimated outlay of Rs.16 lakh.

**Performance under the various sub components during 2010-11**

Name of Sub component	Physical Achievement	Target (Rs. In lakh)	Amount Paid in (Rs)	Achievement of target (%)
Educational stipend	4110	67	69,73,390	104.08 %
Merit / Cash Award	179	5	3,35,500	67.10 %
Medical Attendance	574	14	13,94,608	99.61 %
Housing Subsidy	1079	132	131,92,500	99.94 %
Sanitary Subsidy	284	Nil	13,81,000	-
Housing & Sanitary Subsidy for SC/ST	138	10	18,95,000	189.50 %
Insurance cum Deposit Scheme	8490	30	15,02,730	50.09 %
Operating Expenses		42	42,00,000	100.00 %
Total	14854	300	308,74,728	102.91 %

### 3. LEGAL SECTION

Legal section renders legal opinion in the files referred for scrutiny. The significant event during the year was the notification of the amendments proposed by the Board to the Rubber Rules, 1955 after the approval of the Government. Timely support was provided to all departments in legal matters. Scrutiny of documents for determining the eligibility in the applications for House Building Advances was done. Drafted legal documents to be executed by the Board. Took steps to defend the interest of the Board in the cases pending before the Court. Parawise comments and necessary instructions were given to the Standing Counsels of the Board and the

Central Government pleaders in these cases. In consumer disputes before the District Consumer Dispute Redressal Forum and the State Commission represented and took steps to defend the Board during the hearing. Provided assistance in dealing with the matters posted before District Legal Services Authority. Provided Legal assistance to the Rubber Board employees' Housing Co-operative Society. Took steps to file arbitration cases against Co-operative marketing societies under the Co-operative Societies Act for the recovery of share capital contributed and loan outstanding from them.

## Rubber Board

### 4. HINDI SECTION

The Rubber Board is a notified office under Rule 10(4) of Official Language (OL) Rules. The Board received trophy for securing highest points in various competitions conducted in connection with the Joint Hindi Week Celebrations of Kottayam TOLIC. The Hindi Section of the Rubber Board undertook the following activities during the year under report: -

#### 1. Official Language Implementation Committee

Four meetings (65<sup>th</sup>, 66<sup>th</sup>, 67<sup>th</sup> and 68<sup>th</sup>) of the Official Language Implementation Committee of the Board were held during the year. The first two meetings were presided over by Shri Sajen Peter, IAS, the then Chairman of the Board and the third meeting presided over by Shri Viju Chacko, Director Finance and the fourth meeting presided over by the Chairman of the Board, Smt. Sheela Thomas AS. Quarterly Progress Reports on the progressive use of Official Language Hindi were presented in the meetings and were discussed. Annual Programme issued by the Department of Official Language was discussed. The agenda were prepared in accordance with the instructions of the Department of Official Language.

#### 2. Hindi Fortnight/Hindi Day Celebration

Hindi fortnight was celebrated from 5<sup>th</sup> September 2010 to 29<sup>th</sup> September 2010 at the Head Quarters and Rubber Research Institute of India of the Board. Eleven competitions were conducted for the officers/employees of the Board. About 100 officers/employees participated in these competitions.

Hindi day was celebrated in 35 subordinate offices of the Board. Various competitions were conducted for the employees and winners were given prizes and certificates. Different eminent personalities in the locality attended these

functions as guests and judges of competitions.

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

Issues of bi-monthly Hindi bulletin "Rubber Samachar" was brought out during the year. Write-ups of officers/employees/their family members and many other useful items were featured in these issues. The scheme of honorarium was continued for contributing Hindi articles for the bulletin "Rubber Samachar". Prize winning essays of employees in Essay competition conducted in connection with Hindi Fortnight Celebration were published in "Rubber Samachar".

#### 4. Hindi Teaching Scheme

Hindi typewriting classes and Hindi stenography classes were conducted at Head Office of the Board, since no centre of Hindi Teaching Scheme (typewriting and stenography) is functioning at Kottayam. A total number of eight officials were imparted training in Hindi typing and four employees were imparted stenography training. Cash award and personal pay were given to the eligible officials for passing the examination.

#### 5. Hindi Workshop

One day Hindi Workshops were conducted in 28 Sub-ordinate Offices viz. Regional Offices at Kottayam, Pathanamthitta, Manjeri, Nilambur, Kanhangad, Sreekandapuram, Thalassery, Thrissur, Thiruvananthapuram, Punalur, Changanassery, Kozhikode, Palakkad, Mannarkad, Muvattupuzha, Thodupuzha, Kothamangalam, Ernakulam, Marthandom, Kanjirappally, Adoor, Kottarakkara, Nedumangadu, Pala, Thaliparamba, Erattupetta, Licensing Division at Kochi and Central Experimental Station at Chethackal during the year. A total number of 473 officers/employees were imparted training



in Official Language through these workshops. Three one-day Hindi workshops were conducted in Head Office and RRII and ninety-three officers/ employees participated in these workshops.

#### 6. Town Official Language Implementation Committee (TOLIC)

Chairman of the Board continued to hold the post of Chairman, Kottayam Town Official Language Implementation Committee. Hindi Officer of the Board continued as Member Secretary. Two meetings of the Kottayam TOLIC were conducted in August 2010 and January 2011. In August 2010, Dr.V.Balakrishnan, Dy. Director (Impl.) and Shri. P.Vijayakumar, Assistant Director (Impl.), Regional Implementation Office, Kochi represented the Department of Official Language, Ministry of Home Affairs in these meetings respectively.

A meeting of TOLIC Core Committee was conducted during the year under report. One day Joint Hindi Workshop and Joint Hindi Week Celebrations were conducted during the year for the officials of the member organisations of the TOLIC. Other functions connected with Kottayam TOLIC were also undertaken. The employees of the Board actively participated in TOLIC programmes.

#### 7. Rajbhasha Sammelan

Being the part of the OL Policy of the Union, Rajbhasha Sammelan was conducted at Silver Jubilee Memorial Hall, RRII, Kottayam on 30<sup>th</sup> July 2010. Hindi Fortnight Celebration is conducted every year regularly and its Valedictory Function is celebrated as Rajbhasha Sammelan. During this occasion, Board's employees get an opportunity to listen to a talk of an eminent personality from outside. Renowned Malayalam Poet & Lyricist Shri S Ramesan Nair inaugurated the function. Shri Sajen Peter IAS, Chairman of the Board

presided over the Sammelan. Shri S Ramesan Nair distributed prizes for the winners of the competitions during Hindi Fortnight Celebration in Head Office and RRII and released a book written by Shri Sajen Peter, IAS titled as "Karshaskarkku Snehapoorvam". Shri Ramesan Nair also distributed Rajbhasha Trophy for commendable OL implementation in sub-ordinate offices of the Board. Licensing Division, Kochi secured the first place.

#### 8. Visit of Parliamentary Committee on Official Language

Third Sub-Committee of the Committee of Parliament on Official Language visited Kottayam during the second week of February 2011 for inspecting OL implementation activities in the offices of Rubber Board, CPWD, and Bank of Baroda. Rubber Board was nominated as co-ordinating office during the visit of the Committee. The Inspection was held in Hotel Whispering Palms, Kumarakom on 14/02/2011.

#### 9. OLIC's in Subordinate Offices.

Official Language Implementation Committees were formed in various sub-ordinate offices of the Board. Regular meetings of these committees were ensured.

#### 10. Quarterly Progress Reports

Quarterly Progress Reports (QPRs) were compiled regarding progressive use of Official Language and forwarded to the Department of Commerce, MOC&I and Regional Implementation Office, Kochi. Quarterly Progress Reports from sub-ordinate offices were collected and reviewed.

#### 11. Other Activities

The Board continued writing 'Aaj Ka Shabda' at Head Office and at subordinate offices. Official Language inspections were conducted in 28 subordinate offices of the Board during the year.

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## Rubber Board

More officers and staff were encouraged to do original noting in Hindi. Necessary assistance was provided to them for writing file noting in Hindi. Cash awards were given to 179 officials under the incentive scheme. The Board conducted competitions in Noting and Drafting, Essay writing and Hindi typewriting on behalf of Kendriya Hindi Sachivalaya Parishad, New Delhi as a part of their All India Competitions.

A Hindi Library is functioning under the Hindi Section and the Board's employees utilized this facility for noting and drafting in Hindi. Hindi video CD library and CDs of famous Hindi classics were available for the officials of the Board. Besides, a spoken Hindi training programme is being conducted at Head Office and two batches have been completed during the year.

Published a book in Hindi titled "Tapping Manual". Bilingual facility have been installed in most of the Board's computers and a new multilingual software named "Lookeys" was also provided. Hindi journal "India Today" weekly, "Vanitha" monthly and daily "Navbharath Times" were subscribed and

received in Head offices and other offices of the Board.

### 12. General

As per Section 3(3) of the OL Act, documents were translated into Hindi. Proof reading of different bilingual forms, translation of forms etc. were also undertaken. Printing of bilingual forms was ensured. Special attention was given to send replies in Hindi to the letters received in Hindi. Necessary guidelines were provided to the concerned as and when required regarding implementation of Official Language Policy

Annual Report and Annual Accounts of the Board were translated and necessary assistance rendered in its bilingual publication. Translated various reports/answers to questions as and when required for presenting to Ministry/Parliamentary Committees. Trilingual EPABX welcome system and price information system continued. Proof reading and other assistances were rendered for the publication of Rubber Rules. A Hindi version of the Rubber Board web site [www.rubberboard.org.in/hindi](http://www.rubberboard.org.in/hindi) was maintained.



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### 7) Book Release

Assistant Director (P) wrote a book *Rubber Mattoru Kalpavriksham*, which was published by the State Language Institute and released by the Chairman in the Rubber Grower's Conference 2010. In addition, the Division arranged to publish various articles written by Scientists/Extension Officers in dailies/agricultural magazines.

### 8) General

The Division brought out 54 vinyl posters for exhibitions. Officers of the Division attended the "Rubber Growers Conference" and an international conference on "Climate Change - R&D priorities". The Division arranged publicity for "PLACROSYM XIX" held in December 2010 through various media and participated in the

steering committee constituted with regard to the visit of Parliamentary Committee on Official Language". The Division also organized various press-meet programmes of the Chairman. Officers of the Division gave interviews in Amrita TV on Price situation of rubber and Court direction on import duty. Besides the division arranged for coverage of training of non-keralite tappers in Malayalam TV channels.

Officers of the Division attended the Inter-Media Publicity Co-ordination Committee (IMPCC) meetings, Career Guidance Bureau of MG university meetings, Rural Programme Advisory Committee of AIR, Thiruvananthapuram, Vigilance Awareness programmes, Board meetings and meetings of the sub-committees.

## VIGILANCE DIVISION

During the year under report, the Vigilance Division took up for enquiry /investigation, 21 complaints against **eleven** officers of Group A and B status and **ten** employees of Group C and D status. The allegations in the complaints were varied in nature and on completion of the investigation, appropriate action was recommended/ taken against the erring officials, when found necessary.

### 1. Cases

During the year under report, the Board initiated six major penalty proceedings and six minor penalty proceedings against 12 officials and administrative action against 5 employees of the Board. Besides, two major penalty proceedings against two officials were instituted during 2010, based on a complaint registered in the last quarter of 2009. The Division assisted the Disciplinary Authority in processing / initiating the aforesaid 14 disciplinary

cases. During the year, 6 major penalty orders and 5 minor penalty orders were issued in cases instituted during the previous years.

### 2. Property statements and acquisition/ disposal of movable/immovable property

Annual immovable property statements as on 31.12.2010 were called for from 1078 officers of Group A & B status. The statements received from the officers have been properly scrutinized. The Division also processed 117 applications relating to transactions in immovable property and 115 applications pertaining to transactions in movable property, as per the Rubber Board Employees' Conduct Rules, 1958.

### 3. Comments/advice

The Division has also processed three appeal petitions against the penalties imposed

by the Disciplinary Authority and forwarded the same to the Appellate Authority along with para-wise comments and connected documents.

A total of 133 files/cases were referred to the Vigilance Division from other Divisions/ Sections/ Offices of the Board for comments/ advice. All these files/matters were properly dealt with and returned promptly with comments/advice thereon.

#### 4. Other activities

As per instructions of the Central Vigilance Commission, "Vigilance Awareness Period" was observed in the Board from 25.10.2010 to 01.11.2010, in a befitting manner. All employees took pledge at 11.00 AM on 25<sup>th</sup> November 2010.

Wide coverage was given in the dailies regarding observance of Vigilance Awareness Period and conducted elocution competitions in 3 languages viz., Hindi, Malayalam and English for the employees of the Central Zone of Rubber Board, Kottayam and in English language for employees of other zones at Thiruvananthapuram, Calicut, Mangalore, Guwahati and Agartala. Further, elocution competition in English for College students was also conducted at Kottayam.

The monthly and quarterly returns on departmental inquiries and vigilance cases and complaints etc. dealt by the Division were submitted regularly to the Ministry and Central Vigilance Commission. The Assistant Desk Officer (Vigilance) functioned as the CPIO of the Division, under RTI Act, 2005

### PLANNING DIVISION

The activities of the Planning Division during 2010-11 are summarised under the following five headings :-

#### 1. Formulation, Monitoring and Evaluation of Plan Schemes

Collected and consolidated information on the progress in the implementation of plan schemes for preparing routine and other reports for submission to the Government of India. The important documents prepared included Annual Plan 2011-12 on Natural Rubber and Outcome Budget 2011-12. Quarter-wise outcome budgets of the Board were prepared with scheme-wise and component-wise information on the implementation of plan schemes. Several reports containing review of plan schemes were prepared for submission to the Government.

#### Formulation of 12<sup>th</sup> Five-Year Plan Schemes

Formulation of draft 12<sup>th</sup> Plan proposals was initiated. The proposals of the Board would be formulated on the basis of external

evaluation of 11<sup>th</sup> Plan Schemes, stakeholder consultations, internal consultations and directions of Government of India and Planning Commission.

A National Committee was constituted under the Chairmanship of renowned Agricultural Scientist and Member of Parliament, Dr.M.S. Swaminathan to evaluate the 11<sup>th</sup> Five Year Plan Schemes of Rubber Board. The National Committee comprised the Chairman and nine experts from different disciplines. The experts were grouped into three Sub-Committees as follows:

#### Sub-Committee - I

- Schemes: i) Rubber Plantation Development Scheme  
ii) Rubber Plantation Development Scheme for NE region

- Members 1. Dr V.P. Sharma, Director (ITD&P), National Institute of Agricultural Extension Management, Hyderabad

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2. Dr. Binay Singh, Director,  
NIRD – NE Regional Centre,  
Guwahati.
3. Prof Joy Mathew , Professor  
and & Head, Central  
Training Institute, KAU,  
Thrissur

3. Prof. M. Udayakumar,  
Department of Crop  
Physiology, University of  
Agricultural Sciences,  
Bangalore

### Sub-Committee III

- Schemes: i) Processing, Quality  
Upgradation and Product  
Development
- ii) Market Development &  
Export Promotion

### Sub-Committee II

Schemes: i) Research Scheme

- ii) Human Resources  
Development Scheme

- Members 1. Dr.R.K.Samanta, Former  
Vice-chancellor,  
Bidhan Chandra Krishi  
Viswavidyalaya, West  
Bengal
2. Dr. K.N. Ninan, Professor  
Emeritus, IISS&T,  
Department of space  
science and Technology,  
Trivandrum

- Members : 1. Dr. R.K. Matthan,  
KA Pre Vulcanised Latex Pvt  
Ltd, Chennai.
2. Mr. Sathiyaraj. N, M.D., Foam  
Mattings (India) Ltd,  
Alappuzha
3. Mr. George Mathai Tharakan,  
Professor & Former Regional  
Director, The Institute of  
Management in Government,  
Kakkanad, Kochi

Scheme-wise approved outlay of the 11<sup>th</sup> plan and 2011 – 12 and outlay and expenditure in 2010 – 11 are presented in the following table :-

**Outlay and Expenditure of Plan Schemes (Rs. crore)**

Scheme	Outlay in 11 <sup>th</sup> Plan	Approved outlay (2011 – 12)	2010-11	
			Outlay	Expenditure
1. Rubber Plantation Development	240.00	78.50	70.50	64.13
2. Rubber Research	60.00	25.00	21.00	16.44
3. Processing, Quality upgradation & Product development	44.00	9.50	10.00	3.89
4. Market development and export promotion	44.00	9.00	9.00	6.95
5. Human Resource Development	42.00	15.00	11.00	8.16
6. Rubber Development in NE region	150.00	34.50	30.00	41.40
<b>Total</b>	<b>580.00</b>	<b>171.50*</b>	<b>151.50*</b>	<b>140.97</b>

Including IEBR of Rs. 1.50 Crore

## 2. Parliamentary matters

The Division supplied materials with supplementary details for 37 Parliament questions. Most of the questions were on plan schemes, subsidy, assistance to growers, customs duty, production, consumption, import and export, price, futures trading, trade agreements and other issues related to rubber industry. Detailed notes were prepared for PMO references. Provided inputs pertaining to NR sector for the Parliamentary Standing Committee on the Demand for Grants (2011-12) of the Department of Commerce.

## 3. Assisting in Policy matters

The Division assisted in framing and providing Board's views on policy matters related to rubber industry to the Department of Commerce and other agencies such as Directorate General of Foreign Trade (DGFT), Forward Market Commission (FMC), etc. The Division also assisted in providing views of the Board to government and other agencies on representations received by them from rubber producing, trading and consuming interests. The main issues dealt with are shown below.

**Trade and tariffs:** - Pre-budget proposals were submitted with justifications to keep the duty rates of NR at the prevailing levels. Detailed notes were drafted on several occasions on the demands by rubber industry stakeholder organisations related to import and tariffs on NR. The developments in the Doha Round trade negotiations of the WTO were regularly monitored. The implications of the Regional Trade Agreements (RTAs) and other forms of international cooperation on domestic rubber sector were also regularly monitored. Provided Board's views on Regional Trade Agreements to the government.

The Department of Revenue vide Notification No. 128/2010-Customs dated 22<sup>nd</sup> December 2010 made the following amendments to import duty on NR.

- i. Tariff rate quota (TRQ) import of 40,000 tonnes of dry forms of NR at 7.5 per cent duty before 31.03.2011
- ii. Duty for dry forms of NR at 20% or Rs.20 per kg whichever is lower

The norms of TRQ import were fixed in consultation with the Board. Subsequently, the Directorate General of Foreign Trade (DGFT) allotted 40,000 tonnes of import on the basis of consumption of NR in 2009-10 to 31 applicants vide Trade Notice 05 dated 28<sup>th</sup> January 2011.

**Panel of Experts:** The Indian Cycle and Rickshaw Tyre Manufacturers Association (ICRTMA), Auto Tyre Manufacturers Association (ATMA) and All India Rubber Industries Association (AIRIA) had filed writ petitions in the Hon'ble High Court of New Delhi based on their earlier representations submitted to the Government of India. The Court directed Union of India and Ministry of Commerce to consider the representations of the three Associations. The Court further instructed the Ministry of Commerce to constitute a panel comprising experts from Rubber Board to hear the demands of the Association.

In pursuance of the direction of the Court, the Department of Commerce of Government of India constituted a panel of experts to consider the representations of ICRTMA, ATMA and AIRIA.

The list of Panel of Experts is given below.

- i. Shri Sajen Peter, Chairman, Rubber Board
- ii. Shri C.C. Chacko, Director (L&ED);
- iii. Dr Tharian George K, Joint Director (Economics), RRII
- iv. Shri K.V. Mathew, Joint RPC (Development), RP Department
- v. Shri Varghese Iype, Deputy Director (Law)



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- vi. Shri Toms Joseph, Economist (Scientist C), Planning Division
- vii. Smt. Shylaja Nair, Deputy Director, Forward Market Commission

The Panel of Experts submitted its report to the Department of Commerce on 20<sup>th</sup> July 2010. The Report comprised detailed analysis of the demands viz., fixation of minimum price for NR, correction of inverted duty structure, suspension of futures trading and cessability of cess. The Division co-ordinated the work of the Panel of Experts.

**Futures trading:** The futures trading in NR was monitored on a regular basis and concerns of the Board were brought to the notice of the government and FMC.

**Study on Structural Infirmities in the Plantation Sector:** - The Department of Commerce entrusted a study on structural infirmities and remedial measures in rubber plantation sector with Centre for Development Studies (CDS), Thiruvananthapuram. The CDS study team was led by Prof. K.J. Joseph, Deputy Director (Economics) served as the nodal officer of the Board for the study and the Division assisted CDS in carrying out the study.

**Weekly market report:** - The Division co-ordinated the preparation of weekly market report on NR for submission to the Department of Commerce. The report provides highlights of the developments in domestic and international rubber markets and trade.

**Others:** - The Division prepared the executive summary of the monthly report being submitted to the Department of Commerce. Agenda notes were prepared on issues related to NR sector having policy implications for meetings of the Board and Committees. Detailed notes/reports were prepared on several policy related issues of NR sector including planting subsidy, cess, other taxes, cessing regime, etc.

### **4. Preparation of rubber industry related documents**

Drafted presentations/speeches for the following meetings/conferences :-

- i. Presentation of 162<sup>nd</sup> Board Meeting - 12.05.2010
- ii. Text of Chairman's speech for 162<sup>nd</sup> Board Meeting - 12.05.2010
- iii. Presentation for ASEAN Rubber Conference 2010, Kuala Lumpur, Malaysia - 17-19 June.2010
- iv. Presentation of 163<sup>rd</sup> Board Meeting - 31.07.2010
- v. Text of Chairman's speech for 163<sup>rd</sup> Board Meeting - 31.07.2010
- vi. Presentation for UPASI Annual Conference, Coonoor, 13-14 September 2010
- vii. Presentation of 164<sup>th</sup> Board Meeting - 18.10.2010
- viii. Text of Chairman's speech for 164<sup>th</sup> Board Meeting - 18.10.2010

Drafted reports/notes on different aspects of rubber industry for various purposes including section on Natural Rubber in Economic Survey 2010-11 of the Ministry of Finance, Government of India. Assisted in framing answers to press queries by several agencies.

### **5. Activities related to international organisations**

India is a member of International Rubber Study Group (IRSG) based in Singapore and Association of Natural Rubber Producing Countries (ANRPC) based in Kuala Lumpur, Malaysia. The Division co-ordinated activities related to India's participation in these organisations.

Detailed notes were prepared on documents circulated by the ANRPC and IRSG Secretariats on various issues related to the organisations and rubber industry. The Secretary-General of International Rubber Study Group (IRSG) visited Rubber Board on 12<sup>th</sup> April 2010.

#### ANRPC Meetings

India hosted the annual meetings of the ANRPC from 4<sup>th</sup> to 8<sup>th</sup> October 2010 at the Le Meridien Convention Centre, Kochi in the following order.

Date	Programme
4 October 2010	4 <sup>th</sup> Meeting of the Information and Statistics Committee
5 October 2010	4 <sup>th</sup> Meeting of the Industry Matters Committee
6 October 2010	ANRPC Annual Rubber Conference 2010
7-8 October 2010	Opening Session of the 33 <sup>rd</sup> ANRPC Assembly 38 <sup>th</sup> Meeting of the ANRPC Executive Committee Closed Session of the 33 <sup>rd</sup> ANRPC Assembly
9 October 2010	Field trip to Vellanicode RPS and Mooply Valley Estates

The Opening Ceremony of the Annual Rubber Conference 2010 was graciously officiated by Hon'ble Prof. K. V. Thomas, Minister of State for Agriculture, Consumer Affairs and Food and Public Distribution, Government of India. The Conference included presentations by ANRPC and International Rubber Study Group (IRSG) on current global rubber situation, invited papers and country reports from member countries. Around 375 delegates including 75 from abroad attended the Conference. India was

elected as the Chairman of the ANRPC in the Closed Session of the 33<sup>rd</sup> Assembly. The Division co-ordinated the organizing of the ANRPC meetings.

The Division also co-ordinated the participation of Indian delegations in ANRPC and IRSG meetings. Indian delegations participated in the Extraordinary Meeting of the Heads of Delegation of IRSG held on 18<sup>th</sup> and 19<sup>th</sup> November 2010 at Singapore and ANRPC Annual Meetings held from 4<sup>th</sup> to 8<sup>th</sup> October 2010 in Kochi.



**PART – V**

## **RUBBER RESEARCH**

The Rubber Research Institute of India (RRII) is the Research department of the Board. It has its headquarters in Kottayam, Kerala with nine Regional Research Stations spread in the states of Kerala, Tamilnadu, Karnataka, Maharashtra, Orissa, West Bengal, Tripura, Assam and Meghalaya. Field experiments of the RRII are mainly conducted in the Central Experiment Station (CES) near Ranni, Pathanamthitta district, Kerala, which has an area of more than 250 ha. Due to constraints in land availability, many experiments and on-farm evaluation trials for validation of research findings are laid out in growers' fields. Each Regional Research Station has research farms of nearly 40 to 50 ha and location specific research programmes were undertaken in the growers' fields.

A panel of external experts for each specialized field reviews the research projects of the Institute annually. Outcome of the results is communicated through research publications. RRII publishes an international journal – 'Natural Rubber Research'. Besides, research publications are also contributed to peer reviewed international and national scientific journals. Research findings are communicated through popular articles published in vernacular languages immediately.

During the reporting period, the RRII and its Regional stations were involved in active research programmes under major schemes like Crop Improvement (Botany,

Germplasm, Biotechnology and Genome Analysis), Crop Management (Agronomy/Soils Division & Fertilizer Advisory Group), Crop Protection (Plant Pathology), Crop Physiology (Plant Physiology and Crop Harvesting), Economic Research and Advanced Centre for Rubber Technology (Rubber Technology and Technical Consultancy).

The research activities of Regional Stations Orissa, Maharashtra, Nagrakata and Padiyoor (North Kerala) and Hevea Breeding Substations Nettana and Paraliar were co-ordinated under the scheme Strengthening of Regional Research Stations and the research schemes in North-East research stations located in Tripura, Assam, and Meghalaya were co-ordinated under "Research in North-East". The scheme on research support services includes strengthening of facilities under Library and Documentation Centre, Computer Centre, Instrumentation and Maintenance sections.

The progress made and the highlights of achievements in the research projects are briefly narrated below :-

### **1.0 CROP IMPROVEMENT**

#### **1.1 Botany**

- Forty seven pipeline clones were planted in polybag nurseries in 3 locations viz., CES, Dapchhari and Agartala and sprouting percentage recorded in the new GxE interaction trial (2010)

- Five clones of RR11 400 series continued to maintain superior performance in large scale trials. The present results show that while RR11 414 and 430 remain superior in yield and growth, RR11 417 and 422 were comparable in performance to RR11 414 and 430 and are in general superior to RR11 105 in various locations.
- Over 200 promising clones were identified from 68 ongoing small scale and large-scale trials.
- Initiated Phase-2 of the participatory clone evaluation project with planting of 14 pipeline clones/three check clones in nine locations in June-July 2010
- Established three Source Bush Nurseries (SBNs) involving 51 popular clones and 12 ortet clones. A set of 14 clones including W x A hybrids were multiplied for raising SBN.
- Preparations for Phase 3 of the project have been initiated. Contacted large estates for laying out on-farm trials. Eight large estates are interested in participating in the third phase of the project, wherein 15 pipeline clones including some promising hybrids from W x A crosses are to be evaluated.
- Hybrid clones evolved using drought tolerant parents, planted for field evaluation in hot spot area for drought, viz., RRS, Dapchari were assessed for initial growth.
- First round of selection from the newly evolved hybrid clones using drought tolerant parents was made. Selections of SBNs are to be established.
- Study on clonal variability for wood quality parameters of RR11 400 series

clones was completed. RR11 430 and 417 showed better wood density than RR11 105.

- Studies on polyhouse ecosystem to improve the quality of planting material were completed. Growing polybag plants in polyhouses improved the growth of plants while disease incidence was barely noticeable.

## 1.2 Germplasm

- Field evaluations of five IRCA clones were carried out at the age of 17 years. Clone IRCA 130 continued to show significantly higher yield and timber volume than RR11 105, while IRCA 111 is now on par in terms of yield. Three IRCA clones (IRCA 130/ 111/ 109) were planted in five onfarm trials in different estates
- In Germplasm garden V, RRIC 100, RR11 23 and RRIM 609 showed very high yield compared to RR11 105.
- One wild accession (AC 166) was identified with high yield from the Further evaluation trial, 1995 and planted in five On-farm evaluation trials at different estates. 13 accessions showed 80% of the yield of RR11105.
- Two wild accessions in Preliminary evaluation trial 2000 had promising yield and were multiplied for further evaluation. These two accessions, along with 9 other accessions, had desirable levels of latex vessel number, which will be incorporated in the next hybridization programme.
- Three promising wild accessions from RES, Nagrakata, W.Bengal were multiplied for further evaluation in the

## Rubber Board

traditional region. Recorded pre- and post winter growth data from the two cold trials here.

- Conducted field planting of 31 potential half-sib progenies at RRS, Padiyoor, which are derived from nine pre-potent Hevea clones of polycross seed garden at HBSS, Nettana.
- Continued evaluation of 18 potential wild germplasm accessions and five hybrid clones for drought tolerance at RRS, Dapchari.
- The draft guidelines for DUS testing were prepared and a project proposal was submitted for testing the validity of these norms and preparation of database. 55 popular clones were multiplied and planted in polybags in three locations, CES, Chethackal, RRS, Dapchari and RRS, Agartala.
- Continued the modified tapping system in selected trees of PB 86 with leftward inclination of laticifers at HBSS, Nettana and yield recording in progress. Preliminary results indicated the volume of latex was higher during modified tapping than that of conventional tapping.

### 4.0 ADVANCED CENTRE FOR MOLECULAR BIOLOGY AND BIOTECHNOLOGY

#### 4.1 Biotechnology

Major ongoing research projects in Biotechnology Division are :-

- 1) development of *in vitro* propagation methods for elite Hevea clones
- 2) development of transgenic Hevea plants for better adaptation to abiotic stress and increased rubber biosynthesis,
- 3) *in vitro* techniques to

complement conventional breeding, 4) study of molecular mechanisms controlling tolerance to disease and latex biosynthesis as well as characterization of related genes and 5) study of laticifer cell specific gene expression and characterization of its promoters.

- The major achievements were development of MnSOD transgenic rubber plants that are subjected to laboratory evaluation for stress tolerant traits and based on the promising results, application has been submitted to the Review Committee for Genetic Manipulation (RCGM) of Department of Biotechnology, Government of India for permission to initiate a small-scale field trial. RCGM and "Genetic Engineering Approval committee" under the Ministry of Environment and Forests recommended the proposal and got approved. Field trial preparation is in progress at Regional Research Station, Dapchari (Maharashtra) and will be started in August 2011 subject to issue of NOC from the Govt. of Maharashtra.
- Developed many transgenic plants integrated with HMGR1 gene using zygotic embryo derived callus. These plants were hardened and planted in polybags.
- Transgenic rubber plant integrated with osmotin gene has been developed for increased drought and disease tolerance.
- Methods were refined for Hevea genetic transformation. Many transgenic embryos integrated with MnSOD, HMGR1, osmotin and sorbitol 6-phosphate dehydrogenase were developed using

immature anther derived callus as the explants, which are under different developmental stages.

- Techniques were successfully developed for the *Agrobacterium* mediated genetic transformation of *Hevea* using callus derived from leaf explants. Transgenic embryos integrated with MnSOD, isopentenyl transferase and TB-antigen genes were developed and they are under different stages of plant regeneration.
- Different forms of gene coding for *cis*-prenyltransferase protein, playing a crucial role in rubber chain elongation and determination of rubber molecular weight, has been identified and cloned.
- A method was successfully developed for embryo rescue from five-week-old seeds and poly-embryony could be induced. Up to 40 embryos rescued and poly-embryony could be induced. Up to 40 embryos were induced to form a single ovule. The hardened plantlets obtained were planted in the field.
- Studied a copy of *cis*-prenyltransferase 1&2 genes using Real Time PCR and observed that relative copy number of *cis*-1 was twice than that of *cis*-2

## 2.2 Genome Analysis

- In the Genome Analysis Laboratory, five major projects were in progress.
- In the project DNA markers & genetic linkage map, an enriched genomic library for dinucleotide repeats containing ~ 6 x 10<sup>5</sup> clones were constructed for micro-satellite/SSR marker development in rubber. Micro-satellite markers were successfully used to identify 38 individual *Hevea brasiliensis* clones.

- Identification of single nucleotide polymorphisms (SNPs) or base substitution in latex biosynthesis genes is in progress. Genomic DNA sequences of HMGR gene (2.33 kb) from five *Hevea* clones were analyzed for SNP detection. Ten SNPs and one indel were identified. Two distinct haplotypes were predicted.
- Marker segregation data is being continuously integrated into mapping of data to populate the linkage map of rubber. Total 215 marker loci were used to genotype 60 progenies along with their parents RRIL 105 and RRIL 118. In RRIL 105, 72 loci were distributed in 18 linkage groups and 74 remained unlinked. Whereas 20 linkage groups were formed with 65 loci in RRIL 118 and 72 loci were unlinked.
- Over expression of the cDNA fragments of anthocyanidine glucosyltransferase and GRAS from rubber due to *Corynespora* infection was confirmed through reverse northern analysis. An effort was made to clone the full-length sequence of both the genes.
- Sixty differentially expressed transcripts derived from *Corynespora* challenged leaf samples of RRIL 105 were cloned and sequenced. Involvement of a set of unique transcripts was identified during disease establishment.
- In studies on genes involved in fungal disease resistance/tolerance, analysis of RT-RGA13, one of the functional resistance gene analogue identified in rubber, showed over expression in *Corynespora* infected rubber clones and therefore an attempt was made to clone



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deaminase activity. Three isolates from Padiyoor and two from Andhra showed better growth in DF ACC media than DF media.

- In the participatory clone evaluation trial, assessed the incidence of Powdery mildew, *Corynespora* disease, *Colletotrichum* and pink disease in different experimental areas. In general the intensity of powdery mildew disease was low in all the locations and *Corynespora* was observed in two locations. *Colletotrichum* disease was high in all the locations.
- Thirty bacterial isolates selected for different experiments was studied for their antibiotic resistance to rifampicin at eight different concentrations. Two isolates selected for ACC diaminase activity showed growth up to 60 ppm, others did not grow even at 25 ppm. 15 isolates showed reduced growth at 5 ppm.
- Hybrid reactor yielded around 97% reduction efficiency in BOD and COD. The Reed bed system yielded 50% reduction in COD and 60% reduction in BOD.
- An experiment was initiated at Rajagiri estate for the control of leech with 12 treatments. Observations showed that Padakizhangu (herb - *Cyclica peltata*) in coconut oil is very effective as repellent.
- Incidence of Mealy bug on mature rubber plantation at Palakkad was reported and a survey on the severity and incidence of mealy bug in different regions of Palakkad was carried out. Initiated a trial for the control of mealy bug with four treatments and observation indicated that Imidacloprid 0.005% was effective in controlling the mealy bug.
- In the control of white grub experiment post treatment sampling showed maximum reduction in the number of white grubs in the treatment of Imidacloprid + Carbaryl with 74.29% control.
- Climatic trends in Kottayam were made with 2010 November data and found that the excess rainfall and rainy days received were not different with long term fluctuations. There was a decrease in sunshine hours.
- Study on the effect of off-seasonal feeding on the brood rearing activities of *A. Serana indica* during off season was continued and the study indicated that the honey bees fed with both pollen and sugar syrup was effective with maximum brood rearing activity than their separate feeding.
- A comprehensive study on monthly seasonal and annual trends for the important meteorological parameter of temperature, rainfall and number of rainy days indicated that the warm nights increased during monsoon season and sunshine hour was on decrease. Lowering of peak amounts of rainfall in south west monsoon period with increase in peak amounts during NE monsoon was observed for the long term data over the Kerala subdivisions.
- The standardized Precipitation Index (SPI) and the Precipitation Concentration Index (PCI) have been studied in Kerala and the NE region for data sets ranging up to 96 years. Significant trends showed that most stations in Kerala are in decreasing trends of rainfall with high inter annual variability while it was correspondingly the reverse in the case of NE region.

- 'Online rubber clinic' is fully functional, providing self diagnosis (by farmers) and assisted diagnosis (with the help of plant doctors at RRII). It also provided information on various aspects of cultivation, management and rubber processing. On-line clinic so far has more than 400 registered users. Average site hit is 25 hits per day. Visitors from 79 countries used the clinic. The clinic so far handled more than 500 cases of assisted diagnosis and more than 350 cases of self-diagnosis.
- Conducted Plant Protection camps in different disease seasons at 3 locations.
- In connection with the studies on Xanthophyll cycle activity and non-photochemical quenching process of protection of photosystems under stress conditions in *Hevea*, various pigments were identified on the basis of spectral quality and concentration in clone RRIM 600.
- Studies on biochemical parameters associated with yield depression during summer indicated that clones RRIL 422 and RRIL 430 seems to be tolerant to drought conditions than other 400 series clones.

## 5.0 CROP PHYSIOLOGY

- Drought tolerance studies in young plants of RRIL 400 series clones, indicated that PS I activity is always higher than PS II activity under water deficit condition. Photosynthesis and fluorescence data revealed that RRIL 430 was relatively tolerant to drought than other 400 series clones and this clone was shown to have better water use efficiency in terms of A/g.
- Drought screening was carried out in germplasm accessions in a drought prone area of Dapchari in North Konkan and 22 accessions were ranked for drought tolerance traits.
- Analysis of the data on biochemical parameters of fourteen germplasm accessions showed that accessions AC 2004 and AC 166 had higher latex ATP and thiols compared to other accessions.
- Accumulation of osmolytes in latex during drought condition was studied. Common osmolytes like proline and sugar contents were estimated and an increased level of proline content was found in water stressed plants.
- The canopy level net ecosystem exchange (NEE) of CO<sub>2</sub> was around 12.5 g/m<sup>2</sup>/day in an immature rubber plantation at CES, Chethackal and the water vapour flux was around 3.5 mm/day during the reporting period.
- Expression of a chloroplast stress protein in five clones (RRIL 105, RRIM 600, RRIL 414, RRIL 417 and RRIL 430) was analyzed under normal and early drought conditions. The stress protein was more prominent in drought tolerant clones like RRIM 600 and RRIL 430.
- A survey was conducted in the traditional rubber growing areas on the drought management practices adopted by the farmers during summer in young plantation (1 year old). Around 19% of farmers have provided irrigation to their first year plantation during summer in traditional rubber growing areas.
- A multi-location clone evaluation trial to 'evaluate physiological characters of rubber clones under different agro-climatic conditions' was initiated.
- In connection with the studies on yield and yield components in *Hevea*, higher yield was recorded in clone RRIL 118 in

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second panel of controlled upward tapping (CUT) among 12 clones studied.

- In relation to rubber biosynthesis mechanism, data on rubber transferase activity (RuT) in RRIL 400 series clones were analyzed and found that RRIL 422 showed significantly higher RuT activity compared to other clones whereas clones such as RRIL 414 and RRIL 429 showed higher protein biosynthetic capacity in latex than other clones.
- Annual biomass increment of PB clones like PB 260 and PB 217 was found better than popular clone RRIL 105
- Simultaneous application of yield stimulant (ethephon) away from tapping panel area, i.e. above 150cm from the bund union and also on the bud union showed 2-3 fold increase in the latex yield when compared to regular panel application.

### 6.0 LATEX HARVEST TECHNOLOGY

- India is facing acute shortage of skilled tappers in many regions, which leads to leave the mature tappable area without tapping. The division had initiated a collaborative programme with the Extension Wing of Rubber Board to alleviate the labour scarcity issue through adoption of Low Frequency Tapping (LFT). Accordingly, LFT system (d3) is being extended to the stakeholder's field through the collaborative programme.

Collaborative programme initiated in 2 phases in 2009-10. Initially, selected growers under all Regional Offices in Kerala, Tamilnadu and Karnataka and implemented LFT in 91 demonstration plots. A recent evaluation by the Extension wing reveals that 100% satisfaction in the performance of LFT in grower's field. These plots will function

as demonstration plots for upcoming mass extension of scientific tapping, the main theme of campaign of the Board for 2011-12. In the near future, by change over from d2 to d3 frequency itself, thousands of skilled tappers service will be made available.

- Simultaneously, the division in collaboration with M/s. Amal Jyothi Engineering College initiated an ambitious programme of developing a mechanized tapping tool during the year 2009. Through various trials, now we have a working prototype. Further improvement is actively going on.
- Another major issue in India is low productivity of the tapping area. A latest investigation by Economics division indicated that around 50% of mature rubber area is in the senile status. The division has a proven technology, Controlled Upward Tapping (CUT) to restore the productivity status to a higher level. In all the Regional Research Stations, now we have demonstration plots on CUT and efforts are on to have on farm demonstration plots. CUT technology has been extended to NE region also
- Evaluation of new generation yield stimulants in comparison to standard ethephone is a current priority. Scientists are actively involved in disseminating various latex harvest technology (LHT) techniques through advisory, sastradarsan, in-house and out station training programmes. During the reporting period, the scientists undertook 81 field visits and 20 orientation/training classes. Under Sastradarsan programme, 152 farmers and 281 students were given training on various ILHT practices

## 7.0 ADVANCED CENTRE FOR RUBBER TECHNOLOGY

### 7.1 Rubber Technology

- For studies on deproteinised natural rubber (DPNR), standardized method for deproteinisation by treatment with proteolytic enzymes followed by alkaline hydrolysis was attempted. It was observed that the nitrogen content could be reduced to the level required for DPNR by this process.
- Under Radiation Vulcanised Natural Rubber Latex (RVNRL), trials were undertaken to improve the modulus and properties of Radiation Vulcanised latex. It was found that the modulus of RVNRL could be improved by blending with high styrene content styrene butadiene rubber latex (HSBL).
- Under primary processing and latex technology, large scale processing of skim latex by an easier and cheaper method. In this new method, the skim latex can be processed in less than 2 days time against the conventional method, which takes 2-3 weeks. Skim rubber obtained has lower protein content, fatty acids and metal contaminants resulted in enhanced quality, vulcanisate properties and cure characteristics compared to conventionally prepared skim rubber.
- For studies on fatty amides as multipurpose additives for NR, prepared cationic fatty amides and are characterized for anti-microbial properties in NR latex.
- Sheet-processing machine (Rubber Sheet Rollers) developed by the Division was modified as per feed back from customers.
- Reinforcement of NR was attempted by use of polymeric filler. The effect of HAF black on the cure characteristics and technological properties of NR/ Polymeric filler 2 was studied in comparison with 50phr HAF filled NR compound. Properties of 20 phr HAF loaded NR/ Polymeric filler 2 were found to be comparable to that of 50 phr of HAF loaded NR compound.
- Continued the work for preparation of latex carbon black/silica master batches using a new method that involves better filler dispersion and minimum process loss. Filler with lower particle size like ISAF black was used along with precipitated silica. It was observed that the filler master batch was superior to conventional mill mixed compounds with respect to mechanical properties
- Trials on silica reinforcement by ENR are being continued.
- A technology to control scorch has been developed using stable free radical like 2,2,6, 6-tetramethylpiperidinyloxy (TEMPO) derivative. It was observed that scorch could be controlled in a way similar to S/accelerator system and scorch time depended on the peroxide/stable free radical ratio.
- Regarding the development of Hurth coupling membrane for Chithranjan Locomotive Works, West Bengal, dispatched 10 Nos. of Hurth coupling membranes for evaluation. Development of Spheri block is being attempted
- Under studies on nano silver based nano-composites, characterized nano silver coated carbon black by XRD and it was observed that the carbon black retained the nano silver. Presence of very small quantity of nano silver (.01 to .05

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phr) in the dry rubber vulcanizate was found to decrease the tan  $\delta$  by 25 % which could be highly useful in development of rubber formulation with low rolling resistance.

- Latex blend nano-composites were prepared by adding nano clay dispersion in XNBR latex and then blending the same with radiation vulcanised NR latex
- In collaborative project with Schefflin Leprosy Research and Training Centre (SLR&TC), Karigiri, formulation for two compounds for hard sole of footwear for leprosy/diabetic patients were finalized and transferred the technology to SLR&TC for implementation.
- Based on the findings on the use of Epoxidised Natural Rubber (ENR) in the tyre compounds, a joint patent was filed with M/s Apollo Tyres.

### 7.2 Technical Consultancy

- The Technical Consultancy Division provides technical assistance to rubber goods manufacturing industries in the country and acts as a link between technology, knowledge, innovations, applied R & D, entrepreneurs and industrialists in the rubber industrial sector. The wide range of services offered are advices in project proposals and investment decisions, quality control by testing of rubber/rubber chemicals/rubber compound/rubber products etc as per national and international standards, technical problem solving, training etc. to the rubber industry. The division also had undertaken product development, and training programs as per the need and requirement from the clients. Besides these, academic activities and R&D activities were also undertaken.

- Project Profiles of various rubber goods manufacturing units (dry rubber and latex based) have been prepared. Project Profiles provide the basic details of typical rubber products manufacturing units in the SSI sector like capital investment, infrastructure facilities required, profitability and general overview of the manufacture of the product. Technical Bulletins, which cover the technical details of various products, are also available.
- Detailed project reports for ascertaining the techno-economic feasibility of an industrial unit can be prepared on specific request from entrepreneurs. This gives all the general information for the establishment of an industry.
- To increase the domestic consumption of NR, the division is engaged in developing Rubber Industrial Parks in Kerala, Tamilnadu and Tripura.
- Product Development division assists entrepreneurs to develop new products as well as substitutes for imported ones and also helps to produce and market products successfully meeting specifications prescribed by the BIS, Railways, Defence department and various other Government/Public Institutions.
- Latex Based Products like Protective coating of packing materials for export purpose, transparent rubber band were prepared for six entrepreneurs.
- Dry Rubber Based Products like low hardness black filled sheet, NBR- PVC chappals sole, Pre-cured Tread, Bonding Gum and black Vulcanizing solution, Engine mount (Piaggio Auto), Off-the road tread and bonding gum, Auto rickshaw axle bellow were developed for six firms.

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- The Division is equipped with a quality control laboratory and carried out almost all quality tests essentially required for rubber industrial sector on nominal charges. This facilitates manufacturers to maintain quality of their products and suggests suitable modifications for improving quality, if required.
- Products development like room temperature curable rubber band, bonding gum using different grades of NR, transparent rubber band are in progress.
- The division has a well-equipped latex technology laboratory for R&D and testing of NR, latex products as per national and international standards. Latex products include Gloves - all types, uridrain condoms, medical tubing, condoms, latex foam adhesives/ products, rubberized coir foam, latex backed carpets, balloons, rubber bands, elastic thread and other dipped goods.
- Advisory and consultancy services are offered on technical matters and other problems during trial run/commercial operation of the units. Based on specific requests from manufacturers, factory visits were conducted by experts to rectify the defects, streamline operations and solve production problems. During the year, tested 6241 parameters on consultancy basis. Evaluation of chemicals viz. accelerators, stabilizers, reclaimed rubber, plasticizers etc. was also done.
- The division offers consultancy services for the preparation and stabilization of dispersions/emulsions, which are essential ingredients of latex compounds. Technical advice was given for queries from 156 firms.
- TC division provides assistance to Training department in conducting training courses for the benefit of latex/ dry rubber goods manufacturers and specialized training on specific request of the clients.
- 33 consignments were tested and detailed report regarding the nature of the imported rubber materials was forwarded to the Department of Revenue Intelligence, Delhi in connection with the import of rubber compounds.

### 8. ECONOMIC RESEARCH

- In the project on evaluation of planting materials under commercial cultivation, yield data from large estates were collected and tabulated. Initiated yield data collection from the smallholdings.
- A monograph titled "Report on the socio-economic impact of natural rubber cultivation under the block planting scheme in Tripura" was published based on the Socio-economic assessment of NR cultivation in the North East region.
- Another report on "Income inequality among beneficiaries under natural rubber block planting scheme in Tripura" was also submitted for publication.
- In connection with census of rubber nurseries in Kerala and Tamilnadu, data entry of preliminary information on rubber nurseries was completed and the observations were presented in Annual Review Meeting - 2010.
- Regional office-wise and district-wise addresses of nurseries were published in the form of a Directory. Draft report of "study on NR market in India" in the post reforms phase is under revision
- Collection of the relevant data related to the adoption of clones in new planted and



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replanted area pertaining to the smallholding sector, from RP department of Rubber Board was completed. Analysis of data pertaining to the 26 Regional Offices was done and preliminary observations were presented.

- A monograph titled "An economic analysis of technically specified rubber processing industry in India" was published
- For the project, ASEAN-India FTA: Tariff policy and tariff reduction commitments on rubber and rubber products, data compilation and analysis were completed and draft report was prepared.



Rubber Distribution Map in Kottayam

## 9.0 STRENGTHENING OF REGIONAL RESEARCH STATIONS (RRS)

### 9.1. RRS, Dapchari, Maharashtra

- Plants under rain fed condition attained tappareability only on 11<sup>th</sup> year after planting i.e., delay in attaining maturity by 3-4 years than the plants under irrigation condition (drip and basin).
- Among the scheduling of irrigation, 1.00 ET<sub>c</sub> recorded higher growth and yield, which is on par with reduced level of 0.25 ET<sub>c</sub> level of irrigation scheduling.
- Among the irrigation methods, the tree from all level of basin irrigation shows

the higher girth and yield as compared to drip system. While plants under rainfed condition recorded lower girth than the other irrigation schedule under the two methods of irrigation. In over all, basin irrigation system proved to be better than drip irrigation system in terms of growth and yield.

- On the basis of B:C ratio, the drip irrigation method gave higher benefit than basin method. It is recommended that this method can be practicable where the water and labour scarcity exists.
  - In general, CUT recorded high yield in all the treatments studied than the normal basal panel tapping. (S/2 d3 6d/7- July (ET 2.5% Pa given once).
  - Among the 15 clones, RRIC 52 and RRII 6 recorded high girth (69.19, 66.99 cm) than the other clone. Pooled analysis over 15 yrs of tapping shows that, clone RRII 208 recorded high yield (4.097 g/t) followed by clone RRII 6 (36.43 g/t) and which is on par with RRII 105 (34.33 g/t).
  - Wild Hevea accessions and HP clones showed wide variability for all growth characters studied and the accessions from Matto grasso provenance showed severity for growth performance for all the characters studied than those of the Acre and Randonia provenances.
  - Wild accession MT 4788 recorded the highest girth with consistent performance.
  - Among the ortets OS 173, OS 42, OS 111 showed higher growth viz., Plant Height (378.2 cm), girth (11.6 cm), number of whorls (3.5) than the other ortets.
- ### 9.2. RRS, Dhenkanal, Orissa
- Under evaluation of clones, RRII 105 performed best in terms of yield (35.7 g/t), followed by RRII 600 (33.8 g/t), while

Clone GT 1 was on par with RRIM 600 which attained the highest girth (75.2 cm).

- Ten elite trees have been selected. The elite trees have been multiplied for the further field evaluation and selection.
- Polyclonal population showed promising performance in the region. Among the mother tree selection, highest mean girth was recorded in OR 4 (126.5 cm). Highest mean yield was recorded in OR1 (98.1 g/t/t).
- From ten clones evaluated, RR11 208 showed good performance both in terms of yield (61.1 g/t/t) and growth (78.3 cm). RRIM 600 yielded 47.6 g/t/t only.
- In an evaluation of a set of eleven clones, RR11 208 (49.8 cm) and RRIM 600 (49.0 cm) showed better growth in terms of girth and highest initial mean yield was observed in RRIM 600 (27.8 g/t/t), followed by IRCA 109 (26.9 g/t/t).
- In G x E trial, RR11 430, RR11 417 and RR11 100 are showing good growth performance and in terms of initial yield and girth.
- Orlets, OR 7 (15.9 cm), OR 8 (15.9 cm) and clone SCATC 93/14 (13.8 cm) showed comparatively better juvenile girth.

### 9.3 RRS, Padiyoor, Kerala

- Initiated long-term field experiments on genotype x environment interaction in Hevea, clone evaluation, water requirement studies, response of high yielding clones to varying doses of applied fertilizer, screening of germplasm accessions for timber. Clone evaluation under high altitude conditions are in progress
- Yield of RR11 400 series clones is promising compared to RR11 105 with RR11 430 being significantly superior to that of RR11 105 in the fourth year of tapping.

- A study on spatial variability in site characteristics was attempted. Interpolated maps of distribution of coarse fragments and actual soil volume were prepared. Spatial variations in degree of slope and soil depth were also mapped.
- In studies on response of rubber clones to irrigation, irrigated treatments showed more uniformity in growth and had a higher percentage of tappable trees. The trees could be brought into tappable girth 12-18 months earlier compared to unirrigated treatments.
- Increased levels of fertilizer over that of the recommended levels did not show any significant effect on girthing of the trees in the three clones (RR11 105, RR11 414 and RR11 429) studied.
- An evaluation of 11 clones indicated superiority of PB 330 and IRCA 18 over RR11 105 with respect to girth. The average annual yield and summer yield of IRCA 130 was superior to that of RR11 105.
- Trial on clone evaluation in high altitudes (974 m MSL) indicated the superiority of the ortet selections P 270 and P213 over that of RR11 105 in terms of girth. The selection Irity 1 showed high degree of disease tolerance to powdery mildew. The clones are being evaluated for yield and yield characteristics.

### 9.4 Hevea Breeding Sub Station ( HBSS) Paraliar, Tamil Nadu

- The station is pursuing a total of 20 field experiments under three projects.
- In the LSCT initiated at Keerparai (1994) PB 255 (84.94 g/t/t) continued to occupy the first position with respect to the pooled data for nine years of tapping. IRCA 109 (77.7 g/t/t) also presented numerically better yield than the control clone RR11 105 (61.6 g/t/t). The yield data

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for eight years of tapping were analyzed and presented in Placrosym XIX.

- In the Block trial (1994) consisting 13 popular clones, RR11 105 presented excellent yield performance (118.9 g/t) exhibiting significant margin from the second best yielder PR 255 (74.69 g/t). Pooled data for 10 years of tapping also revealed RR11 105 (67.33 g/t) as the best yielder, followed by PB 28/59 (60.90 g/t). TPD incidence was found to be the maximum in PB 235 (41.74%), followed by RR11 105 (40.75%).
- In multi-location clone trial G x E Interaction of Hevea Clones, RR11 203 (59.81 g/t) was found to be the only clone, which exhibited numerically better yield than RR11 105 (58.3 g/t). Among RR11 400 series, RR11 430 (54.07 g/t), RR11 417 (51.26 g/t) and RR11 422 (51.72 g/t) presented an yield trend on par with RR11 105, but yield performance of RR11 414 (46.83 g/t) and RR11 429 (41.76 g/t) were found to less than expected.
- Monitored juvenile growth at quarterly intervals on five block evaluation experiments as on-farm trials.
- Root trainer plants under observation for their yield at Churulacode exhibited numerically better yield (51.07 g/t) than polybag plants (47.3 g/t).
- Demarcated, paint marked and recorded observations in the PCE initiated at Tharuvaiyar Estate. Initiated two more field experiments under the PCE at Bethany Estate, Mukampalai during 2010.
- Experiment on young budding in root trainers was concluded and the results were presented in Placrosym XIX, held at RR11 during December 2010.
- Presented a research paper entitled Propagation technique of rubber for a

warmer and drier climate in the *International Workshop on Climate Change and Rubber Cultivation: R&D Priorities*, held at RR11 on 28-30 July 2010.

- Raised advanced planting materials of 40 clones in root trainers for a study entitled *Comparative evaluation on the drought tolerance of Hevea clones*.
- Visited 17 nurseries and had given technical advice on root trainer planting technique, attended 55 telephone calls on different aspects of rubber cultivation and made 38 field visits to provide advisory services during 2010-11.
- Imparted training on root trainer planting technique to four batches of Extension Officers and four batches of field staff of Rubber Board. Training was also imparted to members of three RPSs, one SHG, two estates in the public sector and one estate in the private sector during 2010-11.
- Published one popular article root trainer planting technique in Malayala Manorama and another in 'Rubber' during 2010-11.

### 9.5 HBSS, Nettana, Karnataka

- Yield over nine years of tapping in three small scale ortet trials (namely: 1988A, 1988B and 1988C), clones GT 1 (85.1 g/t), C 140 (77.1 g/t), T2 (73.7 g/t), T1 (70.0 g/t), O 17 (69.1 g/t), RR11 105 (68.6 g/t), O 49 (67.7 g/t), O 26 (67.0 g/t), O 15 (66.1 g/t) and O 55 (65.2 g/t) were found to be high yielder.
- In the 1989 trial, after nine years of tapping, maximum yield was in clone RR11 203 (67.5 g/t) followed by KRS 25 (57.6 g/t). Check clones RR11 105 and RR11 600 respectively yielded 47.4 and 33.8 g/t.

- High yielding clones in 1990A trial were PB 260 (62.0 g/t) closely followed by PB 235 (59.9 g/t) and HP 372 (57.1 g/t). Tjir 1 was the lowest yielder (19.4 g/t).
- In small scale clone trials of popular clones (1991A, 1991B and 1991C), after seven years of tapping, maximum yield was noted in clones PB 235 (80.7 g/t), PB 314 (79 g/t), PB 280 (77 g/t), PB 312 (73.3 g/t) and PB 311 (67.8 g/t).
- Among the 400 series clones being evaluated (clone trial 2000), after fourteen months of tapping maximum yield was noted for clone RR11 414 (62.8 g/t) followed by RR11 430 (52.0 g/t) and RR11 422 (51.0 g/t). Parent clones RR11 105 and RR11 100 respectively yielded 32.9 and 31.4 g/t respectively.
- Visual scoring of the reaction of *Hevea* clones and genotypes to *Phytophthora* leaf disease has revealed that existence of a total of 106 clones/genotypes having good tolerance to *Phytophthora* leaf disease. Among these, 31 are clones including ortets and 75 are genotypes.
- Screening of 400 series clones to *Corynespora* leaf fall disease has indicated better tolerance in RR11 414 and 430.
- Clonal assessment for Colletotrichum leaf spot disease indicated less than 10% infection in RR11 407 while other clones recorded > 20 per cent disease intensity.
- Epidemiological studies of *Corynespora cassicola* pathogen have revealed variation in spore release, maximum number of spores catch was recorded in morning 9 AM and continued till 12 noon and reduced during evening. Survival observations of the pathogen have revealed that pathogen survives up to 11 days in infected fallen leaves and survive on infected plant through out the year.

## 10.0 RESEARCH PROGRAMMES IN NE REGION

### 10.1 RRS, Agartala, Tripura

- At RRS, Agartala, Clone RR11 429 was the highest yielder among the RR11 400 series clones in the GxE trial, however Clone RR11 600 and PB 235 were the highest yielders in on-farm trials.
- Evaluation of 391 hybrid progenies and 1023 half sib progenies in seedling nurseries is in progress and obtained 1027 seedlings from hand pollination programme of 2010. Evaluation of 90 potential clones including hybrids, ortets, pipeline clones and popular clones in 7 clonal nursery trials are in progress.
- In a study on the impact of the block planting scheme on the socio economic status of the beneficiaries, the average household income of mature BPUs is Rs.99,168/- compared to Rs.46,824/- of immature BPUs. An annual income difference of Rs.52,344/- (112%) was observed between households with and without income from NR (mature and immature BPUs). The average household income of GPUs is Rs.1,58,196/-. The composition of income showed that rubber is the major source of income for GPUs (75%) and mature BPUs (66%).
- In integrated nutrient management trial, higher growth was observed in second year plantation of RR11 600 on application of a combination of 50 % inorganic fertilizer together with bio-inoculum (Azotobacter, Phosphobacteria, Pseudomonas and VAM) during early stage.
- Conducted a survey to estimate the availability of quality planting material (Budwood) in West and South Tripura district and it was found that about 51 %

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of total budwood in west tripura district is contributed by state run agencies like TFDPC and TRPC and about 44 % is the contribution of private nurseries. Though total 582087 m budwood is available in West Tripura, only 432181 m is obtained from regularly pruned plants (ie., only 74 % of the total budwood can be considered as quality planting material). Survey results reveal that there is no shortage of budwood, but quality is not maintained as per Board's specifications. In South Tripura district, a total 2,37,192 m of budwood available. It was also found that bud wood produced in South Tripura is not sufficient to fully cover the actual planting area.

- A project on 'Identification of suitable area for further Rubber cultivation using Remote sensing and GIS' work has been initiated.

### 10.2 RRS, Guwahati, Assam

- Field planting of 15 promising clones of *Hevea* (viz. RR11 414, 417, 422, 429, RR11 430, RRIM 600, RR11 203, RR11 208, SCATC 88/13, IRCA 109, IRCA 111, IRCA 130, PB 280, PB 312 and PB 314) is completed during August 2010 at RRTC, Hahara in Assam for evaluation of location specific high-yielding clones.
- Planting of 10 potential primary clones of Sarutari Research Farm (viz. Gh 1, Gh 2, Gh3, Gh 4, Gh 5, Gh 6, Gh 7, Gh 8, Gh 9 and Gh 10) along with two control clones (RRIM 600 and SCATC 88/13) is completed in field during August, 2010 at RRTC, Hahara for evaluation in large scale trial.
- Survey on pests and diseases of rubber were carried out in 19 pockets covering 11 locations in Assam and Meghalaya.
- Planting of 4 promising clones (viz. RR11 417, RR11 422, RR11 429 and RR11 430)

along with 2 control clones (RRIM 600 and SCATC 88/13) is completed in farmers field at 3 locations (Umsiang, Byrnihat and Bhakuagoog) for evaluation.

- Powdery mildew disease was noticed in all locations of private grower but the severity (40 to 60%) on was in the lower branches of the affected tree.
- Advisory service was given to 9 smallholdings for the management of pests and diseases of rubber. Three out of 9 short-listed wild accessions of *Hevea* germplasm seems to be tolerant to powdery mildew disease.
- Growth performance of rubber seedlings inoculated with AM Fungi and also with other beneficial organisms like azotobacter and phosphate solubilising microorganisms had higher increment of girth and height as compared to uninoculated control plants.
- Disintegration rate of leaf litter (viz. sal (47%), teak (49%), bamboo (63%), and rubber (62.5%)) from the litterbag placed under the forest cover was rapid as compared to those placed under the rubber plantation.

### 10.3 RRS, Tura, Meghalaya

- Periconia leaf blight disease was noticed in nursery at Umling (30%) in Meghalaya and also noticed in other locations (10%).
- In Poly-cross Progeny Evaluation, selected seedlings have been cut back to generate bud-wood for cloning of the selections. A new nursery population of 290 poly-cross progenies was maintained for further evaluation.
- A clonal nursery has been set up with three selections from Tura, four each from Agartala and Guwahati with RRIM 600 as the check clone.

- Three on-farm trials have been set up in the East & West Garo Hills of Meghalaya. 600 plants each of six clones viz. RR11 417, RR11 422, RR11 429, PB 235, RR11 203 and RRIM 600 were planted in two locations in the East Garo Hills and 400 plants of four clones viz. RR11 417, RR11 422, RR11 429 and RRIM 600 clones were planted in the West Garo Hills of Meghalaya.
- Establishment of LST with 18 clones is in progress. Bud-wood nursery of the clones has been established at Ganolgre farm.
- For Polycross progeny evaluation, polyclonal seeds were collected from four locations in NE region and planted in RBD with 5 replications (360 progenies). Preliminary results show no regional variations exist among the seedlings.
- Comparison of yield and yield parameter between normal and shallow tapping during tap rest period showed that maximum volume of latex (143.1 ml/t) was recorded in normal tapping and minimum was in shallow tapping (103.22 g/t).
- Under nutritional studies, results indicated that maximum girth, girth increment, yield, DRC and latex volume were recorded under the treatment combination of  $N_{80}P_{30}K_{45}$  kg/ha and minimum was  $N_{0}P_{0}K_{0}$ .

#### 10.4 Regional Experiment Station (RES), Nagrakata, West Bengal

- Among Chinese clones, SCATC 93/114, SCATC 88/13 and Haiken 1 showed high yield and SCATC 93/114 showed highest girth among all clones.
- Wild germplasm RO 5363 showed highest yield among 21 germplasm accessions
- Out of 178 plants from polycross seedlings, 59% trees showed above

average yield

- Clone RR11 429 showed highest yield followed by RR11 417 and then, by RR11 422/ RR11 430. Among Wickham clones, RR11 208, PB311, PB 310 showed high yield.
- Fertilizer combination of  $N_{45}P_{20}K_{40}$  Kg/ha showed positive effect on girth and yield in mature stage.

#### 11 RESEARCH SUPPORT SERVICES

The activities of supporting services such as the Library, Computer Centre, Instrumentation section and Maintenance wing were strengthened. Logistic support was also given to all research laboratories and regional stations.

#### 12 RRII PUBLICATIONS

Peer reviewed journals :	7
Popular articles :	4
Seminar papers :	104

#### 13 EVENTS

##### 13.1 International Workshop on "Climate Change and Natural Rubber Cultivation: Research and Development Priorities"

The Rubber Research Institute of India in association with the International Rubber Research and Development Board (IRRDB), Kuala Lumpur conducted a three day International Workshop on "Climate Change and Natural Rubber Cultivation: Research and Development Priorities" at RRII, Kottayam. Sri. Sajen Peter, Chairman, Rubber Board inaugurated the programme on 28<sup>th</sup> July 2010. Dr. Abdul Aziz, Secretary General, IRRDB presided over the inaugural function. After the inaugural session, Prof. J. Sreenivasan (Indian Institute of Science, Bangalore) delivered the keynote



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address on the subject "Why should we worry about climate change?" Following this Dr. Stephen V. Evans, Secretary General, International Rubber Study Group (IRSG) delivered a special talk on "Demand and Supply Relations of Natural Rubber in a Changing Climate". Dr. James Jacob, Director, RRII and Vice Chairman of the IRRDB welcomed the gathering and Dr. R. Krishnakumar, Joint Director, RRII and IRRDB Liaison Officer for Physiology group proposed a vote of thanks. The workshop was conceived with the objectives to review how far climate has changed in the major NR producing countries of the world and to examine how far climate change has impacted growth and productivity of rubber, to assess future climate scenarios in natural rubber growing countries and to evolve research strategies for rubber cultivation in stressful environments. Other objectives were to evaluate the carbon dioxide sequestration potential of natural rubber holdings in different countries and to

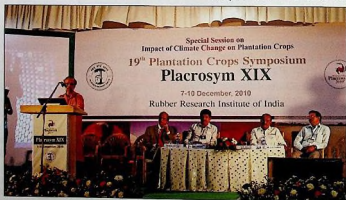
evaluate innovations in rubber processing and manufacturing industries for energy efficiency and reducing carbon dioxide emission to mitigate climate change.

### 13.2 Annual Review Meetings 2010:

The Annual Review Meetings 2010 was conducted immediately after the PLACROSYM XIX from 13<sup>th</sup> December to 24<sup>th</sup> December 2010. All scientists of RRII and Regional Stations participated in the review process, presented research findings, discussed in the forum and suitable recommendations were drawn through interaction with scientists as well as the subject experts. The recommendations are being finalized. The rescheduled Annual Review Meetings 2010 for Latex Harvest Technology (LHT) and Agro-meteorology were conducted in March 2011.

### 13.3 Plantation Crops Symposium (PLACROSYM XIX):

RRII conducted the 19<sup>th</sup> biannual Plantation Crops Symposium at RRII campus from 7-10 December 2010.



*Prof. Dr. Rajan Gurukkal, Vice Chancellor of M.G. University delivering the Inaugural address in Placrosym XIX hosted by RRII*

Twelve research organisations involved in the plantation crops and spices research and two professional bodies/societies and scientists from universities participated in the symposium. This is the fourth time RRII is hosting the symposium. The total theme of the symposium was "Climate change and plantation crops". Besides eight technical sessions, there was a special session on climate change. All together 41 oral papers and 118 posters were presented and discussed in the symposium. The symposium was inaugurated by Professor P.M. Rajan Gurukkal, Vice Chancellor of Mahatma Gandhi University, Kottayam. Nearly 400 delegates from all over the country participated in the symposium. It was observed that the impact of climate change had adversely affected the productivity of all plantation crops and spices.

#### 13.4 RRII Scientific Seminars:

Thirteen Scientific seminars were conducted by RRII in which 61 research papers, three project proposals, five talks and two PhD thesis were presented by the scientists and discussed.

#### 14.0 MISCELLANEOUS

##### 14.1 Overseas training

One scientist from Botany division attended a training programme on Participatory Plant Breeding in the University of Western Australia during Nov.- Dec. 2010.

##### 14.2 Seminars / Symposia

- In the Growers Conference held on 25<sup>th</sup> June 2010, ten growers presented their innovations/experience in the session on "Planting materials", of which four presentations were on propagation techniques and six were on the

performance of RRII 400 series clones.

- RRII hosted International Workshop in association with IRRDB on "Climate Change and Rubber Cultivation: R&D priorities". Delegates from 11 countries participated in the workshop and 60 papers were presented and discussed.
- Two poster presentations on crop improvement were made at the First Kerala Women's Science Congress, Ernakulam.

##### 14.3 Awards

- From Botany division, one poster presentation on W x A hybrids at the National Conference on Developmental Biology, Bangalore won the best poster award.
- During the 19<sup>th</sup> Plantation Crops Symposium, received Dr. C.S. Venkata Ram Memorial Award for the best original research paper published in the Journal of Plantation Crops during the biennium 2009-10 was presented to Mr. Sankar Meti and Dr. Sherin George for a paper entitled "Rainfall interception and nutrient flux in rubber plantation" published in the JPC and Dr. R.L. Narashimasamy Memorial award was received for the second place among posters presented at the PLACROSYM shared by N. Rajagopal and Thomas Sebastian for their paper on "Biomass gasification in block rubber production for reducing CO<sub>2</sub> emission in NR processing".

##### 14.4 Rubber Board Website

The Multilingual Rubber Board Website with English, Malayalam and Hindi languages was maintained with regular updating. The hit received by English version site is 40.30 lakh per month, Malayalam version 0.83 lakh per month and Hindi version 0.31 lakh per month.



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### International

As per the agreement signed with M/s. Woodland Nigeria Ltd., for providing total consultancy for setting up of a rubberwood factory at Lagos, Nigeria, details on machinery, factory layout etc. were provided and the remaining items of work will be resumed upon receipt of consultancy charges as per agreement.

### 4. Support for Rubberwood Processing

The department undertook the following activities to strengthen the rubberwood processing industry in India during the year 2010-11 :-

- ❖ Technical and financial support to rubberwood processors for quality improvement, value addition, waste reduction and waste utilization. Under the scheme, the Board has provided a financial assistance of Rs. 19.10 lakh to M/s Niyaz Wood Industries, Omgallur Pattambi and Rs. 10.08 lakh to M/s Wood & Wood crafts, Pattambi.
- ❖ Provide testing facilities to processors and consumers of wood.
- ❖ Demonstration, training and technical support to rubberwood processors and new entrepreneurs through Rubberwood Testing Laboratory as well as in Rubberwood India Limited, promoted by the Board.
- ❖ Undertaking activities on formulation of new chemicals and processing techniques to meet enhanced performance requirements and utilization of rubberwood in various products.
- ❖ An external agency was engaged to prepare a Feasibility Report on FSC

Certification of rubberwood. M/s. Environmental Collaborative, Alleppey, has submitted the report, which is being studied for implementation.

- ❖ Strengthening the RPS sector engaged in rubberwood processing.
- ❖ Manufacture of rubberwood furniture through Women Self Help Groups promoted by Rubber Producers Societies.

### Rubberwood Testing Laboratory

The Rubber Wood Testing Laboratory at Manganam, Kottayam provides testing facilities to the processors and consumers of rubber wood. During the year, testing facilities were offered to 35 parties and 566 samples were tested and an amount of Rs1,10,610 was collected as testing fee.

- ❖ Orientation Programme: During the year, one day orientation training in rubberwood processing, testing and quality control was given to 17 B.Sc. agriculture students of Kerala Agricultural University, Thrissur
- ❖ Surveillance audit on NABL Accreditation to Rubber Wood Testing Laboratory: The laboratory has documented its Quality Manual, System Operating Procedures, etc after successful audit by lead assessors from NABL. The Rubber Wood Testing Laboratory of the Board has got NABL accreditation as per ISO / IEC 17025:2000 for Chemical and Mechanical testing. The laboratory has followed procedures like uncertainty measurements of testing parameters, use of Certified Reference Material and reference standard for testing and inter-laboratory comparison of some parameters under the mechanical and chemical scope, etc. to maintain the

accreditation and the Quality Management System. The surveillance audit has cleared the laboratory for continuing the accreditation.

- ❖ R & D activities : Studies on the evaluation of physical and mechanical properties of rubberwood generated from clones of RRIL 400 series were conducted. Testing was completed and results were forwarded to Botany division of RRIL. A project on the improvement of rubberwood properties through chemical modification and modification of rubberwood properties for use as pencil slat are in progress.

## II. Rubber Processing and Market Development Division

### 1. Implementation of Plan schemes - Scheme for Market Development

The scheme for Market Development envisages strengthening of RPS, companies jointly promoted by the Board and RPS and Co-operatives in the rubber processing and marketing sectors by providing better storage facilities and to provide financial assistance in various forms for carrying out trading activities in rubber and estate inputs.

#### 1000 MT godown at Rubber Park

The capacity of this godown was originally envisaged as 2000 MT, but was scaled down to 1000 MT due to paucity of funds. The work is completed except electrification. An amount of Rs.48.04 lakh was paid during 2010-11 for civil work.

#### 100 MT gown at NR Processing Centres

Construction of all the five godowns had been completed and released Rs.30.68 lakh for the civil work during the year.

#### Strengthening of RPS sector in marketing of NR

- > Rs.38 lakh and Rs. 245 lakh were released to 11 RPS Trading Companies

towards 5% interest subsidy on loans availed from commercial banks and working capital loan respectively

- > Rs.57.50 lakh was released to 7 RPS Trading Companies for marketing of Estate Inputs and Rs.89878/- was released to 3 RPS Trading Companies for the procurement of computer and accessories.

#### Strengthening of Co-Operative sector in marketing of NR

- > Rs.38.10 lakh was released to 18 Co-operative societies towards 5% interest subsidy on loans availed from commercial banks.
- > Rs.20 lakh was released to one Co-operative society towards working capital loan and Rs.5.58 lakh was released to two Co-operative societies towards grant-lieu of Share Capital.

#### Working Capital Grant to Rubberwood Processing Units

An amount of Rs.25 lakh as Working Capital Grant and Rs.6.58 lakh as interest subsidy were released to Metrowood.

#### Grant for Acquiring Land / Building / Construction of Building to RPS Companies

A grant of Rs.5 lakh was released to one RPS Trading Company for acquiring Land / Building / Construction of Building.

#### Scheme under Processing & Quality Upgradation

- > An amount of Rs.2.69 lakh was released to one RPS Processing Company towards grant-in-lieu of Share Capital.
- > An amount of Rs.20.36 lakh was released to one RPS Processing Company towards 5% interest subsidy on loans availed from commercial banks.

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### 2. Other Activities

- > Quality Inspection of Sheet Rubber for Export: Inspected 3348 MT and cleared 3240 MT and rejected 108 MT of RSS 4 grade sheet rubber. The division issued 40 quality certificates for export of rubber.
- > Visits to Smoke house / RPS for advice on quality improvement - 37

#### Training Classes handled

- > During the year, convened 9 outstation training Classes at Regional Offices, 5—pre-campaign meetings of RP Department and 21 training classes at RTI.
- > Six site Inspection for issue / renewal / cancellation of licences and capacity enhancement and prepared - 2 Project reports in co-ordination with FM Division.

- > Arbitration Cases against defaulting co-operatives :

Affidavits filed against 4 Co-operative societies for recovery of loans for margin money, working capital and refundable share capital contributions. Arbitrators are appointed for 3 of the above 4 cases. Hearing of arbitration cases against 2 Co-operatives were scheduled and the same were rescheduled. Legal proceedings have been initiated against 14 Co-operatives for recovery of dues.

- > Demand Notices: Demand Notices were served to 50 Co-operatives and 5 RPS companies for remittance of dues.
- > Duties of Central Public Information Officer (CPIO) : DD (RP) functioned as CPIO of the Dept of P&PD and released information to 18 individuals against their questions under the RTI Act 2005.
- > Receipt of instalments/ interest due from RPS companies/ Co-Operatives: An

amount of Rs.117.12 lakh was received from Co-Operatives / RPS companies, being the refund of principal and interest thereof.

### III. Processing and Quality Control Division

The quality / purity of rubber, rubber chemicals and other materials used in rubber industry can be assessed by visual examination. Investment and infrastructure requirements to set-up a laboratory are huge. Hence, for the benefit of various stakeholders, the Board is running a full-fledged laboratory under the Processing and Quality Control division.

#### 1. Commercial testing

The division undertakes commercial testing for the benefit of all the stakeholders covering field latex, concentrated latex, dry rubber, chemicals used in rubber processing, rubber product manufacturing and for plant protection, fertilizers and organic manures, waste water generated from rubber processing industry and drinking water and water for civil construction. 18,769 samples and 33263 parameters were tested and provided results to various stakeholders and a total amount of Rs. 10,47,800 was collected during the year 2010-11.

#### 2. Calibration of testing equipments

Almost every rubber-processing unit has set up own laboratory, having testing facilities to meet own requirements. For ensuring accuracy of testing at processing units, the division extended facility of calibrating their test equipments like balances, thermometers, viscometers, mechanical stabilizers, etc.

on a nominal charge. Undertaken five calibrations during the year.

### 3. Training to Analytical Trainees

The division imparts analytical training to trainees covering theoretical and practical aspects of testing of raw rubber, latex, rubber chemicals, wastewater, drinking water, chemical and organic fertilizers, etc. Rubber industry also gets benefit by availability of the trained personnel for employment. Every year 12 analytical trainees are being trained.

### 4. Import of natural rubber

Quality of raw rubber has an important bearing on the performance and quality of rubber products. Domestically, there is a quality control mechanism for Indian natural rubber. These standards are made applicable to imported NR also. It is mandatory that NR imported to India shall conform to Indian Standard Specifications. To ensure conformity to standards, quality of rubber is checked. Inspections are now carried out at random.

Details of import of natural rubber during 2010-2011 are given below.

Type wise		Channel wise	
Type	Quantity (t)	Channel	Quantity (t)
Sheet	60156.81	DEEC	114213.50
TSR	117052.63	Duty paid	49837.00
Latex	427.44	DFIA	7462.30
PLC	NIL	DEPB	4754.90
		EOU	1369.20
Total	177636.87	Total	177636.87

Port wise		Country wise	
Port	Quantity (t)	Country	Quantity (t)
Chennai	42867.40	Indonesia	85172.6
Cochin	8282.70	Thailand	43147.84
ICD,Hyderabad	877.40	Malaysia	11039.92
Kolkata	12748.30	Myanmar	1182.2
Mumbai	98977.00	Sri Lanka	7499.10
Tuglakabad	604.00	Singapore	966.97
Tuticorin	1595.70	Vietnam	16822.17
Ludiana	8015.90	Bangladesh	663.67
Dadri	2839.30	Ivory Coast	2823.08
Gangai	829.20	Africa	8319.24
Total	177636.79	Total	177636.79



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Daily statements of import figures are submitted to Chairman and Market Promotion Department for onward transmission to the Ministry. Statements showing type/channel/port are submitted as and when required. Yearly statement showing type of rubber, channel and port of import have been submitted to the Board.

### 5. Export of natural rubber

When the international price situation is favourable, NR is exported from India to other countries. Even though quality certification is not mandatory, some exporters approach the Board for quality certificates. To ensure the quality of rubber exported from the country, the Board conducts quality checking. P & QC division organizes inspection and testing of concentrated latex and block rubber. Quality certificates are issued based on test reports. This quality certification by the Board provides better image for the Indian rubber in the international market. During the year 2010-11, the Board inspected 4992.51 MT of block rubber and 10,716.62 MT of concentrated latex.

### 6. BIS scheme of testing and inspection

Rubber Board, in association with the Bureau of Indian Standards (BIS) is operating a certification scheme for raw rubber and latex. Rubber processors, who join the BIS Scheme of Testing and Inspection (STI) can use the 'ISI' standard mark on their produce. For implementation of STI, BIS has appointed the Rubber Board as their agent and we get 66.67 % of the marking fee paid by the processors to BIS. Rubber Board officials conduct periodic inspections at the factories of the Licensees. During 2010-2011, 62 BIS licences were issued and the Board received from BIS Rs. 18.61 lakh as our share of marking fee.

### 7. QC inspections at Rubber processing units (not covered by BIS's STI)

As per Rule 48 of the Rubber Rules 1955, the quality of processed rubber shall conform

to Indian standards. Inspecting officials of the Board conducted random surprise inspections at rubber processing units for checking the quality of processed block rubber/concentrated latex. Technical support is also provided to processors in sorting out issues related to quality. The Board carried out 531 inspections and collected 751 samples from the rubber processing units.

### 8. Training and Project Related Activities

*Participation in training programmes organized by the Rubber Training Institute*

Rubber Training Institute (RTI) organizes various training programmes for the benefit of all the stakeholders. Experts of P&QC division function as resource personnel for the relevant training programmes.

*Training programme to University students*

- > Organized one-month's training programme to B.Tech. (Polymer Science and Rubber Technology) and M.Tech. (Polymer Technology) students of Cochin University of Science and Technology. Officers of the division were associated with theory/practical classes & conducted practical examination.
- > Officers of the division associated with training programme conducted for M.Sc./B.Tech. Polymer Technology students of M G University, Kottayam.

*Project work to University students*

Several Universities / Colleges seek our assistance for project work of their students at P&QC Division. We provided assistance to University students in conducting project work as part of their curriculum. The activities undertaken are all related to natural rubber. The data generated are useful to the Board and to the industry. Hence the results obtained are passed on to the industry.

### 9. Advisory work

Rubber processors approach us frequently for advice on quality improvement, reducing wastage, reducing cost of production and in implementing better environment management systems. The individual cases are studied and appropriate remedial measures suggested. This has made to Indian rubber processing more competitive on a global basis and the Indian rubber is accepted internationally.

### 10. Standardization Activities

#### National

In India, PCD 13, a technical committee of the Bureau of Indian Standards looks after the standardization activities of the rubber and rubber Products. Joint Director (P&QC) represents the Board in PCD 13.

#### International

ISO/TC45 is the technical committee of ISO on rubber and rubber products. This Committee is responsible for framing new standards and revising existing standards on rubber and rubber products on a global basis. Joint Director (P&QC) attended a meeting of ISO/TC 45 on standardization.

### IV. Factory Management Division

#### 1. Model Technically Specified Rubber (MTR) Factory

The principal objectives of the Model TSR factory are :

- > Demonstration of the latest technology for processing of TSR.
- > Demonstration of the latest system for environment protection most suitable for the TSR industry.
- > Imparting training on management of ISO 9000 and ISO 14000 systems for quality and environment management.

- > Promotion of NR export by inducing upgradation of the quality of Indian TSR to match international standards.

The factory continued to be a demonstration unit for use of latest technology for NR processing and environment protection. Supervisory staff from 12 firms visited the factory for gathering information on various technical aspects (Annexure VI). Provided training on various aspects of rubber processing under different programmes organized by Rubber Training Institute

#### Production and Sales

As the actual drc realization during the previous year was much lower than expected, the purchase procedure for raw material had been modified during the year. In the new system, the price of raw material has been based on the actual drc realization. Only 90% of the contract value is released initially and the balance payment is made after processing the material.

The factory procured 2266.199 MT of field coagulum (FC) during the current year. The average procurement price of FC was Rs.134.68 per kg against Rs.79.59 per kg during the previous year. A wide variation in the price of FC grade was noticed during the reporting year. It varied from Rs.109.65 per kg. in September 2010 to Rs. 174.20 per kg in February 2011.

During 2010-11, the factory produced 1731.20 MT of block rubber against 1882.10 MT of block rubber produced during the previous year and almost the entire product was graded as ISNR 20. The main reason for the short fall in production during the current year was non-availability of raw material at reasonable/economic prices. Increase in the installed capacity of the units in the recent past also contributed to tough competition in the market for raw material. This in turn resulted

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in increase in the price of the commodity. The actual drc realization was 73.83% against 78.27% in the previous year.

As in the case of raw material, finished goods also witnessed wide variations in price during the year. The lowest monthly average price of ISNR 20 was Rs. 151.92 reported in May 2010 and highest price was Rs. 231.75 reported in February 2011. The factory could achieve an average sales price of Rs. 184.27 per kg and about 89% of the total sales was to the tyre sector directly. The total turn over of the unit during the year was Rs. 31.19 crores against 20.89 crores during the previous year.

The stock of raw material and finished goods on 1st April 2010 was 5.98 MT and 42.025 MT respectively. The corresponding figures on 1st April 2011 was 10.42 MT and 82.05 MT respectively.

### 2. Pilot Latex Processing Centre (PLPC)

The factory procured 120.07 MT of raw material against 157.608 MT during the previous year. The average procurement price of raw material was Rs.184.41/kg drc against Rs.106.23/kg drc during the previous year.

Total production of centrifuged latex during the year was 121.685 MT against 135.859 MT during the previous year.

115.70 MT of cenex was sold at an average price of Rs. 205.35 per kg drc. The average sale price realized during the previous year was Rs. 128.19 per kg drc. The turn over during 2010-11 was Rs.2.49 crore against Rs.1.74 crore during the previous year.

### V. Engineering Works

#### 1. Civil Works

In 2010-11, the Civil Engineering Unit has executed major constructions, repairs to office, residential buildings, roads, leak proofing

works, etc at Board's various stations all over India.

- > Interior works for Technical Consultancy Wing at the Golden Jubilee building and Biotechnology First Floor at RRII.
- > Executed the construction of 1000 MT Godown at Rubber Park Valayanchirangara for Rs. 89 lakh.
- > Constructed processing factories and smokehouses worth Rs.75 lakhs each at Nagrakatta and Hahara.
- > New roads with bituminization were done at Dapchari.
- > Major works were done at RRII, CES Chethackal, outstations like Padiyoor, Kadaba, Dapchari, Nagrakata and North eastern Regions like Agartala, Guwahati, Taranagar and Tura.

Also, the division extended services for construction under quality improvement/modernization schemes of various RPS, Co-operative societies and factories.

#### Total amounts spent during the year 2010-11

- |             |   |                  |
|-------------|---|------------------|
| a) Plan     | : | Rs. 261.80 lakhs |
| b) Non plan | : | Rs. 17.58 lakhs. |

### 2. Electrical Works

The Electrical Engineering Unit has executed various electrical works such as rewiring, electrification, energy audit, and provided consultancy service on Genset installation for the rubber processing factories. In addition, P & PD department carried out the electrification 1000MT Godown at Rubber Park at Valayanchira near Perumbavoor. The total amount spent during 2010-11 for the electrical works is Rs. 53 lakh.



**PART – VII****TRAINING****Introduction**

The Department of Training under Rubber Board aims to meet the growing training needs of the rubber sector in the country. The Department has a Rubber Training Institute (RTI) located near Puthuppally, 8 km east of Kottayam in Kerala, which started functioning from July 2000. The Institute is housed in a beautiful building of 3710 sq. metres. Being adjacent to the Rubber Research Institute of India (RRII), the RTI is benefited by the excellent laboratory and library facilities of the RRII for imparting advanced training.

Two demonstration laboratories are functioning at the Institute for 1) Latex product manufacture and 2) Dry rubber product manufacture. Machinery facilities for the primary processing of latex and dry rubber products are established.

The RTI has a core faculty 5 Senior Officers. In addition, 125 senior scientists / engineers/officers of the Board, specialized in various fields of rubber cultivation and industrial applications of rubber, act as faculty for the different programmes. A faculty bank is also maintained at the Institute, which comprises of experts from external sources in various disciplines for additional faculty support.

**Objectives of the Rubber Training Institute**

- ❖ Update the technical and managerial competitiveness of the rubber growers and rubber estate personnel.
- ❖ Impart suitable training to rubber processors and rubber products manufacturers so as to achieve better quality and competitiveness.

- ❖ Impart training in rubber technology for students.
- ❖ Update the technical and managerial, competitiveness of Rubber Producers' Societies (RPS) and Rubber Marketing Co-operative Societies.
- ❖ Develop the required aptitude and managerial skills of the Board's employees
- ❖ Conduct international training programmes.

**Highlights of the year 2010- 11**

- ◆ Two new collaborative training programmes for persons from rubber industries were conducted in collaboration with IRI, Kolkata on non-tyre automotive rubber products and on rubber covered rollers.
- ◆ A new training programme was started for capacity building of Director Board Members of Rubber Producers Societies (RPS).
- ◆ A focused training was conducted for rubber traders and exporters on branding of Indian Natural Rubber
- ◆ Conducted a specialized collaborative training programme with Chennai branch of IRI for the benefit of Post Graduate/ Diploma students of IRI in rubber technology.
- ◆ Conducted one month training programmes for B. Tech and M.Tech students from CUSAT on rubber product manufacture and testing.

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- Training programme in rubber technology was conducted for students from MIT, Madras, Mahatma Gandhi University and Engineering colleges and Polytechnics in Kerala.
- A specialized training programme was organized for the personnel of Naval Dockyard Visakhapatnam and TVS Sri Chakra tyres on quality control of raw rubber.
- Specialized training on rubber cultivation and processing was conducted for the participants from KFDC, Sullia and RPL, Punalur.
- A specialized training was organized for teachers of VHSC on rubber technology.
- A specialized training on REACH awareness was conducted for manufacturers and exporters of rubber products for export to the European Union.
- Training on computer hardware and application was conducted for Officers and staff of Rubber Board covering all Regional Offices.
- Total achievement for the year is 4930 of beneficiaries (10171mandays) against the target of 3500 beneficiaries.

### Details of the training programmes conducted during the year 2010 – 11

The Rubber Training Institute has identified the various target groups in the major rubber sectors like Rubber Plantation, Rubber Processing and Rubber Product Manufacturing. Annual Training Calendar was prepared and training programmes were conducted as per the schedule. Besides scheduled programmes, need based and collaborative focused programmes were also organized.



Training programme on capacity building of Director Board Members of Rubber Producers' Society

# Annual Report 2010-11

A brief report of the various training programmes conducted for the year 2010 - 11 is given in Table 1.

Various training programmes conducted for the year 2010 - 11 is given in Table A.						
Code	Title	Participants	Duration (days)	No. of batches	No. of participants	No. of man days
Rubber plantation development programmes						
RC 02	Short term training on rubber cultivation for estate sector	Persons from estate sectors / Growers	5	2	38	190
RC 04	Specialized training on rubber cultivation and processing	Participants from M/s. KFDC & RPL		2	18	88
	Sub total			4	56	278
Rubber processing and quality improvement programmes						
RP 01	Short term training on rubber processing and quality control	Persons from rubber processing units	5	1	2	10
RP 02	Training on sheet rubber processing and grading	Growers/Processors/Dealers/Entrepreneurs	2	7	106	206
RP 03	Specialized training on testing of latex, ISNR, latex thread etc.	M/s. Tripura Forest Dev. Corporation, Cochin Malabar Estate etc.		11	37	104
	Sub total			19	145	320
Rubber industrial development programmes						
RM 01	Short term training on latex goods manufacture	Entrepreneurs/Manufacturers	5	4	79	395
RM 02	Short term training on dry rubber goods manufacture	Entrepreneurs/Manufacturers	8	4	58	464
RM 03	Advanced training	Entrepreneurs, Industry personnel	5	1	1	5
RM 04	Specialized training on testing and quality control of rubber and rubber products	Naval Dockyard, Pune, Mumbai, Hyderabad Visakhapatnam & Trichy	5	9	19	91
RM 05	Specialized training on tyre retreading material & tyre flap, NBR & CR compounding	Persons from rubber industry and		4	5	12
	Specialised training on dipped and moulded goods	District Industries Centres (DIC)	4	2	31	124
RM 07	Training programme on REACH regulation	Manufacturers /Exporters / Technologists from RRII	1	1	76	76
	Sub total			25	269	1167

# Rubber Board

Code	Title	Participants	Duration (days)	No. of batches	No. of participants	No. of man days
<b>Training programmes for students in Rubber Technology</b>						
ED 01	Short term training on rubber products manufacture and testing	Students from University College of Engg. MIT, Anna University, M.G.University, IIT Kharagpur, St.Josephs College of Engineering, Govt. Polytechnic Koratty	10	7	152	1296
ED 02	Training in Rubber Technology for B.Tech	B.Tech students from CUSAT	20	1	22	440
ED 03	Training in Rubber Technology for M.Tech	M.Tech students from CUSAT	19	1	10	190
ED 05	Specialized training in RT for PG diploma students of IRI	PG students from IRI	5	1	29	145
	Sub total			10	213	2071
<b>Market and export development programmes</b>						
MD 01	Short term training on marketing and export management	Entrepreneurs	4	1	17	68
MD 03	Training programme on awareness of branding of NR	Exporters of rubber	1	1	22	22
	Sub total			2	39	90
<b>Out station training programmes</b>						
DT 01	Training at RPS centres	RPS/SHG members	1	38	2585	2585
DT 02	Training for SC/ST women	RPS/SHG members	1	1	60	60
DT 03	Orientation training on rubber based industry	RPS /SHG members/ Growers/Entrepreneurs	1	2	120	120
	Sub total			41	2765	2765
<b>General training programmes</b>						
GT 01	Training on Beekeeping	Interested persons	1	1	29	29
GT 10	Training on rubber wood processing & quality control	Trainee from Tirunelveli	4	1	1	4
	Sub total			2	30	33



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Code	Title	Participants	Duration (days)	No. of batches	No. of participants	No. of man days
<b>Visit cum training programmes</b>						
VT 01	Sastradarsan	Growers/ members/Students	RPS	1	23	546
VT 02	Trainees of TT school	Trainees		1	5	91
	Sub total			28	637	637
<b>Training for Director Board members of RPS</b>						
RE 01	Training for Director Board members of RPS	Director Board members of RPS		3	11	162
<b>Training for employees of the Rubber Board at RTI</b>						
TE 01	Training for Senior Officers	Employees of Board		2	1	14
TE 02	a) Training for Assistants and stenographers (at RTI)	Employees of Board		5	3	49
	b) At NE region			5	2	29
	c) Induction training for Junior Assistants			1	2	28
TE 03	Training for Section Officers	Employees of Board		5	1	18
TE 06	Refresher training on Computer application	Employees of Board		3	3	36
TE 09	Training to Farm Assts/Farm Officers/Farm Managers	Employees of Board		5	4	66
TE 11	Training on Corynespora leaf disease & its management strategies	Employees of Board		3	1	18
TE 12	a) Refresher training for Extension Officers	Employees of Board		6	5	78
	b) Induction training to Field Officers - At RTI			10	1	12
	c) Induction training to Field Officers - At ZO Guwahati			8	1	3
TE 16	Training on Beekeeping for Extension Officers-NE region	Employees of Board		10	1	13
TE 17	Training for Group D staff - At ZO Guwahati	Employees of Board		2	2	44
				3	1	12

# **RUBBER BOARD**

Code	Title	Participants	Duration (days)	No. of batches	No. of participants	No. of man days
TE 19	Training to ED Inspectors Awareness training on different marketable forms of NR & sampling techniques	Employees of Board	3 1	1 2	1 26	3 26
	Sub Total			31	447	1923
	HRD training programme in external agencies	Employees of Board		44	99	327
<b>RTHRI collaborative training programmes</b>						
	a) Training on non-tyre automotive rubber components (At IMA House, Cohn)	Rubber Product Manufactures	1	1	42	42
	b) Training on rubber covered rollers (AT RTI)	Rubber covered rollers Manufactures and industrial users	1	1	29	29
	Sub Total			2	71	71
	Grand Total				4930	10171

## **ACHIEVEMENT OF THE YEAR**

Target fixed for the year : **3500 Beneficiaries**  
 Achievement during the period : **4930 Beneficiaries**  
 (from 01.04.2010 to 31.03.2011) : (10171 mandays)



**PART VIII****FINANCE & ACCOUNTS**

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

1. Preparation of Annual Budget, Performance Budget, Foreign Travel Budget etc.
2. Review and Revision of budget under Zero Based Budgeting and exercising budgetary control.
3. Maintenance of the accounts of the Board, preparation of Annual Accounts and Balance Sheet, presentation of accounts for audit to the Accountant General, Kerala and the audited accounts to the Board/Ministry / Parliament.
4. Placing demands for grant from Govt. from time to time, receiving funds from Government and ensuring its optimum utilization.
5. Advising on financial propriety and regularity of transactions and regulating payments.
6. Assisting the Cost Accounts Branch of the Ministry of Finance in ascertaining the cost of production and in fixing price of Natural Rubber.
7. Preparation of financial statements for project reports and schemes.
8. Dealing with Central Income Tax, Agricultural Income Tax and Sales Tax matters relating to the activities of the Board.
9. Co-ordinating the activities of the companies jointly promoted by the Rubber Board and RPS.
10. Computerized data processing in the field of financial accounting, pay roll etc.
11. Drawal and disbursement of pay and other entitlements of the employees of the Board based on the orders issued by Govt. of India from time to time.
12. Management of Pension Fund and General Provident Fund and regulating disbursements there from.
13. Implementation of the scheme of computerization and networking of all departments of the Board.

**Annual Accounts 2010 – 11**

Annual accounts for the year 2010-11 were presented to AG Kerala within the stipulated time. The Audit Report and the Audited Accounts with the certificate from the AG Kerala for the year 2009-10 were submitted to the Government for placing the same on the table of both houses of Parliament.

## Rubber Board

### Revised Estimates 2010 - 11 and Budget Estimates 2011 - 12

The Revised Budget for 2010-11 and Budget Estimates for 2011-12 were prepared within the time frame and submitted to the Government. Budget sanctioned for the year 2010-11 was Rs. 170 crore comprising Rs. 150 crore under Plan and Rs. 20 crore under Non Plan, as against which the actual expenditure for the year was Rs. 173.73 crore (Plan Rs. 140.98 crore and Non Plan Rs. 32.75 crore). The sanctioned budget for the year 2011-12 is Rs. 206.74 crore comprising Rs.170.00 crore under Plan and Rs.36.74 crore under Non Plan.

### Management of Funds

#### General Fund

A fund amounting to Rs. 170 crore was received from Government as budgetary support during the year 2010-11. The fund raised from internal resources was about Rs. 23.58 crore.

#### General Provident Fund/Pension Fund

The balance under the General Provident Fund as on 31<sup>st</sup> March 2011 was Rs. 50.69 crore and that under Pension Fund Rs. 49.29 crore. The accumulations in the funds are invested in long-term securities to obtain optimum returns. The Board is maintaining GPF accounts for 1700 subscribers. There were 904 pensioners on the rolls as on 31.03.2011.

### Cost Accounts

The Cost Accounts division of the Finance & Accounts department continued to collect, analyse and update cost data. Information sought for from the Government, statutory bodies and other agencies were furnished as and when required. A cost study to fix the development cost of natural rubber for different regions of the country was initiated and the same is in progress.

### Internal Audit Division

The functions of the Internal Audit Division include inspection/internal audit of various offices/establishments of the Board, service verification of employees due to retire within a few years, verification of calculation of pension and other terminal benefits in the case of superannuation / retirement, resignation, death, etc., scrutiny of cases referred to the division on various service and other matters, co-ordination and follow-up of local audits and other special audits by the Accountant General (Audit), Kerala/Ministry of Commerce, conducting special audit as directed by Chairman etc.

During the period under report, internal audit /inspection was conducted in 26 offices/ establishments and issued reports. The division verified 205 files relating to service verification/retirement benefits and files referred to the division from other departments/divisions on service and other matters.

The number of paras outstanding from the previous inspection reports issued by the Accountant General, Kerala up to 2008-09 is 62. The audit of the accounts and transactions of the Board for the year 2009-10 was taken up by A.G., Kerala from 6.7.2010 to 19.7.2010 and 25.8.2010 to 21.9.2010. The division did all liaison work in connection with the audit and replied to the audit enquiries raised by the audit party. The inspection report on transactions for the year 2009-10 was received during the year and replies were obtained from concerned Departments/Divisions and forwarded to the Ministry and AG after due vetting/editing/consolidation.

Reply to the special report on the test check of pay fixation and grant of financial upgradation under ACP scheme received from the Ministry/AG was prepared and forwarded to the Ministry of Commerce/AG. The reply to

and

the inspection report on CERA for the period was also prepared based on the reply from the L&ED Department and forwarded the Ministry and A.G. Apart from the above, the Inspection reports of RO, Jorhat for the years from 1988-89 to 2009-10, RRS, Tura for the period from 30.3.1985 to 31.3.2010 and RO Silchar for the period from 3.6.1985 to 31.3.2010 were also received from the Principal Accountant General (Audit), Assam, and replies were furnished/ arranged to be furnished to the Pr. AG. All the above reports were followed up with the departments/divisions concerned in the Board as well as the respective offices of the Accountant General.

The pending paras in the inspection report for the period up to 1997-98 conducted by the Internal Audit wing of the Ministry of Commerce during 1999 were also followed up and reply furnished to the Ministry.

Economy in maintenance of vehicles and consumption of fuel was ensured by obtaining

and scrutinizing monthly statement in respect of all the Departments / Divisions/ Offices and through follow up actions. Timely submission of statements was also ensured through follow up actions. Annual physical verification of stock and stores was ensured and stock verification reports were obtained from units. Follow up action was initiated for liquidation of pendency of TA/LTC/Contingent advances in all units.

#### **Electronic Data Processing**

The Electronic Data Processing Division functioning under the Finance and Accounts department takes care of the computerized programmes and its application. The division also processed pay rolls and handled the financial accounting, GPF account, pensioners' account, work relating to the preparation of budget, nominal rolls, etc. The EDP division looks after procurement and maintenance of hardware and software requirements of the Board.



**PART IX**

## LICENSING AND EXCISE DUTY

Transactions in natural rubber are regulated by licences issued by the Board under the relevant provisions of the Rubber Act, 1947 and the Rubber Rules, 1955. For the purposes of the Act, it provides for collection of a cess on all rubber produced in India, at the rate notified by the Government of India from time to time. The amount so collected, after deducting the cost of collection is credited to the Consolidated Fund of India. The Licensing and Excise Duty Department is entrusted with the task of issuing licences to deal in rubber, acquire rubber for processing and for manufacture of rubber products, collection of cess on rubber and enforcement. The Department is having three Divisions viz., Licensing, Excise Duty and Revenue Intelligence and nine Sub-offices located outside Kerala.

### I. EXCISE DUTY DIVISION

The Division is discharging the functions of issue and renewal of licence to acquire rubber for manufacturing rubber products, registration of authorizations issued by manufacturers to their agents, assessment and collection of cess and its remittance to the Consolidated Fund of India.

**Issue of Licence:** Issued licences to 4356 manufacturers for acquiring rubber during the year 2010- 11 as noted below :-

New licences issued :	280 nos.
Licences renewed :	4076 nos.
<b>Total</b>	<b>4356 nos.</b>

### Registration of Authorisation:

Registered 43 letters of authorisation issued by manufacturers to their purchase

agents. Special letters of authorisation were issued to 3 institutions to purchase rubber for experiment / research purposes.

A state-wise distribution of the licences issued for the year 2010-11 is given hereunder:-

Sl.No	Name of State/Union Territory	Number of units
1	Andhra Pradesh	161
2	Assam	7
3	Bihar	1
4	Chandigarh	3
5	Chattisgarh	9
6	Delhi	125
7	Goa, Daman, Diu	25
8	Gujarat	394
9	Haryana	336
10	Himachal Pradesh	27
11	Jammu & Kashmir	5
12	Jharkhand	19
13	Karnataka	205
14	Kerala	726
15	Madhya Pradesh	60
16	Maharashtra	493
17	Meghalaya	1
18	Nagaland	1
19	Orissa	9
20	Pondicherry	23
21	Punjab	379
22	Rajasthan	138
23	Tamil Nadu	482
24	Tripura	2
25	Uttar Pradesh	395
26	Uttaranchal	19
27	West Bengal	311
<b>TOTAL</b>		<b>4356</b>

**Assessment and Collection of Cess:**

The cess collection target set for the year 2010-11 was Rs. 100 crore. However, the Division made assessments to the tune of Rs. 102.15 crore and collected cess Rs. 103.25 crore against Rs. 100.18 crore collected during the previous year. In addition, Rs.1.27 crore was collected towards interest on belated payment of cess. During the year under report, the inspection machinery attached to the division could detect unlicensed / unaccounted purchases to the tune of 5660 MT rubber and take action to realize the cess thereon.

**Compounding of offence:**

The Rubber (Amendment) Act, 2009 brought about a new provision for compounding of offence. During the year, the Department could collect compounding charges amounting to Rs. 41.25 lakh against the violations of various provisions of the Rubber Act & Rules, committed by various manufacturers, dealers and processors.

**Penal measures taken against manufacturers and Cancellation of licences:**

During the year 2010-11, licence issued to a manufacturer was revoked on account of its misuse. As per request of the licensees, the Board cancelled 20 licences after realizing the dues from them.

**Publishing of list of licensed manufacturers:**

Published the list of licensed manufacturers in the official website of the Board on daily basis during the year for reference by different stakeholders.

**II. Licensing Division**

The Licensing division located at Wellington Island, Kochi mainly deals with issue and renewal of licences to rubber dealers and processors of rubber and other related works such as agency registration, granting approval for shifting of business premises, etc

**Dealer's Licence**

The Division issues licences initially for a period of three years and thereafter renewals are made for a span of five years each. During the year under report, 735 new licences were granted and 1713 licences were renewed which include 1327 numbers for the period 2011-16. The total number of licensed dealers was 9643 at the end of the year as compared to 9741 at the end of the previous year.

The state wise distribution of licensed dealers as on 31.03.2011 is given below:-

Sl.No.	Name of State	No. of dealers
1	Andhra Pradesh	7
2	Arunachal Pradesh	1
3	Assam	29
4	Andaman & Nicobar	4
5	Chandigarh	2
6	Delhi	108
7	Gujarat	37
8	Haryana	54
9	Jharkhand	4
10	Karnataka	109
11	Kerala	8422
12	Madhya Pradesh	7
13	Maharashtra	81
14	Meghalaya	8
15	Nagaland	1
16	Orissa	2
17	Punjab	121
18	Pondicherry	1
19	Rajasthan	24
20	Tamilnadu	240
21	Tripura	237
22	Uttar Pradesh	68
23	West Bengal	76
	<b>Total</b>	<b>9643</b>



## Rubber Board

### Processor's Licence

The total number of licensed processors as on 31<sup>st</sup> March 2011 was 126. Four new applications were received for grant of licence and one fresh licence was issued for producing centrifuged latex and block rubber. 59 processor's licences were renewed during the year, of which 8 licences were for the period 2011 - 16.

Out of 126 processor's licences, 109 are located in Kerala followed by 9 units in Tamilnadu. Karnataka and Tripura shared 4 processing units each.

Further, a type-wise break-up of the above 126 licences is given hereunder :

Latex centrifuging factories	- 53
Block rubber factories	- 45
PLC grade units	- 1
Creamed Latex units	- 8
Combined processing units	- 19

### Penal measures and cancellations of dealers / processors licences

During the year, licences issued to one dealer and one processor was suspended on account of violation of various provisions of the Rubber Act and Rules and the conditions of licence. Besides, 210 dealership licences were cancelled on specific requests. 387 registrations were also cancelled after serving proper notice, when the dealers concerned did not show any interest for renewal of licence.

### Registration of branches / letters of authorisation / Latex collection

The licensed dealers maintained 959 registered branches at different locations during the year. 207 branches were registered / renewed during the year while 44 of them were cancelled as per request of the licensees. 96 letters of authorization were registered for the purchase of rubber under agency basis. Requests of 67 dealers for collection of latex

for ammoniation as well as for making superior grade sheets were acceded to and permission granted.

### Approval of constitutional change/shifting premises/additional godowns

Shifting of premises of business in respect of 204 dealers was approved on their request. Approval was given for constitutional changes in respect of 20 cases and 62 additional godowns were registered during the year.

### Publication of dealers/processors list

The list of dealers/processors to whom licences were granted have been published in the official website of the Board for reference, on weekly basis.

### Rubber Price Collection

For publication in visual and print media, rubber market price have been collected from Kochi Rubber Market and conveyed to Market Promotion Department regularly by the Marketing Assistant at the Division. Further, the data in respect of purchases, sale, import, export, etc. are also being collected by him from various rubber estates, auto tyre companies, major dealers / processors, etc and forwarded periodically to Market Promotion Department.

### Collection of cess/ Compounding charges from the erred dealers/processors

Collected cess/compounding charges amounting to Rs. 13.34 lakh from certain dealers/ processors on account of irregularities committed by them while dealing in rubber.

### Supply of Form N declarations

A total number of 4569 "Form - N" books were supplied during the year to dealers, manufacturers, processors and estates for inter-state transport of rubber as required under Rule 43 B of the Rubber Rules

### 3. REVENUE INTELLIGENCE DIVISION

The Revenue Intelligence Division acts as an effective wing to prevent evasion of cess. The Division comprises of its establishment cell, one central squad, five regional squads and three check posts. Main functions of the Division are as under:-

- (a) Call for information/records/returns and to inspect place of business, storage of rubber dealers, processors as well as manufacturers, owners of estates, and their books of accounts and other records/ returns/ statements, etc.
- (b) Detection of bogus and unlicensed dealings and adoption of steps to prevent malpractices in rubber trade.
- (c) Cross verification of the statutory returns filed by dealers, manufacturers and processors for ascertaining its correctness.
- (d) Checking of transport of rubber by road, railway parcel offices, surprise visit to check posts, etc. with a view to detect evasion of cess on rubber, if any.
- (e) Maintain surveillance on inter-state movement of rubber at three check posts.

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

#### Activities of Inspection Squad

The inspection squad functioning from Taliparamba, Palakkad, Kochi, Kottayam, Punalur and Marthandam could prevent illicit rubber trade to a considerable extent and thereby improve the cess collection. The inspections also helped in collecting monthly returns from a large number of delinquent rubber dealers. During the year, the inspection

squad spent several days on tour and inspected 2879 licensed dealers, 160 unlicensed dealers and 109 godowns and detected irregularities in 320 cases. The squad also conducted 149-road checking, which in turn created awareness among those who had been involving in unlawful trading and prevented movement of such illicit consignments to a great extent.

Special attention was also given for scrutiny of inspection reports, daily statements from Check Posts, etc. Wherever irregular despatches were noticed, such cases were referred to the concerned Sub-Offices/Section Officer (RI Squad) for arranging inspection. Owing to serious irregularities detected and reported by the RI Division, the Licensing Division suspended licence of one dealer and one processor.

#### Check posts and Interstate movement of rubber

In order to strengthen surveillance of interstate movement of rubber, round the clock checking of the documents accompanying rubber consignments were done at the three check posts at Walayar in Palakkad District of Kerala, Manjeswaram in Kasargode District of Kerala and Kavalikinar in Thirunelveli District of Tamilnadu.

The surveillance exercised by the three Check Posts helped in detecting illicit transport of rubber. During the period under report, the officials at the three check posts altogether had detained 56 consignments of rubber on various grounds and were allowed to cross the border on production of valid documents/ receipt of satisfactory explanation/remittance of compounding charges / cess. They have collected a sum of Rs.1,20,575/- towards compounding charges.

During the period under report, 34,995 consignments of rubber were cleared by three

## Rubber Board

Check Posts as furnished below:-

Walayar Checkpost	: 21,091
Manjeswaram	: 9,503
Kavalkinar	: 4,401
Total consignments	: 34,995

During the year 2010-11, the Division supplied 12992 Form 'N' books to various Offices, estates, processors, dealers and manufacturers. 59075 Numbers Form 'N' declarations (copy to Rubber Board) were received at the Division.

### Cross checking of monthly returns / Form N Declarations.

The monthly returns and the copies of Form N declarations received from various dealers/ manufacturers/processors/estates were cross checked/ scrutinized at random and detected discrepancies in 6 cases. Wherever discrepancies/ irregularities were noticed, explanation/clarification was called for from the licensees concerned and appropriate action was taken.

During the year 2010-11, on account of the concerted efforts put in by inspection squad, Check posts and the establishment wing, the Division collected an amount of Rs.39.50 lakh towards cess/compounding charges on irregular transactions.

### 4. SUB OFFICE ACTIVITIES

The nine Sub Offices stationed at New Delhi, Mumbai, Kolkata, Chennai, Jalandhar, Kanpur, Ahmedabad, Bangaluru and Secunderabad pursued remittance of cess, submission of various returns, licence renewal applications, etc. and conducted inspections in its jurisdiction. The officers also kept vigil on the movement of rubber transported interstate

and conducted quality inspections of rubber imported to India. A total number of 1954 inspections / visits were conducted during the year. In addition, 131 inspections were conducted in connection with the issue of NOC for clearance of imported rubber.

### EPILOGUE

The overall performance of the various Divisions and the Sub-Offices during the year 2010-11 is furnished below in a nutshell :-

(a) Total number of manufacturing licence issued	4356
(b) Total number of dealer's licences as on 31 <sup>st</sup> March 2011	9643
(c) Total number of processor's licences as on 31 <sup>st</sup> March 2011	126
(d) Total number of inspections/ other visits conducted during the year	6401
(e) Total quantity of rubber involved in irregular / unlawful transactions detected	20,776 MT
(f) Total number of assessments made during the year	9368
(g) Total amount assessed during the year	Rs. 10,215 lakh
<u>Cess / compounding charges collection</u>	
(h) Total amount of cess and interest collected during the year	Rs. 10451 lakh
(i) Total amount of compounding charges collected during the year	Rs. 41.25 lakh
(j) Total amount of licence fee collected	Rs. 10.34 lakh



**PART - X****MARKET PROMOTION**

The Market Promotion Department consists of three units and the major functions of each unit are as follows.

**a) Market Intelligence Cell**

Collection, compilation and dissemination of natural rubber prices are the major activity assigned to the Market Intelligence cell. Daily prices of RSS-4 and RSS-5 grades of sheet rubber, ISNR 20 and 60% Centrifuged latex at Kottayam and Kochi were collected, compiled and reported to the news agencies and press for publication and also furnished to the Ministry of Commerce and other stakeholders on a daily basis. The prices of scrap rubber were also collected, compiled and published regularly on thrice in a week. Weekly prices of all higher grades of Sheet Rubber, Pale latex crepe, ISNR higher grades were also collected and compiled. The MI Cell also collected, compiled and published the daily prices of various grades of rubber from international market viz., Bangkok and Kuala Lumpur markets. The price data both domestic and international were provided to the public over phone and Interactive Voice Response System, as SMS and the same was also

published in Rubber Board website on a daily basis.

Apart from the market price collection, compilation and dissemination, the Market Intelligence (MI) Cell undertakes the following activities :

- (i) Directory of Rubber Goods Manufacturers in India.

Re-printed the directory (Eighth edition) in October 2010.

- (ii) Introduced SMS facility for price dissemination with around 260 subscribers enlisted, so far

- iii) Meetings:

The cell convened meetings of stakeholders of rubber to discuss matters related to rubber price, futures trading in natural rubber etc.

- iv) Other Activities:

Specific reports on NR price, futures marketing of NR, etc were prepared and published. The MI cell also attended enquiries on matters related to rubber prices, futures trade, marketing of NR, etc.

**NR price in the domestic market during 2010 - 11**

The monthly average price of various grades of sheet rubber, ISNR 20 and 60% centrifuged latex in the domestic market are furnished below:

(Rs./Quintal)

Month	RSS 1	RSS 2	RSS 3	RSS 4	RSS 5	ISNR 20	60% latex
April 2010	16892	16792	16692	16418	16237	15871	10372
May	16650	16550	16450	15983	15708	14360	10200

## Rubber Board

Month	RSS 1	RSS 2	RSS 3	RSS 4	RSS 5	ISNR 20	60% latex
June	17723	17623	17523	17087	16872	15241	11762
July	18878	18778	18678	18215	17750	15919	12225
August	18624	18524	18424	17952	17128	15440	11107
September	17369	17269	17169	16645	16206	15608	11328
October	18706	18606	18506	18112	17336	17743	11852
November	20385	20215	20115	19876	18844	19377	12922
December	20869	20708	20523	20188	19377	19673	13188
January 2011	23436	23236	23036	22160	21250	21725	14949
February	25388	25042	24654	23400	22600	23113	14770
March	24530	23696	23196	22002	21715	21646	12926

### (b) Export Promotion Cell

1. Rubber Board is the designated Export Promotion Council (EPC) for Natural Rubber (NR). As mandated by the Foreign Trade Policy, exporters of NR should have a valid Registration-cum-Membership Certificate (RCMC) for availing benefits under FTP.
2. Rubber Board also issues Certificate of Origin (COD) for export of NR.
3. Providing market information to the exporters of NR on different forms of natural rubber used / required in the target countries.
4. Conducting training programmes in export management and procedures.
5. Promoting "Indian Natural Rubber" branded products in the international market
6. Publishing importers' and exporters' directories.

### 7. Undertaking export promotion activities of NR by :

- Participating in international / domestic trade fairs and exhibitions
- Providing publicity to "Indian Natural Rubber" in the international market
- Facilitating exporter's participation in trade fairs / exhibitions
- Sponsoring trade delegations and organizing buyer-seller meets

The Board continued its export promotion activities like dissemination of market information, participation in trade fairs, quality improvement measures and publicizing India's potential in exporting natural rubber. India exported 29851 MT of NR during 2010 - 11 against 25090 MT of NR during 2009-10. Foreign exchange realized by this export was equivalent to Rs. 552.20 crores (122.15 million US \$).

The natural rubber exported from the country is mainly in the form of Ribbed Smoked Sheets (RSS), Indian Standard Natural Rubber (ISNR) and Centrifuged Latex.

Percentage share of different forms of NR exported during 2010-11

Natural Rubber Form	Quantity exported (MT)	Percentage Share
Centrifuged Latex	13,150	44.05
TSR(Block Rubber)	4,993	16.73
RSS (Sheet Rubber)	10,717	35.90
Other forms	991	3.32
<b>TOTAL</b>	<b>29,851</b>	<b>100.00</b>

**Export Promotion Activities:** The promotional activities such as participation in international trade fairs and visits of trade delegation are being continued by the Board under 11<sup>th</sup> five-year plan. Major components of the scheme for Market Development and Export Promotion of NR, implemented are :

- 1) Participation in international trade fairs,
- 2) Provision of financial assistance to exporters to participate in international fairs,
- 3) Financial incentive to exporters for developing and printing publicity materials,
- 4) Organizing buyer-seller meets and export oriented training programmes
- 5) Financial assistance for exporting Branded NR with logo stickers.

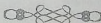
**Action taken to promote exports:** As part of promotional measures, the department has initiated branding of "Indian Natural Rubber" for exports to ensure quality of NR exported from India. Around 100 MT of branded "Indian Natural Rubber" was exported during 2010-11.

Major activities undertaken in the export promotion scheme during the period under report are summarized below: -

- o Issued fresh Registration-cum-Membership Certificate to 9 exporters
- o Conducted sensitization programme on branding of NR to NR exporters
- o Initiated the branding of NR for exports and 33 exporters registered with the Board for exporting "Indian Natural Rubber" branded products.
- o Issued "Indian NR Quality mark certificate" to 17 branded NR exporters
- o Provided assistance to NR exporters for market identification and buyer identification for different forms of Natural Rubber in target countries.
- o Participated in three international trade fairs held in China, Malaysia, and Turkey. NR exporters were also given opportunity to participate with the Board in our stalls for displaying their products and to canvas for export orders.
- o Provided financial assistance to 4 exporters for preparing publicity materials required to participate in domestic & international exhibitions and to 5 exporters for their participation in international trade fairs.
- o Participated in 10 domestic fairs related to NR and rubber wood, held in major metros.
- o Prepared quality brochures and posters required for Board's participation in exhibitions / trade fairs.

#### (c) Domestic Promotion Cell

The DP cell closely monitored the import of Natural Rubber through various ports and the details of import through various ports were collected on a daily basis. The collected data were compiled as port-wise and channel-wise to monitor the import of different grades of NR to India.



**PART - XI**

## **STATISTICS AND PLANNING**

### **General Statistics**

The prime function of the Statistics & Planning Department of the Board is the collection, compilation, interpretation and dissemination of rubber statistics. The 162<sup>nd</sup>, 163<sup>rd</sup> and 164<sup>th</sup> Board Meeting held on 12<sup>th</sup> May 2010, 31<sup>st</sup> July 2010 and 18<sup>th</sup> October 2010 respectively reviewed the supply / demand position of Natural Rubber. Notes with statistical tables on NR sector on domestic and global scenario were prepared and submitted.

Various statistics on NR were collected and compiled from statutory monthly returns from rubber growers, dealers, processors and manufacturers. Sample survey was carried out on a monthly basis to ascertain the yield per hectare and stock per hectare of small growers. Data collected from various sources were compiled and production, consumption, import and stock of rubber were worked out on monthly basis. Accordingly, the 'Rubber Statistical News' (monthly) was published regularly. This publication covered trends in production, consumption, stock, import/export of Natural Rubber (NR), Synthetic Rubber (SR) and Reclaimed Rubber (RR), price of NR and related information. The Board published Indian Rubber Statistics Vol.33, 2010 in September 2010. The publication covered information on area under rubber, production, consumption, import, export, price etc of NR, SR and RR, manufacturers, dealers, rubber products, labour, etc besides world rubber statistics. Apart from this, a "Pocket Book on

Rubber Statistics Vol.5" was published in September 2010 as a reference book covering the general profile of the rubber producing and consuming industry in India, latest statistics on area, production, consumption, import, export, price etc. of NR, SR & RR including World Rubber Statistics.

### **1. Supply / Demand Position of NR**

Production and consumption of NR for the year 2010-11 were projected at 893,000 tonnes with a growth of 7.4% and 978,000 tonnes with a growth of 5.1% respectively. Import and export of NR for the year 2010-11 were projected at 70,000 and 50,000 tonnes respectively. On the basis of the above projection, the carry over stock at the end of the year 2010-11 was estimated at 189,000 tonnes.

The 164<sup>th</sup> Meeting of the Board held on 18<sup>th</sup> October 2010 had reviewed the supply / demand position in the light of the latest available data. Taking into consideration of the adverse weather conditions and the performance of the industry, the projected figures were revised. The production of NR was revised at 851,000 tonnes (2.4% growth), consumption 948,000 tonnes (1.9% growth), import 166,000 tonnes and export 20,000 tonnes. On the basis of the above projections, the carry over stock at the end of the year 2010-11 was estimated at 261,000 tonnes.

Production of Natural Rubber (NR) in the country during 2010-11 was 861,950 tonnes



compared to 831,400 tonnes during 2009-10 and recorded a growth of 3.7% compared to the previous year. The factors contributed to the growth in production were favourable weather conditions except in October and November and intensive harvesting due to attractive price. Productivity of NR in the country increased from 1775 kg/ha. during 2009-10 to 1806 kg/ha in 2010-11, while maintaining the first position, globally. Production of NR for the year 2011-12 is projected at 9.02 lakh tonnes with a growth of 4.6%.

Consumption of NR in 2010-11 was 947,715 tonnes with a growth of 1.8% as against 930,565 tonnes during 2009-10. The auto tyre sector registered a growth of 3.7% during 2010-11 as against 13.4% achieved during 2009-10. General rubber goods sector recorded a negative growth of 1.2% during 2010-11 compared to a negative growth of 2.5% registered during 2009-10. According to the Automotive Tyre Manufacturers Association (ATMA), the average growth in tyre production during the year 2010-11 was 22% compared

to 18% in 2009-10. The truck & bus tyre production registered a growth of only 3% during 2010-11 compared to 15% growth achieved during 2009-10. The production of tyres of passenger car segments recorded 31% growth in 2010-11 as against 21% growth attained during 2009-10. Export of tyres also increased by 22% even though truck & bus tyre exports declined by 2%. The projected consumption for 2011-12 is 9.77 lakh tonnes with a growth of 3.1%.

As per the import figures collected from various ports up to 31<sup>st</sup> March 2011 the country imported 188,337 tonnes during 2010-11. The total import of NR was 177,130 tonnes during 2009-10 as per the statistics published by the Directorate General of Commercial Intelligence & Statistics (DGCI&S). Exporters have utilized the advantage of price differential between domestic and international price during the initial and terminal months and exported 29,851 tonnes of NR during 2010-11 compared to 25,090 tonnes during the previous year. Stock of NR at the end of March'11 was 288,300 tonnes.

**Total Area, Production & Consumption of NR**

Year	Total Area (ha)	% Growth	Production (Tonnes)	% Growth	Consumption (Tonnes)	% Growth
2006-07	615200	2.9	852895	6.3	820305	2.4
2007-08	635400	3.3	825345	-3.2	861455	5.0
2008-09	661980	4.2	864500	4.7	871720	1.2
2009-10	686515	3.7	831400	-3.8	930565	6.8
2010-11(p)	712000	3.7	861950	3.7	947715	1.8

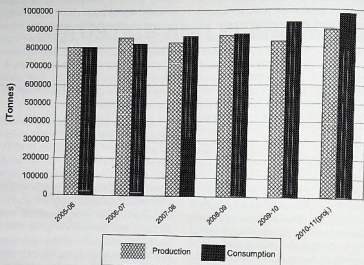
p: provisional.

The Department furnished relevant statistical information to the Government and various organizations connected with the rubber industry. Necessary information and data were compiled and furnished for

answering Parliament Questions and Legislative Assembly Questions pertaining to production, consumption, import, export and price of rubber and the various aspects of rubber industry.

## Rubber Board

### Production & Consumption of NR



Annual reports from processors of centrifuged latex, block rubber, PLC and crepe mills for the year 2009-10 were collected and estimated the production of various grades of rubber, installed capacity, etc. Annual returns relating to the year 2009-10 were collected from rubber goods manufacturers and compiled consumption of rubber according to end products. During 2010-11, classified manufacturers according to their consumption for the year 2009-10. Also collected annual returns from large growers in order to ascertain the estate's area, production, etc.

#### 2. Price of Natural Rubber

During the year 2010-11, natural rubber prices in the domestic and international markets have been ruling high. Domestic RSS-4 price peaked at Rs.24050/- per 100 kg on 18.2.2011 and international price of RSS-3

peaked at Rs.29298/- per 100 kg on 21.2.2011. Annual average price for domestic RSS-4 grade rubber for the year 2010-11 was Rs.19,003/- per 100 kg compared to Rs.11,498/- per 100 kg in 2009-10. The corresponding international RSS-3 price was Rs.19,555/- per 100 kg and Rs.11,113/- per 100 kg respectively. Domestic RSS-4 price was ruling above the international RSS-3 price except for initial two months and terminal four months of 2010-11.

Surge in price was predominantly due to tight supply, increased demand, rise in crude oil price, climatic factors, currency movements, futures market movements etc. There was a sudden slump in rubber prices in the domestic and international markets towards mid-March 2011 immediately after the earthquakes in Japan and recovered soon as fundamentals were very strong.

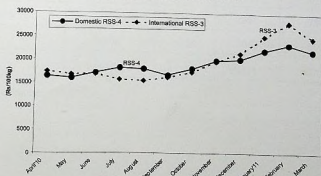
# Annual Report 2010-11

Price of Natural Rubber – 2010-11 (Rs/quintal)

Months	RSS-5	RSS-4	RSS-3	Latex (60% drc)		ISNR 20	SMR 20
	Domestic	Domestic	International	Domestic	International	Domestic	International
2009-10	11164	11498	11113	13163	11988	10786	10582
April '10	16237	16418	17354	17286	17719	15871	14698
May	15708	15983	16715	16999	16628	14360	13069
June	16872	17087	16902	19603	17061	15241	13449
July	17750	18215	15680	20375	17070	15919	13513
August	17128	17952	15442	18512	17194	15440	14265
September	16206	16645	16199	18880	17809	15608	15514
October	17336	18112	17308	19753	18475	17743	16768
November	18844	19876	19614	21537	20555	19377	18746
December	19377	20188	21404	21980	23061	19673	20745
January'11	21250	22160	25061	24915	24949	21725	23722
February	22600	23400	28153	24617	26653	23113	25247
March	21715	22002	24826	21543	24701	21646	21458
2010-11	18419	19003	19555	20500	20156	17976	17600

Note: Domestic price refers to Kottayam market, International price for RSS 3 refers to SICOM price up to April 2010 and May 2010 onwards Bangkok price. International price of latex and SMR 20 refers to Kuala Lumpur market.

PRICE OF NATURAL RUBBER -2010-11



## Rubber Board

### 3. Supply of information to World Organizations

The Department continued to supply information about the NR industry in India to world organizations like the Association of Natural Rubber Producing Countries (ANRPC), Kuala Lumpur, Malaysia and International Rubber Study Group (IRSG), Singapore. The projection of supply/demand position of NR up to 2020 were prepared and submitted to Government and to international bodies.

### 4. Participation in meetings / seminars

The Joint Director (S&P) participated in the 162<sup>nd</sup>, 163<sup>rd</sup> and 164<sup>th</sup> Board Meeting held on 12<sup>th</sup> May 2010, 31<sup>st</sup> July 2010 and 18<sup>th</sup> October 2010 respectively and also attended all the

committee meetings including the Parliamentary Committee of Official Language held during the year 2010-11. Joint Director (S&P) attended Stakeholders Meetings and Meeting on latex crisis. Participated in the ANRPC Annual Rubber Conference and the Assembly Meetings from 4<sup>th</sup> – 9<sup>th</sup> October 2010. Also participated in 19<sup>th</sup> Biennial Symposium on Plantation Crops from 7<sup>th</sup> – 9<sup>th</sup> December 2010. Apart from this, Joint Director (S&P) attended Sales Committee Meetings of M/s Plantation Corporation of Kerala Ltd., M/s State Farming Corporation of Kerala Ltd. and M/s Rehabilitation Plantations Ltd. for fixation of price for rubber periodically.

It has been decided to initiate a new sample survey with appropriate sampling design to assess the production and stock of small holding sector.



# STATISTICAL TABLES

**Table-1**  
**PRODUCTION, IMPORT, EXPORT & CONSUMPTION OF NR (p)**  
 (Tonnes)

Month	Production	Import	Export	Consumption (Indigenous & imported)
April 2010	53500	10186	2227	78250
May "	56400	16495	1478	79150
June "	56850	13909	618	75450
July "	58500	20259	24	76200
August "	72500	24209	17	79500
September "	77500	33477	194	80500
October "	82400	19710	180	81180
November "	90500	14413	60	78010
December "	103000	13805	2495	80465
January 2011	98800	8163	6664	81000
February "	57600	8458	7951	78000
March "	54400	5253	7943	80010
Total	861950	188337	29851	947715

(p) : provisional.

# Rubber Board

**Table-2**  
**STOCK OF NATURAL RUBBER AT THE END OF EACH MONTH (p)**  
(Tonnes)

Month	Growers,dealers & processors	Manufacturers	Total
April 2010	132315	63010	195325
May "	130290	57890	188180
June "	128935	54120	183055
July "	136095	49505	185600
August "	153110	49690	202800
September "	179390	53705	233095
October "	188090	65790	253880
November "	210205	70525	287730
December "	246180	68710	314890
January 2011	258605	76060	334665
February "	239375	75965	315340
March "	215955	72345	288300

(p) : provisional.

**Table-3**  
**PRODUCTION,IMPORT& CONSUMPTION OF SYNTHETIC RUBBER (p)**  
(Tonnes)

Month	Production	Import	Consumption
April 2010	8180	25885	32815
May "	9522	26268	33110
June "	9254	24795	33235
July "	8188	27832	33765
August "	8767	21630	34220
September "	9320	25025	34480
October "	8726	25635	34825
November "	10084	26986	34305
December "	9463	25087	35865
January 2011	9859	22836	35260
February "	9634	23776	33925
March "	9343	26275	36025
Total	110340	302030	411890

(p): Provisional

**Table-4**  
**PRODUCTION & CONSUMPTION OF RECLAIMED RUBBER (p)**  
 (Tonnes)

Month	Production*	Consumption
April 2010	7100	7385
May "	8090	8225
June "	7750	7815
July "	8190	8255
August "	8540	8480
September "	8885	8460
October "	8980	8765
November "	8545	8365
December "	8990	8865
January 2011	8300	8565
February "	8120	8490
March "	8470	8620
Total	99960	100290

\* Indigenous purchase by manufacturers(p) : provisional.

**Table-5**  
**COMPARISON OF DOMESTIC AND INTERNATIONAL PRICE OF NR**  
 (Rs./100 Kg)

	RSS 5	RSS 4	RSS 3	Latex(60% drc)		ISNR 20	SMR 20
	Domestic		International	Domestic	International	Domestic	International
April 2010	16237	16418	17354*	17286	17719	15871	14698
May "	15708	15983	16715	16999	16628	14360	13069
June "	16872	17087	16902	19603	17061	15241	13449
July "	17750	18215	15680	20375	17070	15919	13513
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January 2011	21250	22160	25061	24915	24949	21725	23722
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March "	21715	22002	24826	21543	24701	21646	21458
2010-11	18419	19003	19555	20500	20156	17976	17600

\* - SICOM price  
 Note: (i) Domestic price refers to Kottayam market; (ii) International price for RSS 3 refers to Bangkok market.  
 (iii) International price of latex and SMR 20 refers to Kuala Lumpur market.



**Rubber Board****PART XII****LIST OF MEMBERS OF THE RUBBER BOARD****AS ON 31.03.2011**

Sl. No	Name and address of members	Representing interest
1)	S/s Smt. Sheela Thomas, IAS	Chairman, Rubber Board
2)	Prof. P. J. Kurien Member, Rajya Sabha, 302, Brahmaputra Dr. B.D. Marg, New Delhi-1	Member of Parliament under clause (e) of section 4(3).
3)	Shri. Nalin Kumar Kateel Member, Lok Sabha, 5-3-91/19, Medows Apartments, Mannagudda Maibn Road, Kodialball (P.O.) Mangalore - 575 003.	Member of Parliament under clause (e) of section 4(3).
4)	Shri. Jose K. Mani, Member, Lok Sabha Karingozhakkal House, Vellapad, Pala - 686 575	Member of Parliament under clause (e) of section 4(3)
5)	Dr. V. Iraianbu, IAS Secretary to Government Environment and Forest Department, Secretariat, Govt. of Tamilnadu, Chennai-600 009	Representative of large grower from the State of Tamilnadu sub-rule (2) of Rule 3.
6)	Shri. S. Ramachandran, Director, Vaikundam Plantations Limited, 2/3309, Chalakuzhy Road, Pattom Palace PO, Thiruvananthapuram - 695 004	Representative of large grower from the State of Tamilnadu under sub-rule (2) of Rule 3.
7)	Shri. K. Jayakumar, IAS Additional Chief Secretary Secretariat, Govt. of Kerala, Thiruvananthapuram-695 001.	Representative of Government of Kerala under sub-rule (3) of Rule 3
8)	Agricultural Production Commissioner, Secretariat, Govt. of Kerala, Thiruvananthapuram-695 001.	Representative of Government of Kerala under sub-rule (3) of Rule 3
9)	Shri George J. Mathew, Ex.M P Pottamkulam, Kootikkal, Kanjirappally. Kottayam, Kerala.	Representative of large grower from the State of Kerala under sub-rule (3) of Rule 3

# Annual Report 2010-11

Sl. No	Name and address of members	Representing interest
10)	Shri. J.K. Thomas, Managing Director, M/s Malankara Plantations Ltd, Malankara Buildings, Kodimatha, Kottayam - 686 001, Kerala.	Representative of large grower from the State of Kerala under sub-rule (3) of Rule 3
11)	Shri. K. K. Abraham, Chairman, Indian Block Rubber Processor's Association, Kayathinkara, Pala - 686 575, Kerala.	Representative of small grower from the State of Kerala under sub-rule (3) and (4) of Rule 3
12)	Shri. George Valiyil, President, Indian Rubber Dealers Federation Valyplackel House, Kooraly P.O. Ponkunnam, Kottayam, Kerala	Representative of small grower from the State of Kerala under sub-rule (3) and (4) of Rule 3
13)	Adv. Siby J. Monipally General Secretary, Indian Rubber Growers Association, 11/508 A, Mavelipuram Housing Colony, Kakkanadu, Kochi - 682 030, Kerala.	Representative of small growers from the State of Kerala under sub-rule (3) and (4) of Rule 3
14)	Shri Joseph Vazhacchan 7 B2 Heera Park, MP Appan Road, Vazhuthacadu, Thiruvananthapuram - 14	Representative of small growers from the State of Kerala under sub-rule (3) and (4) of Rule 3
15)	Shri. Kallol Dey Madhurilata Tea and Rubber Estate, C/o Gomoti Fishing Material Company, Old Municipality, Agartala - 799 001, Tripura	Representative of small growers from the State of Tripura under sub-rule (4) of Rule 3
16)	Shri. Nirmal Padmanabha Maninje, Vice President, Belthangady Taluk Rubber Growers' Marketing & Processing Co-op Society Ltd, Maninje Farms, Punjalkatte - P.O. Belthangady Taluk, Karnataka	Representative of small grower from the non-traditional area (by rotation) under sub-rule (4) of Rule 3.
17)	Shri Rajiv Budhreja The Director General, Automotive Tyre Manufacturers Association (ATMA), PHD House, Siri Fort Institutional Area, New Delhi - 110 016	Representative of Industry/ Rubber goods Manufacturers under clause (d) of sub section (3) Section 4 of the Rubber Act.
18)	Shri. Vinod Simon, Executive Director, Simmco Rubber & Plastic (P) Ltd 106-C, Sidco Industrial Estate, Ambattur, Chennai - 600 098	Representative of Industry/ Rubber goods Manufacturers under clause (d) of sub section (3) Section 4 of the Rubber Act.

# **Rubber Board**

Sl. No	Name and address of members	Representing interest
19)	Shri Suresh Koshy, National Federation of Rubber Producers' Society, Merry Villa, Chenneerkara, Pathanamthitta - 689 517.	Representative of Rubber Producers' Society under sub rule (4) of Rule 3.
20)	Shri Bharatheepuram Sasi, R/o Saravana, Valacode P.O. Punalur, PIN - 691 331. Kerala.	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
21)	Shri. C. Ananthakrishnan, State Organizing Secretary to Tamilnadu, INTUC, Krishnakudeeram, Thiruvattar, P.O., Kanyakumari District, Tamilnadu	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
22)	Adv. T.V. Abraham State Gen. Secretary - Kerala Congress (M), Kaippenplackal House, Kozhuvanal - P.O., Pala, Kerala	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
23)	Shri. Thomas Kalladan, Kalladan House, Ramapuram, P.O., Kottayam, Kerala	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
24)	Shri. T.G. Gopal Krishna Kaimal, Pandinjare Puthenpurial House, West Kodikulam P.O, Thodupuzha, Idukki, Kerala.	Representative of other Stake Holders under sub rule (4) of Rule 3
25)	Director (Plantation), Department of Commerce, Ministry of Commerce & Industry Udyog Bhavan, New Delhi 110 107.	Representative of Department of Commerce, Govt. of India under clause (da) in sub-section (3) of section 3
26)	Shri Pradeep Kumar, Under Secretary (Plantation), Department of Commerce, Ministry of Commerce & Industry Udyog Bhavan, New Delhi 110 107	Representative of Department of Commerce, Govt. of India under clause (da) in sub-section (3) of section 3
27)	Shri. A.K. Thakur, IAS, Addl. Secretary (Agriculture & Co-operation) and Chairman, Coconut Development Board, Kera Bhavan, Kochi - 682 011, Kerala.	Representative of Department of Agriculture and Co-operation, Govt. of India under clause (da) in sub-section (3) of section 3
28)	Vacant (Rubber Production Commissioner)	Ex-officio member as per clause (f) of section 4(3).

# वार्षिक रिपोर्ट 2011-12



## रबर बोर्ड

वाणिज्य एवं उद्योग मंत्रालय  
भारत सरकार  
कोट्टयम - 686 002, केरल

डॉ. ए. ए. कर्ना

2017-18



डॉ. ए. ए. कर्ना

संस्कृत विभाग, दिल्ली विश्वविद्यालय

संस्कृत विभाग, दिल्ली विश्वविद्यालय

संस्कृत विभाग, दिल्ली विश्वविद्यालय

	अनुक्रमणिका	
भाग - 1	प्रस्तावना	1
भाग - 2	रचना एवं कार्य	4
भाग - 3	रबड़ उत्पादन	7
भाग - 4	प्रशासन	23
भाग - 5	रबड़ अनुसंधान	41
भाग - 6	प्रक्रमण एवं उपज विकास	60
भाग - 7	प्रशिक्षण	69
भाग - 8	वित्त एवं लेखा	78
भाग - 9	अनुज्ञापन एवं उत्पाद शुल्क	81
भाग - 10	बाज़ार संवर्द्धन	86
भाग - 11	सांख्यिकी एवं योजना	89
भाग - 12	बोर्ड के सदस्यों की सूची	98

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## प्रस्तावना

भारत सरकार ने रबड़ अधिनियम 1947 के अधीन देश में रबड़ खेती उद्योग के विकास के प्राथमिक लक्ष्य से कोरपोरेट निकाय के तौर पर रबड़ बोर्ड की गठन की। बोर्ड ने विकास एवं विस्तार की एक सख्त शृंखला की संस्थापना की तथा जिसके फलस्वरूप क्षेत्र विस्तार, उत्पादन एवं उत्पादकता में वृद्धि के क्षेत्रों में याने रबड़ बागान क्षेत्र के सभी स्तरों में उल्लेखनीय वृद्धि हासिल की है। साथ ही साथ बोर्ड ने अनुसंधान में भी हस्तक्षेप कर दिया तथा स्वाभाविक रबड़ के जैविकीय एवं प्रौद्योगिकीय पक्षों पर अनुसंधान चलाने हेतु 1955 में भारतीय रबड़ गवेषण संस्थान (भा.र.ग.सं.) की स्थापना की। रबड़ प्रशिक्षण संस्थान वर्ष 2000 में स्थापित हुआ जो प्रौद्योगिकी के अंतरण के लिए अनुसंधान और विस्तार के बीच एक कड़ी के रूप में कार्य करता है।

वर्तमान में विश्व स्वाभाविक रबड़ क्षेत्र में उच्चतम उत्पादकता के साथ स्वाभाविक रबड़ उत्पादक राष्ट्रों में भारत की अहम भूमिका है। इस विलक्षण उपलब्धि हेतु अनुसंधान एवं विस्तार क्षेत्र के संयोजित प्रयासों के साथ छोटे कृषकों द्वारा कृषि प्रणालियों के संस्तुत पैकेज की अधिक स्तर पर स्वीकृति ने रास्ता खोल दिया। रबड़ और रबड़ बुड़ प्रक्रमण के लिए पर्यावरण संरक्षण प्रणालियों और ऊर्जा संरक्षण तंत्र पर अनुसंधानों ने लागत प्रभावी प्रौद्योगिकियों विकसित की। अंतरा सस्यन व मधुमक्खी पालन जैसे अतिरिक्त आय सृजन कार्यक्रमों संबंधी अनुसंधान के उपयोगी परिणाम प्राप्त हुए हैं।

## वर्ष 2011-12 के दौरान स्वाभाविक रबड़ क्षेत्र का निष्पादन

### उत्पादन

2010-11 के 861,960 टन की तुलना में वर्ष 2011-12 के स्वाभाविक रबड़ का उत्पादन 903,700 टन था और पूर्व वर्ष के दौरान प्राप्त किये 3.7% के विरुद्ध 4.8% वृद्धि दर्ज की। अनुकूल मौसम और आकर्षक भाव उत्पादन में वृद्धि के कारक थे। वर्ष 2011-12 के दौरान भी रबड़ बागानों की उत्पादकता में भारत ने प्रथम स्थान कायम रखा। स्वाभाविक रबड़ की उत्पादकता वर्ष 2010-11 की 1806 कि ग्रा/हे से वर्ष 2011-12 के दौरान 1841 कि ग्रा/ हेक्टेयर तक बढ़ गयी।

### उपभोग

वर्ष 2010-11 के 947,715 टन के विरुद्ध वर्ष 2011-12 के दौरान स्वाभाविक रबड़ का कुल उपभोग 1.8% वृद्धि के साथ 964,415 टन था। दाहन टायर क्षेत्र की वृद्धि वर्ष 2010-11 के 3.7% के विरुद्ध वर्ष 2011-12 के दौरान 5.7% रही। साधारण रबड़ माल विनिर्माण क्षेत्र ने पिछले वर्ष की 1.2% ऋण वृद्धि के स्थान पर वर्ष 2011-2012 के दौरान 4.9% ऋण वृद्धि दर्ज की।

## वार्षिक रिपोर्ट 2011-12

ऑटोमोटिव टायर मैन्युफैक्चर्स एसोसिएशन (एटीएमए) के अनुसार वर्ष 2010-11 की तुलना में वर्ष 2011-12 के दौरान टायर उत्पादन में औसत वृद्धि 5% रही। ट्रक और बस टायर उत्पादन में वर्ष 2011-12 के दौरान केवल 3% वृद्धि दर्ज की, जो पिछले वर्ष के समान थी। वर्ष 2010-11 के दौरान दर्ज की 31% की

उच्च वृद्धि के विरुद्ध वर्ष 2011-12 में यात्री कार टायर क्षेत्र केवल 4% वृद्धि दर्ज की। लेकिन टायर के निर्यात वर्ष 2011-12 के दौरान 23% वृद्धि हुई, जबकि 2011-12 में यह 22% थी। ट्रक और बस तथा यात्री कार टायर के निर्यात में 2011-12 के दौरान क्रमशः 12% और 40% वृद्धि दर्ज की।

वर्ष 2007-08 से 2011-12 तक स्वाभाविक रबड़ के उत्पादन एवं उपभोग एवं वृद्धि की स्थिति निम्नानुसार है:-

वर्ष	उत्पादन (टन में)	वृद्धि दर (%)	उपभोग (टन में)	वृद्धि दर (%)
2007-08	8,25,345	- 3.2	8,61,455	5.0
2008-09	8,64,500	4.7	8,71,720	1.2
2009-10	8,31,400	- 3.8	9,30,565	6.8
2010-11	8,61,950	3.7	9,47,715	1.8
2011-12अ	9,03,700	4.8	9,64,415	1.8

अ: अस्थायी

### आयात एवं निर्यात

31 मार्च 2012 तक विविध पोर्टों से एकत्रित आयात आंकड़ों के अनुसार वर्ष 2011-12 के दौरान राष्ट्र ने 213,785 टन स्वाभाविक रबड़ का आयात किया। वाणिज्य आसूचना एवं सांख्यिकी महानिदेशालय (सी जी सी आई एवं एस), कोलकोता द्वारा प्रकाशित परिशोधित आंकड़ों के आधार पर 2010-11 के दौरान कुल आयातित स्वाभाविक रबड़ 190,692 टन था।

निर्यातकों ने 2011-12 के प्रारंभिक और अंतिम महीनों

के दौरान शीट रबड़ और संकेंद्रित लाटेक्स के लिए देश के बाह्य की तुलना में उच्च अंतर्राष्ट्रीय भाव का लाभ उठाते हुए प्रतीत हुआ और वर्ष के दौरान 27,145 टन स्वाभाविक रबड़ का निर्यात किया।

### स्टोक

मार्च 2011 के 288,300 टन के विरुद्ध मार्च 2012 के अंत में स्वाभाविक रबड़ का स्टोक 236,275 टन था।

## वार्षिक रिपोर्ट 2011-12

### स्वाभाविक रबड़ का भाव

वर्ष 2010-11 की 19,003 रुपये की तुलना में वर्ष 2011-12 के दौरान 20,915 रुपये/100 कि ग्रा या 15 अप्रैल 2011 को देशी आर एस एस 4 ग्रेड का वार्षिक औसतन भाव 20,805 रुपये/100 कि ग्राम था। अंतर्राष्ट्रीय आर एस एस 3 ग्रेड का औसत भाव वर्ष 2010-11 के

19,555 रुपये की तुलना में वर्ष 2011-12 के दौरान 20,915 रुपये/100 कि ग्रा था। 15 अप्रैल 2011 को देशी आर एस एस 4 ग्रेड का भाव 24,300 रुपये/100 कि ग्रा तक बढ़ गया और आर एस एस 3 का अंतर्राष्ट्रीय भाव 12 अप्रैल 2011 को 27,212 रुपये तक बढ़ गया।

पिछले पाँच वर्ष में आर एस एस 4 के देशी भाव और आरएसएस 3 के अंतर्राष्ट्रीय बाज़ार भाव निम्न प्रकार रहे :-

वर्ष	स्वाभाविक रबड़ का भाव (रु./कि ग्रा)	
	आरएसएस 4	आरएसएस 3
2007-08	90.85	96.75
2008-09	101.12	103.79
2009-10	114.98	111.13
2010-11	190.03	195.55
2011-12	208.05	209.15



## रचना एवं कार्य

### बोर्ड की रचना

रबड़ अधिनियम 1947 के अधीन स्थापित रबड़ बोर्ड, विश्विष्य उपायों के द्वारा भारतीय रबड़ उद्योग के विकास को बढ़ावा देते आ रहा है। 22 जनवरी 2010 के राजपत्र में अधिसूचित रबड़ (संशोधन) अधिनियम 2010 इसके अधिनियम में परिवर्तन लाए। धारा 4(3) (डी ए) और धारा 8 (डी ए) का संशोधन उल्लेखनीय है।

धारा 4 की उप धारा (3) जो बोर्ड के गठन के संबंध में है, निम्नानुसार है।

क) केन्द्र सरकार द्वारा नियुक्त एक अध्यक्ष;

ख) तमिलनाडु का प्रतिनिधित्व करते हुए दो सदस्य होंगे, जिनमें एक रबड़ उत्पादन हित का प्रतिनिधित्व करनेवाला होगा;

ग) केरल राज्य का प्रतिनिधित्व करते हुए 8 सदस्य होंगे, जिनमें छः रबड़ उत्पादन हित का प्रतिनिधित्व करेंगे और उन व्यक्तियों में तीन छोटे उत्पादकों का प्रतिनिधित्व करेंगे;

घ) केन्द्रीय सरकार द्वारा दस सदस्यों को मनोनीत करेंगे जिनमें से दो विनिर्माताओं एवं चार श्रमिकों का प्रतिनिधित्व करेंगे;

अ) केन्द्रीय सरकार द्वारा तीन सदस्यों को मनोनीत करेंगे

जिनमें वाणिज्य विभाग से दो और एक कृषि सहकारिता विभाग से होंगे।

ड) संसद के तीन सदस्य होंगे जिनमें लोकसभा द्वारा सदस्यों को और राज्य सभा द्वारा एक सदस्य चुन लिये जाएंगे;

ड्ड) कार्यपालक निदेशक (पदेन); और

च) रबड़ उत्पादन आयुक्त (पदेन)

कार्यपालक निदेशक का पद अभी तक नहीं मंगा गया है। 31.03.2012 के अनुसार बोर्ड के सदस्यों की सूची इस रिपोर्ट के भाग 12 में दी गयी है।

रबड़ अधिनियम 1947 की धारा 8, में बताए बोर्ड के प्रकार्य को निम्नानुसार संशोधित किया है।

(1) रबड़ उद्योग के विकास जैसे उचित समझता है कि उपायों से प्रोत्साहित करना

(2) इस के लिए इन उपायों का प्रबंध करना है-

क) वैज्ञानिक, प्रौद्योगिकी और आर्थिक अनुसंधान सलाह सहायता देना या प्रोत्साहित करना;

ख) छात्रों को रोपण, कृषि, खाद देने एवं छिड़काव उन्नत रीतियों का प्रशिक्षण देना;

ग) रबड़ कृषकों को तकनीकी सलाह प्रदत्त करना;

घ) रबड़ विपणन का सुधार;

प अ) भारत से निर्यातित या आयातित, संसाधित उत्पादित रबड़ के लिए गुणता, मार्किंग, लेबलिंग और पैकिंग के लिए मानकों का कार्यान्वयन तथा रबड़ की गुणता सुधारना।

ड.) एस्टेट मालिकों, व्यापारियों और विनिर्माताओं से सांख्यिकी का एकत्रण करना;

च) श्रमिकों को काम करने हेतु बेहतर सुविधा व व्यवस्था सुनिश्चित करना तथा उनकी सुख सुविधाओं व प्रोत्साहनों का सुधार करना; और

छ) अधिनियम के अधीन बनाये गये नियमों के अंतर्गत बोर्ड के अधिकार में दिये गए किसी भी अन्य कार्यों का निर्वहन करना।

(3) बोर्ड का यह भी कार्य होगा

क) रबड़ के आयात और निर्यात सहित रबड़ उद्योग के विकास से संबंधित सारे मामलों पर केन्द्र सरकार को सलाह देना;

ख) रबड़ से संबंधित किसी अंतर्राष्ट्रीय सम्मेलन या योजना में भाग लेने के संबंध में केन्द्र सरकार को सलाह देना;

ग) इस अधिनियम के कार्यों एवं बोर्ड के कार्यकलापों के संबंध में केन्द्र सरकार और ऐसे अन्य प्राधिकारियों को जैसा निर्धारित हो, अर्धवार्षिक रिपोर्ट प्रस्तुत करना; तथा

घ) समय समय पर केन्द्रीय सरकार के निर्देशानुसार रबड़ उद्योग से संबंधित रिपोर्ट तैयार करना और उसे पेश करना,

रबड़ अधिनियम की धारा 8 में कथितानुसार तैयार की गयी विभिन्न योजनाओं एवं बोर्ड के कार्यकलापों व प्रक्रियों के कार्यान्वयन की प्रगति की पुनरीक्षा हेतु छ: समितियों गठित की थीं। ये हैं:- कार्यकारिणी समिति, अनुसंधान एवं विकास समिति, रोपण समिति, कर्मचारी कार्य समिति, सांख्यिकी एवं बाज़ार समिति और श्रमिक कल्याण समिति।

वर्ष 2011-12 के दौरान श्रीमती शीला तोमस आई ए एस बोर्ड के अध्यक्ष पद पर जारी रही।

### संगठनात्मक रचना

रबड़ बोर्ड के कार्यकलापों का नौ विभागों याने रबड़ उत्पादन, रबड़ अनुसंधान, प्रशासन, प्रक्रमण एवं उपज विकास, प्रशिक्षण, वित्त एवं लेखा, अनुज्ञापन एवं उत्पाद शुल्क, सांख्यिकी एवं योजना और बाज़ार संबर्द्धन द्वारा निष्पादित किया जाता है। इन विभागों के मुख्य क्रमशः रबड़ उत्पादन आयुक्त, निदेशक (अनुसंधान), सचिव, निदेशक (प्र व उ वि), निदेशक (प्रशिक्षण), निदेशक (वित्त), निदेशक (अनु व उ शु), संयुक्त निदेशक (सां व यो) और अध्यक्ष हैं। प्रचार व जनसंपर्क प्रभाग, योजना प्रभाग एवं सतर्कता अनुभाग अध्यक्ष के सीधे निर्वंत्रण में कार्य करते हैं।

बोर्ड के प्रशासन, रबड़ उत्पादन, वित्त एवं लेखा, अनुज्ञापन व उत्पाद शुल्क और सांख्यिकी व योजना विभाग, मुख्यालय, कीर्झकुबु, कोट्टयम - 686 002 के अपने ही कार्यालय भवन में स्थित हैं। अनुसंधान विभाग, प्रक्रमण व उपज विकास विभाग और बाज़ार संबर्द्धन विभाग भारतीय रबड़ गवेषण संस्थान परिसर, पुतुपल्ली पंचायत, कोट्टयम-686 009 में स्थित हैं। प्रशिक्षण विभाग अलग से रबड़ प्रशिक्षण संस्थान, पुतुपल्ली, कोट्टयम-686 009 में भा र ग सं के निकट स्थित है।

## वार्षिक रिपोर्ट 2011-12

अनुशासन और उत्पाद शुल्क विभाग के अधीन नौ उप कार्यालय हैं याने नई दिल्ली, मुंबई, कोलकोता, चेन्नै, कानपुर, जलन्धर, अहमदाबाद, हैदराबाद तथा बेंगलूर में। देश के विभिन्न रबड़ उत्पादित क्षेत्रों में रबड़ उत्पादन विभाग के पाँच आंचलिक कार्यालय (तीन आंचलिक कार्यालय केरल में तथा दो आंचलिक कार्यालय उत्तर पूर्वी क्षेत्र में), बयालीस प्रादेशिक कार्यालय (केरल तथा तमिलनाडु में पारंपरिक क्षेत्र में 26 प्रादेशिक कार्यालय, उत्तर पूर्वी क्षेत्र को छोड़कर गैर पारंपरिक क्षेत्र में 4 प्रादेशिक कार्यालय और उत्तर पूर्वी क्षेत्र में 12 प्रादेशिक कार्यालय), 172 क्षेत्रीय स्टेशन, 9 प्रादेशिक पौधशालाएँ, करिक्काटूर में एक केन्द्रीय पौधशाला, 2 न्यूक्लियस रबड़ एस्टेट एवं प्रशिक्षण केन्द्र, 2 जिला विकास केन्द्र, एक प्रादेशिक निदर्शन केन्द्र और 15 टापीर्स प्रशिक्षण स्कूल (12 टापीर्स प्रशिक्षण स्कूल पारंपरिक व गैर पारंपरिक क्षेत्र में तथा 3 उत्तर पूर्वी क्षेत्र में) स्थित हैं।

अनुसंधान विभाग केरल में दो क्षेत्रीय अनुसंधान स्टेशन और तमिलनाडु, कर्नाटक, महाराष्ट्र, उड़ीसा, पश्चिम बंगाल,

असम, मेघालय और त्रिपुरा में एक-एक क्षेत्रीय अनुसंधान स्टेशन चलाता है। इसके अलावा अनुसंधान विभाग कोइंबटूर स्थित पयलट ब्लॉक रबड़ फैक्टरी एवं स्वाभाविक रबड़ रीजियेशन बल्कनीकरण के लिए एक पयलट प्लान्ट के संचालन करता है। केन्द्रीय परीक्षण स्टेशन, चेतकल निम्न पयलट लैटेक्स संसाधन फैक्टरी एवं विश्व बैंक सहाय्य प्राप्त रबड़ परियोजना के अधीन संस्थापित आदर्श टी ए आर फैक्टरी का प्रशासनिक नियंत्रण प्रक्रमण एवं उपर विकास विभाग द्वारा किया जाता है।

बोर्ड के सारे विभागों एवं कार्यालयों पर अध्यक्ष व प्रशासनिक नियंत्रण होता है। 31.3.2012 के अनुसार बोर्ड के कर्मचारियों एवं अधिकारियों की कुल संख्या 187 थी, जिनमें क वर्ग के 380 अधिकारी, ख वर्ग के 711 अधिकारी और ग वर्ग के 775 कर्मचारी सम्मिलित हैं।

आगे के अध्यायों में विभिन्न विभागों के कार्यकलापों के संक्षिप्त विवरण दिये गये हैं।



## रबड़ उत्पादन

स्वाभाविक रबड़ एक अत्यंत महत्वपूर्ण कच्चा माल है। स्वाभाविक रबड़ उत्पादक राष्ट्रीय में उत्पादकता में भारत प्रथम स्थान पर है। भारत में उत्पादित संपूर्ण स्वाभाविक रबड़ का उपयोग देशी उद्योग क्षेत्र द्वारा किया जा रहा है। रबड़ खेती, स्वाभाविक रबड़ के उत्पादन को प्रोत्साहित करने एवं उत्पाद की गुणवत्ता में सुधार की योजनाओं की तैयारी, योजनाओं के स्थापन एवं कार्यान्वयन का उत्तरदायित्व रबड़ उत्पादन विभाग को है। वर्ष के दौरान स्थापित एवं कार्यान्वित मुख्य कार्यक्रम निम्न प्रकार हैं:

1. रबड़ बागान विकास योजना
  2. उत्तर पूर्वी क्षेत्र में रबड़ विकास
  3. ब्लॉक रोपण, योजनाओं के द्वारा अनुसूचित जाति/जनजाति के बीच रबड़ खेती का संवर्द्धन
  4. वैज्ञानिक रोपण और उत्पादन के लिए कृषकों को सलाहकारी और विस्तार सेवाएं
  5. उत्पादन एवं प्रक्रमण सुधारने एवं लोकप्रिय बनाने हेतु रोपण सामग्रियों एवं निवेशों की आपूर्ति
  6. छोटे कृषकों के उत्पादों के सुधार एवं उन्नयन की योजना
  7. रबड़ उत्पादक संघों व स्वयं सहायक ग्रुपों के द्वारा छोटे रबड़ कृषकों के बीच सामाजिक कार्यक्रमों का प्रोत्साहन
  8. रबड़ टापरों एवं कृषकों का प्रशिक्षण
- रबड़ उत्पादन विभाग ने रबड़ बागान क्षेत्र के क्षेत्र

विस्तार, उत्पादन एवं उत्पादकता में वृद्धि, लागत कम करने, कृषक समाज के सशक्तीकरण, छोटे रबड़ कृषकों के रबड़ की गुणता का सुधार आदि विकास योजनाएं कार्यान्वित की। बोर्ड ने पारंपरिक क्षेत्र में टापरों की कमी की समस्या को कम करने के लिए एक निवारक उपाय के रूप में उत्तर पूर्वी क्षेत्र, उड़ीसा, झारखंड आदि इलाकों से गैर केरलीय युवकों को लाकर एक एकीकृत टापरों प्रशिक्षण प्रारंभ किया तथा गहन प्रशिक्षण चला रहा है।

रबड़ उत्पादक संघ (आर पी एस) ऐसे कार्यकलापों में एक है जिस पर बोर्ड अधिक विश्वास करते हैं। इसको बोर्ड के विस्तार हस्त और ग्राम स्तरीय प्रौद्योगिकी अंतरण केंद्र के रूप में माना जाता है। वर्ष 2011-12 बोर्ड के लिए एक और मील का पथर रहा क्योंकि यह रबड़ उत्पादक संघों के स्थापन की रजत जयंती वर्ष है। केरल के माननीय मुख्यमंत्री, श्री उम्मन चांडी ने दिसंबर 2011 में रजत जयंती समारोह का उद्घाटन किया।

केरल के माननीय मुख्यमंत्री ने "सुवर्णसंघम" पुरस्कार काजिराम्पल्ली क्षेत्र के अश्वीन चिरक्कडु रबड़ उत्पादक संघ को दिया। अंचल स्तर पर और प्रादेशिक स्तर पर रजत जयंती समारोह सदस्य कृषकों की उपस्थिति और पूरे सहयोग से बड़े धूम धाम से आयोजित किया। वार्षिक समूह संपर्क अभियान 2011 मई और जून 2011 के दौरान आयोजित किया गया तथा जिसमें मुख्य विषयवस्तु थी टारिंग 2011। 2704 केंद्रों में अभियान बैठकें चलाई, जिसमें 84562 कृषक/टापर भाग लिए।



## I. उत्तर पूर्वी भारत को छोड़कर पारंपरिक और गैर-पारंपरिक क्षेत्रों की गतिविधियाँ

### 1. रबड़ बागान विकास योजना

रबड़ उत्पादन विकास योजना के विभिन्न संघटकों के अधीन उपलब्धियाँ नीचे दी हैं:

#### क. पुनःरोपण एवं नव रोपण:

वर्ष 2011-12 के लिए रोपण लक्ष्य 7500 हे. था

(नवरोपण 1500 हे. + पुनःरोपण 6000 हे.)

विवरण	2010-11	2011-12
प्राप्त आवेदनों की संख्या	20534	15885
आवेदनों के अनुसार क्षेत्र (हे.)	13537	10353*
जारी अनुज्ञाओं की संख्या	15606	16935*
अनुज्ञा प्राप्त कुल क्षेत्र (हे.)	8174	9026*
क) पुनःरोपण (हे.)	4250	4512*
ख) नवरोपण (हे.)	3924	4560
सहायिकी के रूप में वितरित रकम (रु. करोड़ में) (पिछले वर्षों के स्थिर औसत मुगतान सहित)	18.84	26.66

(\* 2007, 2008, 2009, 2010 एवं 2011 रोपण के लिए 2011-12 के दौरान मंजूर फॉर्मिट सहित अद्यतन आंकड़े।)

क्षेत्रीय निरीक्षण और शेष आवेदनों की छानबीन प्रगति में हैं। बागानों में निर्धारित कार्य कृषकों द्वारा पूरा करने पर सभी पात्र मामलों में आगामी कुछ महीनों में अनुज्ञा जारी की जाएगी।

#### ख. रबड़ बागानों की बीमा

नेशनल इंशोरेंस कंपनी के सहयोग से पक्व तथा अपक्व दोनों बागानों की बीमा हेतु रबड़ बागान बीमा योजना कार्यान्वित की। बीमा किये गये बागानों एवं प्रदत्त क्षतिपूर्ति के विवरण आगे दिये जाते हैं :-

### वार्षिक रिपोर्ट 2011-12

विवरण	31-03-2011 के अनुसार संचित योग	01-04-2011 से 31-03-2012 तक की उपलब्धि	31-03-2012 के अनुसार संचित योग
बीमाकृत अपक्व क्षेत्र (हे.)	202348.05	15736.61	218084.66
जोतों की संख्या	333158	24524	357682
बीमाकृत पक्व क्षेत्र (हे.)	15052.10	258.859	15310.959
जोतों की संख्या	8322	265	8587
प्रदत्त क्षतिपूर्ति (लाखों रु. में)	660.44	98.9	759.34
लाभान्वितों की संख्या	16462	1408	17870

#### ग. अनुसूचित जाति/जनजाति के लिए ब्लॉक रोपण परियोजना

यह योजना संबंधित राज्य सरकारों के वित्तीय अंशदानों से परिचालित है। पिछले वर्षों में योजना के अधीन लगाये गये पुराने बागानों का वैज्ञानिक रूप से अनुसूचित किया गया।

राज्य	31.03.2010 के अनुसार संचित योग		2011-12 के दौरान रोपण		31.03.2012 के अनुसार संचित योग	
	क्षेत्र (हे.)	लाभान्वितों की संख्या	क्षेत्र (हे.)	लाभान्वितों की संख्या	क्षेत्र (हे.)	लाभान्वितों की संख्या
केरल	2306.84	6670	10.58	15	2317.42	6685
कर्नाटक	250.00	418	-	-	250.00	418
आंध्रप्रदेश	140.55	88	173.35	226	307.55	291
उड़ीसा (बारिपदा)	432.49	1069	6.33	23	438.82	1092
योग	3129.88	8245	190.26	264	3313.79	8486

#### घ. रोपण सामग्रियों का उत्पादन (पारंपरिक क्षेत्र)

बोर्ड की पौधशालाओं की संख्या	= 6
पौधशालाओं का क्षेत्र विस्तार	= 40.09
रोपण सामग्रियों के उत्पादन का लक्ष्य (संख्या में)	= 7 लाख

#### पारंपरिक क्षेत्र में रोपण सामग्रियों का उत्पादन

मद	वर्ष 2010-11 के दौरान (लाखों में)	वर्ष 2011-12 के दौरान (लाखों में)
हरे बड़ टूट (संख्या)	2.96	3.96
भूरे बड़ टूट (संख्या)	3.56	6.46
योग (संख्या)	6.52	10.42

## 2. उत्पादकता संवर्द्धन संघटक

स्वामाविक रबड़ की उत्पादकता में स्वामाविक रबड़ उत्पादक राष्ट्रों में भारत सबसे प्रथम है। लेकिन व्यापक रूप से रोपित क्लोन आरआरआईआई 105 की उत्पादन क्षमता (3500 कि ग्रा प्रति हे.) से यह बहुत कम है। अतः मौजूद बागानों की उत्पादकता बढ़ाने की गुंजाइश है। उत्पादकता में वृद्धि कृषकों को उनके शुद्ध आय बढ़ाने में सहायक होगी तथा जिससे उद्योग लाभदायक बना रख सकता है। अतः उत्पादकता संवर्द्धन सफल बनाने के लिए बोर्ड विविध योजनाओं के द्वारा बहुत अधिक प्रयास किया जा रहा है।

### (क) बागान निवेशों की पूर्ति

रबड़ बागान विकास योजना की उत्पादकता संवर्द्धन संघटक के अधीन प्रमुख गतिविधियों में एक है निवेश

की पूर्ति। नौ करोड़ रुपए की परिकामी निधि का उपयोग करके, वर्षारक्षण और रोग नियंत्रण के लिए आवश्यक निवेश जो उत्पादन सुधारने के लिए अनिवार्य है, प्राप्त कर सका और रियायती दर पर उत्पादक संघ द्वारा छोटे कृषकों को वितरित किया। हितैषितयों द्वारा इस योजना का अच्छा स्वागत किया गया। इन कृषि कार्यों का समय पर पालन के लिए एक उपाय है- उनकी गुणवत्ता सुरक्षित रखते हुए आकर्षक भाव पर आवश्यक निवेशों की व्यवस्था करना।

वर्तमान वर्ष के दौरान बोर्ड ने लागत भाव/बाका भाव पर 30% भाव की रियायत देते हुए निम्नलिखित बागान निवेशों का वितरण किया और लगभग 2000 हेक्टेयर पर इसका प्रयोग करते हुए इसका लाभ उठा सका तथा लगभग दुगुनी प्रदेशों वाले सीमावर्द्ध बागानों में इन निवेशों के प्रयोग को बढ़ावा दिया।

कृषि प्रणाली का नाम	बागान निवेश	वितरित परिमाण	पूरे किए क्षेत्र (हे.)
वर्षा रक्षण	वर्षा रक्षण प्लास्टिक (कि ग्रा)	228075	19006
	वर्षा रक्षण मिश्रण (कि ग्रा)	573050	15080
पौधा संरक्षण (रोग नियंत्रण)	कॉपर सल्फेट (कि ग्रा)	27050	1082
	कॉपर ओक्सी क्लोराइड (कि ग्रा)	79872	9984
	स्प्रै ऑयल (लिट्र)	424830	10621

### (ख) रबड़ कृषि प्रबंधन इकाइयों की स्थापना

भारत में रबड़ बागान के लगभग 90% क्षेत्र छोटी जेत के अधीन है। भले ही, भारत में स्वामाविक रबड़ की उत्पादकता खासकर छोटी जेत में अधिक है, रोपित क्लोनो की उत्पादन क्षमता वर्तमान उत्पादकता से काफी अधिक थी। एक बाहरी एजेन्सी द्वारा आयोजित प्रभाव निर्धारण अध्ययन ने पक्व बागानों में खासकर

छोटी जेतों के अधीन कृषि प्रबंधन प्रणालियों का अभिग्रहण केवल 30-50% रिपोर्ट की गई। यह एक अभिग्रहण अंततः कम उत्पादकता का कारण बनता है।

कृषकों के बागान में उपज बढ़ाने में वैज्ञानिक कृषि प्रणालियों अपनाने से जो लाभ मिलेगा उसका निदर्शन अभिग्रहण का स्तर बढ़ाने के लिए रास्ता खोल दिया। इस लक्ष्य के साथ 11वीं योजना है

दौरान विस्तार की एक सहभागिता रीति के रूप में रबड़ कृषि प्रबंधन इकाइयों स्थापित की गई थीं।

रबड़ उत्पादक संघ के पर्यवेक्षण और समी बुने हुए इकाइयों के विस्तार पद्धतियों के मार्गदर्शन के साथ गाँवों में निदर्शन इकाई के रूप में सेवा करने के लिए बोर्ड की पूरी सहायता के साथ ग्रुप अप्रोच अपनाते हुए धार मुख्य कृषि प्रणालियाँ जैसे खद प्रयोग, पौधा संरक्षण, वर्षारक्षण और वैज्ञानिक टारिंग सामूहिक रूप से कार्यान्वित की गयी। बगल की जोत में इन प्रणालियों का इस्तेमाल करके लाभ उठाते हुए देखकर पड़ोस के बागान के मालिक को इसमें तत्पर बनाना इसका लक्ष्य है। वर्ष 2011-12 के दौरान 640.10 लाख रुपए खर्च करके 4688.62 हेक्टेयर भूमि में निदर्शन जोतों की स्थापना की जा सकी। यह कार्यकलाप 28 प्रादेशिक कार्यालयों के अधीन 214 रबड़ उत्पादक संघों के प्रयास के साथ पूरा किया गया।

#### (ग) मृदा संरक्षण एवं जल संग्रहण

टारिंग के समय मृदा में नमी रबड़ बागानों से मिलने वाले लाटेक्स उपज को प्रभावित करता है। वैज्ञानिक रूप से सिद्ध किया है कि सिल्ट पिट तैयार कर बागानों में गिरने वाले बारिश के जल का संरक्षण करने पर मृदा में नमी बढ़ा सकते हैं। यह बागानों की ऊपरी मिट्टी का संरक्षण करता है तथा यह पर्यावरण अनुकूल कार्यक्रम भी है। उपज सुधार के लिए मृदा नमी संरक्षण उपाय के निदर्शन के लिए और इसके द्वारा इस प्रणाली को बढ़ावा देने के लिए पेरस बागानों में मृदा और जल संरक्षण के लिए वित्तीय सहायता उपलब्ध कराने के लिए एक योजना वर्ष 2007-08 से प्रचालन में है।

इस योजना के अधीन 474.58 हेक्टेयर क्षेत्र में मृदा संरक्षण और नमी रक्षण उपाय अपनाए गए और उत्पादकता बढ़ाने हेतु ये कृषि प्रबंधन प्रणालियाँ अपनाने के लिए 756 छोटे कृषकों को 13.99 लाख रुपए वितरित किए।

#### 3. कृषक समूह रूपायन एवं सशक्तीकरण

बोर्ड में उपलब्ध विस्तार पद्धतियों की न्यूनतम शक्ति उपयोग करके 1.17 मिलियन छोटे कृषकों की विस्तार आवश्यकताओं की पूर्ति करने के लिए ग्रुप अप्रोच को बढ़ावा देने की नीति अपनाई। कृषक ग्रुप जैसे रबड़ उत्पादक संघ और हाल में उसके अधीन स्वयं सेवी ग्रुप रूपायित किए गए और रबड़ बागान क्षेत्र में प्रभावी विस्तार उपकरण के रूप में इनका उपयोग किया जाता है। वर्तमान में कृषकों के केवल 25% रबड़ उत्पादक संघ के सदस्य हैं और अधिक से अधिक कृषकों को लाभ मिलने के लिए अधिक से अधिक रबड़ उत्पादक संघों और स्वयं सेवी ग्रुपों को रूपायित करने के लिए निरंतर प्रयास किया जा रहा है।

#### ii) रबड़ उत्पादक संघ/स्वयं सेवी ग्रुप

रबड़ विकास कार्यक्रमों में सामाजिक नीति प्रोत्साहित करने के लिए बोर्ड रबड़ उत्पादक संघों एवं स्वयं सेवी संघों के रूपायन में प्रोत्साहन देता है। वर्ष 2011-12 के दौरान पारंपरिक क्षेत्र में 36 रबड़ उत्पादक संघ एवं 132 स्वयं सेवी ग्रुप रूपायित किये तथा अब तक रूपायित रबड़ उत्पादक संघों एवं स्वयं सेवी ग्रुपों के संघित योग क्रमशः 2338 तथा 1902 हैं। नारीय कृषकों और उनके परिवार के सामाजिक आर्थिक विकास को लक्ष्य करके बोर्ड विशिष्ट

परियोजनाओं द्वारा रबड़ उत्पादक संघों और स्वयं सेवी ग्रुपों को समर्थन देता है। कृषक समूहों को आत्मनिर्भर बनने में सहायता देने के लिए और इस क्षेत्र में सकारात्मक परिवर्तन अभिकरण के रूप में काम करने के लिए बोर्ड ने विविध योजनाओं के रूप में तकनीकी व वित्तीय समर्थन दिया गया।

ii) कम आयतन स्प्रेयर और ड्रस्टर की खरीद

पौधा संरक्षण निवेशों के सही छुड़ाई के लिए आवश्यक स्प्रेयर तथा ड्रस्टर जैसे अधिक लागत के उपकरण छोटे और सीमांत कृषकों द्वारा खरीदने में मुश्किल पाया गया। इन उपकरणों के कम उपयोग का यह भी एक कारण बना। इसके अतिरिक्त, इस उपकरण चलाने के लिए कुशल मानवशक्ति कम है। इस समस्या के समाधान हेतु एक व्यक्ति द्वारा चला पाने वाला स्प्रेयर बनाया गया। कृषक समूहों को कम आयतन स्प्रेयर और ड्रस्टर की लागत का 50% सहायता देने की एक योजना कार्यान्वित की जा रही है, जिसमें रबड़ उत्पादक संघ/स्वयं सेवी ग्रुप सक्रिय रूप से भाग लेते हैं। वर्ष के दौरान बोर्ड ने इस योजना के अधीन 266 रबड़ उत्पादन संघों/स्वयं सेवी ग्रुपों के ज़रिए 4 व्यक्तियों द्वारा चलाने वाला 75 स्प्रेयर तथा एक व्यक्ति द्वारा चलाने वाला 189 स्प्रेयर की आपूर्ति की तथा 48.88 लाख रुपये वितरित किए गए।

iii) वीड कट्टर की खरीद

श्रमिकों की कमी की समस्या के समाधान हेतु फार्म यंत्रीकरण की नीति अपना सकती है। निराई को कृषि प्रणाली के रूप में सिफ़ारिश की गई है जहाँ रबड़ बागानों में यंत्रीकरण सुविधित रूप से अपना सकते हैं। यंत्रीकृत निराई को बढ़ावा देने हेतु रबड़ उत्पादक संघ/स्वयं सेवी ग्रुप को वीड कट्टरों की

खरीद के लिए 50% वित्तीय सहायता (प्रति मशीन के लिए 14,500 रुपये तक सीमित) देने के लिए भारगस द्वारा अनुमोदित एक योजना कार्यान्वयन की गयी। वर्ष 2011-12 का निष्पादन स्पष्ट करता है कि यह योजना कृषक समूहों द्वारा खुले मन अपनाई गई है।

वर्ष 2011-12 के दौरान पूर्ति	
की गई वीड कट्टरों की संख्या	181
सम्मिलित रबड़ उत्पादक संघ	180
2011-12 के दौरान प्रवर्तन रकम	23.94 लाख, रु.

iv) कंप्यूटर और पेरिफेरल्स की खरीद

छोटे कृषकों की क्षमता बढ़ाने तथा ई-विस्तार कार्यक्रम करने के लिए बोर्ड की योजनाओं में रबड़ उत्पादक संघों में सूचना प्रौद्योगिकी सेवाएं सुनिश्चित करने का भी विचार किया गया है। 2005-06 से रबड़ उत्पादक संघ क्षेत्र में कंप्यूटरीकरण को बढ़ावा देने के लिए कंप्यूटर और पेरिफेरल्स की खरीद में लागत के 75% और कंप्यूटर प्रचालन में प्रशिक्षण व्यय के 100% देकर बोर्ड एक योजना चला रहा है। इस योजना के अधीन वर्ष के दौरान बोर्ड ने 36 आरपीएस स्वयं सेवी ग्रुपों के लिए 36 कंप्यूटर/पेरिफेरल्स प्रदान किए तथा 15.10 लाख रुपये खर्च किए।

v) प्रशिक्षण कार्यक्रम चलाने के लिए वित्तीय सहायता

ग्रामीण स्तर के रबड़ उत्पादक संघ और स्वयं सेवी ग्रुप रबड़ बागान क्षेत्र में सहभागिता विस्तार मजबूत करने के लिए लक्षित हैं। इस क्षेत्र को सशक्त करने के लिए मनुष्यवर्गी पालन, पौधशाला प्रबंधन, लाटेक का संसाधन, क्षमता निर्माण, लेखा अनुस्मरण, कुकुम्सुखी खेती, वेमो कम्पोस्ट आदि रबड़ क्षेत्र से संबंधित प्रशिक्षण कार्यक्रम आयोजित करने के लिए सहायता दी जाती है। वर्ष 2011-12 के दौरान

## वार्षिक रिपोर्ट 2011-12

नीचे दिए अनुसार 282 र उ संघ/स्वयं सेवी ग्रुपों को वित्तीय सहायता के रूप में 5.14 लाख रुपए दिए गए।

वैचों की संख्या	प्रशिक्षणार्थियों की संख्या			भुगतान की गयी रकम			
	पुरुष	महिला	कुल	मानदेय रु. में	जलपान रु. में	लेखनसामग्री रु. में	यात्रा भाडा रु. में
420	4783	1769	6552	170100	274409	58751	10800
							514060

### vi) मधुमक्खीपालन का संवर्द्धन

छोटे रबड़ कृषकों के बीच मधुमक्खीपालन लोकप्रिय बनाना इसका लक्ष्य है। शीतकाल के बाद जनवरी से मार्च तक पुनःपत्रण का समय रबड़ बागान भ्रू का एक अच्छा स्रोत है और यह कृषकों के लिए आय का एक अतिरिक्त स्रोत है। इस योजना के अधीन 582 महिलाएं सहित 2593 कृषकों के हित के लिए 204 र उ संघ/ स्वयं सेवी ग्रुपों के द्वारा 77.64 लाख रुपए वितरित किए गए।

### vii) रबड़ उत्पादक संघों को परिवहन सुविधा प्रदान करने की योजना

यह सहायता कृषकों के कृषि क्षेत्र से लाटेक्स, संसाधन/एकत्रण केंद्र में ले जाने और आरपीएस सेक्टर के कंपनियों को फील्ड कोयामुलम की पूर्ति हेतु परिवहन के लिए है। परिवहन सहायिकी लाटेक्स/फील्ड कोयामुलम के शुष्क रबड़ संघटक/कि ग्रा 25 पैसे है। इस योजना के अधीन बोर्ड ने 460 रबड़ उत्पादक संघों के द्वारा लाटेक्स/शीट (13,334 मे ट) और फील्ड कोयामुलम (3,238 मे ट) के प्रापण के लिए 41.21 लाख रुपए वितरित किए।

विविध कार्यकलापों के लिए अवसरचत्तात्मक सुविधा बढ़ाने के लिए रबड़ उत्पादक संघों/स्वयं सेवी ग्रुपों को वित्तीय सहायता

सदस्य छोटे कृषकों के सामान्य लाभ के लिए

अवसरचत्तात्मक सुविधाएं देने हेतु रबड़ उत्पादक संघों/स्वयं सेवी ग्रुपों को बोर्ड तकनीकी व वित्तीय समर्थन प्रदान करता है।

### viii) निवेश वितरण सुविधाएं स्थापित करना

छोटे रबड़ कृषक रहने वाले विदूर गांवों में बागान निवेश वितरण केंद्र स्थापित करने के लिए रबड़ उत्पादक संघों को प्रोत्साहित करना और समर्थन देना ही इस संघटक से मतलब है। रबड़ बागानों के लिए आवश्यक सामग्रियों दरवाजे पर ही उपलब्ध होना छोटे कृषकों को कृषि प्रौद्योगिकी बेहतर ढंग से अपनाने में मदद करेगी। वर्ष 2011-12 के दौरान बोर्ड ने निवेश केंद्र चलाने हेतु 181 रबड़ उत्पादक संघों द्वारा प्रदत्त वास्तविक किराए के 50% के रूप में 10.49 लाख रुपए दिए।

### ix) सामान्य सेवा केंद्रों की स्थापना

छोटे कृषक रहने वाले गांवों में सामान्य सेवा केंद्र स्थापित करने के लिए अधिक से अधिक रबड़ उत्पादक संघों को प्रोत्साहित करना और समर्थन देना इस संघटक का लक्ष्य है। कंप्यूटर और इंटरनेट सुविधाओं वाले रबड़ उत्पादक संघ सदस्य कृषकों और उनके परिवार को कई सामान्य सेवाएं प्रदान कर सकते हैं, जो निम्नानुसार हैं -

- रेलवे/विमान टिकट बुकिंग
- संगत वेबसाइटों की खोज करके सदस्यों या उनके परिवार को आवश्यक विविध प्रकार की सूचनाएं उपलब्ध कराना।

- नीकरी में अयसर और विवाह संबंधी सूचना
- शैक्षिक अवसर
- फोन बिल, बिजली बिल, भू कर, पंचायत कर आदि का भुगतान
- विविध आवेदनों का फाइलिंग
- कुकिंग गैस का एकत्रण व वितरण
- आय कर विवरणियों का फाइलिंग आदि।

वर्ष 2011-12 के दौरान बोर्ड ने सामान्य सुविधा केंद्रों को चलाने हेतु 6 रबड़ उत्पादक संघों को सहायता के रूप में 27000/- रुपए प्रदत्त की।

#### x) पौधशालाओं की स्थापना

अधिक उत्पादकता सुनिश्चित करने का प्राथमिक कदम है उच्च गुणवत्ता वाली रोपण सामग्रियों का उपयोग। उचित क्रीम में अच्छी गुणवत्ता वाली रोपण सामग्रियों को सुनिश्चित करने के लिए रबड़ उत्पादक संघों/स्वयं सेवी ग्रुपों को वित्तीय सहायता प्रदान करके पौधशालाएं स्थापित करने को प्रोत्साहित करते हैं। कई रबड़ उत्पादक संघ और स्वयं सेवी ग्रुप रबड़ पौधों की पोलिबैग पौधशाला स्थापित करने का कार्य किया है। वर्ष 2011-12 के दौरान 18 रबड़ उत्पादक संघों को वित्तीय सहायता के रूप में 3.56 लाख रुपए प्रदत्त किए।

#### xi) श्रमिक बैंकों की स्थापना

रबड़ बागान क्षेत्र में टापरों की कमी और आम श्रमिकों की कमी अत्यंत गंभीर समस्या है। इस समस्या को एक हद तक सुलझाने के लिए बोर्ड ने

रबड़ उत्पादक संघों द्वारा श्रमिक बैंकों की स्थापना को बढ़ावा दिया है। रबड़ उत्पादक संघों के श्रमिक बैंकों में पंजीकृत श्रमिक सदस्य, कृषकों की छोटी ज़ोतों में काम करते हैं। इन पंजीकृत श्रमिकों को रबड़ बागानों में कृषि प्रचालन संबंधी सभी पहलुओं पर जब भी ज़रूरत हो निशुल्क प्रशिक्षण दिया जाता है। प्रारंभ में प्रत्येक रबड़ उत्पादक संघों के श्रमिक बैंक में पाँच श्रमिक पंजीकृत किये जाते हैं। रबड़ उत्पादक संघों के श्रमिक बैंकों में पंजीकृत श्रमिकों को कुछ प्रोत्साहन दिये जाते हैं ताकि वे रबड़ बागान क्षेत्र में ठिके रहें। इस संघटक का कार्यान्वयन रबड़ की छोटी ज़ोत के क्षेत्र में श्रमिकों को आकर्षित करने और ठिके रहने में उपयोगी है। वर्ष 2011-12 के दौरान बोर्ड ने 121 रबड़ उत्पादक संघों के अधीन 121 श्रमिक बैंकों को कपडा भत्ता, मौसम संरक्षण सामग्रियों की खरीद और श्रमिक बैंकों में नाम पंजीकृत, श्रमिकों को थिकित्सा भत्ता के रूप में 6.41 लाख रुपए वितरित किए।

#### xii) ठेका आधार पर ज़ोतों का ग्रुप प्रबंधन एवं पौधा संरक्षण क्रियाएं, वर्षारक्षण आदि

अधिकतर छोटे कृषक अंशकालिक कृषक होने के नाते वे अपनी ज़ोत में खुद कृषि प्रबंधन क्रियाएं क्रियान्वित करने की स्थिति में नहीं है। इसलिए वे इन क्रियाओं की उपेक्षा करते हैं, जो छोटी ज़ोत की वृद्धि और उत्पादकता को प्रभावित करते हैं। प्रत्येक कृषक अपनी तरफ से ये करने के बजाय रबड़ उत्पादक संघों द्वारा वैज्ञानिक और लागत प्रभावीकारी



शैली में इन क्रियाएं कार्यान्वित कर सकते हैं। इन गतिविधियों को बढ़ावा देने के लिए बोर्ड ने रबड़ उत्पादक संघों के ज़रिए कृषि प्रबंधन क्रियाएं कार्यान्वित करने के लिए कुछ प्रोत्साहनों का प्रस्ताव किया है। वर्ष 2011-12 के दौरान 3 रबड़ उत्पादक संघों को 73,380 रुपए की रकम वितरित की।

**xiii) प्रशिक्षण सुविधाएं स्थापित करने के लिए रबड़ उत्पादक संघों को वित्तीय सहायता**

रबड़ उत्पादक संघों को प्रौद्योगिकी अंतरण केंद्रों के रूप में कार्य करना चाहिए। यह उप संघटक सदस्य कृषकों को नियमित प्रशिक्षण कार्यक्रम, समूह बैठकें, संगोष्ठियाँ आदि आयोजित करने के लिए आवश्यक मकान, अवसंरचना आदि प्रदान करता है। वर्ष के दौरान उप संघटक के अधीन चार रबड़ उत्पादक संघों को 3.44 लाख रुपए वितरित किये।

**xiv) लाटेक्स एकत्रण केंद्र सह कार्यालय स्थापित करने के लिए रबड़ उत्पादक संघों को वित्तीय सहायता**

देशी व अंतर्राष्ट्रीय बाज़ार में प्रतियोगिताक्षमता हासिल करने के लिए छोटी ज़ोनों में उत्पादित रबड़ की गुणता सुधारने के लिए और सामूहिक विपणन को बढ़ावा देने के लिए लाटेक्स एकत्रण केंद्र स्थापित करने में रबड़ उत्पादक संघों को सहायता प्रदान करने में बोर्ड रबड़ उत्पादक संघों को सहायता प्रदान करता है। वर्ष 2011-12 के दौरान इस योजना के अधीन 7 रबड़ उत्पादक

संघों को सहायता के रूप में 3.13 लाख रुपए दिए गए।

**xv) लाटेक्स एकत्रण उपकरणों के प्रापण के लिए रबड़ उत्पादक संघों और स्वयं सेवी ग्रुपों को वित्तीय सहायता**

सदस्य कृषकों से लाटेक्स/स्क्राप एकत्रण के लिए उपकरणों की खरीद हेतु रबड़ उत्पादक संघों और स्वयं सेवी ग्रुपों को समर्थन देना इस योजना का लक्ष्य है ताकि सदस्य कृषकों को मध्यवर्तियों से बचाकर अपने उत्पाद के लिए बेहतर भाव उपलब्ध कर सकें। इस योजना के अधीन 16 रबड़ उत्पादक संघों को वित्तीय सहायता के रूप में 1.12 लाख रुपए प्रदत्त किए।

**xvi) पर्यावरण अनुकूल ग्रुप संसाधन केंद्रों की स्थापना के लिए रबड़ उत्पादक संघों/स्वयं सेवी ग्रुपों को वित्तीय सहायता**

देशी व अंतर्राष्ट्रीय बाज़ार में प्रतियोगिताक्षमता लाने के लिए देश में उत्पादित रबड़ की गुणता सुधारने हेतु समूह संसाधन सुविधाएं संस्थापित करने में रबड़ उत्पादक संघ को समर्थन देता है। रिपोर्टधीन वर्ष के दौरान इस योजना के लिए मंजूर वित्तीय सहायता 11 लाख रुपए है याने सामूहिक संसाधन केंद्र के निर्माण के लिए लागत के 50%, जिसको 10 लाख रुपए में सीमित किया है और भूमि सुधार के लिए एक लाख रुपए। वर्ष 2011-12 के दौरान 7 रबड़ उत्पादक संघों को सहायता के रूप में 29.13 लाख रुपए प्रदत्त किए।

**xvii) आदर्श रबड़ उत्पादक संघ**

प्रभावी प्रौद्योगिकी हस्तंतरण केंद्रों व सामूहिक प्रक्रमण केंद्रों के रूप में कार्य करने के लिए 35 आदर्श रबड़ उत्पादक संघों (30 पारंपरिक क्षेत्र में एवं 5 गैर पारंपरिक क्षेत्र में), के कार्यों को समर्थन देना तथा निगरानी करना बोर्ड ने जारी रखा।

**xviii) सामूहिक प्रक्रमण केंद्रों को अतिरिक्त सुविधाएं प्रदान करने के लिए परिशोधित योजना**

अतिरिक्त घूम घर, क्षतिग्रस्त मशी का प्रतिस्थापन, औजारों की खरीद और सामूहिक प्रक्रमण केंद्रों तथा जैव गैस संयंत्रों की मरम्मत व अनुसूचित जैसी अतिरिक्त सुविधाओं की संस्थापना के लिए सामूहिक प्रक्रमण केंद्रों को वित्तीय सहायता भी प्रदान करता है। 2011-12 के दौरान 90 सामूहिक प्रक्रमण केंद्रों को 41.50 लाख रुपए प्रदत्त किए।

**4. मूल्य स्थिरीकरण निधि (पी एस एफ)**

मूल्य स्थिरीकरण निधि का लक्ष्य रबड़ का भाव जब हर वर्ष घोषित किये जाने वाले मूल्य पट्टी से कम हो जाता है तब छोटे कृषकों को समर्थन देना है। कुल 18919 कृषकों ने योजना में नाम दर्ज किया है।

**5. मानव संसाधन विकास कार्यक्रम**

*कृषक शिक्षा कार्यक्रम*

**i) वार्षिक समूह संपर्क कार्यक्रम**

रबड़ कृषि, रखरखाव, फसलन, फसल प्रक्रमण, विपणन और अतिरिक्त आय सृजन आदि पर नवीन तकनीकियों का प्रचार करने के लिए और रबड़ कृषकों को कृषि क्षेत्र के नवीन विकासों और प्रवृत्तियों से परिचित कराने के लिए 1978 से बोर्ड हर वर्ष वार्षिक समूह संपर्क कार्यक्रम चलाते आ रहा है।

इससे छोटी ज़ोनों में उत्पादित रबड़ की गुणता और उत्पादकता में महत्वपूर्ण सुधार लाने में मदद हुई। यह कार्यक्रम कृषकों में अधिक उत्साह पैदा किया। वर्ष 2011 के लिए चुना गया विषय "टापिंग 2011" था। 2704 केंद्रों में बैठकें आयोजित कीं जिनमें 84562 कृषक/टापर भाग लिए।

**ii) व्यक्तिपरक संपर्क**

कृषकों को तकनीकी जानकारी प्रदत्त करने हेतु विस्तार अधिकारियों ने विभिन्न योजनाओं के कार्यान्वयन के हिस्से के रूप में और सलाहकारी लक्ष्य से कृषक क्षेत्रों का नियमित दौरा किया है। ऐसे दौरों के अवसर पर निदेशनों का भी आयोजन किया है।

**iii) शास्त्रदर्शन कार्यक्रम**

इस कार्यक्रम के अधीन रबड़ रोपण एवं छोटी जोत विकास गतिविधियों की प्राथमिक जानकारी मिलने के लिए अपारंपरिक क्षेत्र एवं उत्तर पूर्वी क्षेत्रों के रबड़ कृषकों को पारंपरिक क्षेत्र में लाये जाते हैं। वर्ष 2011-12 के दौरान गैर पारंपरिक क्षेत्र और उत्तर पूर्वी क्षेत्र से 18 बैचों में 248 कृषक शास्त्रदर्शन कार्यक्रम में भाग लिए।

**iv) विस्तार अधिकारियों/कंपनी/कार्यालय कर्मचारी/रबड़ उत्पादक संघों के पदधारियों को प्रशिक्षण**

रबड़ उत्पादन विभाग के विस्तार प्रभाग ने कृषकों, रबड़ उत्पादक संघ सदस्यों, विस्तार अधिकारियों और विस्तार कर्मचारियों के हित के लिए रबड़ कृषि और रबड़ के प्रारंभिक संसाधन के विविध पहलुओं पर प्रशिक्षण विभाग द्वारा चलाए गए विस्तार प्रशिक्षण कार्यक्रमों का समर्थन दिया।

# वार्षिक रिपोर्ट 2011-12

v) टापेर्स प्रशिक्षण (उत्तर पूर्व को छोड़कर)

क) टापेर्स प्रशिक्षण स्कूल

टारिंग में छोटे कृषकों एवं श्रमिकों को प्रशिक्षण देने हेतु बोर्ड द्वारा संचालित 12 टापेर्स प्रशिक्षण स्कूल विभिन्न बागान क्षेत्रों में हैं।

क्षेत्र	2010-2011			2011-2012		
	बैचों की संख्या	लामान्वितों की संख्या	सहायता रुपये लाखों में	बैचों की संख्या	लामान्वितों की संख्या	सहायता रुपये लाखों में
पारंपरिक एवं अपारंपरिक (उ.पू. क्षेत्र के जलाबा)	78	1299#	31.21	76	1233*	29.19

#सामान्य-1169, अनुसूचित जाति/जनजाति - 130 \* सामान्य-1128, अनुसूचित जाति/जनजाति - 105

ख) हस्वावधि गहन टापेर्स प्रशिक्षण कार्यक्रम

परंपरागत टापेर्स प्रशिक्षण स्कूल के अलावा टारिंग एवं संसाधन सहित वैज्ञानिक टारिंग के विभिन्न प्रायोगिक पहलुओं पर बोर्ड द्वारा हस्वावधि गहन टारिंग प्रशिक्षण पाठ्यक्रम भी चलाता है। विवरण नीचे दिया जाता है:-

क्षेत्र	2010-2011			2011-2012		
	बैचों की संख्या	लामान्वितों की संख्या	सहायता रुपये लाखों में	बैचों की संख्या	भौतिक (लामान्वितों की संख्या)	सहायता रुपये लाखों में
पारंपरिक एवं अपारंपरिक (उत्तर पूर्व को छोड़कर)	307	4714#	35.07	322	4865*	37.42

#सामान्य-4552 अनुसूचित जाति/जनजाति - 162 \* सामान्य-4748, अनुसूचित जाति/जनजाति - 117

घ) सामूहिक संपर्क

बैठक का प्रकार	2010-11		2011-12	
	बैठकों की संख्या	भागीदारों की संख्या	बैठकों की संख्या	भागीदारों की संख्या
अभियान बैठक	2734	87061	2704	84562
एक दिवसीय संगोष्ठी	75	5433	63	6337
अर्ध दिवसीय संगोष्ठी	233	8985	137	4945
ग्रुप बैठकें	1088	21492	1591	15474
ए उ सं बैठकें	3569	41855	2853	29471
अन्य बैठकें	1146	9222	1163	4976
दूरस्थ श्रव्य उपकरणों का उपयोग	254	9561	344	9522
ए उ सं में प्रशिक्षण	795	14741	889	19730

## II. उत्तर पूर्वी क्षेत्रों में रबड़ बागान विकास

रिपोर्टाधीन वर्ष के दौरान क्षेत्र विस्तार, उत्पादकता वृद्धि और गुणता सुधार पर विशेष ध्यान देते हुए उत्तर पूर्व में रबड़ विकास गतिविधियाँ अच्छी प्रगति कर ली। उत्तरपूर्वी क्षेत्र में 17911 हे. में 18557 कृषक रबड़ कृषि में लगे हैं। बोर्ड के प्रशिक्षण केंद्रों/प्रक्षेत्रों में ग्राम स्तरीय कक्षाएं, निदर्शन और प्रशिक्षण के द्वारा उनको वैज्ञानिक कृषि और अनुरक्षण प्रणालियाँ सिखायी गयी। वैज्ञानिक टापींग और शीटों की गुणता सुधार एक अन्य पहलु था जिसपर बोर्ड ने इस वर्ष के दौरान प्रमुखता दी। टापेर्स प्रशिक्षण स्कूलों में हस्तावधि गहन टापेर्स प्रशिक्षण और टापींग निदर्शकों द्वारा कृषि क्षेत्र के दौरे के द्वारा कृषकों और श्रमिकों को इन पहलुओं पर प्रशिक्षण दिया गया। ऐसे कार्य अच्छे परिणामों का कारण बना। उत्तर पूर्वी क्षेत्र में 87 नए रबड़ उत्पादक संघ स्थापित किए गए तथा रबड़ उत्पादक संघों की कुल संख्या 233 हो गये। बोर्ड की पौधशालाओं की अनुरक्षा उचित रूप से की गई और कृषकों को 3.65 लाख गुणतायुक्त बड़ टूट और 51539 मीटर बड़ बुड़ उत्पादित/ वितरित किए। असम के बोको की नई पौधशाला (4.00 हे) का भी अच्छा अनुरक्षण किया गया तथा वर्ष 2012-13 से रोपण सामग्रियों का उत्पादन शुरू करने की प्रतीक्षा है। उत्पादकता संघर्षन उपाय के रूप में रबड़ उत्पादक संघों द्वारा छोटे कृषकों को ऊर्ध्वरक्त का वितरण जारी रखा। इंडियन इन्स्टिट्यूट ऑफ प्लान्टेशन मैनेजमेंट बेंगलूर के सहयोग से रबड़ उत्पादक संघों के कार्यालय कर्मियों और युने हुए कृषकों के लिए नेतृत्व प्रशिक्षण कार्यक्रम संपन्न हुआ।

उत्तर पूर्वी क्षेत्र में उत्पादित रबड़ के मूल्य संवर्धन तथा उद्यमियों को उत्तर पूर्वी क्षेत्र में निवेश करने के लिए प्रोत्साहित करने के लक्ष्य के साथ कोलकता में संपन्न प्रदर्शनी सह संगोष्ठी "उत्तरपूर्व कनेक्ट" में बोर्ड भाग लिया। अमर्तला तथा उत्तरपूर्वी क्षेत्र के अन्य प्रदेशों में संपन्न

कृषि मेला में भी बोर्ड भाग लिया तथा बहुताधिक संख्या में लोग इन स्टालों में आए। उत्तरपूर्वी क्षेत्र से 16 बैचों में 189 रबड़ कृषकों को अध्ययन दौरे पर पारंपरिक क्षेत्र मेले गए। असम, मिसोराम, अरुणाचल प्रदेश और मेघालय सरकार को योजनाओं का प्रारूप तैयार करके और उसे कार्यान्वित करने में मदद करके रबड़ विकास कार्यक्रम की कार्यवाई को प्रेरणा और समर्थन दे दिया। असम सरकार ने 1.00 लाख रबड़ पौधों का रोपण करके 24 सितंबर 2011 को रबड़ दिवस मनाया।

रबड़ कृषकों, टापरी और रबड़ उत्पादक संघों के लिए प्रोत्साहन के रूप में बोर्ड ने सर्वोत्तम पुरुष रबड़ कृषक, सर्वोत्तम महिला रबड़ कृषक, सर्वोत्तम रबड़ टापरी तथा सर्वोत्तम रबड़ उत्पादक संघ जैसे 4 श्रेणियों में पुरस्कार प्रारंभ किया। क्रमशः माननीय उत्तरपूर्वी क्षेत्र विकास मंत्री तथा माननीय मुख्यमंत्री, त्रिपुरा द्वारा अध्यक्षता किए समारोह में गुआहटी और अमर्तला मंडल के लिए अलग से पुरस्कार दिए गए।

वर्ष 2011-12 के दौरान उत्तरपूर्वी क्षेत्रों में रबड़ विकास योजनाओं के विविध संघटकों के अधीन भौतिक/ वित्तीय उपलब्धियाँ नीचे दी जाती हैं।

### 1. रबड़ विकास योजना

वर्ष 2011-12 के दौरान रोपण लक्ष्य 7350 हे. रहा (नवरोपण 7000 हे.+ पुनरोपण 350 हे.)

+ पिछले वर्षों के रोपण के लिए वर्ष 2010-11 के दौरान मंजूर अनुज्ञाप सहित अद्यतन आंकड़े। वर्ष 2010-11 के दौरान प्राप्त बहुसंख्यक मामलों में आवेदनों की छानबीन एवं निरीक्षण मानव शक्ति की कमी के कारण लंबित है। 2010-11 के दौरान

### वार्षिक रिपोर्ट 2011-12

विवरण	2010-11		2011-12	
	संख्या	क्षेत्र हेक्टरों में	संख्या	क्षेत्र हेक्टरों में
प्राप्त आवेदन	13290	12544	18557	17911
जारी अनुज्ञापत्र (केवल न.रो)	10724	8261	12694	9745*
वितरित कुल रकम	19.97 करोड़ रु.		20.84 करोड़ रु	

त्रिपुरा में लगभग 50 हेक्टेयर क्षेत्र में सहायिकी प्राप्त किए बिना पुनरोपण किया गया है।

#### 2. एकीकृत ग्रामस्तरीय सब्सिडी विकास

यह सीमांत कृषकों के क्षतिग्रस्त बागानों (3 वर्षों के आयु तक) के नवीकरण के लिए लक्षित है। पुनर्जीवन का मतलब है - आंशिक रूप से क्षतिग्रस्त बागानों का नवीनीकरण और पूर्ण रूप से क्षतिग्रस्त बागानों का पुनःस्वस्थ करना।

#### 3. ब्लॉक सब्सिडी रोपण परियोजना

परियोजना से मतलब है - सब्सिडी रोपण के द्वारा उत्तर पूर्वी क्षेत्र के जनजातियों का आर्थिक निपटारा। राज्य सरकारों से लगभग 50 प्रतिशत वित्तीय समर्थन के साथ बोर्ड सीधे इसका कार्यान्वयन करता है। उत्तर पूर्वी क्षेत्र में मात्र त्रिपुरा सरकार ने यह योजना कार्यान्वित करने में बोर्ड को आवश्यक समर्थन प्रदान किया।

त्रिपुरा में हासिल प्रगति के विवरण नीचे दिए जाते हैं:

संघटक	2010-11		2011-12	
	क्षेत्र हेक्टरों में	लामभोगियों की संख्या	क्षेत्र हेक्टरों में	लामभोगियों की संख्या
पुनरुज्जीवन	2.3	3	11.43	18
पुनःस्वस्थ करना	4.4	5	1.5	3

#### 4. गुणतायुक्त रोपण सामग्रियों का उत्पादन

उत्तर पूर्वी क्षेत्र में रोपण सामग्रियों का उत्पादन अधिकतर निजी पौधशालाओं द्वारा किए जाता है। बोर्ड उत्तर पूर्वी क्षेत्र के विविध भागों में प्रादेशिक कार्यालयों, डीडीसी आदि से संबद्ध अपनी 5 पौधशालाएं चला रहा है। उल्लेख गुणता वाली रोपण सामग्रियों के उत्पादन लक्ष्य करके ये चलाते हैं। वर्ष 2011-12 के दौरान 3.65 लाख बड़े टूटों और 51539 मीटर बड़ बुड़ का उत्पादन किया गया। प्रत्येक मीटर बड़ बुड़ से सामान्य गुणता वाले लगभग 15 बड़े टूट

2010-11 तक रोपण (हे)	2010-11 तक लामभोगियों की संख्या	2011-12 के दौरान रोपण (हे)	2011-12 के दौरान लामभोगियों की संख्या	31.03.2012 तक संचित योग हेक्टरों में	31.03.2012 तक कुल लामभोगी
3676.52	3384	85	78	3761.52	3462

पीछे उत्पादित कर सकते हैं। रोपण सामग्रियों की संपूर्ण मात्रा क्षेत्र के छोटे रबड़ कृषकों के लिए वितरित किए गए हैं।

#### 5. बागान निवेशों का वितरण

उर्वरक और वर्षावर्षण सामग्रियों जैसे बागान निवेश चीजों का बोर्ड 50 प्रतिशत सहायिकी में उत्तरपूर्वी क्षेत्र के छोटे कृषकों को वितरण किया है। खाद की कमी की वजह से लक्षित क्षेत्र को आवृत्त नहीं कर सका। वितरित खाद का परिमाण निम्नानुसार है:-

यूरिया - 70650 कि ग्रा

एम ओ पी - 54450 कि ग्रा

राजफोस - 168550 कि ग्रा

#### 6. उत्तर पूर्वी क्षेत्र में कृषक शिक्षा कार्यक्रम

लागतार अध्यापन, रबड़ के वैज्ञानिक रोपण, फसलन और प्रारंभिक प्रक्रमण विधियाँ आदि का प्रशिक्षण और निदर्शन, उत्तर पूर्वी क्षेत्र में बोर्ड के नियमित विस्तार कार्यक्रम है। कृषकों के बीच सीधे तकनीकी

जानकारियों के प्रचार के लिए, सलाहकारी उद्देश्य और विविध योजनाओं के उपलक्ष्य में विस्तार अधिकारियों द्वारा नियमित रूप से कृषि क्षेत्र का दौरा करते हैं।

ऐसे दौरे के अवसर पर कृषि प्रबंधन प्रणालियों का निदर्शन भी करते हैं। बोर्ड के रबड़ टापींग निदर्शक भी बागानों का निरीक्षण करते हैं और कृषकों को फसलन और गुणयुक्त अच्छे शीटों के लिए लाटेक्स के प्रक्रमण पर भी तकनीकी सलाह देते हैं। निदिष्ट विषयों पर विशेष ज़ोर के साथ एक महीने के ऊपर अभियान बैठकें आयोजित कीं।

इसके अतिरिक्त बोर्ड सूचनाओं के प्रसार हेतु ग्राम स्तर पर कृषकों को रबड़ कृषि के वैज्ञानिक पहलुओं पर अध्ययन, कल्याण कार्यक्रमों और समूह बैठकें आयोजित करता है। कृषक गण और फार्म श्रमिक इन कार्यक्रमों का खुले मन से स्वीकार करते हैं। ऐसी समूह बैठकें उत्तर पूर्वी क्षेत्र के विविध प्रदेशों में नियमित रूप से संपन्न होती हैं।

बैठक का प्रकार	2011-2012	
	बैठकों की संख्या	मागीदासों की संख्या
अभियान बैठकें	140	9770
पूर्ण दिवसीय संगोष्ठी	10	926
अर्ध दिवसीय संगोष्ठी	7	294
ग्रुप बैठकें	336	8503
<b>कुल</b>	<b>493</b>	<b>19493</b>

#### 7. उत्तर पूर्वी क्षेत्र में प्रशिक्षण कार्यक्रम

विभिन्न रबड़ बागान कार्यकलापों पर बागान मालिकों, श्रमिकों और नए उद्यमियों को नियमित प्रशिक्षण

दिया जाता है। बोर्ड के जिला विकास केंद्रों, पीपुलालाओं, टापेर्स प्रशिक्षण स्कूलों, रबड़ उत्पादक संघों, कृषकों के प्रक्षेत्रों आदि जगहों को ऐसे प्रशिक्षणों

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के स्थान के रूप में चुने जाते हैं। उत्तर पूर्वी क्षेत्र में  
धलाए प्रशिक्षण कार्यक्रमों के विवरण और

2011-12 में ऐसे कार्यक्रमों में भाग लिए प्रशिक्षणार्थियों  
की संख्या निम्नलिखित तालिका में दी जाती है:-

प्रशिक्षण का प्रकार	कार्यक्रमों की संख्या	प्रशिक्षणार्थियों की संख्या
बागान और संबद्ध पहलु	138	2887
टापेर्स प्रशिक्षण स्कूलों में टापेर्स प्रशिक्षण	16	284
हस्तावधि गहन टापेर्स प्रशिक्षण	110	1787
कृषकों के कृषि क्षेत्र में प्रशिक्षण	113	1815
कुल	377	6773



श्री उम्मन चांडी, माननीय मुख्यमंत्री, केरल द्वारा रबड़ उत्पादक संघों के रूपायन की  
रजत जयंती समारोह का उद्घाटन



## वार्षिक रिपोर्ट 2011-12

### 8. कृषक समूह रूपायन एवं सशक्तीकरण

विस्तार कार्यक्रमों की कमी की वजह से बोर्ड सभी कृषकों के पास व्यक्तिगत रूप में पहुँचने की स्थिति में नहीं है और इसलिए ग्राम स्तर पर रबड़ उत्पादक संघों के रूपायन को बढ़ावा देने का निर्णय लिया गया। विविध कार्यक्रमों के लिए रबड़ उत्पादक संघों को संपूर्ण तकनीकी समर्थन और 50 प्रतिशत वित्तीय समर्थन दिये जाते हैं। वर्ष के दौरान बोर्ड ने 87 रबड़ उत्पादक संघों का रूपायन किया जिससे उत्तर पूर्वी क्षेत्र में रबड़ उत्पादक संघों का संक्षिप्त योग 233 हो गया।

### 9. उत्तर पूर्वी क्षेत्र में अन्य सहायता

बोर्ड उत्तर पूर्वी क्षेत्र के कृषकों को उनके बागानों को जानवरों से बचाने, बीटिंग रोलर्स की खरीद, धूम घर के निर्माण, निदर्शन बागानों की स्थापना आदि के लिए समर्थन देता है। यूप प्रक्रमण केंद्रों की संस्थापना, कंप्यूटर की खरीद आदि के लिए रबड़ उत्पादक संघों को समर्थन देता है। बागान श्रमिकों को गृह निर्माण और बच्चों की शिक्षा आदि के लिए सहायता प्रदान करता है।

वर्ष 2011-12 की उपलब्धियां नीचे दी जाती हैं:

मद	तामान्वितों की संख्या	वित्तीय सहायता लाख रुपये में
बांस बाड़ा	9608	301.21
कांटीले तार बाड़ा	73	7.30
समूह प्रक्रमण केंद्र	8	87.04
रबड़ उत्पादक संघों को वितरित जेनरेटर	6	4.30
रबड़ उत्पादक संघों को वितरित कंप्यूटर	9	3.84
रॉलर सहायिकी	130	13.00
रॉलर्स का निशुल्क वितरण	41	19.20
धूम घर	35	6.70
कृषकों की जोत में बागान निदर्शन	32	4.07
बागान श्रमिकों को गृह निर्माण सहायिकी		
और अन्य सहायता	36	6.10
लाटेक्स के परिवहन के लिए सहायिकी	12	2.73
<b>कुल</b>	<b>9990</b>	<b>455.49</b>



भाग - 4

## प्रशासन

प्रशासन विभाग के निम्नलिखित अनुभाग एवं प्रभाग

- हैं:
- 01 स्थापना प्रभाग (बोर्ड सचिवालय, कार्मिक, हकदार एवं सामान्य प्रशासन)
  - 02 श्रमिक कल्याण अनुभाग
  - 03 विधिक अनुभाग
  - 04 हिंदी अनुभाग

### 1. स्थापना प्रभाग

#### (क) बोर्ड सचिवालय

बोर्ड की उपसमितियों का पुनःसंगठन, बोर्ड एवं उसकी समितियों की बैठकें आयोजित करना एवं बड़े कृषक प्रतिनिधियों एवं बोर्ड के उपाध्यक्ष के चुनाव, बोर्ड और इसके समितियों की बैठकों की कार्यसूची टिप्पणी एवं कार्यवृत्त जारी करना, बोर्ड के निर्णयों के कार्यान्वयन की निगरानी करना, बोर्ड की वार्षिक रिपोर्ट का संकलन करना आदि बोर्ड सचिवालय के कार्यों में सम्मिलित हैं।

#### बोर्ड एवं समितियों की बैठकें

भारत सरकार ने वर्ष 2011-14 के लिए एक नए बोर्ड का गठन किया था और दिनांक 1 मार्च 2011 की सं.एस ओ 465 (ई) के अनुसार अधिसूचित किया। श्री एस. रामचंद्रन, तमिलनाडु से बड़े पैमाने के खेती करने वाले प्रतिनिधि को 18 अप्रैल 2011 को गठित बोर्ड की 165वीं बैठक में बोर्ड का उपाध्यक्ष चयनित किया गया था। वर्ष 2011-12 के दौरान बोर्ड और समितियों की निम्न लिखित बैठकें संपन्न हुईं।

#### बोर्ड की बैठकें

- बोर्ड की 165 वीं बैठक 18.04.2011 को संपन्न हुई
- बोर्ड की 166 वीं बैठक 26.09.2011 को संपन्न हुई
- बोर्ड की 167 वीं बैठक 02.02.2012 को संपन्न हुई

#### समिति बैठकें

- + कार्यकारी समिति - 01.02.2012
- + अनुसंधान एवं विकास समिति - 28.10.2011
- + रोपण समिति - 06.12.2011
- + सांख्यिकी एवं बाजार विकास समिति - 15.06.2011
- + 20.01.2012
- + वर्मचारी कार्य समिति - 06.01.2012
- + श्रमिक कल्याण समिति - 17.10.2011

#### (ख) कार्मिक एवं प्रशासन

वर्ष 2011-12 के दौरान बाहर से 70 उम्मीदवारों को और 7 सेवाकालीन उम्मीदवारों को सीबी प्रती-रिक्ति के विरुद्ध नियुक्त किया गया तथा 179 नियमित पदोन्नतियों दी गयी। नौकरी आवश्यकताओं के अनुसार उपयुक्त कर्मियों के चयन के लिए चयन समिति/विभागीय पदोन्नति समिति (डी पी सी) सही रूप से गठित की। सेवा मामलों, पर, सरकारी आदेशों/मार्गदर्शनों का ईमानदारी से पालन किया। सरकार को समय समय पर आरक्षण विद्वानों पर नियुक्ति/पदोन्नति के बारे में विवरणियाँ भेजी गयीं।

## वर्षिक रिपोर्ट 2011-12

रिपोर्टीयन वर्ष के दौरान पेशा सुधार योजना के अधीन एक उच्च श्रेणी, फ्लेक्सिबिल प्रतियुक्त योजना (एफसीएस) के अधीन बोर्ड के 6 वैज्ञानिकों को दिये गये। इसके अतिरिक्त एम ए सी पी योजना के अधीन 229 ग्रुप सी और 111 ग्रुप डी (पहले के) कर्मचारियों को उच्च ग्रेड प्रदान किए गए। अनुमोदित स्थानान्तरण मानकों के अनुसार अधिकारियों और कर्मचारियों के स्थानान्तरण एवं तैनातियाँ किए गए।

इसके अतिरिक्त 3 पदों का विज्ञापन किया तथा विविध केंद्रों में सात लिखित परीक्षाएं चलाई और विविध पदों के लिए उपयुक्त व्यक्तियों के चयन हेतु 24 साक्षात्कार चलाए। कर्मचारियों और सेवा संगठनों से प्राप्त अभ्यावेदन की जांच की और उत्तर पर उपयुक्त कार्यवाई की थी। सूचना का अधिकार अधिनियम 2005 के अधीन 74 आवेदकों के आवेदन प्राप्त किए गए तथा निर्धारित समय के अंदर उत्तर दिए गए। बोर्ड द्वारा अनुमोदितानुसार कर्मचारी हित समिति के सभी निर्णयों को कार्यान्वित करने की कार्यवाई की है।

### (ग) हकदारा

व्याजयुक्त अग्रिमों की मंजूरी

बोर्ड के 18 कर्मचारियों को गृह निर्माण अग्रिम के रूप में वर्ष 2011-12 के दौरान 32.45 लाख रु. दिया गया। विविध अग्रिमों के रूप में कर्मचारियों को निम्न विवरणानुसार 18.50 लाख रुपए वितरित किए।

अग्रिम का प्रकार	कर्मचारियों की संख्या	वितरित रकम (रु)
कंप्यूटर अग्रिम	28	8,01,550
मोटर साइकिल/स्कूटर अग्रिम	22	6,37,000
कार अग्रिम	4	4,78,380
साइकिल अग्रिम	10	33,750
<b>कुल</b>	<b>64</b>	<b>19,50,680</b>

गृह निर्माण अग्रिमों की व्याज सहित वसूली/प्रतिदान के बाद 27 मामलों में पुनः हस्तांतरण प्रलेख तैयार किए गए।

सेवानिवृत्ति एवं सेवानिवृत्ति लाभ की मंजूरी

67 कर्मचारियों को समय पर सेवानिवृत्ति लाभ वितरित किये। इसमें वर्ष 2011-12 के दौरान स्वेच्छिक रूप से सेवानिवृत्त 5 कर्मचारी, अनिवार्य रूप से सेवानिवृत्त एक कर्मचारी और एक अमेलन पर पेंशन शामिल है। इसके अतिरिक्त सेवाकाल में मृत्यु हुई 3 कर्मचारियों के परिवारों को कुटुंब पेंशन मंजूर किये गये। 31.03.2012 के अनुसार बोर्ड के कुटुंब पेंशन भोगी सहित 949 पेंशन भोगी हैं। कर्मचारियों की सेवा पंजी एवं वैयक्तिक फाइलों का सही अनुरक्षण किया। वर्ष 2011-12 के दौरान बोर्ड के 68 नई नियुक्तियों के लिए सेवा पंजियाँ एवं वैयक्तिक फाइलें खोली गईं।

### घ) सामान्य प्रशासन

कार्यालय आदेश व परिपत्र जारी करना, पत्रों की आवृत्ति एवं प्रेषण, लेखन सामग्री एवं स्थानीय खरीद, परिसंपत्ति एवं वाहन अनुस्मरण, मुख्यालय की गृह व्यवस्था कार्य का प्रबंधन आदि कार्य सामान्य प्रशासन अनुभाग करता है।

कार्यकारी अधिकारियों और कर्मचारियों के बीच सौहार्दपूर्ण संबंध रहा। इनके उत्कृष्ट कार्य बोर्ड को ऊँचाइयों हासिल करने में सहायक हुए।

### I. 31 मार्च 2012 के अनुसार बोर्ड की कुल मानव शक्ति

31.3.2012 को बोर्ड के अधिकारियों एवं कर्मचारियों की कुल संख्या 1871 थी। विभागवार एवं ग्रुपवार विवरण आगे दिये हैं:-

### वर्षिक रिपोर्ट 2011-12

विभाग का नाम	वर्ग क	वर्ग ख	वर्ग ग	योग
रबड़ उत्पादन	202	450	389	1041
अनुसंधान	104	105	194	403
अनुज्ञापन एवं उत्पाद शुल्क	22	68	48	138
प्रशासन	12	30	61	103
प्रक्रमण एवं उपज विकास	18	24	33	75
वित्त एवं लेखा	6	24	23	53
प्रशिक्षण	7	4	16	27
सांख्यिकी एवं योजना	7	6	9	22
बाजार संवर्द्धन	2	5	2	9
<b>योग</b>	<b>380</b>	<b>716</b>	<b>775</b>	<b>1871</b>

#### II. 31.3.2011 के अनुसार ग्रुपवार महिला कर्मचारी और उनकी प्रतिशतता

वर्ग	महिला कर्मचारियों की संख्या	कर्मचारियों की कुल संख्या	योग का प्रतिशत
क	96	380	25.26
ख	359	716	50.13
ग	225	775	29.03
<b>योग</b>	<b>680</b>	<b>1871</b>	<b>36.34</b>

## 2. श्रमिक कल्याण प्रभाग

रबड़ अधिनियम 1947 की धारा 8(2) (घ) की शर्त है कि श्रमिकों के लिए बेहतर व्यवस्थाएँ एवं शर्तें सुनिश्चित करना तथा सुख सुविधाओं व प्रोत्साहन में अमिवृद्धि लाने के लिए बोर्ड को रबड़ बागान के श्रमिकों के लिए योजनाएँ कार्यान्वित करना चाहिए।

उपरोक्त लक्ष्य हासिल करने के लिए रबड़ बागानों के श्रमिकों एवं टापरों के लाभ हेतु बोर्ड ने श्रमिक कल्याण योजनाएँ रूपायित की।

वर्ष 2011-12 के दौरान श्रमिक कल्याण के लिए आबंटित बजट 295 लाख रुपए था तथा उपलब्धि मंजूर बजट की 105 प्रतिशत रही। वर्ष 2011-12 के दौरान विविध उप संघटकों का निष्पादन निम्नानुसार है:-

### 1. शैक्षिक वृत्तिका

यह उप संघटक रबड़ बागान के श्रमिकों के बच्चों को विभिन्न पाठ्यक्रमों में अध्ययन के लिए शैक्षिक वृत्तिका प्रदान करता है। इसमें शैक्षिक वृत्तिका, शिक्षा-शुल्क एवं

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पुस्तकों और इन्स्ट्रुमेंट्स की खरीद हेतु एकमुश्त अनुदान) और छात्रावास/भोजन शुल्क सम्मिलित हैं। प्रत्येक श्रेणी के अधीन प्रदत्त सहायता की रकम निम्नानुसार है:-

पाठ्यक्रम का नाम	वार्षिक वृत्तिका रु.	मासिक छात्रावास/भोजन शुल्क रु.
कक्षा XI और XII	1000	500
स्नातक पाठ्यक्रम	1000	500
स्नातकोत्तर पाठ्यक्रम	1500	500
<b>पेशावार/तकनीकी पाठ्यक्रम</b>		
प्रमाणपत्र पाठ्यक्रम	1500	500
डिप्लोमा पाठ्यक्रम	3000	500
स्नातक पाठ्यक्रम	6000	600
स्नातकोत्तर पाठ्यक्रम	6000	600
पी एच डी/पोस्ट डॉक्टरेल पाठ्यक्रम	6000	600

वित्तीय उपलब्धि 4344 लाभान्वितों को 94.68 लाख रुपए थी।

उत्तर पूर्वी क्षेत्रों में शैक्षिक वृत्तिका का संवितरण

उत्तर पूर्वी क्षेत्र के आवेदकों के हित हेतु वर्ष के दौरान 98,000 रुपए की रकम प्रदत्त की गई।

## 2. योग्यता पुरस्कार

यह उपसंघटक दो शीर्षकों में वित्तीय सहायता प्रदान करता है।

क) शैक्षिक श्रेष्ठता हेतु योग्यता पुरस्कार

यह उपसंघटक रबड़ बागान श्रमिकों के बच्चे जो शैक्षिक पाठ्यक्रम उत्कृष्ट तरीके से पास होते हैं उनको 1000 रुपये से 5000 रुपये तक की वित्तीय सहायता प्रदान करता है।

ब्यौरे नीचे दिए जाते हैं:-

पाठ्यक्रम का नाम	न्यूनतम अंक/शेड	अधिकतम रकम (रु.)
एस एस एल सी या समतुल्य	80% ए सभी विषयों के लिए	1000
कक्षा XII या समतुल्य	60% बी सभी विषयों के लिए	1000
स्नातक पाठ्यक्रम	60%	2000
स्नातकोत्तर पाठ्यक्रम	60%	3000
<b>पेशावार/तकनीकी पाठ्यक्रम</b>		
प्रमाणपत्र पाठ्यक्रम	60%	1500
डिप्लोमा पाठ्यक्रम	60%	2000
स्नातक पाठ्यक्रम	60%	4000
स्नातकोत्तर पाठ्यक्रम	60%	5000

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ख) खेलकूद और कला में विशिष्ट उपलब्धि के लिए नकद पुरस्कार

इस उपसंघटक में खेलकूद और कला में विशिष्ट उपलब्धि के लिए रबड़ बागान श्रमिकों के कक्षा IV और उसके ऊपर के कक्षाओं में अध्ययन करने वाले 9 से 23 के बीच के उम्र वाले बच्चों से विविध स्तरों के लिए निम्नानुसार नकद पुरस्कार दिए जाते हैं।

खेलकूद में उपलब्धि	नकद पुरस्कार का परिमाण
जिला स्कूल/विश्वविद्यालय स्तर पर प्रथम स्थान जीतने पर	- 3000 रु.
जिला स्कूल/विश्वविद्यालय स्तर पर द्वितीय स्थान जीतने पर	- 2500 रु.
राज्य स्कूल/विश्वविद्यालय स्तर पर प्रथम स्थान जीतने पर	- 4000 रु.
राज्य स्कूल/विश्वविद्यालय स्तर पर द्वितीय स्थान जीतने पर	- 3500 रु.
राष्ट्रीय स्कूल/विश्वविद्यालय स्तर पर प्रथम स्थान जीतने पर	- 5000 रु.
राष्ट्रीय स्कूल/विश्वविद्यालय स्तर पर द्वितीय स्थान जीतने पर	- 4500 रु.
<b>कला में उपलब्धि का स्तर</b>	
जिला स्कूल/विश्वविद्यालय स्तर पर प्रथम पुरस्कार जीतने पर	- 4000 रु.
जिला स्कूल/विश्वविद्यालय स्तर पर द्वितीय पुरस्कार जीतने पर	- 3500 रु.
राज्य स्कूल/विश्वविद्यालय स्तर पर प्रथम पुरस्कार जीतने पर	- 5000 रु.
राज्य स्कूल/विश्वविद्यालय स्तर पर द्वितीय पुरस्कार जीतने पर	- 4500 रु.

योग्यता पुरस्कार उपसंघटक में 197 लाभान्वितों को 3.43 लाख रुपए की रकम वितरित की।

### 3. श्रमिक समूह बीमा-सह-जमा-उपसंघटक

#### चरण 2

यह उपसंघटक बोर्ड और टापरों के अंशदान उपयोग करके असंगठित क्षेत्र के रबड़ टापरों के लिए दुर्घटना द्वारा मृत्यु और विकलांगता जैसी दुर्घटना के कारण अस्थाई पूर्ण विकलांगता के विरुद्ध बीमा सुरक्षा प्रदान करता है। बचत की आदत प्रोत्साहित करने के लिए अंशदान का एक भाग उनके नाम पर जमा किया जाता है।

इस उपसंघटक के अधीन प्रत्येक टापर को प्रतिवर्ष 250/- रु. अंशदान देना है और इसके बदले बोर्ड प्रत्येक सदस्य को प्रतिवर्ष 150/- रु. अंशदान देता है (बीमा किस्त के लिए 27 रुपए अतिरिक्त)। 400/- रुपए के पूर्ण अंशदान में से 65/- रुपए की रकम प्रति टापर इंशुरेन्स बीमा पर खर्च की जाती है और शेष 345 रुपए टापरों को

अधिकतम लाभ के लिए निवेश करते हैं। उपसंघटक का प्रत्येक चरण 10 वर्षों की अवधि के लिए चलेगा और बीमा किए श्रमिकों के नाम पर जमा की कुल रकम 10 वर्ष समाप्त होने पर निर्मुक्त की जाएगी।

7231 टापरों को 12.79 लाख रुपए की रकम वितरित की। बीमा कंपनी ने 2 मृत्यु मामले और 23 दुर्घटनाग्रस्त मामलों में 1,66,357 रुपए की क्षतिपूर्ति का भुगतान किया।

#### 4. समूह बीमा सह आवधिक लाभ योजना

अगस्त 2011 से भारतीय जीवन बीमा निगम के सहयोग से समूह जीवन बीमा यह आवधिक लाभ योजना शुरू की गयी। इसमें, स्वाभाविक दुर्घटना द्वारा विकलंगता के लिए क्षतिपूर्ति, योजना के सदस्यों के लिए आवधिक लाभ तथा सदस्यों के IX से XII वीं कक्षा तक पढ़ने वाले बच्चों को छात्रवृत्ति शामिल हैं। इस योजना के अर्धीन प्रत्येक टापर को प्रतिवर्ष न्यूनतम 300 रुपए अंशदान देना है और इसके बदले बोर्ड प्रति टापर प्रति वर्ष 200 रुपए अंशदान देगा। कुल 500 रुपए में से 367 रुपए आवधिक लाभ हेतु, 33 रुपए बीमा प्रीमियम और शेष 100 रुपए जनश्री बीमा योजना के लिए जमा किए गए।

बोर्ड ने 6828 टापरों के लाभ हेतु 13.66 लाख रुपए वितरित किये। रिपोर्टवर्ष के दौरान बीमा कंपनी द्वारा मृत्यु दावे के रूप में 30,000 रुपए का भुगतान किया।

#### 5. वैयक्तिक दुर्घटना बीमा दावा

मेसेर्स घोला एम एस बीमा कंपनी द्वारा नियंत्रित तथा मूल्य स्थिरीकरण निधि ट्रस्ट द्वारा चलाने वाली वैयक्तिक दुर्घटना बीमा दावे के अधीन समूह जीवन बीमा योजना में पंजीकृत टापरों को एक अतिरिक्त बीमा सुरक्षा प्रदान

की। बोर्ड ने प्रति टापर 11 रुपए की दर पर 6827 टापरों के लिए 75,097 रुपए जमा किए।

#### 6. गृह निर्माण सहायिकी

इस संघटक के अधीन संगठित क्षेत्र के श्रमिकों और असंगठित क्षेत्र के टापरों को अपनी भूमि पर गृह निर्माण के लिए सहायता दी जाती है। श्रमिकों को 12500 रुपए या निर्माण लागत के 25 प्रतिशत जो भी कम हो प्रदत्त किए गए। 943 लाभान्वितों को वर्ष 2011-2012 के दौरान 117.43 लाख रुपये वितरित किये थे।

#### 6.क. उत्तर पूर्वी क्षेत्र के लिए गृह निर्माण सहायिकी

उत्तरपूर्वी क्षेत्र में कायम विशिष्ट परिस्थितियों के आवश्यकतानुसार गृह निर्माण सहायिकी उपसंघटक संशोधित किया गया। सहायता की रकम 14000 से 15000 तक है और वर्ष 2011-12 के दौरान 8,53,500 रुपए की रकम संवितरित की थी।

#### 7. अनुसूचित जाति/जनजाति टापरों के लिए गृह निर्माण सहायिकी

असंगठित क्षेत्र के अनुसूचित जाति / जनजाति टापरों को अपने स्वामित्व की भूमि पर भवन और शौचालय निर्माण के लिए लगभग 15000/- रुपए या निर्माण लागत का 25 प्रतिशत जो भी कम हो मंजूर किया जाता है। वर्ष 2011-12 के दौरान 18.05 लाख रुपए की रकम 121 लाभान्वितों को संवितरित की थी।

#### 8. चिकित्सा सहायता

इस उपसंघटक का लक्ष्य रोगों के लिए विभिन्न चिकित्सा पर जाने वाले टापरों को वित्तीय सहायता प्रदान करना है। एलोपैथि/आयुर्वेद/होमियोपैथि उपचार पर जाने



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वाले असंगठित क्षेत्र के टापरों को प्रति टापर प्रति वर्ष दवाई के लिए 2000 रुपए तक प्रदान किया गया। बीमाश्री के कारण काम पर न जाने की क्षतिपूर्ति के रूप में अधिकतम 20 दिनों के लिए प्रतिदिन 25 रुपए की दर पर दिए गए। उपर्युक्त चिकित्सा प्रतिपूर्ति के अतिरिक्त एक टापर के

जीवन काल में एकमात्र भुगतान के रूप में उच्च व्यय होने वाले गंभीर रोगों के उपचार के व्यय की प्रतिपूर्ति के रूप में अधिकतम 10000 रुपए की रकम दी गई। वर्ष 2011-12 के दौरान 439 लाभान्वितों को चिकित्सा सहायता के रूप में 11.91 लाख रुपए की रकम वितरित की गई।

### वर्ष 2011-12 के दौरान विभिन्न उपसंघटकों के अधीन निष्पादन

उप संघटक का नाम	भौतिक उपलब्धि	लक्ष्य (लाख रु में)	प्रदत्त रकम (रु में)	लक्ष्य की उपलब्धि (%)
शैक्षिक वृत्तिका	4344	78	94.68	121.0
योग्यता/नकद पुरस्कार	197	3	3.43	114.0
चिकित्सा सहायता	439	10	11.91	119.0
गृह निर्माण सहायिकी	943	120	117.43	97.8
अनु.जाति/जनजाति के लिए गृह व शौचालय सहायिकी	121	17	18.05	106.0
वैयक्तिक दुर्घटना बीमा योजना	6827		0.75	
बीमा सह सीमांत लाम	6828	15	13.66	91.0
बीमा सह जमा	7231	12	12.79	106.6
प्रचालन खर्च		40	38.13	95.0
<b>योग</b>	<b>26930</b>	<b>295</b>	<b>310.86</b>	<b>105.3</b>

## 3. विधिक अनुभाग

संवीक्षा के लिए निर्दिष्ट फाइलों में विधिक अनुभाग विधिक परामर्श और सलाह देते हैं। भविष्य निधि नियम को संशोधित करने हेतु मंत्रालय में संपन्न संसदीय समिति बैठक में भाग लिया तथा रबड़ बोर्ड के भविष्य निधि नियम में संशोधनों का मसौदा तैयार किया। विधिक मामलों में सभी विभागों को खासकर अनुज्ञापन व उत्पाद शुल्क विभाग

तथा रबड़ बोर्ड एम्प्लॉईज़ हाऊसिंग कॉ-ऑपरेटिव सोसाइटी को समय पर समर्थन प्रदान किया तथा बोर्ड द्वारा निष्पादित करने के विधिक दस्तावेजों (समझौता ज्ञापन करार) के मसौदे तैयार किए। गृह निर्माण अग्रिम के नौ आवेदनों की संवीक्षा की गई। वर्ष के दौरान विविध न्यायालयों में 25 नए मुकदमे फाइल किए गए।

इन मामलों पर केंद्र सरकार प्लीडरों और बोर्ड के स्थाई काउंसिलों को अनुच्छेदवार टिप्पणियाँ एवं आवश्यक अनुदेश दिए। लंबित मुकदमों में बोर्ड के हित की रक्षा के लिए अधिवक्ताओं के द्वारा कदम उठाए तथा जहाँ याचिकाओं में केंद्र सरकार को एक पक्ष बनाया वहाँ मंत्रालय को समर्थन प्रदान किये। जिला उपभोक्ता विवाद क्षतिपूर्ति फोरम तथा राज्य आयोग के सामने उपभोक्ता विवाद संबंधी विषय में सुनवाई के दौरान बोर्ड का प्रतिनिधित्व किया। जिला विधिक सेवा प्राधिकरण के समक्ष दर्ज किए मामलों में सहायता प्रदान की तथा बोर्ड का प्रतिनिधित्व किया। बोर्ड से त्रुण के लिए सहकारी विपणन समितियों के खिलाफ माध्यस्थता याचिकाएं फाइल करने के लिए आवश्यक कदम उठाए गये।

#### **4. हिंदी अनुभाग**

रबड़ बोर्ड राजभाषा नियम के नियम 10(4) के अधीन अधिसूचित कार्यालय है। रबड़ बोर्ड के हिंदी अनुभाग ने रिपोर्ट वर्ष के दौरान निम्नलिखित कार्य किए-

##### **1) राजभाषा कार्यान्वयन समिति**

वर्ष के दौरान बोर्ड की राजभाषा कार्यान्वयन समिति की चार बैठकें (69वीं, 70वीं, 71वीं और 72वीं) आयोजित कीं। सभी चार बैठकों में श्रीमती भीला तोमस आई ए एस अध्यक्ष, रबड़ बोर्ड ने अध्यक्षता की। हिंदी के प्रणामी प्रयोग से संबंधित तिमाही प्रगति रिपोर्ट बैठक में प्रस्तुत की तथा राजभाषा विभाग द्वारा जारी वार्षिक कार्यक्रम पर चर्चा की। कार्यसूचियों राजभाषा विभाग के अनुदेशों के अनुसार तैयार कीं।

##### **2) हिंदी सलाहकार समिति**

वाणिज्य और उद्योग मंत्रालय की हिंदी सलाहकार समिति की बैठक माननीय वाणिज्य राज्य मंत्री

श्री ज्योतिरादित्य सिन्घा की अध्यक्षता में 25 जुलाई 2011 को नई दिल्ली में संपन्न हुई। श्री एम.राजगोपालन, उप निदेशक (उ शु), उप कार्यालय नई दिल्ली तथा श्री जी सुनीलकुमार, हिंदी अधिकारी बैठक में भाग लिए। वर्ष 2009-10 के दौरान राजभाषा के बेहतर कार्यान्वयन हेतु रबड़ बोर्ड को द्वितीय पुरस्कार प्राप्त हुआ तथा माननीय मंत्री से ट्रॉफी प्राप्त की। हिंदी सलाहकार समिति की द्वितीय बैठक 7 फरवरी 2012 को नई दिल्ली में संपन्न हुई। डॉ. जे. तोमस, रबड़ उत्पादन आयुक्त और श्री जी सुनीलकुमार, हिंदी अधिकारी बैठक में भाग लिए। वर्ष 2010-11 के लिए राजभाषा के बेहतर निभादन हेतु रबड़ बोर्ड ने माननीय वाणिज्य राज्यमंत्री से राजभाषा ट्रॉफी प्राप्त की।

##### **3) हिंदी पखवाड़ा /हिंदी दिवस समारोह**

बोर्ड के मुख्यालय एवं भारतीय रबड़ गवेषण संस्थान में 14 सितंबर 2011 से 27 सितंबर 2011 तक हिंदी पखवाड़ा समारोह का आयोजन किया गया। इस सिलसिले में बोर्ड के कर्मचारियों/अधिकारियों के लिए 11 प्रतियोगिताएं चलाई गयीं। इन प्रतियोगिताओं में करीब 100 अधिकारी/कर्मचारी भाग लिये। बोर्ड के 34 अधीनस्थ कार्यालयों में हिंदी दिवस समारोह का आयोजन किया।

##### **4) द्वैमासिक बुलेटिन रबड़ समाचार का प्रकाशन**

वर्ष के दौरान रबड़ समाचार हिंदी द्वैमासिक प्रकाशित किए गए। अधिकारियों/कर्मचारियों और उनके परिवार के सदस्यों के लेख और कई उपयोगी मंथें भी इसमें प्रकाशित किए जाते हैं। रबड़ समाचार में हिंदी लेख देने के लिए दिए जा रहे मानदेय की योजना जारी रखी। हिंदी पखवाड़ा/ हिंदी दिवस समारोह के सिलसिले में आयोजित निबंध लेखन प्रतियोगिता में पुरस्कार प्राप्त निबंध रबड़ समाचार में प्रकाशित किये।

### 5) हिंदी शिक्षण योजना

कोट्टयम में हिंदी शिक्षण योजना के अधीन कोई केंद्र नहीं है इसलिए बोर्ड के मुख्यालय में हिंदी टंकण कक्षाएं एवं हिंदी आशुलिपि कक्षाएं आयोजित की गईं। हिंदी टंकण प्रशिक्षण में कुल 12 पदचारियों और हिंदी आशुलिपि प्रशिक्षण में 8 कर्मचारियों को प्रशिक्षण दिया गया। इन परीक्षाओं में उत्तीर्ण होने पर योग्य पदधारियों को नकद पुरस्कार एवं वैयक्तिक वेतन दिए गए।

### 6) हिंदी कार्यशाला

बोर्ड के 28 अधीनस्थ कार्यालयों में एक दिवसीय हिंदी कार्यशालाएं आयोजित की गईं। इन कार्यशालाओं में कुल 450 अधिकारियों/कर्मचारियों को राजभाषा संबंधी प्रशिक्षण दिया गया। मुख्यालय और भारगस में 4 एक दिवसीय हिंदी कार्यशालाएं आयोजित कीं। इन कार्यशालाओं में कुल 92 अधिकारी/कर्मचारी भाग लिए।

### 7) नगर राजभाषा कार्यान्वयन समिति

बोर्ड के अध्यक्ष कोट्टयम नराकास के अध्यक्ष पद पर जारी रहे। हिंदी अधिकारी, रबड़ बोर्ड, सदस्य सचिव के पद पर जारी रहे। वर्ष के दौरान अगस्त 2011 और जनवरी 2012 में नराकास की दो बैठकें आयोजित कीं। श्रीमती शीला तोमस आई ए एस, अध्यक्ष, रबड़ बोर्ड एवं अध्यक्ष नराकास ने बैठकों में अध्यक्षता की। इन बैठकों में राजभाषा विभाग, गृह मंत्रालय के प्रतिनिधि के रूप में श्री पी विजयकुमार, सहायक निदेशक (कार्यान्वयन), क्षेत्रीय कार्यान्वयन कार्यालय, कोची उपस्थित थे।

रिपोर्टाधीन वर्ष के दौरान नगर राजभाषा कार्यान्वयन समिति की कोर समिति की दो बैठकें आयोजित की तथा वर्ष के दौरान एक दिवसीय संयुक्त हिंदी कार्यशाला और

संयुक्त हिंदी सप्ताह समारोह आयोजित किये। नराकास कार्यक्रम में नराकास सदस्य कार्यालयों के कर्मचारीभाग और बोर्ड से कर्मचारी सक्रिय रूप से भाग लिए।

### 8) राजभाषा सम्मेलन

भारत सरकार की राजभाषा नीति के हिस्से के रूप में रबड़ बोर्ड में 25 अक्टूबर 2011 को भारतीय रबड़ गवेषण संस्थान, कोट्टयम के सिल्वर जूबिली स्मारक भवन में राजभाषा सम्मेलन आयोजित किया। हिंदी पखवाड़ा समारोह हर साल नियमित रूप से आयोजित करते हैं और इसके समापन समारोह के रूप में राजभाषा सम्मेलन बड़े धूम धाम से आयोजित करते हैं। इस अवसर पर बोर्ड के कर्मचारियों को बोर्ड के बाहर के एक प्रसिद्ध व्यक्ति के भाषण सुनने का अवसर मिलता है। मलयालम के विख्यात साहित्यकार श्री सी वी बालकृष्णन ने सम्मेलन का उद्घाटन किया। रबड़ बोर्ड के अध्यक्ष श्रीमती शीला तोमस, आईएएस सम्मेलन में अध्यक्ष रही। डॉ सी कुरुविला जेकब, प्रमारी सचिव ने समा का स्वागत किया। श्री सी.सी.चाको, निदेशक (अनु व उ शु) और श्री एस.मोहनचंद्रन नायर, निदेशक (प्र व उ लि) मंच पर उपस्थित थे। समारोह के दौरान श्री बालकृष्णन ने इस साइबर युग में भाषा के दुरुपयोग पर धिंता प्रकट की। रबड़ बोर्ड भाषा के लिए अधिक महत्व देता है, इसलिए आज ऐसे एक समारोह में भाग लेने का अवसर मुझे मिला। हिंदी पखवाड़ा समारोह के विलसिले में मुख्यालय और भारग संस्थान में चलाई गई विविध प्रतियोगिताओं के विजेताओं को सम्मेलन के दौरान श्री बालकृष्णन ने पुरस्कारों का वितरण किया। उन्होंने बोर्ड के अधीनस्थ कार्यालयों में राजभाषा के प्रशंसनीय कार्यान्वयन के लिए राजभाषा ट्रॉफियां प्रदान कीं। वर्ष 2009-10 के लिए अनुज्ञापन प्रमाण कोची, प्रादेशिक कार्यालय पालक्काड और प्रादेशिक कार्यालय

## वार्षिक रिपोर्ट 2011-12

मण्णाकर्काड को क्रमशः प्रथम, द्वितीय और तृतीय पुरस्कार प्राप्त हुए। वर्ष 2010-11 के लिए अनुज्ञापन प्रभाग, कोची, प्रादेशिक कार्यालय तृशूर और प्रादेशिक कार्यालय अदूर को क्रमशः प्रथम, द्वितीय और तृतीय स्थान प्राप्त हुए।

### 9) अधीनस्थ कार्यालयों में राजभाषा कार्यान्वयन समिति

बोर्ड के विभिन्न अधीनस्थ कार्यालयों में राजभाषा कार्यान्वयन समितियाँ गठित की थीं। इन समितियों की नियमित बैठकें सुनिश्चित कीं। बोर्ड के अधीनस्थ कार्यालयों से प्राप्त हिंदी के प्रगामी प्रयोग से संबंधित तिमाही प्रगति रिपोर्टों की नियमित रूप से पुनरीक्षा की गई।

### 10) तिमाही प्रगति रिपोर्ट

राजभाषा हिंदी के प्रगामी प्रयोग से संबंधित तिमाही प्रगति रिपोर्टों का संकलन किया गया तथा वाणिज्य विभाग, वाणिज्य एवं उद्योग मंत्रालय और क्षेत्रीय कार्यान्वयन कार्यालय, कोची को अग्रेषित की गई। अधीनस्थ कार्यालयों से हिंदी के प्रयोग संबंधी तिमाही प्रगति रिपोर्ट एकत्रित कीं तथा पुनरीक्षा की गई।

### 11) अन्य कार्यकलाप

मुख्यालय और अधीनस्थ कार्यालयों में आज का शब्द लिखने की प्रणाली जारी है। वर्ष के दौरान कुल 28 अधीनस्थ कार्यालयों में राजभाषा निरीक्षण चलाया गया। बोर्ड के अधिकतम कंप्यूटरों में द्विभाषी सॉफ्टवेयर संस्थापित किया तथा लुकीस नामक एक बहुभाषी सॉफ्टवेयर की सुविधा भी प्रदान की गई। हिंदी के प्रगामी प्रयोग को बढ़ावा देने के उद्देश्य से मुख्यालय और बोर्ड के विविध कार्यालयों में हिंदी पत्रिकाएं शब्दिया दुडे साप्ताहिक, वनिता मासिक और दैनिक समाचार पत्र नवभारत टाइम्स की ग्राहकी की।

हिंदी अनुभाग के अधीन एक हिंदी ग्रंथालय कार्य कर रहा है, बोर्ड के पदधारी हिंदी में टिप्पण एवं आलेखन के

लिए इसका लाभ उठाता है। बोर्ड के पदधारियों के लिए एक हिंदी वीडियो सीडी लाइब्रेरी है और हिंदी के विख्यात क्लासिक की सीडियों कर्मचारियों के लिए उपलब्ध करा दी। इसके अतिरिक्त भारगस में बोलचाल की हिंदी का एक प्रशिक्षण कार्यक्रम आयोजित किया और अगला सत्र रबड़ प्रशिक्षण संस्थान में शुरू किया।

अधिक से अधिक अधिकारियों और कर्मचारियों को हिंदी में मूल कार्य करने के लिए प्रोत्साहित किए। कुल 180 पदधारियों को प्रोत्साहन योजना के अधीन नकद पुरस्कार दिये गए। बोर्ड, केंद्रीय सचिवालय परिषद नई दिल्ली की तरफ से टिप्पण एवं आलेखन, निबंध लेखन और हिंदी टंकण प्रतियोगिताएं आयोजित कीं।

### 12) सामान्य

राजभाषा अधिनियम की धारा 3(3) के कागजात द्विभाषी बनाये गये। विविध द्विभाषी प्रपत्र का ड्रफ्ट रीडिंग और प्रपत्रों का हिंदी में अनुवाद भी किया गया। प्रपत्रों का मुद्रण द्विभाषी सुनिश्चित किया। हिंदी में प्राप्त पत्रों के उत्तर हिंदी में दिए जाने पर विशेष ध्यान दिया गया। आवश्यकतानुसार संबंधित अधिकारियों को राजभाषा कार्यान्वयन के संबंध में आवश्यक मार्गदर्शन प्रदान किये।

बोर्ड की वार्षिक रिपोर्ट और वार्षिक लेखों का अनुवाद किया तथा इसके द्विभाषी प्रकाशन में आवश्यक सहायताएं प्रदान की। आवश्यकतानुसार मंत्रालय/संसदीय समिति के समक्ष प्रस्तुत करने के लिए विभिन्न रिपोर्ट/प्रश्नों के उत्तर का अनुवाद किया। त्रिभाषी EPABX प्रणाली और त्रिभाषी भाव सूचना प्रणाली जारी रखी। रबड़ अधिनियम और रबड़ नियमों के प्रकाशन हेतु प्रूफ रीडिंग और अन्य सहायताएं प्रदत्त की।

रबड़ बोर्ड की वेबसाइट के हिंदी पाठ [www.rubberboard.org.in/hindi](http://www.rubberboard.org.in/hindi) को अनुरक्षित किया।



## अध्यक्ष के सीधे नियंत्रण में कार्य करनेवाले प्रभाग

### प्रचार एवं जनसंपर्क प्रभाग

प्रचार एवं जनसंपर्क प्रभाग ने वर्ष 2011-12 के दौरान निम्न लिखित कार्य किए।

#### 1. प्रकाशन

रबर (मलयालम) मासिक के 12 अंक प्रकाशित किए, जो रबड़ के छोटे कृषकों के लिए सबसे प्रमुख प्रकाशन है। औसत मासिक परिचालन 18246 प्रतियाँ थीं जिनमें 9829 आजीवन ग्राहकी हैं और 5600 वार्षिक ग्राहकी। प्रभाग ने मासिक के लिए 177 विज्ञापन प्राप्त किए तथा इससे 7,96,650 रु. प्राप्त किए। वर्ष के दौरान रबड़ स्टैटिस्टिकल न्यूज़ के 12 अंक तथा "इनसाइड रबड़ बोर्ड" (रबड़ बोर्ड की गृह पत्रिका) के 2 अंक, रबड़ बोर्ड बुलेटिन के दो अंक प्रकाशित किए।

"रबड़ ग्रीवर्स कम्पानियन 2012" की लगभग 10,000 प्रतियाँ तथा "रबड़ ग्रीवर्स गाइड" की 500 प्रतियाँ मुद्रण करके वितरित कीं। इसके अलावा वर्ष के दौरान प्रभाग ने निम्नलिखित पुस्तकें प्रकाशित कीं -

- ❶ रबड़ कृषि पाठमाला शृंखला की 3 पुस्तकें
  - (क) निलमोरुकलुम नडीलुम
  - (ख) रबर परिपालनम्
  - (ग) टापीगुम संरक्षणबुम
- ❷ नए संशोधित और अधिसूचित रबड़ अधिनियम और
- ❸ सर्विस प्रोवाइडर्स डाईरेक्टरी (3000 प्रतियाँ)।

#### 2. प्रेस विज्ञापि एवं विज्ञापन

प्रभाग ने रबड़ क्षेत्र के प्रमुख विकासों पर 203 प्रेस विज्ञापियाँ जारी कीं तथा 74 विज्ञापन (प्रदर्शन एवं वर्गीकृत) जारी किये।

#### 3. संगोष्ठी, बैठकें एवं प्रदर्शनियाँ

प्रभाग के अधिकारीगण ने रबड़ कृषकों की 32 बैठकों/संगोष्ठियों में भाग लिए और भाषण/अभिभाषण दिए तथा 20 प्रदर्शनियों में भाग लिए और पोस्टर, फोल्डर्स, निमंत्रण पत्र तथा सहायक सामग्रियों जैसे प्रचार साहित्य वितरित किये। इसके अतिरिक्त प्रभाग ने अभियान के लिए प्रचार साहित्य की तैयारी की तथा अभियान 2011 के लिए आवश्यक कवरेज प्रदान किया।

#### 4. सूचना का अधिकार अधिनियम 2005

वर्ष के दौरान सूचना प्राप्त करने के लिए 33 आवेदन प्राप्त हुए तथा समय पर निपटारा किया गया। प्रभाग ने सूचना का अधिकार पर कार्यशालाएं चलाईं और नये नियुक्त केन्द्रीय जन सूचना अधिकारियों/कार्यालयों के कर्मचारियों/रबड़ उत्पादक संघों के लिए सूचना का अधिकार अधिनियम पर कक्षाएं चलाईं। बोर्ड में सूचना का अधिकार अधिनियम के कार्यन्वयन का संयोजन किया।

#### 5. आकाशवाणी/दूरदर्शन

रबड़ उत्पादक संघों की रजत जूबिली समारोह के सिलसिले में आकाशवाणी के द्वारा एक सिलसिलेदार प्रसारण की व्यवस्था की गयी। रबड़ बागान उद्योग से संबंधित विविध विषयों पर स्क्रिप्ट तैयार की। प्रभाग के अधिकारी आकाशवाणी तिरुवनंतपुरम के लिए फार्म और होम की परामर्शक समिति बैठकों में भाग लिए। आकाशवाणी तिरुवनंतपुरम, तृशूर और कन्नूर के लिए अभिभाषण/साक्षात्कार दिए।

#### 6. सामान्य

प्रभाग ने प्रदर्शनियों के लिए 54 विनाइल पोस्टर तैयार किए तथा रबड़ कृषक सम्मेलन, फाइटोथेरा 2011, केरल विज्ञान कांग्रेस और रबड़ उत्पादक संघों के रजत जूबिली समारोह जैसे कार्यक्रम आयोजित करने के लिए

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कोर समिति/उप समिति में भाग लिए। प्रभाग के अधिकारी ने इंटर मीडिया प्रचार समन्वयन समिति बैठक, महात्मागांधी विश्वविद्यालय के कैरियर गैडन्यू ब्यूरो बैठक, आकाशवाणी तिरुवनंतपुरम की ग्रामीण कार्यक्रम सलाहकार

समिति, सतर्कता जागरूकता कार्यक्रम, राजभाषा कार्यान्वयन समिति बैठक, 12 वीं योजना प्रस्ताव की रूपायन बैठकें तथा बोर्ड और उसकी उपसमिति बैठकों में भाग लिए।

### सतर्कता प्रभाग

सतर्कता प्रभाग ने क एवं ख वर्ग के 5 अधिकारियों तथा ग व घ वर्ग के 10 कर्मचारियों के खिलाफ आरोपों के आधार पर कुल 15 शिकायतों पर रिपोर्ट वर्ष के दौरान फुल्टाछ/जांच की। सामान्यतया ये शिकायतें विभिन्न स्वभाव की रहीं तथा जाँच पड़ताल पूरा होने पर जहाँ आवश्यक समझे वहाँ गलत बोर्ड कर्मियों के विरुद्ध उचित कार्रवाई की/सिफारिश दी।

#### 1. मुकदमे

रिपोर्ट वर्ष के दौरान बोर्ड के 4 पदधारियों के विरुद्ध कठिन और 1 पदधारी के खिलाफ लघु दण्ड कार्यवाही शुरू की। ऊपर बताए 5 मुकदमों पर कार्रवाई और कार्यवाही पर प्रभाग ने अनुशासनिक प्राधिकारी की सहायता की। वर्ष के दौरान पिछले वर्षों के दौरान प्रारंभ किए मुकदमों में 7 मुख्य दंड आदेश और 1 लघु दंड आदेश जारी किए गए। दो मुकदमों में प्रशासनिक आदेश जारी किए गए।

#### 2. परिसंपत्तियों के विवरण/चल/अचल संपत्ति के अर्जन/विक्री

क एवं ख वर्ग स्तर के 1099 अधिकारियों से 31.12.2011 के अनुसार अचल संपत्ति की वार्षिक विवरणी मांगी गयी थी। इस तरह अधिकारियों से प्राप्त विवरणियों की संपीक्षा की। रबड़ बोर्ड कर्मधारी आचार नियम 1958 के अनुसार सतर्कता प्रभाग ने अचल संपत्ति के क्रय-विक्रय से संबंधित 91 आवेदनों तथा चल संपत्ति के क्रय-विक्रय से संबंधित 96 आवेदनों पर कार्रवाई की।

#### 3. टिप्पणी/सलाह

प्रभाग ने एक अपील याचिका और अनुशासनिक प्राधिकारी द्वारा उन पर लगाए गए दण्ड के विरुद्ध एक पुनरीक्षा याचिका की छानबीन की और उसी को खंड वार

टिप्पणियाँ और संबद्ध दस्तावेजों सहित अपील प्राधिकारी को अग्रप्रेषित की।

अन्य प्रभागों/अनुभागों/कार्यालयों से 109 फाइल/मामले का हवाला टिप्पणी/सलाह हेतु सतर्कता अनुभाग को कर दिया। इन फाइलों पर उचित कार्रवाई की तथा सही समय पर उन्हें टिप्पणी/सलाह के साथ लौटा दिया।

#### 4. अन्य कार्यकलाप

केन्द्रीय सतर्कता आयोग से प्राप्त अनुदेशों के अनुसार बोर्ड के सभी कार्यालयों में 31.10.2011 से 05.11.2011 तक धूम धाम से सतर्कता जागरूकता सप्ताह मनाया गया। सभी कर्मचारियों ने 31 अक्टूबर 2011 को पूर्वाह्न 11.00 बजे प्रतिज्ञा ली।

सतर्कता जागरूकता अनुपालन संबंधी विस्तृत कवरेज समाचार पत्रों में दिया गया। रबड़ बोर्ड कोर्टेजम के माध्य अंचल प्रदेश के कर्मचारियों के लिए मलयालम में और तिरुवनंतपुरम, कोच्चिकोड, मंगलूर, गुआहटी और अगर्तला के बोर्ड के कर्मचारियों के लिए अंग्रेजी/प्रादेशिक भाषा में भाषण प्रतियोगिता आयोजित की। स्कूल/कॉलेज छात्रों के लिए कोर्टेजम में मलयालम में भाषण प्रतियोगिता भी आयोजित की गई।

प्रभाग द्वारा निपटाए विभागीय जाँचों और सतर्कता मामलों, शिकायतों आदि पर मासिक और तिमाही विवरणियों नियमित रूप से मंत्रालय और केन्द्रीय सतर्कता आयोग को प्रस्तुत की। सूचना का अधिकार अधिनियम 2005 के अन्धी सहायक सतर्कता अधिकारी (सतर्कता) प्रभाग के केन्द्रीय जन सूचना अधिकारी के रूप में कार्य कर रहे हैं।

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### 2 योजना प्रभाग

वर्ष 2011-12 के दौरान योजना प्रभाग के मुख्य कार्य छः उपशीर्षकों में नीचे दिये हैं।

#### 1) प्लान योजनाओं के रूपायन, निगरानी एवं मूल्यांकन

भारत सरकार को प्रस्तुत करने के लिए योजनाओं के कार्यान्वयन में प्रगति पर नेमी तथा अन्य रिपोर्ट तैयार करने के लिए सूचनाएं एकत्रित और संकलित कीं।

तैयार किये गये महत्वपूर्ण कामज़ालों में शामिल हैं:-

- + 2010-11 के दौरान प्लान योजनाओं की वार्षिक निष्पादन पुनरीक्षा।
  - + 2012-13 की वार्षिक योजना तथा 2012-13 का परिणाम बजट।
  - + प्लान योजनाओं के कार्यान्वयन पर योजनावार व संघटकवार सूचना सहित त्रैमासिक परिणाम बजट।
  - + आवश्यकता के अनुसार प्लान योजनाओं की पुनरीक्षावाली रिपोर्टें।
- प्लान योजनाओं के कार्यान्वयन की प्रगति की पुनरीक्षा के लिए मासिक बैठकें आयोजित कीं। वर्ष 2011-12 के दौरान 11 वीं योजना के योजनावार परिव्यय तथा व्यय नीचे की तालिका में दिए हैं:-

**प्लान योजनाओं के परिव्यय एवं व्यय (रु. करोड़)**

क्रम सं.	योजना	परिव्यय		व्यय	
		11वीं प्लान*	2011-12	11वीं प्लान	2011-12
1.	रबड़ बागान विकास	240.39	78.50	309.45	80.33
2.	रबड़ अनुसंधान	65.05	25.00	85.94	23.99
3.	संसाधन, गुणता सुधार एवं उत्पाद विकास	45.00	9.50	27.42	6.70
4.	बाज़ार विकास और निर्यात संबर्द्धन	45.00	9.00	33.57	7.98
5.	मानव संसाधन विकास	42.91	15.00	45.60	10.66
6.	उत्तरपूर्वी क्षेत्र में रबड़ विकास	173.05	34.50	163.38	46.67
	<b>योग</b>	<b>611.40</b>	<b>171.50**</b>	<b>665.36</b>	<b>176.33</b>

\* वास्तविक अनुमोदन    \*\*आईबीआर 1.50 करोड़ रुपए सहित

7 जून 2011 को कोची में 2010-11 के लिए वस्तु बोडों की वार्षिक निष्पादन पुनरीक्षा बैठक का तथा वस्तु बोडों के समन्वयन बैठक का आयोजित किया।

#### 12वीं पंचवर्षीय योजनाओं का रूपायन

11 वीं प्लान योजना का बाहरी मूल्यांकन, हितौषी

परामर्श, आंतरिक परामर्श और भारत सरकार एवं योजना

आयोग के निदेशों के आधार पर बोर्ड के 12वीं योजना प्रस्ताव का मसौदा रूपायित किया गया।

#### 11वीं प्लान योजनाओं का बाह्य मूल्यांकन

रबड़ बोर्ड की 11वीं पंचवर्षीय योजनाओं के मूल्यांकन के लिए डॉ एम एस स्वामिनाथन, सांसद एवं प्रमुख कृषि वैज्ञानिक की अध्यक्षता में एक राष्ट्रीय समिति



## वार्षिक रिपोर्ट 2011-12

का गठन किया गया। राष्ट्रीय समिति में अध्यक्ष तथा विविध क्षेत्रों से नौ विशेषज्ञ सम्मिलित हैं। विशेषज्ञों को निम्नानुसार तीन उपसमितियों में विभाजित किये गए:

### उप समिति - I

योजनाएं: 1) रबड़ बागान विकास योजना

2) उत्तर पूर्वी क्षेत्र में रबड़ बागान विकास योजना

सदस्य: 1) डॉ वी पी शर्मा, निदेशक (आई टी डी एवं पी), राष्ट्रीय कृषि विस्तार प्रबंधन संस्थान, हैदराबाद

2) डॉ विनय सिंह, निदेशक, एनआईआरडी - उत्तर पूर्व प्रादेशिक केंद्र, गुवाहटी

3) प्रोफ. जॉय मालु, प्रोफेसर / अध्यक्ष, केंद्रीय प्रशिक्षण संस्थान, केएच. तृश्शूर

### उप समिति - II

योजनाएं: 1) अनुसंधान योजना

II) मानव संसाधन विकास योजना

सदस्य: 1) डॉ आर के सामंता, पूर्व कुलपति, बिधान चंद्र कृषि विश्वविद्यालय, पश्चिम बंगाल

2) डॉ के एन नैनान, प्रोफेसर एमेरिटस, आईआईएसएस एवं टी, अंतरिक्ष विज्ञान एवं प्रौद्योगिकी विभाग, तिरुवनंतपुरम

3) प्रोफ. एम उदयकुमार, फसल शरीरक्रियाविज्ञान विभाग, कृषि विज्ञान विश्वविद्यालय, बैंगलूर

### उप समिति III

योजनाएं: 1) प्रक्रमण, गुणता सुधार एवं उत्पाद विकास

II) बाजार विकास एवं निर्यात संबर्द्धन

सदस्य: 1) डॉ आर के मातन, के ए प्रीवल्कनाइस्ड लाटेक्स प्राइवेट लिमिटेड, चेन्नै

2) श्री सत्यराज एन, प्रबंध निदेशक, फोम मेडिटैम्स (इंडिया) लिमिटेड, आलप्पुषा

3) श्री जॉर्ज मसाई तरकन, प्रोफ. व पूर्व क्षेत्रीय निदेशक, इंस्टिट्यूट ऑफ मैनेजमेंट इन गवर्नमेंट, काक्काडा, कोची

भारतीय स्वामित्व रबड़ क्षेत्र का उद्भव, विकास और वर्तमान स्थिति की विस्तृत पार्श्व टिप्पणी तैयार की गयी तथा समिति की प्रथम बैठक डॉ एम एस स्वामिनाथन की अध्यक्षता में 14 अप्रैल 2011 को भारतीय रबड़ गवेषण संस्थान में संपन्न हुई। बाद में, उप समितियों की कई बैठकें आयोजित की गयीं। राष्ट्रीय समिति की आखिरी बैठक 30 जून 2012 को चेन्नै में एम एस स्वामिनाथन रिसेच फाउंडेशन में संपन्न हुई थी। समिति की रिपोर्ट वाणिज्य विभाग को प्रस्तुत की गयी।

### हितैषी परामर्श

बोर्ड की वेबसाइट [www.rubberboard.org.in](http://www.rubberboard.org.in) में एक अंतःक्रिया इन्टरफेस खोला गया जिसके द्वारा आम जनता 12वीं योजना प्रस्ताव के रूपायन के संबंध में सुझाव दे सके। बोर्ड को ऑनलाईन प्रणाली द्वारा 30 प्रतिक्रियाएं प्राप्त हुईं। 12 वीं प्लान प्रस्ताव के रूपायन में हितैषियों की सहभागिता सुनिश्चित करने के लिए, बोर्ड ने रबड़ उद्योग हितैषियों के विविध सेगमेंट के साथ परामर्शों की एक श्रृंखला आयोजित की। आयोजित हितैषी परामर्श के विवरण नीचे की तालिका में दिए हैं।

### हितैषियों की बैठकें

तारीख	सेगमेंट
05-04-2011	रबड़ उत्पादक संघ कंपनियों
06-04-2011	कृषक संगठन एवं बड़े पैमाने के कृषक
07-04-2011	सहकारी समितियों एवं संसाधक
08-04-2011	रबड़ बुड़ संसाधक
25-04-2011	रबड़ पोषशालाएं
26-04-2011	श्रमिक हित
28-04-2011	व्यापारी एवं निर्यातक
09-05-2011	रबड़ उत्पाद विनिर्माता

छोटे कृषकों और रबड़ उत्पादक संघों के लिए अंचल स्तर पर हितैषी बैठकें आयोजित की गयीं।

## वर्षिक रिपोर्ट 2011-12

### 12वीं योजना प्रस्ताव के रूपायन पर बोर्ड की उप समिति

12वीं योजना प्रस्ताव रूपायन की जाँच करने व मार्गदर्शन देने के लिए रबड़ बोर्ड की एक उप समिति बनायी गयी। उप समिति की बैठक 16 सितंबर 2011 को संपन्न हुई।

### वस्तु बोर्डों की परामर्श कार्यशाला

बंगलुरु और गुआहाटी में क्रमशः 19 अप्रैल और 31 मई 2011 को वाणिज्य विभाग द्वारा आयोजित दो परामर्श कार्यशाला में बोर्ड ने हितैषियों के प्रतिनिधियों के साथ सक्रिय रूप से भाग लिया।

### योजना रूपायन पर आंतरिक समिति

12वीं योजना प्रस्ताव के रूपायन के समन्वयन के लिए बोर्ड के विविध विभागों के पदधारियों को सम्मिलित करके एक आंतरिक समिति बनाई गई। समिति की आवधिक

बैठकें आयोजित की गईं तथा प्रस्ताव के रूपायन की प्रगति की पुनरीक्षा की।

### आंतरिक परामर्श

प्लान योजनाओं पर कार्यान्वयन करने वाले पदधारियों के मत प्राप्त करने के लिए बोर्ड के विभाग और प्रभाग ने आंतरिक परामर्श चलाए। बोर्ड के सेवा संगठनों से उनकी राय और सुझाव देने के लिए अनुरोध किया था तथा सेवा संगठनों के प्रतिनिधियों से एक बैठक संपन्न हुई थी।

### 12वीं प्लान प्रताव के मसौदा के अनुसार प्रस्तावित परिय्य

योजना प्रभाग ने 12वीं योजना प्रस्ताव के रूपायन से संबंधित बोर्ड के सभी कार्यकलापों का समन्वयन किया। नी योजनाओं के प्रस्तावित परिय्य नीचे की तालिका में दी है:

### 12वीं प्लान योजनाएं तथा प्रस्तावित परिय्य (करोड़ रु. में)

क्रम सं.	प्रस्तावित योजनाएं	प्रस्तावित परिय्य
1.	पारंपरिक क्षेत्र में रबड़ बागान विकास	588
2.	उत्तर पूर्वी क्षेत्र को छोड़कर अन्य अपरंपरागत क्षेत्रों में रबड़ बागान विकास	133
3.	उत्तर पूर्व में रबड़ बागान विकास	401
4.	रबड़ अनुसंधान का सशक्तीकरण	193
5.	रबड़ और रबड़ बुड़ की प्रौद्योगिकी उन्नयन तथा गुणवत्ता सुधार	60
6.	रबड़ तथा रबड़ बुड़ का बाजार विकास	70
7.	मानव संसाधन विकास	55
8.	अवसंरचना विकास	54
9.	सांख्यिकी सेवाएं, सूचना सेवाएं तथा ई गवर्नेंस कार्यक्रम	41
कुल		1595

## 2. रिज़ल्ट प्रेमवर्क डोक्युमेंट

- वाणिज्य विभाग के 2011-12 के रिज़ल्ट प्रेमवर्क डोक्युमेंट के लिए निवेश प्रदत्त किए।
- वर्ष 2011-12 के रिज़ल्ट प्रेमवर्क डोक्युमेंट में उल्लिखित लक्ष्य के विरुद्ध मध्यावधि उपलब्धि की रिपोर्ट के लिए निवेश प्रदान किए।
- सभी योजना और गैर योजना गतिविधियों को सम्मिलित करके रबड़ बोर्ड की 2011-12 की रिज़ल्ट प्रेमवर्क डोक्युमेंट तैयार की। आवश्यकता, प्राथमिकता, वित्तीय परिचय और अन्य विचार के आधार पर बोर्ड के सभी कार्यकलापों को महत्व दिया गया।

## 3. संसदीय मामलों

प्रभाग ने 30 संसदीय प्रश्नों के लिए पूरक विवरणों के साथ सामग्रियों की पूर्ति की। अधिकतर प्रश्न प्वान योजनाओं, कृषकों को सहायता, सीमाशुल्क, उत्पादन, आयात व निर्यात, भाव, भविष्य व्यापार, व्यापार करार, रबड़ पार्क तथा रबड़ के अन्य मामलों से संबंधित थे। प्रधानमंत्री कार्यालय तथा अन्य वी आई पी संदर्भों के लिए विस्तृत टिप्पणियाँ तैयार कीं। संसद सत्र के लिए प्रवेश टिप्पणियाँ तैयार कीं तथा प्रस्तुत कीं। वाणिज्य विभाग के अनुदान हेतु मांग पर संसदीय स्थायी समिति के लिए स्वाभाविक रबड़ क्षेत्र से संबंधित सामग्रियाँ प्रदत्त कीं। केरल सरकार के कृषि विभाग को विधान सभा प्रश्नों के उत्तर तैयार करने के लिए सांख्यिकी प्रदान की गयी।

## 4. नीति रूपायन में सहायता

प्रभाग ने वाणिज्य विभाग तथा अन्य एजेंसियों जैसे विदेश व्यापार महा निदेशालय (डीजीएफटी), फोर्ड मार्केट कमीशन (एफ एम सी), राष्ट्रीय विनिर्माण कॉन्फेडरेटिवनेस परिषद, एन एम सी सी आदि को रबड़ उद्योग से संबंधित नीतिपरक मामलों पर बोर्ड का दृष्टिकोण रूपायित करने में तथा उपलब्ध कराने में सहायता दी। रबड़ उत्पादक, व्यापारी, अपभोक्ता हितों से सरकार तथा अन्य अभिकरणों

को प्राप्ता अनिवेदनों पर बोर्ड के विचार व्यक्त करने के लिए प्रभाग ने सहायता दी। निपटारा गए मुख्य मामले निम्न प्रकार हैं:-

**व्यापार तथा शुल्क:** स्वाभाविक रबड़ के शुल्क दर विद्यमान स्तर पर बनाए रखने के लिए औचित्य के साथ बजट पूर्व प्रस्ताव प्रस्तुत किया गया। रबड़ उद्योग हितैषी संगठनों की स्वाभाविक रबड़ के निर्यात और आयात तथा स्वाभाविक रबड़ के शुल्क के संदर्भ में विस्तृत टिप्पणी तैयार की। देशी रबड़ क्षेत्र पर क्षेत्रीय व्यापार करारों तथा अंतर्राष्ट्रीय सहयोग के अन्य रूपों के प्रभाव की नियमित निगरानी की। क्षेत्रीय व्यापार करार पर बोर्ड के दृष्टिकोण वाणिज्य विभाग को उपलब्ध कराया। टायरों के पटकने से संबंधित हितैषियों की हिता वाणिज्य विभाग के ध्यान में लाई गई तथा उद्योग के हित के संरक्षण के दृष्टिकोण के साथ मंत्रालय को विस्तृत निवेश प्रदान किए।

**स्वाभाविक रबड़ के लिए आयात शुल्क:-** स्वाभाविक रबड़ के आयात शुल्क पर निम्नानुसार परिशोधन किया गया।

- राजस्व विभाग ने अधिसूचना सं.59/2011-सीमाशुल्क दिनांक 13 जुलाई 2011 के अनुसार 40,000 टन रबड़ के आयात की तारीफ़ क्वोटा की अवधि "2010-11 वित्त वर्ष के शेष समय से 2011-12 वित्त के शेष समय तक" बढ़ा दिया।
- राजस्व विभाग ने अधिसूचना सं.04/2012-सीमाशुल्क, दिनांक 17 जनवरी 2012 के अनुसार, लाटेक्स का आयात शुल्क 49/- रुपए प्रति किलोग्राम के रूप में परिशोधित किया है, यदि प्रति किलोग्राम का शुल्क 70 प्रतिशत की दर पर हिसाब की है, तो यथामूल्य शुल्क प्रति कि.ग्रा.49/- रु. से अधिक होता है।
- वाणिज्य विभाग (बागवानी प्रभाग) ने कार्यालय ज्ञापन सं.एफ नं. 8/12/2011-प्लॉट सी, दिनांक 3 जनवरी 2012 के अनुसार 1 जनवरी 2012 से प्रभावी रूप में परीक्षण आधार पर एक वर्ष की अवधि के लिए

## कार्यक रिपोर्ट 2011-12

स्वामाधिक रबड़ के आयात को रैन्डम चेकिंग से छूट दी है।

इंडियन साइकिल तथा रिक्शा टायर मैनुफैक्चरर्स एसोसिएशन (आई सी आर टी एम ए) ऑटो टायर मैनुफैक्चरर्स एसोसिएशन (एटीएम) तथा ऑल इंडिया रबड़ इंडस्ट्रीज़ एसोसिएशन (ए आई आर आई ए) ने भारत सरकार को प्रस्तुत उनके पुराने अम्पावेदनों के आधार पर माननीय उच्च न्यायालय, नई दिल्ली में रिट याचिकाएं फाइल की थीं।

- याचिकादाताओं द्वारा फाइल किए प्रत्युत्तर पर वाणिज्य विभाग को टिप्पणियाँ और निवेश प्रदत्त किए गए।
- याचिकादाताओं द्वारा फाइल किए विविध आवेदनों के विशेष संदर्भ के साथ खास रबड़ पर उपकर पर वाणिज्य विभाग को टिप्पणियाँ और निवेश प्रदान किए गए।

### शुल्क संरचना में असंगति की जांच हेतु विशेषज्ञ पैनल

लाटेक्स तथा स्वामाधिक रबड़ के शुल्क रूप की शुल्क संरचना की जांच तथा कार्यालय ज्ञापन सं/8/5/2011-प्लॉट सी दिनांक 6 जनवरी 2012 के अनुसार उपयुक्त सिफारिशें बनाने के लिए वाणिज्य विभाग ने एक विशेषज्ञ पैनल का गठन किया। स्वामाधिक रबड़, स्वामाधिक रबड़ के शुल्क, कीमत निर्धारण, कमी, निर्यात, आयात, लाटेक्स संबंधी मामलों तथा रबड़ में मधिव्य व्यापार सहित रबड़ उद्योग संबंधी विविध मुद्दों पर चर्चा करना तथा वाणिज्य विभाग को सिफारिश तैयार करके देना इस पैनल के अविदेश है। पैनल का गठन निम्नानुसार है।

- i. अध्यक्ष, रबड़ बोर्ड - विशेषज्ञ पैनल का अध्यक्ष
- ii. निदेशक (बागवानी), वाणिज्य विभाग
- iii. निदेशक (अनु य उ शु) रबड़ बोर्ड
- iv. श्री राजीव बुद्धराजा, ऑटोमोटीव टायर मैनुफैक्चरर्स एसोसिएशन (एटीएमए) प्रतिनिधि
- v. श्री विनोद सैमण, ऑल इंडिया रबड़ इंडस्ट्रीज़ एसोसिएशन (ए आई आर आई ए) के प्रतिनिधि

vi. श्री डी बी राऊ, इंडियन साइकिल रिक्शा टायर मैनुफैक्चरर्स एसोसिएशन (आई सी आर टी एम ए) के प्रतिनिधि

vii. डॉ के एम शिवकुमार, फोर्बेड मार्केट कमीशन के प्रतिनिधि

viii. प्रोफ.के.के.ए.ब्रह्म, रबड़ निर्यातकों के प्रतिनिधि

ix. श्री एस रामचंद्रन, कृषकों के प्रतिनिधि

विशेषज्ञ पैनल की सेवा रबड़ बोर्ड द्वारा करनी है। विशेषज्ञ पैनल के लिए शुल्क संरचना की वर्तमान स्थिति, रबड़ का भाव, आयात और निर्यात, स्वामाधिक रबड़ की कमी आदि पर एक पृष्ठभूमि टिप्पणी तैयार की गयी। पैनल की पहली बैठक 15 मार्च 2012 को केरला हाऊस, नई दिल्ली में संपन्न हुई।

### मधिव्य व्यापार

बोर्ड के दृष्टिकोण और वित्तार्थ फोर्बेड मार्केट कमीशन के ध्यान में लाए गए। रबड़ के मधिव्य व्यापार पर 9 नवंबर 2011 को तिरुवनंतपुरम में संपन्न एक बैठक में बोर्ड के पदधारी भाग लिए, जिसमें केरल के माननीय मुख्यमंत्री श्री उम्मान चांडी तथा माननीय उपमोक्षा कार्य एवं खाद्य एवं सार्वजनिक वितरण मंत्री श्री के डी तोमस भाग लिए।

### बागान क्षेत्र के संरचनात्मक कमज़ोरियों का अध्ययन

रबड़ के विषय में वाणिज्य विभाग द्वारा शुरू की गई तथा विकास अध्ययन केंद्र, तिरुवनंतपुरम द्वारा आयोजित "बागान क्षेत्र के संरचनात्मक कमज़ोरियों" पर अध्ययन की मुख्य सिफारिशों से उठे मुद्दों की पुनरीक्षा की गई तथा बोर्ड स्तर पर जो निर्णय/मध्यस्थता लेनी थी, तैयार की गई। अध्ययन की सिफारिशों पर बोर्ड की टिप्पणियाँ वाणिज्य विभाग को अग्रेषित की गई।

### अन्य:-

- विशान 2025 दस्तावेज तैयार की गई।
- आर्थिक सर्वेक्षण 2011-12 में सम्मिलित करने के लिए सामग्रियों प्रदत्त कीं।



- माननीय वाणिज्य एवं उद्योग मंत्री के लिए देश और विदेश में दौरे के सिलसिले में इस क्षेत्र से संबंधित निवेश प्रदान किए।
- स्वाभाविक रबड़ क्षेत्र के नीतिपरक मामलों पर बोर्ड एवं समिति की बैठकों के लिए कार्यसूची टिप्पणियाँ तैयार कीं।
- स्वाभाविक रबड़ क्षेत्र के विविध नीति विषयक मामलों पर विस्तृत टिप्पणियाँ/रिपोर्टें तैयार कीं।
- विविध अभिकरणों द्वारा नीति विषयक मामलों पर उठाए गए प्रेस प्रश्नों के लिए उत्तर तैयार करने में अध्यक्ष की सहायता की।

#### 5. रबड़ उद्योग संबंधी दस्तावेजों की तैयारी

निम्न लिखित बैठकों/सम्मेलनों के लिए दस्तावेज तैयार की गई।

- i. बोर्ड की 165वीं, 166वीं और 167वीं बैठक।
- ii. 14 अप्रैल 2011 की ग्यारहवीं प्लान योजना के मूल्यांकन पर राष्ट्रीय समिति बैठक।
- iii. 19 अप्रैल 2011 को बेंगलुरु में वाणिज्य विभाग द्वारा आयोजित परामर्श कार्यशाला।
- iv. वाणिज्य विभाग द्वारा 31 मई 2011 को गुआहटी में आयोजित परामर्श कार्यशाला।
- v. कुलालपुर, मलेशिया में 26 और 27 जुलाई 2011 को संपन्न अंतर्राष्ट्रीय रबड़ आर्थिक सम्मेलन।
- vi. 12वीं प्लान योजनाओं पर 16 सितंबर 2011 को संपन्न रबड़ बोर्ड की उप समिति बैठक।
- vii. 22 से 23 अक्तूबर 2011 तक कूनूर में उपासि वार्षिक सम्मेलन।
- viii. 24 से 26 नवंबर 2011 तक नोम पेन्ह, कंबोडिया में संपन्न विश्व रबड़ सम्मेलन 2011।
- ix. 2 दिसंबर 2011 को चेन्नै में आयोजित एशियन टायर व रबड़ सम्मेलन।

#### 6. अंतर्राष्ट्रीय संगठनों से संबंधित कार्यकलाप

इन्टरनेशनल रबड़ स्टडी ग्रुप (आई आर एस जी),

सिंगपुर, तथा कुलालंपूर, मलेशिया केंद्रित एसोसिएशन ऑफ नैचुरल रबड़ प्रोड्यूसिंग कंट्रीज़ का भारत एक सदस्य है। प्रभाग ने इन संगठनों में भारत की सहभागिता संबंधी कार्यकलापों में समन्वय का कार्य किया।

- ए एन आर पी सी तथा आई आर एस जी सचिवालयों द्वारा संगठनों और रबड़ उद्योगों से संबंधित विविध विषयों पर परिचालित दस्तावेजों पर विस्तृत टिप्पणियाँ तैयार कीं।

- जुलाई 2011 को सिंगपुर में संपन्न 107वीं ग्रुप बैठक में भारत को आई आर एस जी का अध्यक्ष चुन लिया गया। आई आर एस जी की अध्यक्षता की अवधि 2 वर्ष है।

- नवंबर 2011 तक भारत ए एन आर पी सी के अध्यक्ष के रूप में सेवा की। प्रभाग ने ए एन आर पी सी तथा आई आर एस जी बैठकों में भारतीय प्रतिनिधि मंडलों की सहभागिता का समन्वयन किया। रिपोर्टधीन अवधि के दौरान भारतीय प्रतिनिधि मंडल निम्नलिखित बैठकों में भाग लिए।

- 11 से 15 जुलाई 2011 तक सिंगपुर में संपन्न अंतर्राष्ट्रीय रबड़ अध्ययन ग्रुप (आई आर एस जी) विस्तृत उद्योग सलाहकार पैनल, प्रतिनिधिमंडल के प्रमुख तथा 107वीं ग्रुप बैठक।

- 31 अक्तूबर से 5 नवंबर 2011 तक चीन के हाईकू में संपन्न ए एन आर पी सी की 5वीं सूचना व सांख्यिकी समिति, 5वीं उद्योग कार्य समिति, चौथी ए एन आर पी सी वार्षिक रबड़ सम्मेलन, एसेंब्ली का 34वां सत्र तथा कार्यकारी समिति की 39वीं बैठक।

- 27 तथा 28 फरवरी 2012 को सिंगपुर में आयोजित आई आर एस जी की उद्योग सलाहकार पैनल बैठक।

- 6 तथा 7 मार्च 2012 को बेंगलूर, थायलैंड में संपन्न ए एन आर पी सी की 40वीं कार्यकारी समिति बैठक।



## रबड़ अनुसंधान

भारतीय रबड़ गवेषण संस्थान (भा र ग सं) रबड़ बोर्ड का अनुसंधान विभाग है। इसका मुख्यालय केरल के कोट्टयम में है, जिसके नौ प्रादेशिक अनुसंधान स्टेशन तमिलनाडु, कर्नाटक, महाराष्ट्र, उड़ीसा, पश्चिम बंगाल, त्रिपुरा, असम व मेघालय राज्यों में हैं जो रबड़ खेती हेतु संभाव्य क्षेत्र हैं। मुख्यालय के क्षेत्र स्तरीय परीक्षण मुख्यतः केरल के पत्तनमतिट्टा के रात्री स्थित केंद्रीय परीक्षण स्टेशन में चलाये जाते हैं जो 250 हे. से अधिक का है। भूमि की लभ्यता में कठिनाइयाँ होने की वजह से बहुत से परीक्षण कृषकों के क्षेत्र में चलाये जाते हैं। हर प्रादेशिक अनुसंधान स्टेशन के 40-50 हे. के अनुसंधान प्रक्षेत्र भी है तथा स्थानीय विशिष्टता के अनुसंधान कार्यक्रम कृषकों के क्षेत्रों में चलाये गये। भारतीय रबड़ गवेषण संस्थान द्वारा चलाये गये अनुसंधान कार्य फसल सुधार, फसल प्रबंधन, फसल फिज़ियोलजी, फसलन, फसल संरक्षण, रबड़ प्रौद्योगिकी एवं कृषि आर्थिकी पर थे।

वार्षिक तौर पर बाहरी संस्थान की अनुसंधान परियोजनाओं की पुनरीक्षा हर क्षेत्र के विशेषज्ञों की समिति करती है। अनुसंधान के परिणाम शोध प्रकाशनों द्वारा सूचित किये जाते हैं। 'नाचुरल रबर रिसर्च' नामक एक अंतर्राष्ट्रीय पत्रिका का प्रकाशन भारतीय रबड़ गवेषण संस्थान करता है। इसके अलावा सूक्ष्म पुनरीक्षित शोध लेख अंतर्राष्ट्रीय व राष्ट्रीय स्तर के वैज्ञानिक पत्रिकाओं को देता भी है। स्थानीय भाषाओं की पत्रिकाओं में प्रकाशित लेखों द्वारा शोध परिणामों का तुरंत संप्रेषण किया जाता है।

रिपोर्ट अवधि के दौरान रबड़ बोर्ड के अधीन के भारगसं तथा इसके क्षेत्रीय अनुसंधान स्टेशन फसल सुधार (वनस्पति विज्ञान, जननद्रव्य), फसल प्रबंधन (कृषि विज्ञान

व मृदा प्रभाग तथा खाद सलाहकारी), फसल संरक्षण (पौधा रोगविज्ञान), फसल फिज़ियोलजी (पौधा शरीरक्रिया विज्ञान), आर्थिक अनुसंधान तथा रबड़ प्रौद्योगिकी हेतु उन्नत केंद्र (रबड़ प्रौद्योगिकी व तकनीकी परामर्श) नामक मुख्य योजनाओं के अधीन सक्रिय अनुसंधान चलाये। जीनोम विश्लेषण, आण्विक पौधा रोगविज्ञान और आण्विक पौधा फिज़ियोलजी जैसे आण्विक जीव विज्ञान व जैव प्रौद्योगिकी के अधीन अनुसंधान कार्यक्रमों का संयोजन आण्विक जीवविज्ञान व जैव प्रौद्योगिकी के अधीन किया था। प्रादेशिक अनुसंधान स्टेशनों के अनुसंधान कार्यकलापों का संयोजन प्रादेशिक अनुसंधान स्टेशनों का सशक्तीकरण के अधीन और त्रिपुरा, असम व मेघालय स्थित शोध केंद्रों की योजनाओं का संयोजन उत्तर पूर्वी क्षेत्र में अनुसंधान के अधीन किया था। अनुसंधान समर्थन सेवा योजना में पुस्तकालय व प्रलेखन केंद्र, अनुसंधान अनुभाग, कंप्यूटर केंद्र व इन्स्ट्रुमेंटेशन के अधीन सुविधाओं का सशक्तीकरण है।

अनुसंधान परियोजनाओं में प्राप्त प्रगति और उपलब्धियों के मुख्यांश के संक्षिप्त विवरण नीचे दिये हैं:-

### 1. फसल सुधार

#### 1.1 वनस्पति विज्ञान

- ♦ जी x ई आपसी प्रतिक्रिया अध्ययन हेतु दापचरी व अगर्तला के दो स्थानों के सांख्यिकीय आधार पर तैयार किये क्लोनल पौधशालाओं में सैंतालीस पाइपलाइन क्लोनों का रोपण किया। बड़े पैमाने के परीक्षणों में आर आर आई आई 400 श्रेणी के पाँच क्लोनों ने बेहतर निष्पादन जारी रखा। टापींग के ग्यारहवें वर्ष

आर आर आई आई 105 की तुलना में आर आर आई आई 430 ने बेहतर उपज प्रदर्शित की जिसके पीछे रहे आर आर आई आई 417, आर आर आई आई 422 व आर आर आई आई 414 । विभिन्न छोटी ज़ोनों में इन क्लोनों के विमोचन उपरांत उपज निष्पादन की निगरानी शुरू की है। उत्तर, मध्य व दक्षिण केरल में सामान्यतः क्लोन आर आर आई आई 414, आर आर आई आई 422, आर आर आई आई 417, आर आर आई आई 429 और आर आर आई आई 430 क्लोन आर आर आई आई 105 से बेहतर रहे।

- देश के विभिन्न भागों के 5 स्थानों में 400 श्रेणी के बहुमौसमी परीक्षणों से पता चला कि इन स्थानों पर क्लोन आर आर आई आई 430 एवं 422 स्थायी प्रदर्शन दिखाते हैं। आर आर आई आई 430 सुखा रोहिता भी प्रदर्शित कर रहा है। आर आर आई आई 105 की तुलना में आर आर आई आई 430 व आर आर आई आई 414 में रोगों का प्रकोप भी कम रहा। क्लोन आर आर आई आई 429 तथा क्लोन 417 उत्तर पूर्व में विशिष्ट रूप से स्वीकार्य हो गये हैं।
- केंद्रीय परीक्षण स्टेशन में 1998 तथा 1999 में रोपित नौ छोटे पैमाने के परीक्षणों में मूल्यांकन के अधीन के 219 संकर व ऑटेंटों के चरम सीजन व गर्मी के मौसम के उपज संघटकों की रिकॉर्डिंग की गयी।
- वर्ष 1998 व 1999 में रोपित छोटे पैमाने के परीक्षणों में आर आर आई आई 105 से बेहतर निष्पादन दिखाए 44 प्रगतिशील क्लोनों का गुणन किया गया तथा आगे की सहभागी परीक्षणों के लिए स्रोत ड्राइ पौधशाला लगाने के लिए पॉलि बैग पौधशाला में लगाए गए।
- जंगली जननद्रव्य से बांछनीय जीनों को प्रजनन पुल में सम्मिलित करने तथा आनुवंशिक आधार विस्तृत करने के लक्ष्य से एक संकरण कार्य चलाया गया। प्रथम चरण के संकरण के परिणाम स्वल्प प्राप्त 15 संकर पीढ़े पौधशाला मूल्यांकन हेतु लगाए गये हैं जिसमें तीन

पितृ युग्म के डब्ल्यू X ए लक्षणवाले संकर क्लोन हैं जो क्लोन आर आर आई आई 105, आर आर आई आई 414 एवं आर आर आई आई 429 से संकरण किया था। मार्च 2012 में आर आर आई आई 400 श्रेणी व आर आर आई आई 105 क्लोनों व डब्ल्यू X ए संकर पैतृकयुग्मों के साथ 2004 हस्त संकरण का प्रयास किया गया।

- आठ स्थानों पर जौंच क्लोन सहित क्लोनों का गुणन व पॉलिबैग पौधशालाओं में रोपण करके सहभागी क्लोन मूल्यांकन परियोजना का तीसरा चरण शुरू किया गया।
- आर आर आई आई 400 श्रेणी क्लोनों के काष्ठ गुणवत्ता प्रायशः के लिए क्लोनीय परिवर्तन अध्ययन पूरा किया गया। क्लोन आर आर आई आई 430 तथा आर आर आई आई 417 ने बेहतर काष्ठ दृढ़ता प्रदर्शित की।
- हिविया की सीय नलिकाओं में कुछ वस्तुओं के संचलन का शाओटिक व लीनियर डिस्प्ले सर्व प्रथम पोधा कोशिका में देखा गया।
- रोपण समग्रियों की गुणवत्ता सुधारने के लिए पॉलिहाउस इकोसिस्टम पर अध्ययन पूरा किया गया। पॉलिहाउसों में पॉलिबैग पौधे बढ़ाने पर उनकी वृद्धि में सुधार हुई तथा रोगों का प्रकोप न्यूनतम रहा।
- अवयस्क बड़ पीपों के निष्पादन को वाणिज्यक पैमाने के मूल्यांकन में देखा गया कि वे वृद्धि तथा टांभिग क्षमता में हरे बड़ पीपों से तुलनात्मक हैं।

## 1.2 जननद्रव्य

- 183 विखाम क्लोनों, 4548 जंगली जननद्रव्य अनुवृद्धियों और 5 अन्य हिविया जाति के 6 अनुवृद्धियों का अनुसंधान किया।
- सभी पक्व परीक्षणों में वार्षिक मोटाई एवं मासिक उपज के आंकड़े रिकॉर्ड किये गये।



- आगे के मूल्यांकन परीक्षणों में शुष्क रबड़ उपज की संभाव्यता दिखानेवाले 10 जंगली हिबिया अनुवृद्धियों की पहचान की गयी। ए सी 166 ने पिछले पाँच वर्षों में स्थायी रूप से बेहतर उपज निम्नादन दिखाये तथा इस वलोन का विभिन्न बागानों में प्रशेखरस्त्रीय परीक्षण में मूल्यांकन किया जा रहा है। आयतन काष्ठ उपज के लिए आठ अनुवृद्धियों की पहचान की गयी।
- एस बी एन 2005 में परीक्षण टापींग के दूसरे दौर से 15 संभाव्य उच्च उत्पादकों की पहचान की गयी।
- प्रादेशिक अनुसंधान स्टेशन, दापचरी की सुखा रोषिता के श्रेष्ठ हाफ सिब पीदों की क्लोनीय पीवशाला में रिक्त स्थान भरे गये। सुखे मौसम पत्तों के पीला होने के लिए स्कोरिंग किया गया तथा मोटाई रिकॉर्ड की।
- जंगली व एच पी क्लोनों के छोटे पैमाने के परीक्षण 2007 में सुखे के मौसम की व वार्षिक मोटाई रिकॉर्ड की तथा एन टी 4788 अनुवृद्धि बेहतर पायी गयी।
- मैसिंग आबादी के सृजन के लिए हिबिया ब्रसीलिथसिस (आर आर आई आई 105) तथा हिबिया बेंथामियाना (एफ 4542) के आपसी विशेष संकरण के 96 प्लेटेटि संकरों के पीदा नर्सरी में वृद्धि विशेषताओं की निगरानी की।
- पीधा क्रिसम पंजीयन व संरक्षण तथा उस पर खाटाबेस के संकलन हेतु डी यू एस परीक्षण मानकों की तैयारी के लिए केंद्रीय परीक्षण स्टेशन, चेन्नकल प्रादेशिक अनुसंधान स्टेशन दापचरी व अगर्तला में 49 विखाम खलों की बहुस्थानीय परीक्षणों का रोपण किया।
- विद्यमान प्रकाशनों के आधार पर पूर्व में तैयार किये हिबिया के डी यू एस परीक्षण मार्गदर्शन के प्रारंभिक मसौदे का संशोधन करके प्रोटेक्सन ऑफ प्लांट वेराइटीस व फार्मर्स राइट एक्पॉरिटी को पुनः प्रस्तुत किया।
- प्रारंभिक अनाटमिकल निरीक्षण से हिबिया में एग्रल उदीपन के कारण लैटिसिफाइर के विघटन की सूचना मिली।

- स्कूल ऑफ बायो साइन्सेस, सरदार पटेल विश्वविद्यालय, गुजरात के सहयोग से एस/जी अनुपात द्वारा लिग्निन की गुणवत्ता के विश्लेषण के लिए दो चयनित जंगली अनुवृद्धियों और दो आर आर आई आई 400 श्रेणी के लिग्निन लक्षण वर्णन चलाया गया।

## 2. आण्विक जीव विज्ञान एवं जैव प्रौद्योगिकी हेतु उन्नत केंद्र

### 2.1 जैव प्रौद्योगिकी

- अजैविक दबाव एवं टापींग पानेल शुष्कण हेतु मैंगनीज सुपर ऑक्साइड डिसम्यूटेस जीन एकीकृत तीन ट्रान्सजेनिक हिबिया पीधे नये रूपांतरण घटनाओं से पुनःसृजित किया, हार्बन किया तथा पोलिलैंग में प्रतिस्थापित किया।
- पूर्व में तैयार किये मैंगनीज सुपर ऑक्साइड डिसम्यूटेस पीधों को पीदा स्टोक के लिए बड़ मुकुलन किया। दो ट्रान्सजेनिक कतारों एल 1 व एल 2 के बड़ मुकुलन नियंत्रण पीधों के साथ जैव सुखा विनियमों के पालन करते हुए महाराष्ट्र सरकार से अनापति प्रमाणपत्र प्राप्त करके प्रादेशिक अनुसंधान स्टेशन दापचरी को परिवाहित किया तथा क्षेत्र स्तरीय परीक्षण शुरू करने के लिए संरोधन सुविधाओं में अनुपेक्षित किया। महाराष्ट्र सरकार द्वारा अनापति प्रमाणपत्र जारी करने के लिए गठित समिति के साथ चर्चा की। दापचरी में पीधों की अच्छी वृद्धि हो रही है।
- रबड़ जैव संश्लेषण में सम्मिलित जीन जिसका जीन कोड 3 हाइड्रोक्सी-3-मीथाइलग्लूटारिल कोइनसाइम ए रिक्केसे 1 है (एचएमजीआर1) तथा (सुखा तथा रोग सहनशीलता के लिए) अन्य एक जीन ओस्मोटीन प्रोटीन कोडिंग वाले ट्रान्सजेनिक पीधों का विकास किया।
- मैंगनीज सुपर ऑक्साइड डिसम्यूटेज, एकीकृत कई ट्रान्सजेनिक कोशिका लाइन से आइसोप्रील ट्रान्सफरसे,

एच एम जी आर 1 व ओसोटोन जीन विकसित किए तथा वे पीघा पुनःसृजन के विभिन्न चरणों में हैं।

- हाफ्लोइड पीधों के विकास के प्रारंभिक कदम के रूप में पराग प्रोटोप्लास्टों के पृथक्करण व आंशिक शुद्धीकरण के तकनीक का मानकीकरण किया।
- बीटा-1, 3 ग्लूकनेस आइसोसाइम के कार्य अंकन द्वारा हिबिया ब्रासीलियन्सिस में बीटा-1, 3 ग्लूकनेस के विभिन्न समरूपों के प्रकटन की पुष्टि की।
- बीटा-1, 3 ग्लूकनेस के विभिन्न रीकंपिनेन्ट आइसोसाइमों का अति प्रकटन हुआ तथा शुद्धिकरण किया और रोगाणु वृद्धि में इन मिश्र रूपों के प्रभाव का अध्ययन किया। दो समरूप निरोधी विशिष्टताएं वाले पाये गये।
- बीटा-1, 3 ग्लूकनेस की कार्य सुव्यवस्था के अध्ययन हेतु जीन प्रमोटर का लक्षणवर्णन किया, तंबाकू पीधों एवं हिबिया कॉले का बीटा-1, 3 ग्लूकनेस जीन प्रमोटर से रूपांतरण किया। जी यू एस फ्यूशन बैनरी वेक्टरस तथा ट्रान्सजेनिक तंबाकू पीधों का पुनःसृजन किया। देखा गया कि हिबिया ब्रासीलियन्सिस बीटा-1, 3 ग्लूकनेस हिबिया कॉलेस में कार्य कर सका बल्कि तंबाकू में नहीं।
- आइसोप्रीन इकाइयों के पॉलिमराइजेशन में सम्मिलित सिसप्रेनिल ट्रान्सफर्रेस के तीन समरूपों की पहचान की गयी तथा लक्षणवर्णन किया गया। सिसप्रेनिल ट्रान्सफर्रेस प्रमोटर-2 के आंशिक प्रमोटर श्रृंखला का भी लक्षणवर्णन किया तथा ट्रान्सजेनिक तंबाकू में इनकी नियंत्रण विशेषताओं का अध्ययन किया।

## 2.2 जीनोम विश्लेषण

- ग्यारह पीघाशाला परीक्षण प्रगति में थे। ये थे: जीनोमिक लाइब्रेरी निरीक्षण द्वारा एस एस आर मार्कर विकास, एस एस आर श्रृंखला हेतु ई एस टी डाटा मैनिंग, ई एस टी श्रृंखलाओं की जीन खोज तथा व्याख्या, लोकप्रिय क्लोनों तथा जंगली अनुवृद्धियों के आनुवंशिक लक्षण

वर्णन, रबड़ जैव संश्लेषण जीन में एस एन पी विश्लेषण, सिकेज मैनिंग, रोग रोधितावाले जीन, दबाव प्रतिक्रियाशील जीन, मिथैलेशन डैनामिक्स, ई एस टी स्रोत विकास तथा लिग्निन जैव संश्लेषण जीन।

- एस एस आर मार्कर विकास के लिए कुल 485 ड्राई न्यूक्लियोटाइड धनात्मक क्लोन तथा ड्राई न्यूक्लियोटाइड आवृत्ति के लिए 218 धनात्मक क्लोनों का पृथक्करण किया। रबड़ संग्रह के ड्राई न्यूक्लियोटाइड संपुट आवृत्ति से 102 जीनोम क्लोनों का श्रेणीकरण किया तथा ड्राई न्यूक्लियोटाइड आवृत्ति वाले 31 जीनोमिक क्लोनों की पहचान की।
- डी एस टी डाटा मैनिंग अध्ययन के सिलसिले में बड़े पैमाने के एस एस आर मैनिंग के लिए हाल में उपलब्ध आगामी पीडी ट्रान्सक्रिप्टम श्रेणीकरण डाटा सेट (एन सी बी आई डैटाबेस अनुवृद्धि सं.जी एस ई 26514) का विश्लेषण किया।
- खेती किए 40 हिबिया ब्रासिलियन्सिस क्लोनों के लक्षण वर्णन के लिए ई एस टी सुजित तथा जिनोमिक एस एस आर मार्करों का उपयोग किया। जीनरूप विशेष प्रोफाइलों की पहचान की। इन 40 क्लोनों में करीब 60 प्रतिशत आनुवंशिक विविधता देखी गई। जंगली हिबिया ब्रासिलियन्सिस अनुवृद्धियों की भौगोलिक विविधताएं तथा उनके रूपायन संबंधों की संस्थापना एस एस आर प्रयुक्त करके की।
- क्लोन आर आर आई आई 105, आर आर आई आई 118, आर आर आई एम 600, आर आर आई सी 52 तथा जी टी 1 के पूरे 4.9 के बी एफडीपीएस जिनोमिक क्षेत्र में एस एन पी पहचान पी सी आर उत्पाद श्रेणीकरण तथा क्लोन किये फ्रैगमेंटों के द्वारा पुरा किया।
- रबड़ के सिकेज मैप के सृजन में मार्कर पृथक्करण आंकड़ों का उपयोग किया दोनों जोइन मैप टी 3 तथा मैप मार्कर /ई/एक्सपी 3.0 प्रोग्रामों का उपयोग सुजित

लिंकेज पूर्ण की तुलना के लिए किया था। एफ डी पी एस के लिए को-होमिगेन एस टी एस मार्कर तथा जी जी पी एस के लिए एस एन पी (एफ 88 - जी/ए) मार्कर क्रमशः प्रयुक्त करके दो लाटेक्स जैव संरक्षण जीन फर्नसिल डाइफोसफेट सिन्थेज (एफ डी पी एस) तथा जेराइनिलजेराइनिल डाइफोसफेट सिन्थेज जीजीपीसीएस मैप किए।

- सेन-रोधी पीनों के अध्ययन के सिलसिले में कोरिनोस्पोरा कासिकोला प्रभावित जी टी 1 पत्र नमूनों में कार्यकारी आर टी-आर जी ए 13 के सुव्यक्त अति प्रकटनवाली श्रेणियों के आधार पर पूर्ण लंबाई के "आर" जीन (3284 बी पी) का क्लोन किया तथा लक्षण वर्णन किया।
- हिबिया एम टी 3 ए जीन के प्रकटन के लिए एक पुनःयोग्य ई कोली का परीक्षण उसकी तांबा सहनशीलता विशेषता हेतु किया था। हिबिया मेटालोथायोनिन जीन प्रकटन वाले पुनःयोग्य ई-कोली क्लोन ने 12 एम एम कॉपर सल्फेट तक सहनशीलता दर्शायी।
- जाड़ा प्रतिक्रिया वाले ई एस टी के सृजन के लिए मूत्रार में बढ़ाये पी बी 260 के पत्र सी डी एन ए संग्रह से 118 क्लोनों की व्याख्या की तथा जीन बैंक में देने हेतु संसाधित किया।
- आर आर आई आई 118 के छाल डी एन ए संग्रह से 143 क्लोनों की व्याख्या की तथा जीन बैंक को प्रस्तुत किया।
- लिमिन जैव संरक्षण में जीन ओरेथो-मीथिलट्रांसफरसीस (ओएमटी) का सफल क्लोन किया तथा लक्षण वर्णन किया। सी ए डी जीन की प्रोमोटर श्रृंखला का लक्षण वर्णन किया।

## 2.3 आण्विक पीघा शरीरक्रिया विज्ञान

- सूखे की स्थिति के अधीन जीन प्रकटन के सिलसिले में पेरोक्सिडाइस तथा एल ई ए 5 जीनों के सुखा

सहनशीलता में सहयोगिता की हिबिया में पुष्टि की गई। एन ए सी ट्रान्सक्रिप्शन संघटक जीन की कोपी संख्या के विश्लेषण के लिए विभिन्न कदम जैसे प्राइमर तनुकरण तथा दक्षता निर्धारण चलाये गये।

- खड जैव संरक्षण के आण्विक जीव विज्ञान पर अध्ययन के सिलसिले में पी सी आर विश्लेषण तथा नियंत्रण एनलाइन पावन द्वारा प्रकटन केक्टर बी एल 21 (डी ई 3) पी एल वाई एस एस के साथ प्लासमिड सम्मिलित एपएमजी सी ई ओ रिक्वेर्स के स्पांतरण की पुष्टि की।
- एन्टोफाइट्स में चिटनेस जीन अंतरण संबंधी अध्ययन में चिटिनेस जीन रूपांतरित बासिलस कोशिकाओं से निष्कासित प्रोटीन विद्योजित किया गया तथा जल प्रोफाइल में देखा गया।
- अजैविक दबाव प्रतिक्रिया प्रकटन अध्ययन में एम आई आर एन ए के पी टी 257 आर/टी क्लोनिंग वेक्टर में पी सी आर ऑप्लिकोन्स के क्लोनिंग तथा पी सी आर समूह द्वारा पुनःयोगजों का निरीक्षण चलाया गया।

## 2.4 आण्विक पीघा रोग विज्ञान

- जी टी 1 से पृथक्कृत किये चिटिनेस प्रोटीन कोरिनोस्पोरा से प्रेरित करके मुद्दीकरण किया तथा आगे के लक्षण वर्णन के लिए बहुक्लोनीय रोग प्रतिकारक की वृद्धि की गई।
- पडियूर तथा आंध्रप्रदेश से एकत्रित माइक्रोबियल पृथक्कणों की (122 सं.) ए सी सी डीअमिनेस क्रिया हेतु जोंच की तथा 5 पृथक्कणों ने ए सी सी संशोधित माध्यम में नियंत्रक से बेहतर वृद्धि दिखाई।
- एकीकृत उपचार में मात्र जैविक और रसायनिक उपचारित पीधों से बेहतर पीघा वृद्धि देखी गई।

## 3. फसल प्रबंधन

### 3.1 सस्य विज्ञान/मृदा

- गीण तथा सूक्ष्म पोषकों के प्रयोग से पीघाला के पीधों की वृद्धि में सुधार देखा गया।

- पारंपरिक रबड़ क्षेत्र के पुनःरोपण किये जाने वाले बागानों के मृदा नमूनों के सर्वेक्षण से देखा गया कि गीण तथा सूक्ष्म पोषकों की स्थिति बहुत कम है। पौधशाला तथा 4 कृषि मौसमिक क्षेत्रों में मृदा परीक्षण के आधार पर गीण तथा सूक्ष्म पोषकों के पूरा प्रयोग के प्रभाव के अध्ययन के लिए क्षेत्रस्तरीय परीक्षण शुरू किया गया।
  - जैव खाद एवं रसायनिक उर्वरकों के सम्मिश्रण ने पौधों की वृद्धि तथा मृदा जलक स्थिति बढ़ा दी।
  - पर्णतीय पोषक शोषण अध्ययन से पता चला कि 52 से 66 प्रतिशत नाइट्रोजन 53 से 80 प्रतिशत फोस्फोरस, 48 से 88 प्रतिशत पोटैशियम, जड़ता प्राप्त होने से पूर्व पुनःशोषण करता है।
  - रबड़ के बीच बहुवर्षीय अंतःफसलें/काष्ठ पेड़ बढ़ाने की संभाव्यता के उपयोग करने हेतु दो क्षेत्रस्तरीय परीक्षण प्रगति में हैं। रोपण की सामान्य प्रणाली में बहुवर्षीय फसलों के साथ अंतरासस्यन ने रबड़ पौधों की वृद्धि में बुरा प्रभाव नहीं डाला है।
  - पक्व रबड़ बागान में नौ छाया सहनशील जड़ी बूटियों के निष्पादन के मूल्यांकन के परीक्षण प्रगति में हैं। जड़ी बूटियों में अल्पिनिया का प्रदर्शन बेहतर जारी रहा।
  - रबड़ बागानों में नमी संरक्षण के लिए विभिन्न जैविक बंधों के प्रभाव के मूल्यांकन के परीक्षण में जैविक बाड़ाओं की स्थापना ने रबड़ की वृद्धि पर कोई प्रभाव नहीं डाला।
  - गड्डे के आकार कम करके तथा मशीनीकरण के द्वारा खेती की लागत कम करने के परीक्षणों से देखा गया कि विभिन्न कृषि मौसमिक क्षेत्रों में रबड़ के लगाने तथा वृद्धि में गड्डे के आकार का कोई प्रभाव नहीं रहा बेशर्त कि मृदा गहरा हो।
  - रबड़ की पक्वता अवधि कम करने के क्षेत्रीय परीक्षण प्रगति में हैं। एकीकृत प्रबंधन तकनीकों ने पौधों की वृद्धि को स्पष्टतः सुधारा।
  - सूखा के विपरीत प्रमायों को कम करने की कृषि प्रबंधन तकनीकों के प्रभाव के अध्ययन हेतु एक क्षेत्रीय परीक्षण में विभिन्न कृषि प्रबंधन तकनीकों ने पत्तों के पर्णहरित धारण क्षमता में सुधार की तथा शेष मृदा नमी संरक्षण क्षमता बढ़ा दी।
  - रबड़ की उपज तथा मृदा विशेषताओं पर खरपतवार प्रबंधन के प्रभाव के अध्ययन में देखा गया कि परिपक्व धरण के दौरान अपतृण रखे रखने से सूखे के मौसम में मृदा नमी स्थिति में वृद्धि हुई तथा मृदा कार्यण, नाइट्रोजन, कैल्सियम तथा मग्नीशियम संघटकों में वृद्धि हुई।
  - उपग्रह चित्रों के आधार पर केरल तथा कन्याकुमारी के रबड़ वितरण मैप तैयार किया तथा वास्तविकता के साथ छानबीन की। कर्नाटक के रबड़ वितरण मैप तैयार करने का कार्य प्रगति में है।
  - पारंपरिक रबड़ खेती क्षेत्र के लिए मृदा गहराई मैप तैयार किया।
- 3.2 प्रादेशिक मृदा परीक्षण तथा खाद सलाहकारी सेवा**
- खाद सलाहकारी सेवा के अधीन प्रादेशिक मृदा परीक्षण प्रयोगशालाओं ने विवेकी खाद अनुशंसाएं देने के लिए 10100 मृदा तथा 1500 पत्रक नमूनों का विश्लेषण किया। लाटेक्स के रबड़ शुष्क संघटक के लिए 56823 लाटेक्स नमूनों की भी जांच की तथा जांच के परिणाम उपभोक्ताओं को प्रुति की। 6000 कृषकों को विवेकी खाद अनुशंसाएं दी। तत्स्थानीय खाद अनुशंसा हेतु 45 प्रांतों में चल मृदा परीक्षण कार्यक्रम आयोजित किए।
- 4. फसल संरक्षण**
- रबड़ खेती में मशीनीकरण के हिस्से के रूप में संशोधित ब्लोवर चढाये मिनि ट्रैक्टर में लादे मिस्ट ब्लोवर तथा दो पहिये वाले ट्रैली में चढाये संशोधित मिस्ट ब्लोवर का रबड़ बागानों में क्षेत्रस्तरीय परीक्षण किया गया तथा असाधारण पत्तीझड़न रोग के प्रबंधन में आशाजनक पाये गए।

## वार्षिक रिपोर्ट 2011-12

- नई पीढ़ी के कवक नाशियों से किये गये क्षेत्र स्तरीय परीक्षण से देखा गया कि कोलेटोद्राइकम पत्ता रोग के प्रबंधन में ट्रोपोक्लिस्ट्रोबिन + टेबुकोनासोल (नाटियो) तथा टेबुकोनासोल (फोलिकर) कवकनाशी प्रभावी रहा।
- कोरिनोस्पोरा पत्ता रोग पर नई पीढ़ी के कवकनाशियों की प्रभाविता पर पौधशाला परीक्षण से देखा गया कि थायोफ़नेट मीथेन, पैराक्लोसट्रोबिन + मेटेयरम (काब्रियो टोप) तथा आइप्रिडियोन + कार्बेन्डसिम (क्विन्टल) आशाजनक हैं।
- आशाजनक पत्तीझड़न रोग नियंत्रण प्रभाव के परीक्षणों में अंतिम पत्ता धारण निर्धारण से देखा गया कि सी ओ सी से दो बार के झिडकाव एक बार के झिडकाव से रोगनियंत्रण में बेहतर है।
- संवर्धन में पेरितीशिया उत्पन्न करनेवाले कोलेटोद्राइकम अब्स्युटेम का प्रकोप सी स्लियोस्पोरियोडेस से अधिक तीव्र (69.31%) रहा। कोलेटोद्राइकम स्लियोस्पोरियोडेस (ग्लोमेरला एस पी) कवक का परिपूर्ण अवस्था या ऐस्कसधारी अवस्था 31 प्रतिशत नमूनेन स्थानों से प्राप्त किये गये। जीव स्थिति के अधीन कोलेटोद्राइकम, स्लियोस्पोरियोडेस पेरितीशियल विभेद तथा कोनीडियल विभेद जैसा ही रोग वाहक है।
- आर एस एस संसाधन बहिर्भाव उपचार के लिए हाइब्रिड रियाक्टर- रीड बेंड प्रणाली के संयोग के मूल्यांकन से बहिर्भाव में प्रदूषण स्तर में प्रचुर कटौती देखी गई।
- प्रतिभागी क्लोन मूल्यांकन परीक्षण में विभिन्न परीक्षण क्षेत्रों में चूर्णिल आसिता, कोलेटोद्राइकम तथा पिक रोग के प्रकोप का निर्धारण किया। सामान्य रूप से सभी स्थानों पर कोलेटोद्राइकम रोग अधिक रहा। अन्य क्लोनों की तुलना में कोलेटोद्राइकम रोग की तीव्रता क्लोन आर आर आई आई 414, आर आर आई आई 430 तथा आर आर आई आई 5 में कम पायी गयी। सभी स्थानों पर चूर्णिल आसिता रोग

सामान्य से उच्च रहा तथा चयनित स्थानों में रोग का प्रकोप पुनलुर क्षेत्र में देखा गया। पिक रोग मुंडककयम क्षेत्र में अधिक पाया गया।

- मूल्ति भुंग के डिम्बकों की मृत्यु दर पर कीटरोग जनिक कवक, मेटारिसियम अनिसोप्लिये के प्रभाव का मूल्यांकन प्रयोगशाला स्थिति में किया गया तथा 75 प्रतिशत मृत्यु दर पायी गयी।
  - प्टोकोरिटिस रिसाइन छातम्भक इस्लियों का प्रकोप आर आर आई आई 105 पौधों में (7-8 वर्ष के) देखा गया। केरल भर के रबड़ बागानों से एकत्रित फाइटेस्वोरा वियोगों के वंश लक्षण वर्णन से उनके कवकनाशियों के प्रति प्रतिक्रिया नियंत्रित स्थितियों में वियोगों की रोग बाधा तथा उनके अनुवंशिक रूपरेखा के अंतर आदि के आधार पर इन वियोगों में विभिन्न परिवार/विभेदों की उपस्थिति का पता चला।
  - 1970 से सभी प्रादेशिक स्टेशनों तथा भारगसं ने हवा गति आंकड़ों का संकलन किया। सभी अनुसंधान केंद्रों से मौसमिक आंकड़ों का संकलन कार्य चलता गया।
- ### 5. फसल फिसियोलजी
- सूखे की स्थिति में पाइपलाइन क्लोनों में ग्यास परिवर्तन मापन चलाए गए। पी 9, पी 11 तथा पी 13 जैसे क्लोन ने बेहतर प्रकाश संश्लेषण दर्ज किये जबकि क्लोन पी 16, पी 17 तथा पी 18 ने न्यूनतम दर का प्रकाश संश्लेषण प्रदर्शित किया।
  - आर आर आई आई 400 श्रेणी क्लोनों में क्लोरोप्लास्ट दबाव पोषक प्रकटन विश्लेषण किया गया। दबाव पोषकों ने सूखे की अवधि के दौरान दापघरी स्थिति के अधीन अधिक तीव्रता भारगसं कोट्रयम में सूखे के मौसम से प्रकट की। इस दबाव प्रोटीन के विशुद्ध एक बहुक्लोनीय रोगप्रतिकारक विकसित किया गया।
  - प्रकाश संश्लेषण दर तथा दबाव पोषक रेखाचित्र से पता चला कि आर आर आई आई 400 श्रेणी क्लोनों

## वार्षिक रिपोर्ट 2011-12

में आर आर आई आई 430 तथा आर आर आई आई 429 तुलनात्मक रीति से अधिक सूखा सहनशील है।

- मडनौब तथा सांवतवाडी क्षेत्रों में अवयस्क रबड़ बागानों में सूखा संबंधी सर्वेक्षण चलाया गया तथा सूखे के दौरान कृषकों द्वारा चलाये जा रहे स्थान विशेष की कृषि प्रणालियों पर सूचना एकत्रित की। पालक्काड क्षेत्र में सूखा सर्वेक्षण से देखा गया कि इस क्षेत्र के लगभग 25 प्रतिशत कृषक फरवरी महीने से लेकर पौषों की सिंचाई करना शुरू किया है।
- प्रादेशिक परीक्षण स्टेशन, नाग्रकट्टा में 5 हिबिया क्लोनो में पर्णहरित फलुरसेन्स तथा पर्णहरित सूचकांक आंकड़े दर्ज किये गये तथा देखा कि एस सी ए टी सी 88/13 तथा हैकन 1 जैसे क्लोन तुलनात्मक तरीके से जाड़ा सहनशील है।
- सूखा सहनशीलता के केंद्रीय परीक्षण स्टेशन, वेतक्कल के एस बी एन 2004 तथा एस बी एन 2005 से चयनित जननद्रव्य अनुवृद्धियों की सूची से उच्च अंक प्राप्त 49 अनुवृद्धियाँ आगे इन विट्रो प्रयोगशाला परीक्षण में लांगे गये। एस बी एन 2004 में अनुवृद्धियाँ ए सी 2009, एम टी 1619, एम टी 196, आर ओ 322 तथा एस बी एन 2005 में आर ओ 2634, एम टी 2210, ए सी 173, आर ओ 1406, आर ओ 3184 मूलभूत सूखा सहनशीलता के लिए उच्च अंक प्राप्त करने आगे रहे।
- इडुक्की जिला के एलमारा घाघ बागान में उच्च स्थानीय रोपण में अन्य तीन क्लोनो की तुलना में पी बी 260 तथा आर आर आई एम 600 ने बेहतर वृद्धि निष्पादन प्रदर्शित किया।
- मलंकरा बागान में टारपिंग के कारण जैव पिंड में हुए नुकसान के निर्धारण के लिए 4 क्लोनो से उपज के आंकड़े एकत्रित किये। आर आर आई आई 105 तथा पी बी 235 जैसे क्लोन ने बेहतर उपज दर्ज की

जबकि पी बी 235 ने बेहतर जैव पिंड वृद्धि दिखाई।

- उद्दीपन के साथ विभिन्न टारपिंग आवृत्तियों से संबंधित जैव रसायनिक विधियों पर अध्ययन के सिलसिले में ए टी पी, सूकोस, थायोलस, फोसफोरस एवं फिनोल के संचटक का विश्लेषण विभिन्न टारपिंग आवृत्तियों से एकत्रित लाटेक्स नमूने में किया। आंकड़ों से पता चला कि उद्दीपन के साथ कम आवृत्ति टारपिंग के अधीन टारप पेडों में लाटेक्स में सुकोस तथा ए टी पी के संचटक डी2 आवृत्ति की तुलना में अधिक रहा।
- विभिन्न उपज संभाव्यता वाले दस क्लोनो के अवयस्क पौधों में रबड़ ट्रान्सफरस क्रिया अध्ययन से पता चला कि कम उत्पादक क्लोनो की तुलना में पी बी 235, पी बी 260, आर आर आई आई 105 तथा पी टी 1 ने अधिक क्रियाशीलता प्रदर्शित की।
- उद्दीपन तथा अजैविक दबाव प्रतिक्रिया के प्रभाव पर परियोजना के सिलसिले में विभिन्न स्थानों के पेडों पर उद्दीपन के बाद मृदु छाल ऊतकों के विभिन्न जैव रसायनिक विश्लेषण (पेरॉक्सिडाइस, एच2ओ2, एम डी ए, सायनाइड, बीटा सायनोअलाइन, सिंथैस, शक्कर तथा लाटेक्स ए टी पी) चलाये गये। टारपिंग पैनल से दूर एक केंद्र पर उद्दीपन दिये पेड से बेहतर उपज दर्ज की गयी तथा कम दबाव प्रतिक्रिया संचटक।
- मलंकरा एस्टेट के रबड़ बागान में मृदा पी एच तथा अजैविक दबाव के प्रकोप पर परियोजना के सिलसिले में धुना का प्रयोग किया गया। धुना के प्रयोग किये जेलों में मृदा के पी एच में हल्का सा सुधार हुआ है।
- रबड़ पत्र निबोड से सिल्वर नानो कण तैयार किये। नानो कणों के जीवाणु विरुद्ध क्रिया की जांच ई कोली (बी एल 21डी ई 3 कोशिका) संवर्द्धन तथा कोरिनोस्फेरा कासिमोना कवक से की। ई कोली की वृद्धि में मारी अवरोध देखा गया।

## 6. लाटेक्स फसलन प्रौद्योगिकी

- केरल के सभी प्रादेशिक कार्यालयों तथा प्रादेशिक कार्यालय मँगलूर में डी3 आवृत्ति के टापींग लोकप्रिय बनाने की पुनरीक्षा बैठकें आयोजित की। कार्यक्रम के संघात के रूप में निदर्शन जोत मालिकों के कई पखोंस कृषक तथा दोस्त डी3 आवृत्ति टापींग में बदल गये।
- मशीनीकृत टापींग धातू के और विकास के लिए एक परिशिष्टित समझौता आपन हस्ताक्षर किया जा रहा है। एक नये नमूने का निदर्शन किया तथा नए प्रस्ताव आमंत्रित करने के लिए कदम उठाया जा रहा है।
- एक वर्षा रक्षण मौसम मर उपयोग किया जा सकने वाले जैव निम्नीकृत होने योग्य पॉलिथीन का मूल्यांकन घलाया जा रहा है।
- एस 4 टापींग घाव पर बाणिज्यक मूल्यांकन कार्यक्रम प्रारंभ किया गया। (घटायें गये स्पाइरल टापींग परीक्षण से पहचाना हुआ।)
- अपारंपरिक टापींग विधियों पर शोषण परीक्षण गुरु किये गये।
- वयस्क तथा जड़ पौधों के उत्पादन में दर्शनीय वृद्धि करने में उपयोगी नियंत्रित ऊर्ध्वमुखी टापींग विधि का गैर पारंपरिक क्षेत्र में सहित विस्तृत प्रचार किया।

## 7. रबड़ प्रौद्योगिकी का उन्नत केंद्र

### 7.1 रबड़ प्रौद्योगिकी

- स्किम रबड़ की गुणता सुधारने के हिस्से के रूप में एक निजी लाटेक्स संसाधन उद्योग के संपर्क में क्रीमिंग तकनीक प्रयुक्त करके बड़े पैमाने के (2000 ली.) परीक्षण चलाये गये। इसमें से प्राप्त स्किम रबड़ पारंपरिक तकनीक द्वारा उत्पादित स्किम रबड़ की तुलना में बेहतर यांत्रिक विशेषताएँ प्रदर्शित की।
- स्किम लाटेक्स से रबड़ प्राप्ति-सह-जैव गैस उत्पादन पर कार्य पुनः शुरू किया गया। प्रयोगशाला अध्ययन से

देखा गया कि एक विशेष स्कंदक की विशेष गाढ़ता में रबड़ तथा इसके सीरम दो परतों में अलग हुए। स्किम लाटेक्स वाली परत अलग की जा सकती है।

- भारगसं द्वारा विकसित एक संसाधन प्रक्रिया के लिए भारगसं के नाम भारतीय पेटेन्ट के लिए विनिर्देशन की तैयारी पूरी की गई।

"स्किम लाटेक्स से स्किम रबड़ की प्राप्ति" हेतु एक नई विधि आवेदन संख्या 2566/सी एच ई/2011 (जी 602 ए) (20-9-11 को फाइलिंग पुरा किया)।

- माइक्रोवेव ओवन में स्कंदन के आंशिक शुष्कण द्वारा स्वभाविक रबड़ लाटेक्स के शुष्क रबड़ संघटक निर्माण के लिए एक तुरंत विधि का मानकीकरण किया।

- सिलिका तथा कार्बन ब्लाक सम्मिलित मास्टर बैच वरिद्ध यांत्रिक विशेषताओं के बेहतर पोलिमर फिल्टर आपसी क्रिया दिखानेवाले कम टान डेल्टा पीक हाइट, जैसी बेहतर गतिशील विशेषताएँ वाले पाये गये तथा 60°C कम टान डेल्टा मूल्य जिससे सूचना मिलती है कि इनका उपयोग कम धुमाव अवरोध प्राप्त करने के लिए टायर में किया जा सकता है। इसका पेटेन्ट इस प्रकार किया जा रहा है।

"ताज़ा स्वाभाविक रबड़ लाटेक्स से कार्बन ब्लाक/सिलीका/नानो क्ले मैस्टर बैच की तैयारी" हेतु एक नवीन संसाधन प्रक्रिया आवेदन सं 2564/सी एच ई/2011 (जी 602बी) (20-9-2011 को फाइलिंग पुरा किया)

- प्रारंभिक परीक्षाओं से यह देखा गया कि लाटेक्स का स्कंदन पूर्व गामा रेडिएशन ने स्वाभाविक रबड़ पोलिमर-फिल्टर आपसी क्रिया स्वभाव में सुधार किया है।

- ताज़े लाटेक्स के छोटे खुरकों में रेडिएशन तथा उसके बाद क्रीमिंग तथा बल्कनीकरण द्वारा आर वी एन आर एल के गुणता सुधार हेतु एक परीक्षण का प्रारंभ किया। प्रारंभिक परीक्षाओं से देखा गया कि



ताज़ा लाटेक्स के गामा रेडियेशन हेतु खुले रखने के बाद क्रोमिंग तथा आगे के वल्कनीकरण द्वारा आर वी एन आर एल के लिए बेहतर यांत्रिक गुण प्राप्त होते हैं। इस विधि द्वारा आर वी एन आर एल के बड़े स्तर का परीक्षण उत्पादन चलाया जा रहा है (200 ली.)।

- पोलिमरिक फिल्टर प्रणाली द्वारा स्वाभाविक रबड़ के प्रबलन पर अध्ययन जारी रखा। स्वाभाविक रबड़ के अपघर्षण रोधिता सुधारने के लिए स्वाभाविक रबड़ का पोलि ब्यूटाडीन रबड़ से मिश्रण किया गया। यह देखा गया कि स्वाभाविक रबड़/पी एफ प्रणाली में पोलि ब्यूटाडीन रबड़ मिलाने से अपघर्षण नुकसान स्पष्टतः कम किया जा सका जबकि अन्य सभी प्रौद्योगिक विशेषताएं सुरक्षित रही। स्वाभाविक रबड़/पी एफ प्रणाली की विद्युत चालकता सुधारने के लिए उसे छोटी मात्रा में कार्बन ब्ल्याक लदाया गया, दो से दस फीट प्रति घंटा। देखा गया कि तनन शक्ति, मापांक तथा चीर शक्ति जैसी यांत्रिक विशेषताओं में सुधार हुई जैसे फिल्टर का लादन बढ़ाया गया।
- ई एन आर के विभिन्न एपोकसी संघटक प्रयुक्त करके ई एन आर द्वारा स्वाभाविक रबड़ के सिलिका प्रबलन के अध्ययन हेतु डैनार्मिक मेकानिकल अनलाइसर द्वारा परीक्षण चलाये गये।
- स्थाई मुक्त राडिकल दो और वाणिज्यिक रूप से उपलब्ध पेरॉक्साइड वल्कनीकरण अभिकर्ता प्रयुक्त करके पेरॉक्साइड वल्कनीकरण के झुलसन नियंत्रण का अध्ययन किया। टेम्पो के साथ डाई बेनसीन पेरॉक्साइड के रूप में प्रयुक्त करने पर देखा गया कि साधारणतया टेम्पो के उपयोग में वल्कनीकृत सामग्री पर देखे जाने वाले डिपिपाहट हटायी जा सकी।
- रबड़ के पुनःचक्रण पर सांख्यिकीय सर्वेक्षण चलाया गया तथा उसी विषय पर मसौदा पुनरीक्षा तैयार की। “रबड़ रबड़ उत्पादों के विवल्कनीकरण पर अध्ययन” का कार्य जारी रखा। दो रोल मिलिंग्स मिल में यांत्रिक विवल्कनीकरण किये गये रबड़ रबड़ से तैयार

किए वल्कनन वस्तुओं से अच्छी तनन विशेषताएं प्राप्त कीं।

- आर वी एन आर एल तथा कार्बोक्सिलेटेड नाइट्रिल रबड़ लाटेक्स मिश्रण पर आधारित रबड़ नानो सामिश्रणों से इंधन रोधिता तथा यांत्रिक विशेषताएं शुद्ध आर वी एन आर एल की तुलना में सुधार हुआ।
- सहयोगी परियोजनाएं:
  1. धितरंजन लोको मोटीव पश्चिम बंगाल - स्फेरी ब्लॉक के विकास का प्रयास किया गया।
  2. शेपिलन लेप्रसी रिसर्च एण्ड ट्रेनिंग सेंटर, कासिगिरी - शेपिलन इरिटट्यूट ऑफ हेल्थ साइन्स एण्ड लेप्रसी सेंटर के श्री आई आर आर के लिए दो सप्ताह के प्रशिक्षण कार्यक्रम का आयोजन किया।
  3. बार्क मुंबई - रबड़ उत्पादों के लिए उत्पाद विनिर्माण तथा आर वी एन आर एल के वाणिज्यकरण में आर वी एन आर एल का प्रयोग संसाधन प्रौद्योगिकी के मानकीकरण शीर्षक एक परियोजना प्रस्ताव बार्क मुंबई में एक तकनीकी चर्चा बैठक में प्रस्तुत किया गया।
  - उद्योग के साथ एक तकनीकी परिचर्चा बैठक 23-3-2012 को आयोजित की तथा इन खोज परिणामों को और सुधारने तथा वाणिज्यीकरण के लिए एक सहयोगी उद्योग साझेदार की पहचान करने के लक्ष्य से निम्न लिखित खोज परिणाम इस बैठक के दौरान प्रस्तुत किए थे।
    1. पोलिमरिक फिल्टर प्रयुक्त करके स्वाभाविक रबड़ का प्रबलन।
    2. ताज़े स्वाभाविक रबड़ लाटेक्स से फिल्टर मैस्टर बैच।
    3. स्किम लाटेक्स के जल्द स्कंदन तथा उच्च गुणवत्ता के स्किम रबड़ प्राप्त करने के लिए नई आसान विधि।
    4. डी प्रोटीनीकृत स्वाभाविक रबड़।

## 7.2 तकनीकी परामर्श

- प्रभाग के मुख्य कार्यकलाप भारतीय रबड़ उद्योग की उन्नति हेतु तकनीकी परामर्श सेवाएं प्रदत्त करना है। प्रभाग नए उद्यमियों तथा विद्यमान रबड़ माल विनिर्माताओं की आवश्यकताओं की पूर्ति करता है। विभिन्न रबड़ उद्योगों को प्रदत्त सेवाओं में उपज विकास गुणता नियंत्रण तथा प्रमाणन तकनीकी समस्या सुलझाना, प्रशिक्षण आदि सम्मिलित है।
- पूर्ति किए गए उत्पादों/प्राप्त अनुरोधों के आधार पर प्रभाग ने हितैषियों के लिए उत्पादों का विकास किया। रिपोर्ट अवधि के दौरान 41 उत्पादों का विकास किया तथा हितैषियों को तकनीकी जानकारी हस्तांतरित की।
- विभिन्न रबड़ उद्योगों मुख्यतः लघु क्षेत्र उद्योग क्षेत्र को रबड़ सम्मिश्रण, रबड़ उत्पाद की जांच करके तथा कच्चे मालों के मूल्यांकन करके तकनीकी समर्थन प्रदान किये।
- कच्चे मालों का घयन विशेष संघटक की मात्रा, वल्कनीकरण के तापमान, दबाव आदि विभिन्न पहलुओं से संबंधित मामले हमेशा ही छोटे माल विनिर्माताओं की धिता के विषय रहे हैं।

## 8. आर्थिक अनुसंधान

- नियंत्रण से विनियंत्रण; भारत में रबड़ प्रसार नीति का रूपायन नामक कार्य आलेख भारत में रबड़ प्रसार नीति में रोपण सामग्रियों के उत्पादन एवं वितरण के 1949 के नियंत्रण से लेकर 1986 में विनियंत्रण तक अनुभव का चित्र व्यक्त करता है। हस्तक्षेप चरण रोपण सामग्रियों के उत्पादन एवं वितरण में क्रियात्मक हस्तक्षेपों से विशेष रहा (1949 से 1960)।
- विनियंत्रण चरण में रबड़ पौधशालाओं के 1986-87 से प्रभावी रूप में वार्षिक अनुमोदन के अनिवार्य उपबंध का अस्थायी रूप से विलंबन देखा गया, 1-4-1988 से प्रभावी रूप में नवरोपण/पुनरोपण के लिए अनुज्ञापन

प्रणाली का समापन तथा 1992-93 में रबड़ बागानों के अनिवार्य पंजीकरण का परिवर्तन।

- विनियंत्रण का परिणाम यह हुआ कि रबड़ पौधशालाओं के गुणनियंत्रण में किसी प्रणाली की अक्षरशः अनुपस्थिति तथा उनपर विश्वसनीय डाटाबेस का अत्यावश्यक आंकड़ों का नुकसान तथा विहित कृषि प्रणालियों की स्वीकृति का न होना अतः विनियंत्रण के परिणामों के निर्धारण के लिए एक विस्तृत निर्धारण चल रहा है।
- "श्रमिकों की कमी के संदर्भ में मजदूरी हिस्से का रुख केरल के छोटे रबड़ जेत क्षेत्र में टापींग मजदूरी हिस्से का मामला" पर लेख से पता चला कि 1980-81 से 2009-10 तक की 30 वर्ष की अवधि के दौरान केरल की छोटी जेत क्षेत्र के मजदूरी हिस्से वास्तविक टापींग मजदूरी (2.29%) वृद्धि दर की स्थिति के बदले ऋणात्मक रुख दिखाया।
- इस अवधि के दौरान प्रक्षेत्र आय एवं मजदूरी हिस्से के बीच एक ऋणात्मक सह संबंध कायम रहा।
- सुचारु बाद चरण के दौरान मजदूरी हिस्सा ने मजदूरी दर के रुख से बढ़कर प्रक्षेत्र आय रुख द्वारा वृद्धित रूप में प्रभावित रहा।
- केरल में स्वाभाविक रबड़ की खेती के अपक्व चरण में अंतरासम्पन: प्रकट होनेवाले रुख तथा नीति चुनौतियाँ नामक अनुसंधान आलेख सेंटर फॉर जेनरलपेट स्टडीज, तिरुवनंतपुरम में 23 से 24 जनवरी 2012 तक आयोजित "ग्लोबलीकृत युग में प्रतियोगिताक्षमता बनाना: बागान क्षेत्र का अनुभव" पर राष्ट्रीय संगोष्ठी में प्रस्तुत किया गया।

- आलेख ने रबड़ बागानों के अपक्व चरण के दौरान देका कृषि प्रणाली के अधीन अनास अंतराफलक के रूप में उभर आने के परिणाम स्वरूप अविदेकी कृषि प्रबंधन प्रणालियों के नीतिपरक आशय पर प्रकाश डाला है।

ताज़ा लाटेक्स के गामा रेडियेशन हेतु खुले रखने के बाद क्रीमिंग तथा आगे के वल्कनीकरण द्वारा आर वी एन आर एल के लिए बेहतर यांत्रिक गुण प्राप्त होते हैं। इस विधि द्वारा आर वी एन आर एल के बड़े स्तर का परीक्षण उत्पादन चलाया जा रहा है (200 ली.)।

- पोलिमरिक फिल्लर प्रणाली द्वारा स्वाभाविक रबड़ के प्रबलन पर अध्ययन जारी रखा। स्वाभाविक रबड़ के अपघर्षण रोधिता सुधारने के लिए स्वाभाविक रबड़ का पोली ब्यूटाडीन रबड़ से मिश्रण किया गया। यह देखा गया कि स्वाभाविक रबड़/पी एफ प्रणाली में पोली ब्यूटाडीन रबड़ मिलाने से अपघर्षण नुस्खान स्पष्टतः कम किया जा सका जबकि अन्य सभी प्रौद्योगिक विशेषताएं सुरक्षित रहीं। स्वाभाविक रबड़/पी एफ प्रणाली की विद्युत चालकता सुधारने के लिए उसे छोटी मात्रा में कार्बन ब्ल्याक लदाया गया, दो से दस फीट प्रति घंटा। देखा गया कि तनन शक्ति, मापांक तथा चीर शक्ति जैसी यांत्रिक विशेषताओं में सुधार हुई जैसे फिल्लर का लोडन बढ़ाया गया।
- ई एन आर के विभिन्न एपोकसी संघटक प्रयुक्त करके ई एन आर द्वारा स्वाभाविक रबड़ के सिलिका प्रबलन के अध्ययन हेतु डैनामिक मेकानिकल अनलाइसर द्वारा परीक्षण चलाये गये।
- स्थाई मुक्त राडिकल दो और वाणिज्यिक रूप से उपलब्ध पेरॉक्साइड वल्कनीकरण अभिकर्ता प्रयुक्त करके पेरॉक्साइड वल्कनीकरण के झूलसन नियंत्रण का अध्ययन किया। टेम्पो के साथ डाई बेनसीन पेरॉक्साइड के रूप में प्रयुक्त करने पर देखा गया कि साधारणतया टेम्पो के उपयोग में वल्कनीकृत सामग्री पर देखे जाने वाले विपचिपाहट हटायी जा सकी।
- रबड़ के पुनःचक्रण पर सांख्यिकीय संश्लेषण चलाया गया तथा उसी विषय पर मसीदा पुनरीक्षा तैयार की। "रबड़ रबड़ उत्पादों के विवल्कनीकरण पर अध्ययन" का कार्य जारी रखा। दो रोल मिक्सिंग मिल में यांत्रिक विवल्कनीकरण किये गये रबड़ रबड़ से तैयार

किए वल्कनन वस्तुओं से अच्छी तनन विशेषताएं प्राप्त कीं।

- आर वी एन आर एल तथा कार्बोक्सिलेटेड नाइट्रिल रबड़ लाटेक्स मिश्रण पर आधारित रबड़ नानो कमिश्नरों से ईंधन रोधिता तथा यांत्रिक विशेषताएं शुद्ध आर वी एन आर एल की तुलना में सुधार हुआ।
- सहयोगी परियोजनाएं:

1. चित्तूरंजन लोको मोटीव पश्चिम बंगाल - स्फेरी ब्लॉक के विकास का प्रयास किया गया।
2. शेप्लिन लेप्रसी रिसर्च एण्ड ट्रेनिंग सेंटर, कारिगिरी - शेप्लिन इरिटेटेड ऑफ हेल्थ साइन्स एण्ड लेप्रसी सेंटर के श्री आई आर आशर के लिए दो सप्ताह के प्रशिक्षण कार्यक्रम का आयोजन किया।
3. बार्क मुंबई - रबड़ उत्पादों के लिए उत्पाद विनिर्माण तथा आर वी एन आर एल के वाणिज्यकरण में आर वी एन आर एल का प्रयोग संसाधन प्रौद्योगिकी के मानकीकरण शीर्षक एक परियोजना प्रस्ताव बार्क मुंबई में एक तकनीकी चर्चा बैठक में प्रस्तुत किया गया।
- उद्योग के साथ एक तकनीकी परिचर्चा बैठक 23-3-2012 को आयोजित की तथा इन खोज परिणामों को और सुधारने तथा वाणिज्यीकरण के लिए एक सहयोगी उद्योग साझेदार की पहचान करने के लक्ष्य से निम्न लिखित खोज परिणाम इस बैठक के दौरान प्रस्तुत किए थे।
1. पोलिमरिक फिल्लर प्रयुक्त करके स्वाभाविक रबड़ का प्रबलन।
2. ताजे स्वाभाविक रबड़ लाटेक्स से फिल्लर मैस्टर बैच।
3. स्किम लाटेक्स के जल्द स्कंदन तथा उच्च गुणवत्ता के स्किम रबड़ प्राप्त करने के लिए नई आसान विधि।
4. डी प्रोटीनीकृत स्वाभाविक रबड़।

## 7.2 तकनीकी परामर्श

- प्रभाग के मुख्य कार्यकलाप भारतीय रबड़ उद्योग की उन्नति हेतु तकनीकी परामर्श सेवाएं प्रदात करना है। प्रभाग नए उद्यमियों तथा विद्यमान रबड़ माल विनिर्माताओं की आवश्यकताओं की पूर्ति करता है। विभिन्न रबड़ उद्योगों को प्रदात सेवाओं में उपज विकास गुणता नियंत्रण तथा प्रमाणन तकनीकी समस्या सुलझाना, प्रशिक्षण आदि सम्मिलित है।
- पूर्ति किए गए उत्पादों/प्राप्त अनुरोधों के आधार पर प्रभाग ने हितैषियों के लिए उत्पादों का विकास किया। रिपोर्ट अवधि के दौरान 41 उत्पादों का विकास किया तथा हितैषियों को तकनीकी जानकारी हस्तांतरित की।
- विभिन्न रबड़ उद्योगों मुख्यतः लघु क्षेत्र उद्योग क्षेत्र को रबड़ सम्मिश्रण, रबड़ उत्पाद की जांच करके तथा कच्चे मालों के मूल्यांकन करके तकनीकी समर्थन प्रदान किये।
- कच्चे मालों का घनन विशेष संघटक की मात्रा, बल्कनीकरण के तापमान, दबाव आदि विभिन्न पहलुओं से संबंधित मामले हमेशा ही छोटे माल विनिर्माताओं की चिंता के विषय रहे हैं।

## 8. आर्थिक अनुसंधान

- नियंत्रण से विनियंत्रण; भारत में रबड़ प्रसार नीति का रूपायन नामक कार्य आलेख भारत में रबड़ प्रसार नीति में रोपण सामग्रियों के उत्पादन एवं वितरण के 1949 के नियंत्रण से लेकर 1986 में विनियंत्रण तक अनुभव का चित्र व्यक्त करता है। हस्तक्षेप चरण रोपण सामग्रियों के उत्पादन एवं वितरण में क्रियात्मक हस्तक्षेपों से विशेष रहा (1949 से 1960)।
- विनियंत्रण चरण में रबड़ पौधशालाओं के 1986-87 से प्रमादी रूप में वार्षिक अनुमोदन के अनिवार्य उपबंध का अस्थायी रूप से विलंबन देखा गया, 1-4-1988 से प्रमादी रूप में नवरोपण/पुनःरोपण के लिए अनुज्ञापन

प्रणाली का समापन तथा 1992-93 में रबड़ बागानों के अनिवार्य पंजीकरण का परित्याग।

- विनियंत्रण का परिणाम यह हुआ कि रबड़ पौधशालाओं के गुणनियंत्रण में किसी प्रणाली की अखरत; अनुपस्थिति तथा उनपर विश्वसनीय डाटाबेस का अत्यावश्यक आंकड़ों का नुकसान तथा विहित कृषि प्रणालियों की स्वीकृति का न होना अतः विनियंत्रण के परिणामों के निर्धारण के लिए एक विस्तृत निर्धारण चल रहा है।
- "श्रमिकों की कमी के संदर्भ में मज़दूरी हिस्से का रुख केरल के छोटे रबड़ जोत क्षेत्र में टारिंग मज़दूरी हिस्से का मामला" पर लेख से पता चला कि 1980-81 से 2009-10 तक की 30 वर्ष की अवधि के दौरान केरल की छोटी जोत क्षेत्र के मज़दूरी हिस्से वास्तविक टारिंग मज़दूरी (2.29%) वृद्धि दर की स्थिति के बदले ऋणात्मक रुख दिखाया।
- इस अवधि के दौरान प्रक्षेत्र आय एवं मज़दूरी हिस्से के बीच एक ऋणात्मक सह संबंध कायम रहा।
- तुल्यार बाद चरण के दौरान मज़दूरी हिस्सा ने मज़दूरी दर के रुख से बढ़कर प्रक्षेत्र आय रुख द्वारा वर्द्धित रूप में प्रभावित रहा।
- केरल में स्वाभाविक रबड़ की खेती के अपेक्ष चरण में अंतरासंस्थन: प्रकट होनेवाले रुख तथा नीति चुनौतियाँ नामक अनुसंधान आलेख सेंटर फॉर जेनरलमैनेज स्टडीज़, तिरुवनंतपुरम में 23 से 24 जनवरी 2012 तक आयोजित "ग्लोबलीकृत युग में प्रतियोगितात्मकता बनाना: बागान क्षेत्र का अनुभव" पर राष्ट्रीय संगोष्ठी में प्रस्तुत किया गया।
- आलेख ने रबड़ बागानों के अपेक्ष चरण के दौरान देका कृषि प्रणाली के अधीन अनासन अंतराफलक के रूप में उभर आने के परिणाम स्वरूप अतिदेकी कृषि प्रबंधन प्रणालियों के नीतिपरक आशय पर प्रकाश डाला है।

## 9. प्रादेशिक अनुसंधान संस्थानों का सशक्तीकरण

### 9.1 प्रादेशिक अनुसंधान स्टेशन, दापचरी, महाराष्ट्र

- अध्ययन की गई सिंचाई प्रणालियों में थलवा सिंचाई प्रणाली ने क्लोन आर आर आई आई 105 में वृद्धि तथा उपज की दृष्टि से प्रप्त सिंचाई प्रणाली से बेहतर प्रतिक्रिया दिखाई।
- यह भी देखा गया कि सिंचाई स्तर पक्वता हासिल करने के बाद 0.25 ई टीसी के न्यूनतम स्तर तक कम किया जा सकता है तथा यह परिमाण इष्टतम लाटेक्स उपज के लिए आवश्यक सिंचाई का है। सामान्य रूप से छः साल के टापींग के बाद क्लोन आर आर आई आई में सिंचाई के 0.75 ई टी सी तथा 0.50 ई टी सी के उच्च स्तर की सिंचाई घटाकर थलवा तथा प्रप्त सिंचाई के अधीन 0.25 ई टी सी तक करने से वृद्धि तथा उपज में कोई ऋणात्मक प्रभाव नहीं देखा गया।
- लागत मूल्यांकन परीक्षण से प्राप्त परिणामों से पता चला कि मृदा की गहराई पर्याप्त हो तो परिपक्वता प्राप्त करने के बाद सिंचाई का स्तर 0.20 ई टीसी के न्यूनतम तक रबड़ पौधा फिसियोलजी पर बिना कोई प्रभाव से घटाये जा सकते हैं। कम जल प्रयुक्त गहरी मिट्टी में उच्चतर मृदा नमी संघटक तथा उच्चतर जल उत्पादकता रिकार्ड की गई।
- नियंत्रित ऊर्द्धमुखी टापींग के निदर्शन परीक्षण में 3 सप्ताहों में एक एतिफोन के प्रयोग के साथ एस/3 यू डी 3 टापींग प्रणाली आशाजनक साबित हुई। सामान्य रूप से साधारण फैनल टापींग से अधिक उपज अध्ययन किये गये सभी उपचारों में नियंत्रित ऊर्द्धमुखी टापींग से प्राप्त हुई (एस/2 डी3 6 डी/7-जुलाई (ई टी 2.5 प्रतिशत पी ए का एक प्रयोग)
- क्लोन मूल्यांकन परीक्षण में उपज तथा मोटाई की दृष्टि से आर आर आई आई 208 सबसे उत्कृष्ट क्लोन साबित हुआ।

- बहुक्लोनीय पौधों के मूल्यांकन के परिणाम स्वरूप दाछनीय चीन रूपों तथा आशाजनक ओरटेट क्लोनों का चयन किया जा सका।
- सूखा मूल्यांकन अध्ययन में जंगली अनुवृद्धियों तथा एच पी क्लोनों ने सभी अध्ययन की विशेषताओं के लिए बड़े अंतर प्रदर्शित किया जबकि जंगली अनुवृद्धि एम टी 4788 से अधिकतम मोटाई दर्ज की गई तथा स्थायी निष्पादन के साथ ओ एस 135 में न्यूनतम पीलापन प्रतिशत देखा गया। जांच क्लोनों में आर आर आई आई 208 में न्यूनतम पीलापन प्रतिशत देखा गया और पीछे रहा आर आर आई एम 600।
- 20 आशाजनक हिमिया क्लोनों में क्लोनीय पौधशाला मूल्यांकन परीक्षण प्रगति में है।
- चक्रक मल्लिंग तथा कयोलीन छिडकाव द्वारा बेहतर कृषि प्रबंधन तकनीकियाँ रूपायित करके सूखा दबाव कम करने का प्रयास जारी है।

### 9.2 प्रादेशिक अनुसंधान स्टेशन, धँकनाल, ओडीशा

- ऑर्टेटो में सबसे उपयुक्त क्लोन की पहचान के लिए 10 ऑर्टेटो का चयन किया तथा गुणन किया। ऑर्टेटो की प्रारंभिक वृद्धि संतोषजनक है। ओ आर 1 तथा ओ आर 7 ने अच्छी प्रारंभिक वृद्धि दर्ज की।
- ओडीशा के शुष्क अल्पाई मौसम के अधीन रबड़ की उपज तथा वृद्धि के संदर्भ में आर आर आई आई 208 (68.2 जी/टी/टी), आर आर आई एम 600 (55.7 जी/टी/टी) एस सी ए टी सी 88-13 तथा चयनित बहुक्लोनीय पेड़ आबादी (73.6 जी/टी/टी) अधिक आशाजनक पाये गये।
- आर आर आई आई 400 श्रेणी क्लोनों में आर आर आई आई 414 तथा आर आर आई आई 430 अनुकूलन तथा जलद उपज तथा वृद्धि में उत्तम पाये गये। क्षेत्र में सी यू टी ने दो से तीन गुना उपज वृद्धि थी। एस/4 डी/2 ई टी 5 प्रतिशत 45 दिन का उपचार सबसे उत्साहजनक रहा।

## वार्षिक रिपोर्ट 2011-12

### 9.3 प्रादेशिक अनुसंधान स्टेशन, पठिपूर, केरल

- स्थानीय अंतर का मैप तैयार किया। बड़े टुकड़ों की मैपों/जोत तैयार किया वास्तविक मुदा आयतन, दलाई तथा मुदा की गहराई विशेषताओं का मैप तैयार किया।
- सिंचाई से मोटाई तथा मोटाई वृद्धि में स्पष्टतः वृद्धि हुई इससे पेड़ों की जल्य टापींग क्षमता प्राप्त की जा सकी। शुक्र मौसम उपज में अधिक अंतर नहीं था।
- अध्ययन किये गये तीन क्लोनों में (आर आर आई आई 105, आर आर आई आई 414 तथा आर आर आई आई 429) पेड़ों की वृद्धि पर अनुसंधित स्तर से अधिक खाद के प्रयोग का कोई स्पष्ट प्रभाव नहीं देखा गया।
- तुलना किये गये 11 क्लोनों में उपज के संदर्भ में पी बी 255 तथा आई आई आर सी ए 130 ने आर आर आई आई 105 की अपेक्षा स्पष्ट तरीकता दर्ज की।
- आर आर आई आई 203 की वार्षिक औसतन उपज (57 जी/टी/टी) आर आर आई आई 105 (43 जी/टी/टी) स्पष्टतः बेहतर पाया गया। पी बी 86 आर आर आई सी 100 तथा आर आर आई आई 105 की उपज तुलनात्मक रही। ऑटेंटो में पी 270, पी बी 213 तथा इरिट्टी 1 ने क्रमशः 39.8, 33.0 तथा 31.3 जी/टी/टी से बेहतर निष्पादन किया।

### 9.4 सिविया प्रजनन उप केंद्र (एच बी एस एस) परतियार, तमिलनाडु

- एच बी एस एस परतियार द्वारा कुल 22 बड़े पैमाने के क्लोन मूल्यांकन परीक्षण चलाये जा रहे हैं।
- कीरिप्पार में मूल्यांकन किये जा रहे 9 नये क्लोनों में पी बी 255 नियंत्रण क्लोन आर आर आई आई 105 सहित अन्य क्लोनों को पीछे धकेलकर बेहतर निष्पादन करना जारी रहा। कोट डी इवोडर से जोड़े गये 5 क्लोनों में 3 (आई आई आर सी ए 109, आई आई आर सी ए 111 तथा आई आई आर सी ए 130) ने नियंत्रक क्लोन आर आर आई आई 105 से आंकड़ों की दृष्टि से बेहतर निष्पादन किया।

- ब्लॉक मूल्यांकन परीक्षण में टापींग के 11वें वर्ष तक आर आर आई आई 105 ने अन्य 12 जनप्रिय क्लोनों से बेहतर निष्पादन किया।
- न्यू अंबाडी एस्टेट के जी x ई परीक्षण में आर आर आई आई 203 ने नियंत्रक क्लोन आर आर आई आई 105 से आंकड़ों के हिसाब से बेहतर निष्पादन प्रदर्शित किया।
- चुरुलक्कोड में रूट ट्रेनर पीछों ने टापींग के 7वें वर्ष तक पोलिडैंग पीछों से संख्यात्मक दृष्टि से बेहतर उत्पादन किया।
- वेल्सामील के छोटे पैमाने के परीक्षण में 10 संकर, 4 ओरटेड तथा 3 जीव क्लोन को सम्मिलित करके क्षेत्रस्तरीय रोपण चलाया गया।
- रूट ट्रेनरों की रोपण तकनीकी पर विस्तार अधिकारियों के एक बैठ, म्यानमार के अधिकारियों के एक बैठ तथा बागवानी तथा पौधशाला मालिकों के आठ बैठों के लिए प्रशिक्षण चलाया गया।
- एच बी एस एस परतियार प्रोजेक्ट में एक कृषि मौसमिक निरीक्षण केन्द्र स्थापित करने की कार्रवाई शुरू की।

### 9.5 एच बी एस एस, नेडुणा, कर्नाटक

- 1988 में रोपित 3 ऑटेंट परीक्षणों में 9 वर्षों के टापींग के बाद 74.0 जी/टी/टी के साथ टी 2 उच्चतम फसलदार देखा गया जिसके निकट पीछे रहे ओरटेड नामे ओ 17 (68.0 जी/टी/टी) तथा ओ 15 (63.8 जी/टी/टी)। नियंत्रक क्लोन जी टी 1, आर आर आई आई 105 तथा आर आर आई एम 600 की उपज क्रमशः 64.6, 47.8 तथा 46.4 जी/टी/टी रही। दूसरे परीक्षण में उच्च उपजदार क्लोन रहे टी 1 (72.4 जी/टी/टी) जिसके पीछे था जी टी 1 (69.5 जी/टी/टी)। तीसरे परीक्षण में जी टी 1 से अधिकतम उपज दर्ज की गई (84.0 जी/टी/टी) जिसके पीछे रहे ऑटेंट ओ 55 (75.6 जी/टी/टी)

तथा सी 140 (75.5 जी/टी/टी)। नियंत्रक क्लोन आर आर आई आई 105 तथा आर आर आई एम 600 से क्रमशः 63.9 तथा 31.8 जी/टी/टी उपज प्राप्त हुई। ध्यान देने योग्य उपज वाले अन्य ऑर्टेट थे ओ 49 (69.6 जी/टी/टी), ओ 26 (65.0 जी/टी/टी) तथा ओ 11 (63.8 जी/टी/टी)।

- बड़े पैमाने के क्लोन परीक्षण 1989 में नौ वर्ष के टापिंग के बाद अधिकतम उपज आर आर आई आई 203 में देखी गयी (67.2 जी/टी/टी) जिसके पीछे रहा के आर एस 25 (56.2 जी/टी/टी)। जॉब क्लोन आर आर आई आई 105 तथा आर आर आई एम 600 से क्रमशः 46.3 तथा 32.7 जी/टी/टी उपज प्राप्त हुई।
- 1990 में रोपित अन्य एक बड़े पैमाने के परीक्षण में क्लोन पी बी 260 उच्चतम उत्पादक पाया गया तथा जिसके पीछे रहे पी बी 235 (62.3 जी/टी/टी) तथा एच पी 372 (59.6 जी/टी/टी)। टी जे आई आर 1 सबसे कम उपजदायक रहा (21.2 जी/टी/टी)
- 1991 में रोपित विदेशी तथा देशी क्लोनों के तीन छोटे पैमाने के परीक्षणों में कुल 54 परीक्षण क्लोन तथा 3 नियंत्रक क्लोन मूल्यांकन के अधीन हैं। प्रथम परीक्षण में अधिकतम उपज क्लोन पी बी 235 (77.6 जी/टी/टी), पी बी 280 (76.8 जी/टी/टी), पी बी 314 (76.7 जी/टी/टी), पी बी 312 (72.6 जी/टी/टी) तथा पी बी 311 (66.5 जी/टी/टी) में देखी गयी। दूसरे परीक्षण में क्लोन आर आर आई आई 5 से सर्वाधिक उपज 69.5 जी/टी/टी मिली जिसके पीछे रहा क्लोन आर आर आई आई 3 (60.5 जी/टी/टी) तथा तीसरे परीक्षण में सात वर्षों के टापिंग के बाद क्लोन एच पी 83/224 (67.4 जी/टी/टी) पेड से अधिकतम उपज मिली जिसके पीछे रहा क्लोन पी बी 28/59 (56.6 जी/टी/टी)।
- वर्ष 2000 में रोपित 400 श्रेणी क्लोनों के परीक्षण में 12 वर्ष की वृद्धि तथा 3 वर्ष की टापिंग में सर्वाधिक

उपज क्लोन आर आर आई आई 414 में नोट की गयी (71.8 जी/टी/टी)। जिसके पीछे रहे आर आर आई आई 430 (65.6 जी/टी/टी) तथा आर आर आई आई 422 (59.7 जी टी टी) पैनुक क्लोन आर आर आई आई 105 तथा आर आर आई सी 100 ने 41.3 जी टी टी उपज दी।

## 10. उत्तर पूर्वी क्षेत्र के अनुसंधान कार्यक्रम

### 10.1 प्रादेशिक अनुसंधान स्टेशन अगरतला, त्रिपुरा

- बड़े पैमाने के परीक्षण 1995 में 7 वर्षों की औसत उपज से देखा गया कि पी बी 311 अधिकतम उपजदायक है जिसके पीछे रहा आर आर आई आई 105।
- बड़े पैमाने के परीक्षण 1996 में वार्षिक औसत उपज से पाया गया कि अन्य परीक्षित क्लोनों की तुलना में क्लोन आर आर आई एम 600 उपज की दृष्टि से स्पष्टतः वरीय है।
- किल्लामुरा के प्रक्षेत्रस्तरीय परीक्षण में 5 वर्षों की औसत उपज से देखा गया कि पी बी 235 सर्वाधिक उपजदायक क्लोन है (1136 कि.ग्रा./हे/वर्ष) और जिसके पीछे रहा आर आर आई एम 600 (1054 कि.ग्रा./हे/वर्ष)।
- ओर्टेटों के छोटे पैमाने के परीक्षण 2000 में ओ 114 ने तीन वर्षों के दौरान अधिकतम औसतन उपज प्रदर्शित की (48.5 जी/टी/टी) जिसके पीछे रहे ओ 98 (37.7 जी/टी/टी) तथा नियंत्रक क्लोन आर आर आई एम 600 जिसने 37.4 जी/टी/टी की उपज दी।
- क्षेत्रस्तरीय परीक्षण के लिए डी यू एस परीक्षण शर्तों के मानकीकरण हेतु 49 क्लोनों का रोपण किया।
- रबड़ में अंतरासस्यन परीक्षण में कैला के लिए अधिकतम बी सी आर रहा। न्यूनतम जुगाई स्थिति के अधीन परीक्षण किये गये अन्य वार्षिक फसलों में अननास तथा अमोर्फोफालस अधिक लाभकर रहे।
- उपरिम्पदा तथा प्रक्षेत्र खाद के 8:2 अनुपात में प्रयोग उत्तरपूर्वी क्षेत्र में जड़ ट्रेनर के लिए बदल गमला



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माव्यम बना सकता है। चारों फसलों के अंतरासंस्थान में गिनिया खास ने सर्वाधिक उपज दी जिसके पीछे रहा स्टैलो के साथ सिगनेल।

- जुलाई रहित स्थिति के अधीन एक वर्ष के बाद रबड़ की वृद्धि में कोई अंतर दर्ज नहीं किया गया तथा गन्ना रोपण की अनुशंसा दी गयी।
- क्लोन आर आर आई आई 429 ने एन पी के खादों के प्रयोग की ओर स्पष्ट प्रतिक्रिया दी तथा 7 वर्षों के अंत तक क्लोन के टारिंग योग्यता 80 प्रतिशत तक दर्ज की गयी जब अनुशंसित खाद मात्रा से डेढ़ गुने का प्रयोग किया।
- पान पत्ता के पत्र सड़न से पृथक्करण किए फाइटोफ्थोरा एस पी के आपसी रोगाणु संक्रांतकता परीक्षण से देखा गया कि पान पत्ता पृथक्करण रबड़ के पत्रों में रोग संक्रम करने में सक्षम है तथा काले भूर धब्बे का सृजन किया।
- टारिंग की विभिन्न प्रणालियों के परीक्षण में क्लोन पी बी 235 ने टारिंग के एस/2 डी4 तथा एस/2 डी6 प्रणाली की तुलना में एस/2 डी3 में सर्वाधिक उपज प्रदर्शित की।
- जाड़े के मौसम के दौरान रबड़ शीट बहिष्काव से जैव गैस का सफल उत्पादन किया जा सकता है। यह देखा गया कि जैव गैस संयंत्र की पराजय के कारण रुचि की कमी, अपर्याप्त बहिष्काव तथा संयंत्रों का खराब अनुपस्थान।
- इस्लरो बैंगलूर के सहयोग से आई आर एस-पी 6, लिस 3 तथा लिस 4 उपग्रह चित्रों को प्रयुक्त करके त्रिपुरा राज्य के विद्यमान रबड़ बागानों का आकाशीय मैपिंग पूरा किया गया। इसके आधार पर त्रिपुरा राज्य में स्वामादिक रबड़ के अधीन क्षेत्र 45000 हे से अधिक पाया गया (2 से 3 वर्ष से अधिक उम्र का)।
- कीचड़ की दीवारों की ताकत उन दीवारों पर लाटेक्स प्रयोग करके बढ़ायी गयी। अधिकतम ताकत चिकनी मिट्टी के साथ लाटेक्स मिश्रित करके कीचड़ दीवार बनाने पर देखी गयी।

- कृषि मौसमिक अध्ययन से देखा गया कि (ती वर्षों में) अगस्तला तथा कोट्टयम में पी ई टी में 19 तथा 11 मि.मीटर प्रतिदिन की क्रमशः वार्षिक कमी हुई।
- व्यक्तिगत कृषक अधिकतर अपने उत्पाद धूम न किए शीट के रूप में ग्रामीण श्रेताओं /व्यापारियों के उप अभिकर्ताओं को करते थे। उप अभिकर्ताओं को गैर धूमित शीट बेचने का औसतन माव कोट्टयम के आर एस एस 4 के माव से प्रति कि.ग्रा.27.20 रुपये कम रहा। 93 प्रतिशत ब्लॉक रोपण इकाइयों तथा 80 प्रतिशत रबड़ उत्पादक संघ संरक्षित फील्ड लाटेक्स के रूप में संसाधित करके वितरण करते थे। संरक्षित फील्ड लाटेक्स के विपणन की श्रृंखला- व्यापार कंपनियों द्वारा शासित है (ब्लॉक रोपण इकाई में 100 प्रतिशत तथा रबड़ उत्पादक संघ में 90 प्रतिशत)
- मुदा तथा पत्र विश्लेषण के आधार पर 244 रबड़ कृषकों को विवेकी खाद अनुशंसाएं प्रदान की। शुष्क रबड़ संपटक तथा अन्य लाटेक्स प्राचनों के लिए कुल 1356 लाटेक्स नमूनों का लाटेक्स विश्लेषण किया। उच्च उत्पादक क्लोनों के कुल 4010 मि. बड़ दुध की पूर्ति कृषकों को वितरण के लिए की।

### 10.2 प्रादेशिक अनुसंधान स्टेशन मुआहटी, असम

- बुर्गिल आसिता रोग की तीव्रता प्रकोपित पेड़ों की निचली शाखाओं में 20 से 65 प्रतिशत तक थी तथा जो फरवरी/मार्च महीने की पुनःपत्रण अवधि में अधिक तापमान की उपस्थिति से हो सकता है।
- दिस्बर्/जनवरी के दौरान पौधशालाओं के कोमल पत्तों में पैरिकोनिया लीफ ब्लाइट रोग का प्रकोप देखा गया (20 से 70 प्रतिशत) तथा इसकी तीव्रता मेघालय के उमलिंग में सर्वाधिक (80 प्रतिशत) रही।
- असम तथा मेघालय के कुछ निजी बागानों के कुछ स्थानों पर 3-4 वर्ष उम्र के रबड़ पौधों पर भूरा जड़ रोग का प्रकोप देखा गया (0.5 से 8.9 प्रतिशत) जिसमें अधिकतम असम नोंगाम (8.9 प्रतिशत) तथा फलस्वरूप प्रकोपित पेड़ का पूरा नाश हुआ। मुदा से

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प्रकोपित जड़ों के निकालने के बाद टिल्ट (5 मि लि/ लि पानी) के प्रयोग से रोग नियंत्रणधीन हो गया है।

- रबड़ के रोगों तथा कीटों के प्रबंधन के लिए इस क्षेत्र के 18 निजी कृषकों को सलाहकारी सेवाएं प्रदत्त कीं।
- उत्तरपूर्वी क्षेत्र में सर्वप्रथम असम राज्य के उबालगुड़ी जिला के अधीन काशिपुर में एक निजी कृषक के एक वर्ष उम्र के रबड़ पौधों के ऊपरी जड़ में दीमक के तीव्र आक्रमण (60 प्रतिशत) पाया गया तथा फलस्वरूप प्रकोपित पेड़ों का पुरा शुष्क हुआ। 20 कि ग्रा/हे. की दर पर फोरेट 10 ग्राम के प्रयोग से कीट बाधा नियंत्रणधीन हो गयी है।
- उमसियांग में फरवरी के दौरान प्रखेत्रस्तरीय परीक्षण में आर आर आई आई 422 के 7.7 प्रतिशत पौधों पर जगड़े के घाय दिखाये गये।
- हिबिया जननद्रव्य के दो जंगली अनुवृद्धियों की तुलना में (आर ओ 1737 तथा ए सी 5302) ए सी 587 में वृणिल आसिता रोग के प्रति उच्चस्तरीय सहनशीलता देखी गयी। बाँस पत्तों के कचड़े का वजन नुस्तान दर तेज रहा जिसके पीछे ये रबड़ सागीन तथा साल कचड़े।
- जंगली तल के नीचे रखे कचड़ों का कुल सूक्ष्म जीवीय आबादी बहुत अधिक रही। सड़े हुए कचड़ों से लगातार कुछ साक्रोफाइटिक कवक का पृथक्कन किया गया जो सक्रिय अपघटक माना जा रहा है।
- जैव खाद से उपचारित तथा नियंत्रित अनुपचारित मृदा दोनों में कवकीय जाति संघटक गुणतापरक दृष्टि से समान रहे।
- द्वितीय संवर्द्धन तकनीक द्वारा विरोधी क्षमता का निर्धारण किया गया। रोग कारक कवक के प्रति पेंसिलियम एस पी तथा आस्पेरिलस एस पी तथा ब्रायकोडरमा एस पी ने कुछ विरोधी क्षमता प्रकट की।
- आई एन एम परीक्षण में 50 प्रतिशत नाइट्रोजन तथा फोस्फोरस + जैव खाद के उपचार के मोटाई आंकड़े नियंत्रण से अधिक स्पष्टतः बेहतर पाया गया।
- मृदा संरक्षण के लिए जैव बाँसों के परीक्षण में पेट्टिवर,

लेमन ग्रास, पालमरोसा, गिनिया ग्रास, राइस बीन, छादन फसल तथा स्वाभाविक छादन के साथ रबड़ सम्मिलित रबड़ में क्षरित मृदा के परिमाण एकत्रित किया तथा दर्ज किया और निम्नतम पाया गया।

- रबड़ के संवर्द्धन के लिए स्थानीय रूप से व्यवहार्य तथा स्वीकार्य रूट ट्रेनर तकनीक के विकास के अध्ययन में बाँस मिट्टी तथा प्लास्टिक से बनाये रूट ट्रेनरों का उपयोग किया। बाँस (93 प्रतिशत) डिब्बों में मुकुलन प्रतिशत उच्चतर रहा।

### 10.3 प्रादेशिक अनुसंधान स्टेशन, तुरा, मेघालय

- हाफ सिद्ध संतति मूल्यांकन 2008 में ब्लोनीय पोषशाला में आगे के मूल्यांकन हेतु 20 प्रतिशत बेहतर पौधा आबादी का चयन किया है। हाफ शिब संतति 2009 परीक्षण में अन्य संततियों की तुलना में आर आर आई आई 203 संतति ने स्पष्टतः उच्चतर वृद्धि दिखायी लेकिन परीक्षण टाप उपज आर आर आई आई 105 में अधिक रही। संततियों के परीक्षण टाप उपज तथा मोटाई के आधार पर 20 प्रतिशत बड़िया पौधा आबादी का चयन ब्लोनीय पौधशाला परीक्षण में आगे के मूल्यांकन हेतु किया है।
- मेघालय के पूर्वी तथा पश्चिम गारो पर्वत (मेंदिपल्वर तथा बोलचुप्रे) के प्रखेत्र परीक्षण में अधिकतम मोटाई तथा कैचआई पी सी 235 में दर्ज की जिसके पीछे रहे आर आर आई एम 600, पश्चिम गारो पर्वत में अधिकतम कैचआई आर आर आई एम 600 में दर्ज की लेकिन औसत मोटाई, पत्तों तथा चक्करों की संख्या आर आर आई आई 417 में अधिक थी।
- आर आर टी सी हहारा गुआहटी में उत्तर पूर्वी क्षेत्र के लिए बहुवस्त्रीय बीज गार्डन की स्थापना के लिए नौ क्लोनों के 859 पोलिबैग पौधों का रोपण क्षेत्र में किया गया तथा अनुरक्षण किया।
- नियंत्रित ऊर्ध्वमुखी टार्पिंग परीक्षण में आँकड़ों से पता चला है कि एस/4यू डी 2 उपचार में 21 दिवस के अंतराल में एस्तिफोन के प्रयोग से अधिकतम उपज दर्ज की जल कि

न्यूनतम उपज एस/ड्यू 312 उपचार में 45 दिवस के अंतराल में एरिफोन के प्रयोग में नोट की गयी।

- एन पी के परीक्षण में अधिकतम मोटाई, मोटाई वृद्धि, उपज, शुष्क रबड़ संघटक तथा साटेक्स आयतन एन<sub>60</sub> पी<sub>30</sub> के<sub>6</sub> कि ग्राह के मिश्रण के उपचार के अधीन देखा गया तथा न्यूनतम एन<sub>60</sub> पी<sub>30</sub> के<sub>6</sub> उपचार में। एन पी के खादों के उपयोग ने ओ सी संघटक, उपलब्ध फोस्फरस तथा पोटासियम में काफी वृद्धि की।
- गैनोल 3 प्रेक्लेर के मुदा नमी अध्ययन में मुदा नमी संघटक सभी महीनों में मिट्टी की गहराई बढ़ने के साथ वृद्धि का रुख दिखाया। अधिकतम मुदा नमी संघटक जुलाई महीने के दौरान दर्ज किया तथा न्यूनतम जनवरी तथा फरवरी के महीनों में। वार्षिक मध्यम क्षेत्रीय क्षमता तथा स्थायी स्नानांक के बीच देखा गया (22.7 प्रतिशत से 24.1 प्रतिशत)
- रबड़ खेती क्षेत्र से 58 मुदा नमूनों का एकत्रण किया तथा विश्लेषण किया और कृषकों को खाद अनुसंसाएं प्रदान कीं।

#### 10.4 प्रादेशिक परीक्षण स्टेशन, नाग्राकहा, पश्चिम बंगाल

- परीक्षण एक तथा दो में एस सी ए टी सी 88/13, आर आर आई आई 300, पी बी 311, आर आर आई एम 703, आर आर आई एम 605, आर आर आई आई 208, एस सी ए टी सी 83/114 तथा पी बी 235 की औसत उपज जांच क्लोन आर आर आई आई 105 से बेहतर रही।
- परीक्षण III में जांच क्लोन आर आर आई एम 600 की उपज सराहनीय नहीं लेकिन किसी अन्य क्लोन ने बेहतर प्रदर्शन नहीं किया।
- परीक्षण IV में आर आर आई आई 208 तथा हैकन 1 की औसत उपज जांच क्लोन आर आर आई एम 600 से उच्चतर रही।
- 21 जंगली अनुबुद्धियों में अधिकतम मोटाई आर ओ

3172 में देखी गयी जिसके पीछे रहे आर ओ 2890, आर ओ 5348 तथा आर ओ 2635।

- जंगली अनुबुद्धियों के मूल्यांकन में उपज की दृष्टि से सभी जननद्रव्य अनुबुद्धियों में आर ओ 5363 ने उच्चतम उपज प्रदर्शित की जो जांच क्लोन आर आर आई आई 105 से तुलनात्मक रही।
  - सामान्य रूप से आठे तथा माटो ग्रीसो अनुबुद्धियों की तुलना में रोडानिया का निष्पादन बेहतर देखा गया।
  - एन<sub>60</sub> पी<sub>30</sub> के<sub>6</sub> में उपज एन<sub>60</sub> पी<sub>30</sub> के<sub>6</sub> मिश्रण से स्पष्टतः उच्चतर रहा।
  - परिपक्व रबड़ पेड़ों की भारी छाया के कारण तथा गंभीर कीट आक्रमण के कारण अंतरासस्त्रन किये जातों में हरी चाय पत्ती की उपज शुद्ध जोत से स्पष्टतः कम रही।
  - पश्चिम बंगाल के हिमालय के तराई क्षेत्र के उपेक्षित चाय खेती के इलाकों में रबड़ खेती करने का प्रयास किया गया। जहाँ मृदा सोडिक या पथरीली है। प्रारंभिक परिणामों से पता चला कि 8.3 पी एच के क्षारीय मृदा में रबड़ अच्छी तरह बढ़ायी जा सकती है।
  - उच्च पी एच की मृदा में बढ़ाने वाले क्लोनों में आर आर आई एम 600 से आर आर आई आई 208 की मोटाई स्पष्टतः अधिक रही।
- #### 11. अनुसंधान अध्येता वृत्ति योजना तथा भारगसं समर्थक सेवाएं
- आम्पिक जीव विज्ञान, आम्पिक पौधा रोग विज्ञान, पौधा शरीर क्रिया विज्ञान, शारीर, मौसम विज्ञान, रिमोट सेंसिंग तथा रबड़ प्रौद्योगिकी में शोध अध्येताओं ने अपने आंबटित कार्यक्रम जारी रखे। इस अवधि के दौरान अच्छी प्रगति हासिल की।
  - पुस्तकालय, कंप्यूटर केंद्र, इन्टरनेटेशन अनुभाग तथा अनुक्षण स्कूथ जैसे समर्थक सेवा कार्यों का शक्तिकरण किया। सभी अनुसंधान प्रयोगशालाओं तथा प्रादेशिक स्टेशनों को नैतिक समर्थन प्रदान किया।

## वार्षिक रिपोर्ट 2011-12

### 12. राष्ट्रीय तथा अंतर्राष्ट्रीय केंद्रों से संपर्क

- वर्ष 2011-12 के दौरान 4 वैज्ञानिक जिनके प्रस्ताव स्वीकार किये थे वे निम्नलिखित विषयों तथा स्थानों में विदेशी प्रशिक्षण में भाग लिए।
- I. युनाइटेड स्टेट्स डिपार्टमेंट ऑफ एग्रिकल्चर प्रयोगशाला तथा ओहियो स्टेट यूनिवर्सिटी सेंटर यू एस ए में भारत के अजीविक दबाव वाले क्षेत्र तथा सीमांत भूमि में स्थायी रबड़ के वैकल्पिक शौलों की खेती की संभाव्यता पर अध्ययन।
- II. अग्रिलार्ड रिसर्च सेंटर टेक्सास, ए एण्ड एक सिस्टम यूनिवर्सिटी टेक्सास, यू एस ए में हिविया ब्रसिलियनसिस के लोकोमोस तथा इसके पौधों के मिमल पोषकों में प्रयोग।
- III. नेवादा विश्वविद्यालय यू एस ए के जैव रसायन तथा आण्विक जीव विज्ञान विभाग में के. अयोगस के विशेष संदर्भ में अयोग वैनल गेटिंग तथा पर्यावरण दबाव।
- IV. अर्कनसास विश्वविद्यालय डिविशन ऑफ अग्रिकल्चर डिपार्टमेंट क्राप सोइल एण्ड एनवयोनमेंटल साइन्सेस, अर्कनसास यू एस ए में, एण्टी बयोटिक मार्कर मुक्त हिविया ब्रसिलियनसिस ट्रान्सजेनिक पौधों का विकास।
- रबड़ रिसर्च इंस्टिट्यूट ऑफ माइलैंड द्वारा आयोजित तथा इंटरनेशनल रबड़ रिसर्च एण्ड डेवलपमेंट बोर्ड, मलेशिया द्वारा प्रायोजित पार्टिसिपेटरी र्गॉल होल्डर डेवलपमेंट नामक तीन सप्ताह के प्रशिक्षण कार्यक्रम में एक वैज्ञानिक को प्रतिनिधित्व किया। कार्यक्रम में दो दिनों के आई आर आर डी बी अंतर्राष्ट्रीय सम्मेलन तथा क्षेत्रीय दौरा सम्मिलित थे।

### 13. आर आर आई आई प्रकाशन

शोध आलेख	-	43
जनप्रिय आलेख	-	35
कार्यवाहियाँ	-	6

### 14. घटनाएं

#### 14.1 बागवानी फसलों पर फाइटोफ्थोरा रोग तथा उसके प्रबंधन पर अंतर्राष्ट्रीय कार्यशाला एवं संगोष्ठी

भारत में रबड़ बागानों में फाइटोफ्थोरा पत्ता रोग

की प्रथम रिपोर्ट की शताब्दी वर्ष तथा असाधारण पूरी झड़न रोग के विरुद्ध तेल अघारित कॉपर ऑक्सीक्लोराइड प्रयुक्त करके प्रभावी नियंत्रण के स्वर्ण जयन्ती वर्ष की यादगार में बागवानी फसलों पर फाइटोफ्थोरा रोग तथा इसके प्रबंधन पर 3 दिवसीय अंतर्राष्ट्रीय कार्यशाला तथा तीन दिवसीय संगोष्ठी का आयोजन भारतीय रबड़ गवेषण संस्थान के पीधा रोग विज्ञान प्रभाग के द्वारा कोट्टयम के भारगस में 12-17 सितंबर 2011 के दौरान किया। संगोष्ठी के साथ पीधा संरक्षण रसायनों, जैव नियंत्रण अभिकर्ताओं तथा मशीनरियों की प्रदर्शनी का भी आयोजन किया। इस वैज्ञानिक कार्यक्रम में विशेष अभिभाषण तथा वैज्ञानिकों, कृषकों, भारत तथा विदेश के पीधा संरक्षण रसायन तथा मशीनरियों के विनिर्माताओं के साथ विचार विमर्श भी सम्मिलित थे। बैठक के विचार विमर्श कार्यक्रमों में लगभग 350 प्रतिभागी भाग लिए।

#### 14.2 24वाँ केरला साइन्स कॉंग्रेस

केरला स्टेट काउंसिल फॉर साइन्स, टेक्नोलॉजी एण्ड एनविरोनमेंट तथा रबड़ बोर्ड ने संयुक्त रूप से 24वाँ केरला साइन्स कॉंग्रेस का आयोजन 28 से 31 जनवरी तक भारगस में किया। कोट्टयम में 28 से 31 जनवरी 2012 तक एक विज्ञान प्रदर्शनी का भी आयोजन किया। भारगस के सभी वैज्ञानिकों तथा कर्मचारियों ने विभिन्न कर्मसमितियों के अधीन प्रभार लेते हुए सम्मेलन तथा प्रदर्शनी में सक्रिय भागीदारी की। 12 विभिन्न तकनीकी सत्रों के अधीन कुल मिलाकर 132 मौखिक तथा 108 पोस्टर प्रस्तुति थीं। इनमें 12 मौखिक आलेख तथा 9 पोस्टर भारगस से थे। डॉ. बैरिन जॉर्ज तथा श्री ए.एन. शशिधरन नायर ने कृषि विषय में उनके "कौपी तथा कोको अंतरफलक के साथ रबड़ आधारित फसल प्रणाली में पोषक आवश्यकता के निर्धारण" नामक पोस्टर के लिए श्रेष्ठ पोस्टर पुरस्कार प्राप्त किया। 31 जनवरी 2012 को बच्चों के साइन्स कॉंग्रेस तथा प्रोफ.एन.एस.स्वामिनाथन सहित विज्ञान वैज्ञानिकों के साथ विचार विमर्श सत्र के साथ सम्मेलन समाप्त हुआ।

#### 14.3 भारगस वैज्ञानिक संगोष्ठी

भारगस द्वारा 8 वैज्ञानिक संगोष्ठियाँ आयोजित कीं

जिनमें 20 शोध आलेख, 5 परियोजना प्रस्ताव, 1 परियोजना रिपोर्ट, 4 अभिभाषण वैज्ञानिकों द्वारा प्रस्तुत किए तथा जिनपर चर्चा की।

#### 14.4 विदेशी आगंतुक

- i. वर्ष के दौरान रबड़ रिसर्च इंस्टिट्यूट ऑफ श्रीलंका के 2 तकनीकी अधिकारियों को क्रमशः पीथा शरीरक्रिया विज्ञान तथा लाटेक्स फसलन प्रौद्योगिकी तथा सस्य विज्ञान/मृदा तथा खाद प्रयोग पर प्रशिक्षण दिया गया।
- ii. निदेशक रबड़ रिसर्च इंस्टिट्यूट ऑफ श्रीलंका तथा 2 वैज्ञानिकों ने भारतीय रबड़ गवेषण संस्थान तथा अपारंपरिक क्षेत्र दापवरी के प्रादेशिक अनुसंधान स्टेशन और गोआ व सावंतवाडी क्षेत्र का दौरा किया। उन्होंने भारगस के वैज्ञानिकों के साथ विचार विमर्श किया तथा शुष्क क्षेत्रों में रबड़ खेती के व्योरे संबंधी प्रारंभिक सूचना हासिल की।

- iii. महानिदेशक के नेतृत्व में वियतनाम रबड़ यूएम, डायरेक्टर टेकनोलॉजी आर आर आई वियतनाम तथा वियतनाम के विभिन्न रबड़ कंपनियों के कर्मचारी और वियतनाम विश्वविद्यालय के एक वैज्ञानिक ने रबड़ बोर्ड का 13 मार्च से 15 मार्च 2012 तक दौरा किया तथा केरल के रबड़ संसाधन सुविधाओं का घयन किया। उनका मुख्य लक्ष्य आर एस एस बहिस्त्राव संसाधन, जैव गैस उत्पादन तथा इसके उपयोग पर भारतीय अनुभव के बारे में अध्ययन करना था। उन्होंने एलवमपाडम आर पी एस, पालक्काड के आदर्श उपचार सुविधाओं का संदर्शन किया तथा आर एस एस बहिस्त्रावों के उपचार में प्रारंभिक अनुभव प्राप्त किया। इडुक्की जिला के अडिमात्ती के उच्च स्थानीय क्षेत्रों के निजी बागानों का भी इन्होंने संदर्शन किया।



निदेशक रबड़ रिसर्च इंस्टिट्यूट ऑफ श्रीलंका तथा 2 वैज्ञानिक दापवरी, महाराष्ट्र के एक मोडेल बागान का दौरा करते हुए

## प्रक्रमण एवं उपज विकास

भारतीय रबड़ प्रक्रमण उद्योग को सुधारित उत्पादन निष्पादन, ग्राहक लुब्ध, मजबूत पर्यावरण विनियम जैसे लक्ष्य हासिल करना है। इसको ध्यान में रखकर 11वीं प्लान योजना रूपायित करके कार्यान्वित किया है। 11वीं प्लान योजनाएं एवं हितैषियों के फीड बैक (प्रतिपुष्टि) के मूल्यांकन पर आधारित विशेषज्ञ समिति की सिफारिशों के आधार पर बारहवीं योजना प्रस्ताव रूपायित किया तथा अनुमोदन हेतु प्रस्तुत किया है।

यह योजना, नवीन रबड़ संसाधन तकनीकियाँ तथा नवीनतम मशीनरियों, उपकरणों और प्रणालियाँ स्वीकार करके विश्व बाज़ार में उभर आने, मूल्य वर्द्धन अनिवार्य बना लेने, गुणता सुधार, उत्पाद विविधता तथा लागत प्रभाविता के लिए भारतीय रबड़ बागान उद्योग को समर्थन देने पर ध्यान देते हैं।

वर्ष 2011-12 के दौरान विभाग के मुख्य कार्यकलाप थे।

### क) रबड़

- ब्लॉक रबर व गाढ़ा लाटेक्स फैक्ट्रियों में गुणता सुधार, लागत कम करना एवं परिस्थिति संरक्षण प्रणाली के सशक्तीकरण
- भारत में उत्पादित रबड़; भारत से निर्यातित एवं भारत में आयातित रबड़ की गुणता का प्रमाणन
- रबड़ संसाधकों के हित हेतु परीक्षण एवं निरीक्षण के लिए भारतीय मानक ब्यूरो योजना का कार्यान्वयन तथा सभी हितैषियों को रबड़ लाटेक्स, रसायन, जल एवं बहिःस्त्राव नमूनों की जांच सुविधाएं उपलब्ध कराना।
- उच्च गुणतायुक्त आर एस एस श्रेणियों के उत्पादन एवं उनके श्रेणीकरण में रबड़ उत्पादक संघों को तकनीकी समर्थन

- रबड़ के प्रक्रमण एवं विपणन में रबड़ उत्पादक संघों एवं सहकारी क्षेत्र को सशक्त करना
- रबड़ प्रक्रमणकर्ताओं को रबड़ संसाधक फैक्ट्रियों में विशेष उपभोक्ता आवश्यकता की पूर्ति हेतु गुणता नियंत्रण, जाँच एवं परिस्थिति संरक्षण प्रणालियों के निदर्शन, प्रशिक्षण एवं तकनीकी समर्थन
- रबड़ संसाधन में अनुसंधान एवं विकास कार्यकलाप
- रबड़ उत्पादन विभाग के संयुक्त प्रयास से नये ईंधन सक्षम धूम घर तथा शीट संसाधन इकाइयों का रूपायन एवं विकास

### ख) रबड़ नुड

- प्रक्रमण एवं उपज विकास विभाग रबड़ काष्ठ के प्रक्रमण एवं मूल्यवृद्धि को भी प्रोत्साहन देते आ रहा है क्योंकि यह रोजगार का सृजन करेगा, जंगल का संरक्षण करेगा तथा आगामी वर्षों में रबड़ कृषकों को खेती लाभदायक बनाने के लिए अतिरिक्त आय प्रदान करेगा।
- रबड़ नुड संसाधन में अनुसंधान एवं विकास कार्यकलाप

## I इंजीनियरी प्रभाग

### 1. प्रक्रमण, गुणता सुधार तथा उत्पाद विकास के लिए योजना

#### क. ब्लॉक रबड़ एवं लाटेक्स संकेन्द्रण फैक्ट्रियों को समर्थन:

अंतर्राष्ट्रीय सक्षमता हासिल करने के लिए विभाग ने संसाधन, गुणता सुधार व उत्पाद विकास योजना के अधीन ब्लॉक रबड़ एवं गाढ़ा लाटेक्स के संसाधकों को गुणता एवं

स्थिरता सुधारने, उत्पादन लागत और संसाधन अपशिष्ट कम करने तथा परिस्थिति संरक्षण प्रणाली को सशक्त करने के लिए तकनीकी एवं वित्तीय समर्थन देना जारी रखा।

समर्थित मुख्य कार्यकलाप निम्नानुसार हैं:

- + बिजली, ईंधन, मरम्मत तथा अनुसंधान के मामले में प्रचालन लागत कम करने और उत्पादन में वृद्धि करने के लिए शुष्क रबड़ संसाधन मशीनरियों की पुनःस्थापना तथा अतिरिक्त मशीनरियाँ लगाना।
- + माल के उतार चढ़ाव आदि आसान करने तथा माल की गुणवत्ता खराब होने से बचने के लिए कच्चे माल तथा परिसाधित माल के लिए अतिरिक्त भंडारण स्थल।
- + डीज़ल तपित/बिजली द्वारा तपित शुष्ककों के जैव गैस गैसिफायर प्रणाली में परिवर्तन। रबड़ संसाधन में सबसे खर्चीला कदम शुष्कण है। जैवगैस गैसिफायर शुष्कण लागत 65-70% कम करता है।
- + उत्पादन, योजना एवं निर्यत्रण प्रणाली तथा प्रबंधन सूचना प्रणाली सुधारने हेतु कंप्यूटर, पेरिफेरल एवं सॉफ्टवेयर। यह संसाधक स्तर पर निष्पादन पुनरीक्षा आसान करता है तथा त्रुटियों कुछ हो तो समय पर सुधार किया जा सकता है।
- + श्रमिकों के श्रम कम करके उससे उत्पादकता में सुधार लाने हेतु बकट इलेवेटर्स, कन्वेयरर्स जैसे हैंडिलिंग उपस्करों की संस्थापना। यह दस श्रमिकों की बड़ी कमी के इस समय में संसाधकों को बहुत फायदेमंद है।
- + बेहतर धूल छुड़ाव एवं क्रैब के समरूप आकार प्राप्त होने तथा जिससे गुणता में सकल सुधार प्राप्त करने के लिए आकार कम करने/क्रीपिंग के लिए अतिरिक्त मशीनरी का प्रापण।
- + उच्च उत्पादन प्राप्त करने, गुणता सुधारने, पूरी प्राप्ति एवं स्थिरता के लिए पुराने सेंट्रिफ्यूजिंग मशीनों से नए मोडेल में पुनःस्थापन।
- + गुणवत्ता एवं स्थिरता सुधारने और छीजन कम करने के लिए लाटेक्स भंडारण टैंक का संशोधन।

+ अंतर्राष्ट्रीय स्वीकार्यता सुनिश्चित करने के लिए जाँच और गुणवत्ता निर्यत्रण उपस्करों का प्रापण।

वर्ष के दौरान नवीनीकरण हेतु पन्द्रह ब्लॉक रबड़ संसाधन फैक्टरियों को कुल 93.03 लाख रुपये की वित्तीय सहायता दी तथा पाँच लाटेक्स संकेन्द्रण इकाइयों को नवीनीकरण हेतु 35.51 लाख रुपये दिया।

#### ख. इंडिया बुड एवं मेट्रोबुड को समर्थन:

रबड़ बुड के संसाधन एवं मूल्य वृद्धि हेतु रबड़ बोर्ड द्वारा प्रवर्तित दो रबड़ काष्ठ संसाधन कंपनियाँ हैं, इंडिया बुड एवं मेट्रोबुड। ये कंपनियाँ देशी रबड़ काष्ठ संसाधन उद्योग के विकास हेतु रबड़ काष्ठ संसाधन, मूल्य वृद्धि, गुण निर्यत्रण एवं अपशिष्ट उपयोग में निदर्शन एवं प्रशिक्षण सुविधाएं प्रदान करती हैं। 11 वीं योजना के अधीन इन कंपनियों को दिये गये समर्थन में मशीनरियों की खरीद, वाणिज्यिक बैंकों से लिए ऋणों पर ध्यान सहायिकी तथा कार्यकारी पूँजी अनुदान सम्मिलित हैं।

बोर्ड ने मे, इंडियामुड को 152.86 लाख रुपये की रकम प्रदत्त की जिसमें वर्ष के दौरान 140 लाख रुपए की चलती पूँजी अनुदान सम्मिलित है तथा मे.मेट्रोबुड को दिए 66.25 लाख रुपये जिसमें 65 लाख रुपए का कार्यकारी पूँजी अनुदान शामिल है।

#### ग. रबड़ बुड संसाधन हेतु समर्थन

वर्ष 2011-12 के दौरान भारत के रबर बुड उद्योग के सशक्तीकरण हेतु विभाग ने निम्नलिखित कार्यकलाप किये।

- गुणता सुधार, मूल्य संवर्द्धन अपशिष्ट कम करने तथा अपशिष्ट उपयोग हेतु रबड़ काष्ठ संसाधकों को तकनीकी तथा वित्तीय समर्थन प्रदान किये। इस योजना के अधीन बोर्ड ने मे. इनड्रॉयल क्रैप्टर्स प्राइवेट लिमिटेड को 10.46 लाख रुपये की वित्तीय सहायता प्रदान की।
- रबड़ काष्ठ के संसाधकों एवं उपभोक्ताओं को परीक्षण सुविधाएं प्रदत्त करना।



- रबड़ काष्ठ परीक्षण प्रयोगशाला एवं रबड़ बोर्ड द्वारा प्रवर्तित रबड़ बुड़ इंडिया लि. के द्वारा रबड़ काष्ठ संसाधकों एवं नये उद्यमियों को निदर्शन, प्रशिक्षण व तकनीकी समर्थन प्रदान किये।
- विभिन्न उत्पादों में रबड़ बुड़ के वर्द्धित निष्पादन आवश्यकताएं एवं उपयोग हेतु नये रसायन एवं संसाधन तकनीक रुपारिक्त करने के लिए कार्यकलाप चलाना।
- रबड़ काष्ठ संसाधन में लगे रबड़ उत्पादक संघ क्षेत्र का सशक्तीकरण।
- रबड़ उत्पादक संघों द्वारा प्रवर्तित महिला स्वयं सेवक ग्रुपों के द्वारा रबड़ बुड़ फर्नीचरों का विनिर्माण।

## 2. केंद्रीय काष्ठ परीक्षण प्रयोगशाला

कोट्टयम के मांगानम स्थित केंद्रीय काष्ठ परीक्षण प्रयोगशाला जो पहले रबड़ काष्ठ परीक्षण प्रयोगशाला के नाम से जाने जाते थे, रबड़ काष्ठ के संसाधकों एवं उपभोक्ताओं को परीक्षण सुविधाएं प्रदान करती है। वर्ष के दौरान विविध ग्राहकों को परीक्षण सुविधाएं प्रदत्त की तथा 590 नमूनों की जाँच की। परीक्षण शुल्क के रूप में कुल 88052.00 रुपये की रकम एकत्रित की।

अवधि के दौरान मुख्य ग्राहक थे- रबड़ बुड़ इंडिया प्राइवेट लिमिटेड, हाई लैंड प्रोड्यूस कंपनी लिमिटेड, कुंडकुलम न्यूक्लियर पवर कॉर्पोरेशन, रबको हुअट प्राइवेट लिमिटेड, फणस्कूल (इंडिया) लिमिटेड तथा प्रेस्टीज पैनल, कण्णूर।

### प्रशिक्षण तथा तकनीकी सलाह

- + विश्ववैधानात्मक प्रशिक्षणार्थियों को अभिक्रिया किए तथा अभिक्रिया घोल से परिरक्षक रसायनों के आकलन पर प्रशिक्षण दिया गया।
- + एम एस सी छात्रों को काष्ठ परिरक्षण पर तथा एम टेक छात्रों को यांत्रिक परीक्षण पर प्रशिक्षण दिए गए। कॉलेज ऑफ फॉरेस्ट्री तमिलनाडु के पीएचडी छात्र को भी प्रयोगशाला में प्रशिक्षण दिया।

+ काष्ठ परिरक्षण और गुणवत्ता नियंत्रण पर तकनीकी सलाह प्रदान करती है।

+ एन ए बी एल मान्यता जारी रखने के लिए, एन ए बी एल द्वारा प्रतिनियुक्त निर्धारकों द्वारा आई एस ओ/आई ई सी 17025:2005 के अनुसरण में रसायन परीक्षण, यांत्रिकी परीक्षण और प्रलेखन भाग के लिए निगरानी लेखापरीक्षा चलाई गई तथा संतोषजनक पाई गई। आई एस ओ/आई ई सी 17025:2005 के अनुसार गुणवत्ता प्रबंधन प्रणाली तथा अंतरिक लेखापरीक्षा पर प्रशिक्षण में एक गुणवत्ता प्रबंधक भी भाग लिए।

+ अनुसंधान एवं विकास गतिविधियां

+ रबड़ काष्ठ उद्योग में तकनीकी अध्ययन चलते हैं।

+ वर्ष के दौरान विभाग ने निम्नलिखित तकनीकी अध्ययन पूरे किए।

1. रबड़ काष्ठ के बल गुणों पर ज्वरण का प्रभाव (भारगस में संपन्न 24वें केरल विज्ञान कॉंग्रेस में एक आलेख प्रस्तुत किया गया)।
2. रबड़ बुड़ और सागीन बुड़ पर तुलनात्मक अध्ययन।
3. पेंसिल उद्योग में उपयोग किए जाने वाले रबड़ बुड़ का रसायनिक संशोधन। (भारगस में संपन्न 24वें केरल विज्ञान कॉंग्रेस में एक पोस्टर प्रस्तुत किया)।
4. आर आर आई आई 400 श्रेणी रबड़ क्लोनों के बल गुणों पर भारगस के वनस्पतिविज्ञान प्रभाग के साथ सहयोगी अध्ययन।
3. इंजीनियरी परामर्श सेवाएं
- मेसेर्स मीनथिल रबड़ बुड़ लिमिटेड तथा मेसेर्स रबड़ बुड़ इंडिया प्राइवेट लिमिटेड में मशीनरी के प्रापण/संस्थापन में परामर्श सेवाएं।

## वार्षिक रिपोर्ट 2011-12

- प्लान्टेशन कॉर्पोरेशन ऑफ केरला लिमिटेड को उनके वेडिलपारा टी एस आर फैक्टरी के लिए इंजीनियरी परामर्श।
- रबड़ उत्पादन विभाग को सिचाई प्रणालियों के लिए इंजीनियरी परामर्श।
- एन आर ई टी सी आंडमान में एक रबड़ प्रक्रमण यूनिट की स्थापना के लिए संभाव्यता अध्ययन।

### 4. सिविल कार्य

सिविल इंजीनियरी इकाई ने भारत भर स्थित बोर्ड के विविध संस्थाओं में कार्यालय/आवासीय भवन, नए रोडों का निर्माण तथा रोडों की मरम्मत, लीक प्रूफिंग तथा आंतरिक सजावट कार्य आदि जैसे महत्वपूर्ण निर्माण/मरम्मत कार्यों का निष्पादन किया। वर्ष 2011-12 के दौरान भारगस, मुख्यालय, केंद्रीय परीक्षण स्टेशन चेतकल तथा पडियूर, कडावा, दापवरी तथा नाग्राकाट्टा जैसे बाहरी स्टेशनों और अगर्तला, गुआहटी, तुरा तथा हहारा जैसे उत्तर पूर्वी क्षेत्र में मुख्य रूप से सिविल कार्य किए। इसके अतिरिक्त मुख्यालय के प्रथम तल में सजावट कार्य पूरा किया।

दापवरी, पडियूर और नेट्टणा में आर सी सी कुएं तथा संबद्ध कार्यों का निर्माण करके जल आपूर्ति प्रणाली का सुधार किया गया। पडियूर में 70 लाख रुपए के खर्च करके विभाजित दीवार का निर्माण कार्य प्रगति पर है तथा दापवरी तथा नाग्राकाट्टा में गुणवत्ता सुधार हेतु प्रक्रमण फैक्टरियों तथा/वृद्ध घर बनाए गए। पडियूर में रोडों का मेटलिंग तथा बिटूमीकरण कार्य प्रगति में है और 37 लाख रुपए खर्च करके माधवनपडी से भारगस और रबड़ प्रशिक्षण संस्थान तक के रोड का पुनःटारिंग कार्य पूरा किया।

अगर्तला तथा तारानगर के स्टाफ क्वार्टरों तथा कार्यालयों का विस्तार कार्य, गुआहटी में आवासीय कॉम्प्लेक्स का निर्माण, हहारा में प्रक्रमण शेड/ कार्यालय भवन के निर्माण तथा तुरा में विभाजन दीवार का निर्माण आदि उत्तर पूर्वी क्षेत्र में पूरे किए मुख्य निर्माण कार्य रहे।

वर्ष 2011-12 के दौरान कुल खर्च की गई रकम

- क) योजना : 356.26 लाख रुपए  
ख) गैर योजना: 17.99 लाख रुपए

### 5. इलक्ट्रिकल कार्य

इलक्ट्रिकल इंजीनियरिंग इकाई ने रीवाइरिंग, इलक्ट्रिकलेशन, ऊर्जा लेखा परीक्षा घलायी तथा विभिन्न रबड़ संसाधन फैक्टरियों के लिए जेनसेट संस्थापना हेतु परामर्शक सेवाएं प्रदत्त की। भारगस, केंद्रीय परीक्षण स्टेशन, चेतकल और पडियूर, दापवरी, अगर्तला, गुआहटी और तुरा जैसे बाहरी स्टेशनों में मुख्य इलक्ट्रिकल कार्य किए गए। डी जी जेनसेट्स का नया संस्थापन भारगस और इंडिया बुड में किए गए तथा केंद्रीय परीक्षण स्टेशन चेतकल, एन आर ई टी सी कॉम्प्लेक्स, अगर्तला और केंद्रीय रबड़ पौधशाला करिक्काटूर के लिए स्टान्ड बाई डी जी बिजली आपूर्ति का प्रस्ताव प्रगति में है।

प्रभाग ने विद्युत निरीक्षणालय तथा स्टेट विद्युत बोर्ड के साथ समुचित तरीके से संपर्क किया तथा विद्युत निरीक्षणालय से विद्युतीकरण के लिए अनुमोदन प्राप्त किया। इसके अतिरिक्त प्रभाग ने विविध रबड़ उत्पादक संघों और सहकारी समितियों के गुणता सुधार/नवीकरण योजनाओं के रूप में 100 मेट्रिक टन गोदावरी का बिलजीकरण कार्य किया तथा मेसेर्स इंडिया बुड को आपात उपयोगी व्यवस्था पर बिजली की आपूर्ति की। वर्ष 2011-12 के दौरान कुल 59 लाख रुपए इलक्ट्रिकल कार्य के लिए खर्च किया।

## II. रबड़ संसाधन एवं बाज़ार विकास प्रभाग

क. बाज़ार विकास हेतु प्लान योजनाओं का कार्यान्वयन:

1. रबड़ के विपणन में रबड़ उत्पादक संघ क्षेत्र को सशक्त करना

उद्देश्य	लाभान्वित रबड़ उत्पादक संघों की संख्या	वितरित रकम (लाख रु. में)
कार्यकारी पूँजी ऋण	11	270.00
वाणिज्यिक बैंकों से प्राप्त ऋणों पर 5% ब्याज सहायिकी	13	27.46
बागान निवेशों का विपणन	9	85.00
शेयर पूँजी के बदले अनुदान	1	2.57
वितरित कुल रकम		385.03

2. रबड़ के विपणन में सहकारी क्षेत्र का सशक्तीकरण

उद्देश्य	लाभान्वित सहकारी समितियों की संख्या	वितरित रकम (लाख रु. में)
कार्यकारी पूँजी ऋण	2	25.00
वाणिज्यिक बैंकों से प्राप्त ऋणों पर 5% ब्याज सहायिकी	16	31.24
शेयर पूँजी के बदले अनुदान	1	9.13
वितरित कुल रकम		65.37

3. रबड़ उत्पादक संघ कंपनियों को भूमि के अर्जन/मकान/मकान के निर्माण हेतु अनुदान

दो रबड़ उत्पादक संघ व्यापार कंपनियों को भूमि/मकान के अर्जन/मकान के निर्माण हेतु 10 लाख रुपए की रकम निर्मुक्त की गई।

4. स्वाभाविक रबड़ प्रक्रमण केंद्रों में 100 मेट्रिक टन गोदाम/ रबड़ पार्क में 1000 मेट्रिक टन गोदाम

वर्ष के दौरान गोदाम के निर्माण कार्य पूरा करने के लिए बिलों के निपटान हेतु 42.96 लाख रुपए की रकम निर्मुक्त की गई।

ख. अन्य कार्यक्रम

(क) रबड़ की गुणवत्ता पर कोर समिति

निदेशक (प्र एवं उ वि) को संयोजक तथा एटीएमए, निजी टायर यूनिट, रबड़ व्यापारियों, छोटे रबड़ कृषकों, बागानों के प्रतिनिधियों तथा रबड़ बोर्ड के पदधारियों को सदस्य बनाकर रबड़ की गुणवत्ता पर एक कोर समिति गठित की गई।

समिति के सुझावानुसार निम्नलिखित कार्यक्रम किए गए।

## वार्षिक रिपोर्ट 2011-12

- i. अच्छी गुणवत्ता वाली शीट रबड़ बनाने के लिए आवश्यक कार्य बताने वाली एक पुस्तिका तैयार की गई।
- ii. शीट रबड़ के संसाधन में "करने" और "न करने" वाली बातों को दर्शाने वाला एक पोस्टर तैयार किया गया।
- iii. शीट रबड़ की गुणता सुधारने के लिए आवश्यक विषयों की जानकारी देनेवाला एक वृत्त चित्र तैयार किया गया।

### (ख) केंद्रीकृत जागरूकता कार्यक्रम

शीट रबड़ की गुणता सुधार पर क्षेत्रीय कर्मचारियों के लिए तीन केंद्रीकृत जागरूकता कार्यक्रमों में कक्षाएं संचालित कीं।

### (ग) रबड़ बोर्ड और एटीएमए द्वारा एकीकृत कार्यक्रम

रबड़ बोर्ड और कृषि प्रौद्योगिकी प्रबंधन अभिकरण (एटीएमए) द्वारा संयुक्त रूप से आयोजित पाँच कार्यक्रमों में शीट की गुणता सुधार तथा प्रक्रमण पर कक्षाएं चलाई।

### (घ) गुणता सुधार पर सलाह देने के लिए क्षेत्रीय दौरा

वर्ष के दौरान 25 सामूहिक संसाधन केंद्रों का दौरा किया।

### (ङ) परामर्श कार्य

शीट रबड़ प्रक्रमण युनिटों की स्थापना हेतु दो पब्लिक सेक्टर कंपनियों, एक बागान सेक्टर कंपनी और दो निजी व्यक्तियों को परामर्श सेवाएं प्रदत्त कीं।

### (च) निर्यात हेतु शीट रबड़ का निरीक्षण

प्रभाग ने निर्यात के लिए 834 मेट्रिक टन शीट रबड़ का निरीक्षण किया तथा 715 मेट्रिक टन (आर एस एस 4) शीट रबड़ को निर्यात हेतु हरी झंडी दिखाई। 45 मेट्रिक टन ब्लॉक रबड़ का निरीक्षण किया तथा निर्यात हेतु अनुमति दी। वर्ष के दौरान निर्यात हेतु 20 गुणता प्रमाणपत्र जारी किए गए।

### (छ) प्रशिक्षण कक्षाएं

15 बाहरी और 30 आंतरिक प्रशिक्षण कक्षाएं चलाई गईं।

### (ज) साईट/फैक्टरी निरीक्षण

अनुमति, जारी/नवीकरण/रद्द करने और क्षमता वृद्धि के लिए 7 निरीक्षण चलाए।

### (झ) परियोजना रिपोर्ट/रूपरेखा की तैयारी

तीन परियोजना रिपोर्ट और दो परियोजना रूपरेखाएं तैयार की गईं।

## III. संसाधन एवं गुणता नियंत्रण प्रभाग

रबड़, रबड़ रसायन एवं रबड़ उद्योग में प्रयुक्त अन्य सामग्रियों की गुणवत्ता/स्वच्छता का निर्धारण प्रत्यक्ष जाँच से की जा सकती है। एक प्रयोगशाला संस्थापित करने के लिए भारी निवेश और अवसंरचनात्मक सुविधाएं आवश्यक हैं। इसलिए, संसाधन एवं गुणता नियंत्रण प्रभाग के अधीन विभिन्न हितधारियों के लिए बोर्ड एक पूर्ण सुसज्जित प्रयोगशाला चला रहा है।

### 1. वाणिज्यिक जाँच

सभी हितधारियों के लाभ हेतु प्रभाग फील्ड लाटेक्स, गाड़े लाटेक्स, शुष्क रबड़, रबड़ संसाधन, उत्पाद विनिर्माण एवं पौधा संरक्षण में प्रयुक्त रसायनों, खाद एवं उर्वरकों, रबड़ प्रक्रमण उद्योग से सृजित अपशिष्ट जल और पेय जल व सिविल निर्माण कार्य हेतु जल का वाणिज्यिक परीक्षण चलाता है। वर्ष 2011-12 के दौरान 18874 नमूनों की जाँच की तथा विविध हितधारियों को परिणाम प्रदत्त किये और कुल 13.73 लाख रुपये एकत्रित किये।

### 2. जाँच और निरीक्षण के लिए भारतीय मानक ब्यूरो की योजना

जाँच और निरीक्षण के भारतीय मानक ब्यूरो योजना में शामिल होने वाले रबड़ संसाधक अपने उत्पादों में आई एस आई मानक निशान लगा सकते हैं। जाँच व विरीक्षण

## वार्षिक रिपोर्ट 2011-12

योजना के कार्यान्वयन के लिए भारतीय मानक ब्यूरो ने रबड़ बोर्ड को अपना अभिकरण नियुक्त किया है तथा भारतीय मानक ब्यूरो को संसाधकों द्वारा भुगतान किये जाने वाले अंकन शुल्क के 66.67 प्रतिशत हमको प्राप्त होता है। अनुज्ञापत्रितों की फेक्टरियों में बोर्ड के पदधारी सामयिक निरीक्षण चलाते हैं। वर्ष 2011-12 के दौरान 132 भारतीय मानक ब्यूरो अनुज्ञापत्र जारी किये थे।

### 3. जाँच उपकरणों का अंशांकन

संसाधन इकाइयों में जाँच की यथार्थता हेतु प्रमाण नै नाममात्र प्रसार पर अंशांकन की सुविधा प्रदान की। वर्ष के दौरान छः अंशांकन कार्य चलाए।

### 4. स्वामयिक रबड़ का आयात

भारत में आयातित रबड़ भारतीय मानक विनिर्देशों के अनुरूप होना अनिवार्य है। कार्यालय ज्ञापन सं.एफ/8/12/2011 प्लॉट सी दि:3-1-2012 द्वारा रबड़ उपभोक्ता कंपनियों को 1.1.2012 से प्रभावी रूप में एक वर्ष के लिए अनिवार्य निरीक्षण से छूट दी गयी है। परन्तु मामले पर अंतिम निर्णय लेने के लिए बोर्ड इसमें होने वाले विकासों की निगरानी करता रहेगा। वर्ष 2011-12 के दौरान प्रमाण नै देश में आयातित 2,13,785 मेट्रिक टन रबड़ की जाँच की।

रबड़ के प्रकार, आयात माध्यम, आयात के पोर्ट दिखायेवाले निवरण हर महीने मंत्रालय को प्रस्तुत किया जाता है।

### 5. स्वामयिक रबड़ का निर्यात

देश से निर्यातित रबड़ की गुणवत्ता सुनिश्चित करने के लिए बोर्ड निर्यातित प्रेषित माल की गुणता जांच चलाता है। वर्ष 2011-12 के दौरान निर्यातित स्वामयिक रबड़ के निवेदि प्रकार निम्नानुसार हैं:-

संकेतित लाटेक्स	- 15128 मे ट
आईएसएनआर-20	- 953 मे ट
आर एस एस श्रेणियाँ	- 9471 मे ट
स्वामयिक रबड़ के अन्य प्रकार	- 1593 मे ट
<b>कुल</b>	<b>- 27145 मे ट</b>

### 6. रबड़ प्रक्रमण इकाइयों में गुणता नियंत्रण निरीक्षण

(भारतीय मानक ब्यूरो की जाँच व निरीक्षण योजना के बाहर)

रबड़ नियम 1955 के नियम 48 के अनुसार संसाधित रबड़ की गुणता भारतीय मानकों के अनुरूप होना चाहिए। संसाधित ब्लॉक रबड़/गाढा लैटेक्स की गुणता परीक्षण के लिए रबड़ प्रक्रमण यूनिटों में यादृच्छिक निरीक्षण चलाए।

### 7. विश्लेषणात्मक प्रशिक्षणार्थियों को प्रशिक्षण

प्रमाण प्रशिक्षणार्थियों को कच्चे रबड़, लाटेक्स, रबड़ रसायनों, अपशिष्ट जल, पेय जल, रसायनिक, जैव उर्वरकों आदि के परीक्षण के सैद्धांतिक और प्रायोगिक पहलुओं को जोड़कर विश्लेषणात्मक प्रशिक्षण देते हैं।

### 8. प्रशिक्षण व परियोजना संबंधी गतिविधियाँ

रबड़ प्रशिक्षण संस्थान द्वारा आयोजित प्रशिक्षण कार्यक्रम में सहभागिता

रबड़ प्रशिक्षण संस्थान द्वारा आयोजित प्रशिक्षण कार्यक्रमों में प्रक्रमण एवं गुणता नियंत्रण प्रभाग के अधिकारी संकाय कार्मिक के रूप में कार्य करते हैं तथा कोचिन विज्ञान और प्रौद्योगिकी विश्वविद्यालय के श्री टेक (पॉलिमर विज्ञान और रबड़ प्रौद्योगिकी) तथा एम टेक (पॉलिमर प्रौद्योगिकी) छात्रों के लिए चलाए सिद्धांत कक्षाएं व प्रायोगिक परीक्षाओं में सहयोग दिया।

विश्वविद्यालय के छात्रों के परियोजना कार्य

प्रमाण नै कोचिन विश्वविद्यालय के 7 छात्रों को उनके पाठ्यक्रम के हिस्से के रूप में परियोजना कार्य के निष्पादन में सहायता प्रदान की।

### 9. सलाहकारी कार्य

गुणता सुधार, अपशिष्ट/उत्पाद की लागत कम करना और बेहतर पर्यावरण प्रबंधन प्रणालियाँ कार्यान्वित करने में रबड़ संसाधक सलाह लेते हैं। प्रत्येक मामलों का अध्ययन किया जाता है तथा उपयुक्त उपचारी उपायों का सुझाव दिया जाता है।

## IV. फैक्टरी प्रबंधन प्रभाग

### लक्ष्य

मोडेल टी एस आर फैक्टरी के प्रमुख लक्ष्य हैं:

- तकनीकी विनिर्दिष्ट रबड़ के संसाधन की अद्यतन प्रौद्योगिकी का निर्देशन।
- तकनीकी विनिर्दिष्ट रबड़ उद्योग के लिए अत्यंत उपयुक्त पर्यावरण संरक्षण हेतु अद्यतन प्रणाली का निर्देशन।
- गुणता और पर्यावरण प्रबंधन के लिए आईएसओ 9000 और आईएसओ 14000 प्रबंधन प्रणाली पर प्रशिक्षण प्रदान करना।
- अंतर्राष्ट्रीय मानकों से मैच करने के लिए भारतीय टी एस आर की गुणता प्रोन्नत करके स्वाभाविक रबड़ निर्यात का संवर्द्धन।

मोडेल टी एस आर फैक्टरी स्वाभाविक रबड़ संसाधन एवं परिस्थिति संरक्षण की अद्यतन प्रौद्योगिकी के उपयोग के निदर्शन इकाई के रूप में जारी रहा। विविध तकनीकी पहलुओं पर सूचनाएं एकत्रित करने के लिए 9 संस्थाओं के अधीक्षक कर्मचारी फैक्टरी का दौरा किए (परिशिष्ट VI)। रबड़ प्रशिक्षण संस्थान द्वारा आयोजित विभिन्न कार्यक्रमों के अधीन रबड़ प्रक्रमण के विभिन्न पहलुओं पर प्रशिक्षण प्रदान किए।

### अन्य कार्यकलाप

विवेधित स्कैंडल कप लम्प्स के साथ कोन्सन्ट विस्कोसिटी ब्लोक रबड़ के निर्माण हेतु परीक्षण प्रारंभ किया। कुछ प्रारंभिक कठिनाइयों होने के बावजूद, परवर्ती परीक्षणों में उन कठिनाइयों का समाधान किया गया। भारगस से एकत्रित लाटेक्स के साथ प्रारंभिक परीक्षण किया गया था तथा अब आर डी टी कॉम्प्लेक्स के पेडों से टाप किए लाटेक्स के साथ अध्ययन किया जा रहा है।

### उत्पादन व बिक्री

(क) मोडेल तकनीकी विनिर्दिष्ट रबड़ फैक्टरी (एमटीएसआर)

पूर्व वर्ष के दौरान शुष्क रबड़ संघटक की प्राप्ति बहुत कम होने कारण लाटेक्स की खरीद प्रणाली परिवर्तित की गई है। अब दर निश्चित की गई तथा वास्तविक शुष्क रबड़ संघटक के आधार पर भुगतान निर्मुक्त किया जा रहा है। आपूर्ति पर, ठेका मूल्य का केवल 90 प्रतिशत निर्मुक्त किया जा रहा है और शेष भुगतान वास्तविक शुष्क रबड़ संघटक के निर्धारण बाद किया जाएगा। फील्ड कोयागुलम की अनुपलब्धता के कारण बाजार का भाव उच्च रहा।

फैक्टरी ने पिछले वर्ष के 134.68 रुपए के विरुद्ध वर्ष के दौरान 146.35 रुपए/कि ग्रा के औसत खरीद भाव पर 1742.793 मेट्रिक टन फील्ड कोयागुलम का प्रापण किया। वर्ष के दौरान भाव में बड़ा अंतर मौजूद था तथा फील्ड कोयागुलम ग्रेड के लिए नवंबर 2011 में 135.05 रुपए/कि ग्रा का मासिक भाव वर्ष का न्यूनतम था तथा सबसे उच्चतम औसत भाव 180.50 रुपए अप्रैल 2011 में था।

पिछले वर्ष उत्पादित 1731.20 मेट्रिक टन के विरुद्ध इस वर्ष के दौरान 1313.725 मेट्रिक टन ब्लॉक रबड़ (आई एस एन आर 20 ग्रेड) उत्पादित किए गए। उत्पादन में कमी का मुख्य कारण उत्पित/लाभकर भाव में फील्ड कोयागुलम की कमी/अनुपलब्धता रही। इसके भी ऊपर ज्यादातर ब्लोक रबड़ यूनित की क्षमता हाल में ही बढ़ायी है जबकि फील्ड कोयागुलम ग्रेड की उपलब्धता आवश्यकता से बहुत कम है। पिछले वर्ष के 73.83 प्रतिशत की तुलना में वास्तविक शुष्क रबड़ संघटक की प्राप्ति 76.08 प्रतिशत थी। ब्लॉक रबड़ का औसत बिक्री भाव 204.74 रुपए/कि ग्रा था तथा ब्लॉक रबड़ उत्पादन के 90 प्रतिशत का उपयोग सीधे टायर उद्योग द्वारा किया गया।

1 अप्रैल 2011 को कच्चे माल तथा संसाधित माल का स्टोक क्रमशः 10.42 मे ट तथा 82.05 मे टण था। वित्त वर्ष के अंतिम दिवस को समान आंकड़े क्रमशः 26.520 मे ट तथा 30.725 मे टण थे। पिछले वर्ष के 31.19 करोड़ रुपए के विरुद्ध वर्ष के दौरान यूनित की कुल बिक्री 27.83 करोड़ रुपए थी।



विभाग ने अपारंपरिक ऊर्जा स्रोतों के उपयोग का प्रोत्साहन दिया

**(ख) पाइलट लाटेक्स प्रक्रमण केंद्र**

पिछले वर्ष के 184.41 रुपए/कि ग्रा के औसत खरीद भाव पर 120.07 मे टन शुष्क रबड़ संघटक के विरुद्ध इस वर्ष के दौरान 177.54 रुपए/कि ग्रा खरीद भाव पर 131.33 मे टन शुष्क रबड़ संघटक जैसे कच्चे माल का प्रापण किया। पिछले वर्ष के 121.685 मे टन के विरुद्ध वर्ष के दौरान संकेंद्रित लाटेक्स का कुल उत्पादन 107.614 मे टन था। पिछले वर्ष के औसत भाव 205.35 रुपए/कि ग्रा शुष्क रबड़ संघटक के विरुद्ध वर्ष के दौरान

213.91 रुपए/कि ग्रा शुष्क रबड़ संघटक के औसत भाव पर 90.928 मे टन सेनेक्स की बिक्री की। पिछले वर्ष के 2.49 करोड रुपए के विरुद्ध रिपोर्टपीन वर्ष के दौरान कुल बिक्री 2.14 करोड रुपए थी। केंद्रीय परीक्षण स्टेशन, चेन्नैकल में हड़ताल की यजह से अप्रैल और मई 2011 के दौरान फैक्टरी में काम नहीं चल सका। एकत्रित लाटेक्स पी एफ एल के रूप में बिक्री की गई, अतः प्रापण अधिक होने पर भी उत्पादन पिछले वर्ष से भी कम था।





## प्रशिक्षण

### प्रस्तावना

रबड़ बोर्ड के अधीन प्रशिक्षण विभाग का लक्ष्य देश में रबड़ क्षेत्र की बढ़ती प्रशिक्षण जरूरतों की पूर्ति है। विभाग का एक रबड़ प्रशिक्षण संस्थान है जो जुलाई 2000 से कार्यरत है एवं केरल के कोट्टयम से 8 कि मी पूर्व पुत्तुपल्ली के नज़दीक स्थित है। रबड़ प्रशिक्षण संस्थान 3710 स्क्वयर मीटर वाले एक सुंदर मकान है। भारतीय रबड़ गवेषण संस्थान के निकटवर्ती होने के कारण रबड़ प्रशिक्षण केन्द्र को भार.ग.संस्थान की उत्कृष्ट प्रयोगशाला तथा पुस्तकालय की सुविधाएं उपलब्ध हैं। प्रशिक्षण संस्थान में (1) लाटेक्स उत्पाद विनिर्माण और (2) शुष्क रबड़ उत्पाद विनिर्माण के लिए दो निदर्शन प्रयोगशालाएं हैं। लाटेक्स और शुष्क रबड़ के प्राथमिक प्रक्रमण के लिए यांत्रिक सुविधाएं संस्थान में स्थापित हैं।

रबड़ प्रशिक्षण संस्थान को 5 वरिष्ठ अधिकारियों की एक कोर फैकल्टी टीम है। इसके अतिरिक्त बोर्ड में रबड़ कृषि और औद्योगिक उपयोग के विविध क्षेत्रों में विशेषज्ञ, 125 वरिष्ठ वैज्ञानिक/अभियंता/अधिकारी उपलब्ध हैं जो विभिन्न कार्यक्रमों में संकाय के रूप में कार्य करते हैं। अतिरिक्त संकाय समर्थन के लिए केंद्र में विभिन्न विषयों के बाहरी विशेषज्ञों के संकाय बैंक भी अनुरक्षित है।

### रबड़ प्रशिक्षण केन्द्र के लक्ष्य

- रबड़ कृषकों एवं रबड़ बागान कार्मिकों की तकनीकी एवं प्रबंधकीय प्रतियोगिता क्षमता अद्यतन करना।
- रबड़ संसाधकों एवं रबड़ उपज विनिर्माताओं को उपयुक्त प्रशिक्षण देना ताकि बेहतर गुणवत्ता एवं प्रतियोगिता क्षमता हासिल की जा सकें।
- रबड़ उत्पादक संघों (र उ सं) एवं रबड़ विपणन सहकारी समितियों की तकनीकी एवं प्रबंधकीय प्रतियोगिताक्षमता अद्यतन करना।

- बोर्ड के कर्मचारियों की आवश्यक रुचि एवं प्रबंधकीय दक्षताएं विकसित करना।
  - अन्तर्राष्ट्रीय प्रशिक्षण कार्यक्रमों का आयोजन करना।
- विविध प्रशिक्षण कार्यक्रमों की बढ़ती मांग के मद्देनज़र रबड़ बोर्ड ने उसकी 165<sup>वीं</sup> बैठक में योजनाओं पर अधिक केंद्रित अवसर प्रदान करने तथा प्रशिक्षण कार्यक्रम के निष्पादन के उद्देश्य से रबड़ प्रशिक्षण संस्थान को पुनर्गठित करने के प्रस्ताव का अनुमोदन किया।

तदनुसार, रबड़ प्रशिक्षण संस्थान की निम्नानुसार चार प्रभागों में पुनःसंरचना की गई है:-

1. रबड़ बागान विकास प्रशिक्षण प्रभाग
2. रबड़ उद्योग विकास प्रशिक्षण प्रभाग
3. मानव संसाधन विकास प्रशिक्षण प्रभाग
4. विस्तार विकास प्रशिक्षण प्रभाग

सभी प्रभागों के कार्यक्रम सम्मिलित करके पहले से वार्षिक प्रशिक्षण कलेंडर तैयार किया गया तथा निर्धारित समय पर प्रशिक्षण कार्यक्रम आयोजित किए गए। निर्धारित कार्यक्रम के अतिरिक्त आवश्यकता के आधार पर तथा सहयोगी संकेद्रित कार्यक्रम भी चलाए गए। प्रत्येक प्रभाग के वर्ष 2011-12 की उपलब्धियों की संक्षिप्त रिपोर्ट नीचे दी जाती है:-

### 1. रबड़ बागान विकास प्रशिक्षण प्रभाग

प्रभाग रबड़ कृषि के विविध पहलुओं पर प्रशिक्षण पर अधिक जोर देता है। वैज्ञानिक रबड़ कृषि, रबड़ कृषि क्षेत्र के अद्यतन विकास रखरखाव प्रक्रिया तथा लाटेक्स के प्राथमिक संसाधन के क्षेत्र में सैद्धांतिक और व्यावहारिक प्रशिक्षण दिये जाते हैं। म्यानवर और अन्य विकासशील राष्ट्रों के सहभागियों के लिए बागान और उद्योग विकास पहलुओं को सम्मिलित करके विदेश मंत्रालय, भारत सरकार द्वारा प्रायोजित एक अंतर्राष्ट्रीय प्रशिक्षण कार्यक्रम भी आयोजित किया गया। रिपोर्टाधीन वर्ष के दौरान प्रभाग

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द्वारा आयोजित विविध कार्यक्रम निम्नानुसार हैं:-

- i) छोटे कृषकों के लिए रबड़ कृषि पर हस्तकालीन प्रशिक्षण: छोटे कृषकों को रबड़ कृषि, फसलन और संसाधन में वैज्ञानिक जानकारी प्रदान करना।
- ii) संपदा क्षेत्र के लिए रबड़ कृषि पर हस्तकालीन प्रशिक्षण: संपदा प्रबंधकों और इच्छुक व्यक्तियों को रबड़ कृषि में वैज्ञानिक जानकारी प्रदान करना।
- iii) रबड़ कृषि और संपदा प्रबंधन पर उन्नत प्रशिक्षण:- रबड़ कृषि और संपदा प्रबंधन में अद्यतन विकासों की जानकारी प्रदान करने के लिए आवश्यकता आधार पर एक कार्यक्रम चलाया गया।
- iv) रबड़ बागान प्रबंधन पर विशेष प्रशिक्षण: यह भी, उत्पादन की लागत कम करने के लिए बागान प्रबंधन पर जानकारी प्रदान करने के लिए एक आवश्यकता आधार पर कार्यक्रम है।
- v) अंतर्राष्ट्रीय प्रशिक्षण- रबड़ कृषि और रबड़ उत्पाद विनिर्माण पर विशेष पाठ्यक्रम: रबड़ संसाधन और उत्पाद विनिर्माण में अद्यतन जानकारी प्रदान करने और बाँटने के लिए आवश्यकता आधार पर कार्यक्रम।
- vi) सामान्य प्रशिक्षण कार्यक्रम: समय सूची तथा आवश्यकता के आधार पर रबड़ कृषि और संसाधन के विशिष्ट पहलुओं पर केंद्रित प्रशिक्षण कार्यक्रम आयोजित किये।

तालिका 1 - रबड़ बागान विकास प्रशिक्षण प्रभाग के अधीन प्रदत्त प्रशिक्षण

कोड	पाठ्यक्रम शीर्षक	भागीदार	अक्षि (दिन)	वैयों की संख्या	भागीदारों की संख्या	श्रम दिनों की संख्या
<b>1. रबड़ बागान विकास कार्यक्रम</b>						
आर सी 01	छोटे कृषकों के लिए रबड़ कृषि पर हस्तकालीन प्रशिक्षण	रबड़ कृषक	5	3	75	375
आर सी 02	संपदा क्षेत्र के लिए रबड़ कृषि पर हस्तकालीन प्रशिक्षण	संपदा क्षेत्र के व्यक्ति/कृषक	5	2	28	140
	<b>उप जोड़</b>			<b>5</b>	<b>103</b>	<b>515</b>
<b>2. सामान्य प्रशिक्षण कार्यक्रम</b>						
जी टी 03	छिड़काव और स्पेयरों के अनुसंधान पर प्रशिक्षण	रबड़ कृषक	2	1	6	12
जी टी 06	पौधशाला प्रबंधन, कटौत की पहचान पर प्रशिक्षण	पौधशाला मालिक/इच्छुक व्यक्ति	2	2	28	56
जी टी 07	पीछक जंतुओं एवं रोग नियंत्रण पर प्रशिक्षण	पौधशाला मालिक/कृषक	2	1	11	22
जी टी 11	रूट ट्रेनर पीघो पर प्रशिक्षण	छोटे कृषक/ पौधशाला मालिक	1	1	27	27
	<b>उप जोड़</b>			<b>5</b>	<b>72</b>	<b>117</b>
<b>3. अंतर्राष्ट्रीय प्रशिक्षण कार्यक्रम</b>						
आईएनटी 01	रबड़ कृषि और रबड़ उत्पाद विनिर्माण पर विशेष पाठ्यक्रम	म्यानमर, थाई और दियतनाम से तकनीकी कर्मिक	21	1	14	294
	<b>कुल</b>			<b>11</b>	<b>189</b>	<b>926</b>

## 2. रबड़ उद्योग विकास प्रशिक्षण प्रभाग

प्रभाग रबड़ उद्योग क्षेत्र के संसाधन, उत्पाद विनिर्माण और विपणन क्षेत्रों की प्रशिक्षण आवश्यकताओं की पूर्ति करता है। सबसे अधिक ध्यान गुणता सुधार, तकनीकी अद्यतनीकरण तथा लागत कम करने में था, जो परीक्ष रूप से स्वाभाविक रबड़ की विक्रेयता के सुधार का कारण बनता है। प्रभाग, देश में रोजगार के सृजन के लिए तथा रबड़ उद्योग क्षेत्र की तकनीकी मानवशक्ति की आवश्यकता पूरा करने के लिए उद्यमी विकास तथा शिक्षा विकास कार्यक्रम भी आयोजित करता है। उद्योग कार्मिकों और अकादमिक छात्रों के लिए उन्नत कार्यक्रम आयोजित करने के लिए रबड़ प्रशिक्षण संस्थान ने पूरे भारत के विविध वृत्तिक निकायों/विश्वविद्यालयों के साथ सहयोग किया है।

प्रभाग की गतिविधियों को निम्नानुसार छः प्रमुख शीर्षों में वर्गीकृत किया है।

### 1. रबड़ संसाधन तथा गुणवत्ता सुधार कार्यक्रम

- रबड़ प्रक्रमण तथा गुणवत्ता नियंत्रण पर हस्तकालीन प्रशिक्षण:** फसल को विविध विपणन योग्य रूपों में संसाधित करने तथा गुणता नियंत्रण के लिए वैज्ञानिक जानकारी और कुशलता प्रदान करना।
- शीट रबड़ प्रक्रमण तथा श्रेणीकरण पर प्रशिक्षण:** रबड़ प्रक्रमण तथा श्रेणीकरण में वैज्ञानिक जानकारी प्रदान करना।
- ब्लॉक रबड़/सेनेक्स के प्रक्रमण पर विशेष प्रशिक्षण:** ब्लॉक रबड़/सेनेक्स और विशेष रबड़ के परीक्षण पर प्रशिक्षण तथा संसाधन पर व्यावहारिकता प्रशिक्षण प्रदान करने के लिए आवश्यकता आधार पर प्रशिक्षण।
- आई एस 9000 गुणता प्रणाली तथा गुणता प्रबंधन पर प्रशिक्षण:** संगतता सुनिश्चित करने के लिए गुणता प्रबंधन पर प्रशिक्षण प्रदान करने हेतु एक आवश्यकता आधारित कार्यक्रम।
- बहिःस्त्राव उपचार तथा प्रदूषण नियंत्रण पर प्रशिक्षण:** प्रदूषण नियंत्रण और बहिःस्त्राव नियंत्रण पर जागरूकता प्रदान करने के लिए एक आवश्यकता आधारित कार्यक्रम।

### 2. रबड़ उद्योग विकास कार्यक्रम

- लाटेक्स माल विनिर्माण पर हस्तकालीन प्रशिक्षण:** लाटेक्स उत्पादों के विनिर्माण में वैज्ञानिक जानकारी और निपुणता प्रदान करना।
  - शुष्क रबड़ माल विनिर्माण पर हस्तकालीन प्रशिक्षण:** स्वाभाविक और कृत्रिम रबड़ उपयोग करके रबड़ उत्पादों के विनिर्माण तथा रबड़ उत्पादों के परीक्षण में ज्ञान और निपुणता प्रदान करना।
  - रबड़ उत्पाद विकास तथा विनिर्माण पर उन्नत प्रशिक्षण:** रबड़ उत्पाद विनिर्माण तथा उत्पाद विकास की उन्नत तकनीकियों पर प्रशिक्षण प्रदान करने के लिए आवश्यकता आधार पर एक कार्यक्रम।
  - रबड़ तथा रबड़ उत्पादों के परीक्षण और गुणता नियंत्रण पर विशेष प्रशिक्षण:** रबड़ उत्पाद तथा रबड़ के परीक्षण पर जानकारी प्रदान करने के लिए आवश्यकता आधार पर कार्यक्रम।
  - लाटेक्स तथा शुष्क रबड़ उत्पादों पर विशेष प्रशिक्षण:** परीक्षण, गुणता नियंत्रण तथा नूतन विकासों सहित निजी उत्पादों पर प्रशिक्षण प्रदान करने के लिए आवश्यकता आधार पर कार्यक्रम।
- ### 3. छात्रों के लिए प्रशिक्षण कार्यक्रम
- विविध कॉलेजों/विश्वविद्यालयों से, डिप्लोमा/ पी जी डिप्लोमा/ बी टेक/ एम टेक छात्रों के लिए रबड़ उत्पाद विनिर्माण तथा परीक्षण में प्रशिक्षण प्रदान करना।
  - रबड़ उत्पाद विनिर्माण तथा परीक्षण पर हस्तकालीन प्रशिक्षण
  - बी टेक छात्रों के लिए रबड़ प्रौद्योगिकी में प्रशिक्षण (आवश्यकता आधार पर)
  - एम टेक छात्रों के लिए रबड़ प्रौद्योगिकी में प्रशिक्षण (आवश्यकता आधार पर)
  - पी जी डिप्लोमा छात्रों के लिए रबड़ प्रौद्योगिकी में विशेष प्रशिक्षण (आवश्यकता आधार पर)।
- ### 4. बाज़ार तथा निर्यात विकास कार्यक्रम
- रबड़ तथा रबड़ उत्पादों के विपणन तथा निर्यात पर जानकारी प्रदान करना।

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- i. विपणन तथा निर्यात प्रबंधन पर हस्तकालीन प्रशिक्षण      ii. स्वाभाविक रबड़ के विविध विपणन योग्य रूपों के निर्यात प्रबंधन पर प्रशिक्षण
5. **बाहरी स्टेशन प्रशिक्षण कार्यक्रम**      6. **सहयोगी कार्यक्रम**
- उद्यमी विकास कार्यक्रम तथा उद्योग की गुणता नियंत्रण पर आवश्यकता आधार पर कार्यक्रम      उद्योगों के तकनीकी अद्यतनीकरण के लिए वृत्तिक निकायों के साथ सहयोग में विशिष्ट विषयों पर उन्नत कार्यक्रम।
- i. रबड़ आधारित उद्योग पर अभिमुखीकरण प्रशिक्षण

### तालिका 2 - रबड़ उद्योग विकास प्रशिक्षण प्रभाग के अधीन प्रदत्त प्रशिक्षण

पाठ्यक्रम कोड	पाठ्यक्रम सौर्षक	भागीदार	अवधि (दिवस)	बैचों की संख्या	भागीदारों की संख्या	श्रम दिनों की संख्या
<b>1. रबड़ प्रक्रमण एवं गुणता सुधार कार्यक्रम</b>						
आर पी 01	रबड़ प्रक्रमण एवं गुणता नियंत्रण पर हस्तकालीन प्रशिक्षण	उद्यमी/रबड़ प्रक्रमण इकाइयों के व्यक्ति	5	1	8	40
आर पी 02	शीट रबड़ के प्रक्रमण एवं श्रेणीकरण पर प्रशिक्षण	कृषक/संसाधक व्यापारी/उपभोक्ता/उद्यमी	2	7	130	260
आर पी 03	रबड़ संसाधन, सेनेक्स, पीएफएल, आई एस एन आर आदि के परीक्षण प्रशिक्षण कार्मिकों के लिए	रबड़ संसाधन व उपज विनिर्माण इकाईयों के व्यक्ति	3	15	36	108
आर पी 05	बहिष्कार उपचार तथा प्रदूषण नियंत्रण पर विशेष प्रशिक्षण	रबड़ संसाधन इकाईयों के व्यक्ति	4	1	1	4
	<b>उप जोड़</b>			<b>24</b>	<b>175</b>	<b>412</b>
<b>2. रबड़ औद्योगिक विकास कार्यक्रम</b>						
आर एम 01	लाटेक्स माल विनिर्माण पर हस्तकालीन प्रशिक्षण	उद्यमी/विनिर्माता/व्यापारी	5	4	75	375
आर एम 02	शुष्क रबड़ माल विनिर्माण पर हस्तकालीन प्रशिक्षण	उद्यमी/व्यापारी/विनिर्माता/उत्पाद उपभोक्ता	8	4	40	320
आर एम 05	लाटेक्स घागा, डिम्ड माल, मोल्डेड माल, आसंजक आदि पर विशेष प्रशिक्षण	रबड़ उत्पाद विनिर्माण इकाईयों से व्यक्ति	3	5	7	21
	<b>उप जोड़</b>			<b>13</b>	<b>122</b>	<b>716</b>
<b>3. रबड़ प्रौद्योगिकी के छात्रों के लिए प्रशिक्षण कार्यक्रम</b>						
ई डी 01	रबड़ उत्पन्न विनिर्माण एवं परीक्षण पर हस्तकालीन प्रशिक्षण	यूनिवर्सिटी कॉलेज ऑफ इंजिनीयरिंग, एमआईटी, त्रिपुरा विश्वविद्यालय, महारा गांधी विश्वविद्यालय, सरकार पॉलिटेक्नीक, नाटुकम, कोरहटी के छात्र	10	6	148	1480

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पाठ्यक्रम कोड	पाठ्यक्रम वर्णिक	भागीदार	अवधि (दिन)	बैठों की संख्या	भागीदारों की संख्या	मप बिंदु की संख्या
ई डी 02	बी टेक छात्रों के लिए रबड़ प्रौद्योगिकी में प्रशिक्षण	कुसाट से बी टेक छात्र	20	1	21	420
ई डी 03	एम टेक छात्रों के लिए रबड़ प्रौद्योगिकी में प्रशिक्षण	कुसाट से एम टेक छात्र	20	1	8	160
	<b>उप जोड़</b>			<b>8</b>	<b>177</b>	<b>2060</b>
<b>4. बाज़ार एवं निर्यात विकास कार्यक्रम</b>						
एम डी 01	विपणन एवं निर्यात प्रबंधन पर हस्तकालीन प्रशिक्षण	उद्यमी/व्यापार/निर्यातक	4	1	44	176
<b>5. बाहरी प्रशिक्षण कार्यक्रम</b>						
डी टी 03	रबड़ आधारित उद्योग पर अभिमुखीकरण प्रशिक्षण	र उ सं के सदस्य/स्व.से.ग्रुप के सदस्य कृषक/उद्यमी	1	3	199	199
डी टी 04	आर एस एस श्रेणीकरण पर बाहरी स्टेशन प्रशिक्षण	टायर उद्योग रबड़ रसायन और रबड़ उत्पाद	1	2	31	31
	<b>उप जोड़</b>			<b>5</b>	<b>230</b>	<b>230</b>
<b>6. सहयोगी कार्यक्रम - (रबड़ प्रशिक्षण संस्थान - आई आर आई सहयोग)</b>						
	क) सुधारित रबड़ पर परीक्षण (र.प्र.संस्थान में)	रबड़ प्रौद्योगिकी विदु/उद्यमी	1	1	35	35
	ख) रीप रेगुलेशन (कुसाट कोठी में)	रबड़, रबड़ रसायन एवं रबड़ उत्पादों के निर्माता/निर्यातक	1	1	24	24
	<b>उप जोड़</b>			<b>2</b>	<b>59</b>	<b>59</b>
	<b>कुल</b>			<b>53</b>	<b>807</b>	<b>3653</b>

### 3. मानव संसाधन विकास प्रशिक्षण प्रभाग

प्रभाग रबड़ बोर्ड के विविध विभागों/प्रभागों/अनुभागों के सभी अधिकारियों के लिए आवश्यक प्रशिक्षण की व्यवस्था करता है, जिसमें नियुक्ति के समय सेवारत प्रशिक्षण, पदवारियों

के ज्ञान अद्यतन कराने के लिए पुनरुच्चया पाठ्यक्रम तथा विशेषज्ञ क्षेत्रों में निपुणता विकसित करने के लिए दोनों आंतरिक एवं बाहरी अभिकरणों द्वारा प्रशिक्षण सम्मिलित हैं।

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**तालिका 3 - मानव संसाधन विकास प्रशिक्षण प्रभाग के अधीन प्रदत्त प्रशिक्षण**

पाठ्यक्रम कोड	पाठ्यक्रम शीर्षक	भागीदार	अवधि (दिन)	बैचों की संख्या	भागीदारों की संख्या	श्रम दिनों की संख्या
टी ई 01	अधिकारियों के लिए प्रबंधन कोशल पर प्रशिक्षण	बोर्ड के कर्मचारी	2	1	20	40
टी ई 02	क) कनिष्ठ सहायकों के लिए विभागीय प्रशिक्षण (नई भर्ती) ख) कनिष्ठ सहायकों के लिए सेवारंभ प्रशिक्षण	बोर्ड के कर्मचारी	14	1	21	294
			2	5	28	56
टी ई 03	अनुभाग अधिकारियों के लिए पुनर्यत्ना प्रशिक्षण	बोर्ड के कर्मचारी	5	1	22	110
टी ई 08	चालकों के लिए सेवारंभ प्रशिक्षण	बोर्ड के कर्मचारी	2	1	6	12
टी ई 06	कंप्यूटर प्रयोग पर पुनर्यत्ना प्रशिक्षण	बोर्ड के कर्मचारी	3	4	49	147
टी ई 11	विस्तार प्रबंधन पर उन्नत प्रशिक्षण	बोर्ड के कर्मचारी	5	4	76	380
टी ई 12	क्षेत्रीय अधिकारियों के लिए सेवारंभ प्रशिक्षण	बोर्ड के कर्मचारी	10	5	13	130
टी ई 13	परियोजना आयोजन, अनुसंधान विधि तथा आंकड़े विश्लेषण पर प्रशिक्षण	बोर्ड के कर्मचारी	3	1	22	66
टी ई 16	उत्पाद शुल्क निरीक्षकों के लिए सेवारंभ प्रशिक्षण	बोर्ड के कर्मचारी	3	1	1	3
टी ई 17	घ वर्ग कर्मचारियों के लिए प्रशिक्षण (क) रबड़ प्रशिक्षण संस्थान में (ख) आंचलिक कार्यालय मुआहट में	बोर्ड के कर्मचारी	3	1	2	6
			3	1	1	3
टी ई 18	रबड़ टापींग निदर्शकों के लिए सेवारंभ प्रशिक्षण	बोर्ड के कर्मचारी	2	1	2	4

### वार्षिक रिपोर्ट 2011-12

कोड	पाठ्यक्रम शीर्षक	भागीदार	अपवि (दिवस)	बैचों की संख्या	भागीदारों की संख्या	काम दिनों की संख्या
टी ई 19	विस्तार अधिकांशों को कोरिसेपोरा पत्ता रोग तथा इसकी प्रबंधन नीतियों पर प्रशिक्षण	बोर्ड के कर्मचारी	3	1	16	48
टी ई 21	सहायक लेखा अधिकारियों के लिए सेवारं प्रशिक्षण	बोर्ड के कर्मचारी	2	1	4	8
टी ई 22	गुणता निरीक्षण के लिए स्वाभाविक रबड़ के श्रेणीकरण तथा नमूनीकरण पर प्रशिक्षण कार्यक्रम	बोर्ड के कर्मचारी	1	1	6	6
टी ई 23	सहायक वैज्ञानिक अधिकारी को सेवारं प्रशिक्षण	बोर्ड के कर्मचारी	2	1	1	2
	<b>उप जोड</b>			<b>31</b>	<b>290</b>	<b>1315</b>
	बाहरी अभिकरणों में मानव संसाधन विकास प्रशिक्षण कार्यक्रम	बोर्ड के कर्मचारी	4	51	296	1184
	<b>कुल</b>			<b>82</b>	<b>586</b>	<b>2499</b>

#### 4. विस्तार विकास प्रशिक्षण प्रभाग

रबड़ कृषि से संबंधित वैज्ञानिक जानकारी के प्रचार के लिए तथा रबड़ बागान उद्योग में लगे लोगों को आवश्यक दक्षता प्रदान करने के लिए प्रभाग ने प्रशिक्षण कार्यक्रमों का आयोजन किया। रबड़ उद्योग के विकास के लिए रबड़ बोर्ड की विविध गतिविधियों के बारे में कृषकों और आम जनता को सामान्य जानकारी प्रदान करने के लिए भी नियमित रूप से कार्यक्रम आयोजित किए जाते हैं। कार्यक्रमों को निम्नानुसार तीन शीर्षों में वर्गीकृत किया है।

i. **बाहरी स्टेशन प्रशिक्षण कार्यक्रम:** ये कार्यक्रम रबड़ उत्पादक संघों के सदस्यों और अन्य इच्छुक समूहों के लिए हैं जिन्हें रबड़ प्रशिक्षण संस्थान के प्रशिक्षण में भाग लेने में दिक्कत है। संबंधित समूह के लिए सुविधायुक्त विविध स्थानों पर चुने गए विषयों पर प्रशिक्षण चलाते हैं।

ii. **रबड़ उत्पादक संघ के निदेशक मंडल सदस्यों के लिए प्रशिक्षण:** रबड़ उत्पादक संघों के निदेशक मंडल सदस्यों तथा रबड़ उत्पादक संघों के सदस्य जो रबड़ उत्पादक संघ क्षेत्र की कंपनियों के निदेशक हैं उनको प्रबंधकीय दक्षता प्रदान करने के लिए यह कार्यक्रम प्रत्येक महीने चलाते हैं।

iii. **दौरा सह प्रशिक्षण कार्यक्रम (सास्रदर्शन):** यह कार्यक्रम रबड़ प्रशिक्षण संस्थान तथा भारतीय रबड़ गवेषण संस्थान के दौरा करने का मौका प्रदान करने के लिए आयोजित करता है ताकि रबड़ कृषकों, सहकारी समितियों और रबड़ उत्पादक संघों के सदस्यों तथा रबड़ उत्पादन एवं प्रक्रमण में इच्छुक समूह में वैज्ञानिक जानकारी उत्पन्न करें। वर्ष के दौरान प्रभाग की उपलब्धियाँ तालिका 4 में दी है।



## वार्षिक रिपोर्ट 2011-12

**तालिका 4 - विस्तार विकास प्रशिक्षण प्रभाग के अधीन चलाये गये प्रशिक्षण**

पाठ्यक्रम कोड	पाठ्यक्रम शीर्षक	भागीदार	अवधि (दिन)	बैचों की संख्या	भागीदारों की संख्या	अप दिनों की संख्या
<b>1. रबड़ उत्पादक संघ निदेशक मंडल सदस्यों के लिए प्रशिक्षण कार्यक्रम</b>						
आर ई 01	(क) रबड़ उत्पादक संघ के निदेशक मंडल सदस्यों के लिए प्रशिक्षण (रबड़ प्रशिक्षण संस्थान में) (ख) रबड़ उत्पादक संघ के निदेशक मंडल सदस्यों को मानव संसाधन प्रशिक्षण (उ.पु.क्षेत्र)	र.उ. सं. के निदेशक मंडल सदस्य	3	11	156	468
			1	9	150	150
आर ई 02	रबड़ उत्पादक संघ के सदस्यों को व्यापार प्रबंधन कौशल पर प्रशिक्षण	रबड़ उत्पादक संघ के सदस्य	3	1	17	51
	<b>उप जोड़</b>			<b>21</b>	<b>323</b>	<b>669</b>
<b>2. बाहरी स्टेशन प्रशिक्षण कार्यक्रम</b>						
डी टी 01	रबड़ उत्पादक संघ के केंद्रों पर प्रशिक्षण	रबड़ उत्पादक संघ/स्वयं सेवी ग्रुपों के सदस्य	1	37	2086	2086
<b>3. दौरा सह प्रशिक्षण कार्यक्रम</b>						
वी टी 01	शास्त्रदर्शन	कृषक/र उ संघ के सदस्य/अग्र	1	48	1047	1047
वी टी 02	टारपेंट प्रशिक्षण स्कूल के प्रशिक्षणार्थी	प्रशिक्षणार्थी	1	9	167	167
	<b>उप जोड़</b>			<b>57</b>	<b>1214</b>	<b>1214</b>
	<b>कुल</b>			<b>115</b>	<b>3623</b>	<b>3969</b>

रबड़ बोर्ड के प्रशिक्षण विभाग को वर्ष 2011-12 के लिए मानव संसाधन विकास योजना के अधीन 300 लाख रुपए आरंभिक बजट के रूप में आवंटित किया गया है, जिसमें 155 लाख रुपए प्लान योजनाओं के लिए और 145 लाख रुपए योजना के प्रचालन व्यय सम्मिलित है। सरल प्रशासन के लिए प्लान योजनाओं को विविध संघटकों

में उप विभाजित किया गया है जैसे:- प्रशिक्षण कार्यक्रम, प्रशिक्षण विकास, निदर्शन प्रयोगशाला, दूरस्थ शिक्षा तथा विदेश में प्रशिक्षण। चालू वित्त वर्ष के दौरान प्रशिक्षण विभाग ने मंजूर बजट के 101.3 प्रतिशत का उपयोग किया है।



फसल संरक्षण और छिड़काव उपकरण के अनुरक्षण पर बाहरी स्टेशन में प्रशिक्षण  
बजट आर्बटन तथा वास्तविक व्यय के विवरण निम्नानुसार है:

क्रम सं.	योजना का नाम	बजट मंजूरी (लाख रु. में)	वास्तविक व्यय (लाख रु. में)
	प्लान योजनाएँ		
1	प्रशिक्षण कार्यक्रम	40.00	79.97
2	प्रशिक्षण विकास	40.00	43.20
3	निर्देशन प्रयोगशाला	40.00	46.29
4	दूरस्थ शिक्षा	30.00	
5	विदेश में प्रशिक्षण	5.00	3.87
	योजना के लिए प्रचालन व्यय		
1	वेतन व भत्ते	108.45	108.80
2	यात्रा भत्ता तथा दैनिक भत्ता	3.75	0.64
3	आकस्मिक व्यय	26.30	16.85
4	अन्य पूँजी व्यय	1.50	2.95
5	अन्य राजस्व व्यय	5.00	1.22
	कुल	300.00	303.89

**वर्ष की उपलब्धि**

वर्ष के लिए निर्धारित लक्ष्य : 3500 लाभार्थी  
अवधि के दौरान उपलब्धि : 5205 लाभार्थी  
(1.4.2011 से 31.03.2012 तक) : (11047 अम दिवस)

प्रमाणित

## वित्त एवं लेखा

लेखा प्रणाली का रूपायन एवं प्रचालन, वार्षिक बजट, वित्तीय प्राक्कलन एवं रिपोर्ट तैयार करना, बजट नियंत्रण का पालन, प्रभावी निधि प्रबंधन, प्रणालियों व प्रक्रियाओं की स्थापना एवं रख रखाव, आन्तरिक लेखा परीक्षा की निगरानी एवं सांख्यिक लेखा परीक्षा, वित्तीय उपयुक्तता एवं कारोबार की नियमितता पर सलाह देना, कंप्यूटर प्रयोगों का अधीक्षण, लागत नियंत्रण की निगरानी, परियोजनाओं/योजनाओं का मूल्यांकन, कर संबंधी कार्य करना आदि वित्त एवं लेखा विभाग के प्रमुख कार्य हैं। वर्ष के दौरान विभाग ने निम्न लिखित कार्य किये:

1. वार्षिक बजट, निष्पादन बजट, विदेशी यात्रा बजट आदि की तैयारी
2. 'शून्य' आधारित बजटिंग के अखीन बजट की पुनरीक्षा एवं परिशोधन और बजट नियंत्रण का पालन
3. बोर्ड के लेखाओं का रख-रखाव, वार्षिक लेखा व तुलन पत्र की तैयारी, महालेखाकर, केरल द्वारा लेखा परीक्षा के लिये लेखाओं का प्रस्तुतीकरण और लेखापरीक्षा किये गये लेखे रबड़ बोर्ड/मंत्रालय/संसद को प्रस्तुत करना
4. समय समय पर भारत सरकार को अनुदान की मांग प्रस्तुत करना, भारत सरकार से निधि स्वीकार करना तथा इसकी अधिकतम उपयोगिता सुनिश्चित करना
5. वित्तीय औचित्य एवं विनियमन की नियमितता पर सलाह देना और भुगतान नियमित करना
6. स्वाभाविक रबड़ की उत्पादन लागत निर्धारित करने में और उत्पादन लागत निश्चित करने में वित्त मंत्रालय

की लागत लेखा शाखा को सहायता देना

7. परियोजना रिपोर्ट एवं योजनाओं के लिए वित्तीय विवरणों की तैयारी
8. बोर्ड के कार्यकलापों से संबंधित केंद्रीय आयकर, कृषि आयकर एवं बिजली कर मामलों का कार्य निष्पादन
9. रबड़ बोर्ड एवं रबड़ उत्पादक संघों द्वारा संयुक्त रूप से अभिवर्द्धित विविध कंपनियों के कार्यकलापों का समन्वय करना
10. वित्तीय लेखे, वेतन रॉल आदि के क्षेत्र में कंप्यूटरीकृत डाटा प्रोसेसिंग
11. समय समय पर भारत सरकार द्वारा जारी आदेशों के आधार पर कर्मचारियों के वेतन एवं अन्य हकों का आहरण एवं संवितरण
12. पेंशन निधि एवं सामान्य भविष्य निधि का प्रबंधन तथा उससे संवितरण का नियमन
13. बोर्ड के सभी विभागों में कंप्यूटरीकरण तथा नेट संपर्क स्थापित करने की योजना का कार्यान्वयन करना

### वार्षिक लेखे 2011-12

वर्ष 2011-2012 के वार्षिक लेखे निर्धारित समय पर महालेखाकार, केरल को सौंपे गये। महालेखाकार केरल से प्राप्त 2010-11 की लेखापरीक्षा रिपोर्ट एवं लेखा परीक्षित लेखे व प्रमाणपत्र संसद के दोनों सदनों के पटल पर रखने हेतु सरकार को प्रस्तुत किये।

## 2011-12 का संशोधित प्राक्कलन और 2012-13 का बजट प्राक्कलन

2011-12- के लिए संशोधित बजट और 2012-13 के लिए बजट प्राक्कलन समय पर तैयार किये तथा सरकार को प्रस्तुत किये।

2011-12 के लिए 170 करोड़ रु. के योजना एवं 36.74 करोड़ रु. गैर योजना दोनों को मिलाकर अनुमोदित बजट 206.74 करोड़ रु. था जिसके बदले इस वर्ष का वास्तविक खर्च 216.32 करोड़ रु. था (176.34 करोड़ रु. योजना एवं 39.98 करोड़ रु. गैर योजना)।

2012-13 के लिए 170.04 करोड़ रु. के प्लान एवं 37.50 करोड़ रु. गैर योजना दोनों को मिलाकर अनुमोदित बजट 207.54 करोड़ रु. है।

## निधियों का प्रबंधन

### सामान्य निधि

वर्ष 2011-12 के दौरान बजट समर्थन के रूप में सरकार से 195.81 करोड़ रु. प्राप्त हुए। आंतरिक संसाधन के रूप में जुटाई निधि लगभग 24.04 करोड़ रु. थी।

### सामान्य भविष्य निधि/पेंशन निधि

2012 मार्च 31 को सामान्य भविष्य निधि में 55.18 करोड़ रु. और पेंशन निधि में 55.15 करोड़ रु. बाकी थे। अविकतन प्रतिपलाप प्राप्त करने के लिए निधियों के संचय का निवेश दीर्घवर्षीय सेक्युरिटियों में किया है। बोर्ड 1805 अभिदाताओं के सा.प्र.नि.खातों का अनुक्षण करता है। 31.03.2012 के अनुसार पेंशन भोगियों की संख्या 949 थी।

## लागत लेखे

वित्त व लेखा प्रभाग की लागत लेखा इकाई ने लागत लेखा आंकड़ों के एकत्रण करने एवं विश्लेषण करने और लागत आंकड़े अद्यतन करने के कार्य जारी रखे। सरकार एवं अन्य सांविधिक निकायों एवं अभिकरणों द्वारा मांगी गई सूचनाएं समय समय पर प्रस्तुत कीं।

## आंतरिक लेखा परीक्षा प्रभाग

आंतरिक लेखा परीक्षा प्रभाग के कार्यों में बोर्ड के विविध कार्यालयों/स्थापनाओं की आंतरिक लेखा परीक्षा तथा निरीक्षण, कुछ सालों के अंतर्गत सेवानिवृत्त हो रहे कर्मचारियों की सेवा का सत्यापन, अधिवर्षिता सेवानिवृत्ति/पदत्याग/मृत्यु आदि के मामले में पेंशन तथा अन्य सेवांत लाभों का सत्यापन, प्रभाग के हवाला किए विविध सेवा तथा अन्य मामलों का सत्यापन, महा लेखाकार (लेखा परीक्षा), केरल/वाणिज्य मंत्रालय द्वारा स्थानीय लेखा परीक्षाएं तथा अन्य विशेष लेखा परीक्षाओं के मामले में समन्वयन व अनुवर्ती कार्यवाई तथा अध्यक्ष द्वारा निर्देशित विशेष लेखा परीक्षाओं का आयोजन करना आदि सम्मिलित हैं।

रिपोर्टिंग अवधि के दौरान 48 कार्यालयों/स्थापनाओं की आन्तरिक लेखा परीक्षा व निरीक्षण चलाए तथा रिपोर्ट जारी की। सेवा सत्यापन, सेवानिवृत्ति हितलाभों तथा अन्य मामलों के संबंध में तथा अनेक विभागों/प्रभागों से प्राप्त 217 फाइलों का प्रभाग ने सत्यापन किया।

वर्ष 2009-10 तक महालेखाकार, केरल द्वारा जारी पूर्व निरीक्षण रिपोर्टों की लंबित खण्डों की संख्या 77 है। महालेखाकार, केरल द्वारा 5-7-2011 से 15-7-2011 तक तथा 17-8-2011 से 22-9-2011 तक बोर्ड के लेखाओं तथा लेन देन की लेखा परीक्षा चलायी गयी। लेखा परीक्षा संबंधी सभी संपर्क कार्य प्रभाग द्वारा किए गए तथा लेखा परीक्षा पार्टी द्वारा उठाए गए प्रश्नों के उत्तर दिए गए। लेन देन संबंधी निरीक्षण रिपोर्ट वर्ष 2010-11 के दौरान प्राप्त हुई तथा संबंधित विभागों/प्रभागों से उत्तर प्राप्त किए तथा उचित संशोधन/संपादन/समेकन के बाद मंत्रालय/महा लेखाकार को अग्रहित किए।

1999 के दौरान वाणिज्य मंत्रालय के आंतरिक लेखा परीक्षा संघ द्वारा 1997-98 तक की अवधि की निरीक्षण रिपोर्टों के लंबित खंडों के निपटारे के लिए मंत्रालय के साथ अनुवर्ती कार्यवाई की तथा मंत्रालय को उत्तर प्रस्तुत किए। सी ई आर ए रिपोर्ट पर बाकी खंडों के

उत्तर संबंधित विभागों से एकत्रित किए तथा महालेखाकार/मंत्रालय को अर्पित किए।

वाहनों के अनुसंधान में तथा ईंधन के उपभोग में मितव्ययता बरतना सुनिश्चित करने के लिए संबंधित विभागों/प्रभागों/अनुभागों से मासिक विवरणियाँ प्राप्त कीं तथा संवीक्षा की और अनुवर्ती कार्रवाई से मितव्ययता सुनिश्चित की एवं विवरणों के समय पर प्रस्तुति सुनिश्चित की। स्टोक तथा भंडार का वार्षिक भौतिक सत्यापन सुनिश्चित किया तथा सभी इकाइयों से स्टोक सत्यापन रिपोर्टें प्राप्त कीं। सभी इकाइयों में यात्रा भत्ता/छुट्टी यात्रा रियायत/आकस्मिक व्यय अग्रिम के परिसमापन के लिए अनुवर्ती कार्रवाई शुरू की।

#### इलेक्ट्रॉनिक डाटा प्रोसेसिंग प्रभाग

इलेक्ट्रॉनिक डाटा प्रोसेसिंग प्रभाग, वित्त एवं लेखा विभाग के अधीन कार्यरत है जो रबड़ बोर्ड के विविध

विभागों/कार्यालयों के सूचना एवं संचार प्रौद्योगिकियों के प्रयोग का देखरेख करता है। विविध कंप्यूटरीकरण कार्यक्रमों के अतिरिक्त प्रभाग, वेतन सूची की तैयारी संबंधी कार्य, सामान्य भविष्य निधि की तैयारी संबंधी कार्य, पेंशन की तैयारी संबंधी कार्य, प्रकाशनों के अंशदान की कार्यवाही, वित्तीय लेखाकरण, नाम सूची की तैयारी संबंधी कार्य आदि भी करता है। विविध विभागों और कार्यालयों के लिए हार्डवेयर व सॉफ्टवेयर चीज़ों के प्रापण, हार्डवेयर का अनुसंधान एवं रखरखाव, आखिरेखन सॉफ्टवेयर का विकास व प्रयोग, कार्यालयों के इंटर नेटवर्किंग आदि कार्य प्रभाग द्वारा करने वाले कार्य हैं। अनुज्ञापित जारी करने के लिए उपयुक्त वेब आधारित आखिरेखन सॉफ्टवेयर, उपकर लेखाकरण, सांख्यिकीय विवरणियों की तैयारी संबंधी कार्य, पंजीकरण सह सदस्यता प्रमाणपत्र जारी करना आदि इस वर्ष के दौरान किए गए प्रमुख सॉफ्टवेयर विकास परियोजना कार्य थे।



## अनुज्ञापन एवं उत्पाद शुल्क

स्वाभाविक रबड़ के व्यापार, रबड़ अधिनियम 1947 तथा रबड़ नियम 1955 के अनुसूच्य बोर्ड द्वारा जारी विविध अनुज्ञापनों के द्वारा नियंत्रित है। अधिनियम के लक्ष्यों की पूर्ति हेतु यह सरकार द्वारा समय-समय पर अधिसूचित दर पर उपकर के एकत्रण का प्रबंध करता है। भारत में उत्पादित सभी स्वाभाविक रबड़ पर उक्त उपकर प्रभारित किया जाता है तथा इस तरह एकत्रित रकम एकत्रण लागत घटाकर भारत की समेकित निधि में जमा की जाती है। रबड़ के व्यापार करने, संसाधन करने व रबड़ उत्पादों के विनिर्माण हेतु रबड़ अर्जित करने के लिए अनुज्ञापत्र जारी करने, उपकर निर्धारण एवं एकत्रण तथा प्रवर्तन के कार्य अनुज्ञापन तथा उत्पाद शुल्क विभाग को सौंपा गया है। विभाग के तीन प्रभाग हैं, उत्पाद शुल्क, अनुज्ञापन और राजस्व आसूचना तथा केरल के बाहर स्थित 9 उप कार्यालय हैं।

### 1. उत्पाद शुल्क प्रभाग

रबड़ के अर्जन हेतु विनिर्माताओं को अनुज्ञापत्र जारी करना, नवीकरण करना तथा विनिर्माताओं द्वारा उनके अभिकर्ताओं को जारी प्राधिकरण पत्रों का पंजीकरण, उपकर का निर्धारण तथा एकत्रण तथा भारत की समेकित निधि में जमा करना आदि उत्पाद शुल्क प्रभाग के प्रमुख कार्य हैं।

**अनुज्ञापत्र जारी करना:** वर्ष 2011-12 के दौरान निम्नानुसार 4386 विनिर्माताओं को रबड़ के अर्जन हेतु लाइसेंस जारी किये थे।

जारी किये गये नये अनुज्ञापत्र	: 263 सं
अनुज्ञापत्र का नवीकरण	: 4123 सं
कुल	: 4386 सं

#### प्राधिकरण का पंजीकरण

विनिर्माताओं द्वारा उनके खरीद अभिकर्ताओं को जारी कुल 38 प्राधिकरण पत्रों का पंजीयन किया।

12 संगठनों को परीक्षण / अनुसंधान आदि के लिए रबड़ अर्जित करने हेतु विशेष प्राधिकरण पत्र जारी किये।

वर्ष 2011-12 के लिए जारी किये अनुज्ञापत्रों के राज्यवार वितरण इस प्रकार है।

क्रम सं.	राज्य/संघ राज्य क्षेत्र का नाम	इकाइयों की संख्या
01	आन्ध्र प्रदेश	152
02	असम	7
03	बिहार	1
04	छत्तीसगढ़	3
05	छत्तीसगढ़	6
06	दिल्ली	123
07	गोवा, दामन, दिगु	27
08	गुजरात	411
09	हरियाणा	338
10	हिमाचल प्रदेश	26
11	जम्मू एवं कश्मीर	4
12	झारखंड	17
13	कर्नाटक	205
14	केरल	760
15	मध्य प्रदेश	61
16	महाराष्ट्र	495
17	मेघालय	1
18	नागालैंड	1
19	उड़ीसा	10
20	पुदुच्चेरी	24
21	पंजाब	364

## वार्षिक रिपोर्ट 2011-12

22	राजस्थान	133
23	तमिलनाडु	482
24	त्रिपुरा	3
25	उत्तर प्रदेश	398
26	उत्तरांचल	21

### उपकर का निर्धारण व एकत्रण

वर्ष 2011-12 के लिए उपकर एकत्रण के लक्ष्य 100 करोड़ रुपये के विरुद्ध 100.70 करोड़ रुपये का एकत्रण किया। इसके अलावा उपकर के देरी से जमा करने के दंडस्वरूप ब्याज के रूप में 31.41 करोड़ रुपये का एकत्रण किया। रिपोर्टधीन वर्ष के दौरान प्रभाग से जुड़े निरीक्षण तंत्र ने 2147 मेट्रिक टन रबड़ के गैर अनुज्ञापत्रित/बैहिस्ताब खरीद की पहचान कर सका तथा उस पर उपकर की वसूली हेतु कार्रवाई की।

### अपराध का शमन

रबड़ (संशोधन) अधिनियम 2009 की धारा 26 के अनुसार अधिनियम के अधीन दंडनीय किसी भी अपराध का दंडात्मक कार्रवाई करने के पहले और दंडात्मक कार्रवाई शुरू करने के बाद न्यायालय की अनुमति से बोर्ड द्वारा ऐसी राशि याने जो अपराध में सम्मिलित माल के मूल्य से अधिक न हो जमा करार कर शमन किया जा सकता है।

वर्ष के दौरान विभिन्न विनिर्माताओं से 26.68 लाख रुपये प्रशमन प्रभार के रूप में एकत्रित किये जा सके। गलत व्यापारियों, संसाधकों तथा विनिर्माताओं से एकत्रित कुल रकम 78.48 लाख रुपये थी।

### विनिर्माताओं के विरुद्ध किये गये दंडात्मक उपाय एवं अनुज्ञापत्रों का रद्दीकरण

दुरुपयोग के कारण वर्ष 2011-2012 के दौरान एक विनिर्माता को जारी अनुज्ञापत्र का प्रतिसंहरण किया गया। अनुज्ञापत्रधारियों के अनुरोध पर बोर्ड ने उनसे देयताएं वसूल करके 20 अनुज्ञापत्र रद्द किये। इसके अतिरिक्त वर्ष के दौरान 233 पुराने या मृत इकाइयों के पंजीकरण भी रद्द किये गये।

### अनुज्ञापत्रित विनिर्माताओं की सूची का प्रकाशन

विभिन्न हितधारियों के संदर्भ हेतु अनुज्ञापत्रित विनिर्माताओं की सूची दैनिक आधार पर बोर्ड की वेबसाइट में प्रकाशित की।

### II अनुज्ञापन प्रभाग

कोची के विलिंगडन द्वीप में कार्यरत अनुज्ञापन प्रभाग के मुख्य कार्य रबड़ अधिनियम एवं रबड़ नियम के प्रावधानों के अनुसार व्यापारियों एवं संसाधकों को अनुज्ञापत्र जारी करना तथा उससे संबंधित अन्य कार्य जैसे अभिकर्ता पंजीयन, व्यापार परिसर के परिपक्वता की मंजूरी देना आदि हैं।

#### व्यापारी अनुज्ञापत्र

साधारणतया प्रभाग पहले पहल तीन वर्षों की अवधि के लिए लाइसेंस जारी करता है तथा नवीकरण 5 वर्षों के लिए करता है। रिपोर्ट वर्ष के दौरान 783 नये लाइसेंस स्वीकृत किए गए। इसके अलावा 1713 अनुज्ञापत्रों का नवीकरण किया गया जिनमें 2012-17 की अवधि के लिए 1370 संख्या सम्मिलित हैं।

वर्षांत में अनुज्ञापत्रित व्यापारियों की कुल संख्या 9593 थी जब कि यह पिछले वर्ष के अंत में 9643 थी।

31.03.2012 के अनुसार राज्यवार अनुज्ञापत्रित व्यापारियों की सारणी नीचे दी है:-

क्रम सं.	राज्य का नाम	व्यापारियों की संख्या
01	आन्ध्रप्रदेश	9
02	अरुणाचल प्रदेश	1
03	असम	36
04	आन्ध्रमान व निकोबार	5
05	चंडीगढ़	2
06	दिल्ली	105
07	गुजरात	39
08	हरियाणा	48
09	झारखंड	2
10	कर्नाटक	120
11	केरल	8256
12	मध्य प्रदेश	7
13	महाराष्ट्र	77



## वार्षिक रिपोर्ट 2011-12

14	मेघालय	5
15	उड़ीसा	1
16	पंजाब	123
17	उत्तराखण्ड	1
18	राजस्थान	23
19	तमिलनाडु	252
20	त्रिपुरा	323
21	उत्तर प्रदेश	76
22	पश्चिम बंगाल	82
	<b>कुल</b>	<b>9593</b>

### संसाधक अनुज्ञापत्र

31 मार्च 2012 के अनुसार अनुज्ञापत्रित संसाधकों की कुल संख्या 122 थी। अनुज्ञापत्र हेतु 3 नये आवेदन प्राप्त हुए तथा संकेन्दित लैटेक्स व ब्लोक रबड़ के निर्माण हेतु तीन नये अनुज्ञापत्र जारी किये। वर्ष के दौरान 33 संसाधक लाईसेंस का नवीकरण किया जिसमें 19 लाईसेंस 2012-2017 की अवधि के लिए थे।

122 संसाधक अनुज्ञापत्रों में 106 केरल में स्थित हैं तथा 8 तमिलनाडु में। कर्नाटक तथा त्रिपुरा में 4-4 इकाइयाँ हैं।

उपर्युक्त 122 अनुज्ञापत्रों के वर्गवार विवरण नीचे दिया है।

लाटेक्स संकेन्द्रण फैक्टरियाँ	-	53
ब्लॉक रबड़ फैक्टरियाँ	-	42
पी एल सी ग्रेड इकाई	-	1
क्रीन्ड लाटेक्स इकाईयाँ	-	26
<b>कुल</b>		<b>122</b>

### दण्डात्मक उपाय एवं व्यापारी/संसाधक अनुज्ञापत्रों का रसीकरण

रबड़ अधिनियम और नियम के विधि प्रावधानों व अनुज्ञापत्र के शर्तों के उल्लंघन हेतु वर्ष के दौरान 2 व्यापारी अनुज्ञापत्र निलंबित किये। इसके अलावा वर्ष के दौरान संबंधित व्यापारियों/संसाधकों द्वारा अनुरोध करने पर 131 व्यापारी अनुज्ञापत्र रद्द किये। अनुज्ञापत्र के नवीकरण में रुचि न दिखाने पर उचित सूचना जारी करके 452 पंजीयन रद्द कर दिये।

### शाखाओं/प्राधिकरण पत्रों का पंजीकरण/लाटेक्स एकत्रण

वर्ष के दौरान कुछ अनुज्ञापत्रित व्यापारियों ने विभिन्न स्थानों पर 962 पंजीकृत शाखाएं बनाए रखीं। वर्ष के दौरान 428 शाखाएं पंजीकृत की/नवीकृत कीं जबकि अनुज्ञापत्रधारियों के अनुरोध पर 16 शाखाओं के पंजीकरण रद्द किये।

अधिकरण आधार में रबड़ खरीद के लिए बोर्ड की बहियों में 107 प्राधिकरण पत्र पंजीकृत किये हैं।

ग्रेड शीट बनाने हेतु/अभोगियेशन हेतु लाटेक्स एकत्रण के लिए 100 व्यापारियों के अनुरोध पर विचार किया गया तथा अनुमति दी गयी।

### व्यापार संस्थाओं के परिसर/ गठन में बदलाव अतिरिक्त गुदाम का अनुमोदन

अनुरोध पर 275 व्यापारियों के व्यापार परिसर बदलने की अनुमति दी गयी। 37 मामलों में अनुरोध पर उनकी गठन में किए परिवर्तन के लिए रसीकृति प्रदान की तथा इसी अवधि के दौरान 104 गुदामों को भी पंजीकृत किया।

### व्यापारियों एवं संसाधकों की सूची का प्रकाशन

अनुज्ञापत्र प्रदत्त व्यापारियों/संसाधकों की सूची बोर्ड की वेब साइट पर साप्ताहिक आधार पर संदर्भ हेतु प्रकाशित की।

### रबड़ भाव एकत्रण

कोची रबड़ बाजार से रबड़ भाव एकत्रित किया जाता है तथा प्रचार माध्यमों एवं बोर्ड की वेबसाइट में प्रकाशित करने हेतु नियमित रूप से बाजार संवर्द्धन विभाग को उपलब्ध कराया जाता है। आगे खरीद, बिक्री, आयात, निर्यात आदि से संबंधित आंकड़े प्रभाग से संबद्ध सहायक विपणन अधिकारी, रबड़ बागानों, वाहन टायर निर्माताओं, प्रमुख व्यापारी/प्रक्रमणकर्ता आदि से सामयिक रूप से एकत्रित करता है तथा बाजार संवर्द्धन विभाग को अग्रेषित करता है।

### गलत करनेवाले व्यापारियों/संसाधकों से उपकर व शमन प्रभार का एकत्रण

रबड़ व्यापार में अनियमितताएं बरतने पर कुछ व्यापारियों/संसाधकों से उपकर/शमन प्रभार के रूप में कुल 36.98 लाख रुपये एकत्रित किये।

### प्रपत्र एन घोषणाओं की आपूर्ति

वर्ष के दौरान रबड़ नियम 1955 के नियम 43 बी में बताए अनुसार रबड़ के अंतर्राज्य परिवहन के लिए व्यापारियों, विनिर्माताओं, संसाधकों और बागानों को प्रपत्र एन घोषणाओं की कुल 4089 बुकों की आपूर्ति थी।

### III. राजस्व आसूचना प्रभाग

राजस्व आसूचना प्रभाग कर धोरी रोकने के एक प्रभावी उपकरण के रूप में कार्य करता है। प्रभाग के एक स्थापना स्केच है, एक केंद्रीय दस्ता, पाँच क्षेत्रीय दस्ते तथा तीन जॉच चौकियाँ। प्रभाग के मुख्य कार्य निम्न प्रकार हैं:-

- क) रबड़ व्यापारियों/संसाधकों/विनिर्माताओं/बागान मालिकों से सूचनाएँ/अभिलेख/विवरणियाँ/दस्तावेज आदि लेना तथा केरल एवं तमिलनाडु के विविध भागों में स्थित उनके व्यापार परिसरों का निरीक्षण करना।
- ख) गलत तथा गैर अनुज्ञापत्रित व्यापारियों की पहचान तथा रबड़ व्यापार में अवैध आचार रोकना।
- ग) व्यापारियों, विनिर्माताओं एवं संसाधकों द्वारा फाइल की गयी सांविधिक विवरणियों की सच्चाई निर्धारित करने के लिए आपसी जाँच।
- घ) रबड़ के उपकरण की धोरी पकड़ने की दृष्टि से सड़क द्वारा परिवहित रबड़, रेल पार्सल घरों की जाँच, जॉच चौकियों का अचानक निरीक्षण आदि।
- ङ.) तीन जॉच चौकियों में रबड़ के परिवहन पर चौकसी बरतना।

रबड़ व्यापार करने के अनुज्ञापत्र जारी करने, व्यापारियों की शाखाएं पंजीकृत करने और नये/अतिरिक्त परिसर के अनुमोदन, फील्ड लाटेक्स एकत्रण के लिए विशेष प्राधिकरण जारी करने आदि के लिए आवेदकों तथा उनके व्यापार परिसर की उपयुक्तता निर्धारित करने के लिए निरीक्षण चलाये जाते हैं।

#### निरीक्षण दस्ते के कार्यकलाप

तलिपरा, पालक्काड, कोची, कोट्टयम, पुनलूर एवं मार्ताण्डम में कार्यरत निरीक्षण दस्ते गलत रबड़ व्यापार

रोकने में बड़ी हद तक सफल हुए हैं तथा जिससे उपकरण एकत्रण में सुधार किया जा सका है। निरीक्षण ने बड़ी संख्या में दोषी रबड़ व्यापारियों से मासिक विवरणियाँ एकत्रित करने में सहायता दी है। वर्ष के दौरान निरीक्षण दस्ते ने कई दिन दौरे पर बिताए तथा 1336 अनुज्ञापत्रित व्यापारियों, 127 गैर अनुज्ञापत्रित व्यापारियों और 146 गुदामों का निरीक्षण किया तथा 598 मामले में अनियमितताओं की पहचान की। दस्ते ने 71 सड़क जॉचें चलायीं जिससे अनियमित व्यापार में लगे लोगों में जागरूकता पैदा की जा सकी तथा बड़े हद तक अवैध परिवहनों का संचलन रोक जा सका।

निरीक्षण रिपोर्टों, जॉच चौकियों के दैनिक विवरण आदि की संवीक्षा हेतु विशेष ध्यान दिया गया। जहाँ जहाँ अनियमित प्रेषण का पता चला, निरीक्षण के प्रबंध करने हेतु ऐसे मामले संबंधित उप कार्यालयों/अनुभाग अधिकारियों (रा आ दस्ता) के हवाले कर दिया। राजस्व आसूचना प्रभाग द्वारा गंभीर अनियमितताओं के पता चलाने तथा रिपोर्ट करने पर अनुज्ञापत्र प्रभाग ने दो व्यापारियों के अनुज्ञापत्र निलंबित कर दिये।

#### जॉच चौकियों और रबड़ का अंतर्राज्य परिवहन

रबड़ के अंतर्राज्य परिवहन की निगरानी, सशक्त करने के लिए केरल के पालक्काड जिला के वालयार, कासरगोड जिला के मंजेश्वरम और तमिलनाडु के तिरुनेलवेली रबड़ के कावलक्किणर की जॉच चौकियों में चौबीसों घंटे रबड़ परिवहन के साथ प्रेषित दस्तावेजों की जाँच की गयी।

इन तीन जॉच चौकियों द्वारा चलायी गयी निगरानी ने रबड़ के अवैध परिवहन को पहचानने में सहायता दी जा सकी। रिपोर्ट अवधि के दौरान तीन जॉच चौकियों कुल मिलाकर विभिन्न कारणों से रबड़ के 22 परेषण रोके रखे तथा दैध दस्तावेजों की प्रस्तुति/संतोषजनक स्पष्टीकरण की प्राप्ति/प्रशमन प्रभार की प्राप्ति/उपकरण जमा करने आदि पर उन्हें सीमा पार करने की अनुमति दी गयी। उन्होंने 1,75,302 रुपये प्रशमन प्रभार के रूप में एकत्रित किये।

## वार्षिक रिपोर्ट 2011-12

रिपोर्ट अवधि के दौरान निम्न लिखित अनुसार तीन जॉय चौकियाँ द्वारा 34986 परेवण के परिवहन की अनुमति दी गयी।

वालवार चैक पोस्ट	: 20,295
मंजेश्वरम	: 9,639
कावलकिणर	: 5,052
कुल	: 34,986 परेवण

वर्ष 2011 - 2012 के दौरान 12510 एन प्रपत्र युक्त विभिन्न कार्यालयों, बागानों, संसाधकों, व्यापारियों एवं विनिर्माताओं को वितरित की। 57162 प्रपत्र एन घोषणा (रबड़ बोर्ड को अंकित प्रतिलिपि) प्रभाग में प्राप्त हुए।

**मासिक विवरण एवं प्रपत्र एन घोषणाओं की आपसी जॉय**  
विभिन्न व्यापारियों/संसाधकों/बागानों से प्राप्त मासिक विवरणियाँ यादृच्छिक रूप से तथा प्राप्त सभी एन प्रपत्र घोषणाओं की परस्पर जॉय की तथा 11 मामलों में विसंगतियों की पहचान की। जहाँ जहाँ विसंगतियों/अनिवारितताएँ देखी गयी, संबंधित पार्टी से स्पष्टीकरण मांगे गये तथा उचित कार्रवाई की।

वर्ष 2011-12 के दौरान प्रभाग ने निरीक्षण दस्ता, जॉय चौकियाँ और स्थापना संकथ के कठिन प्रयासों के फलस्वरूप असंगत कारोबार के मामलों में उपकर/प्रशमन प्रभार के रूप में 28.67 लाख रुपये की वसूली की।

### IV. उप कार्यालय के कार्यकलाप

नई दिल्ली, मुंबई, कोलकाता, चेन्नै, जलेश्वर, कानपुर, अहमदाबाद, बैंगलूर तथा सेकन्दराबाद (आं प्र) के नौ उप कार्यालय उपकर जमा कराने, विभिन्न विवरणियों प्रस्तुत कराने, अनुज्ञापत्र नवीकरण हेतु प्रेरणा दी तथा उनके अधिकार क्षेत्र में निरीक्षण चलाए। अधिकारी रबड़ के अन्तर्राज्य परिवहन के संचलन पर सतर्क रहते हैं तथा भारत में आयातित रबड़ की गुणता जॉय करते हैं। वर्ष के दौरान कुल 2671 निरीक्षण/दौरा चलाये गये। इसके अलावा आयातित रबड़ की अनुमति देने के अनापत्ति प्रमाणपत्र जारी करने हेतु गुणता जॉय के लिए 80 निरीक्षण चलाये थे।

### उपसंहार

वर्ष 2011-12 के दौरान विभाग के अधीन के प्रभाग/उपकार्यालयों के सकल निष्पादन संक्षिप्त रूप से निम्न में दिये गये हैं।

(क) वर्ष 2011-12 के दौरान कुल जारी विनिर्माता अनुज्ञापत्रों की संख्या	4386
(ख) 31 मार्च 2012 के अनुसार कुल व्यापारी अनुज्ञापत्रों की संख्या	9593
(ग) 31 मार्च 2012 के अनुसार संसाधक अनुज्ञापत्रों की कुल संख्या	122
(घ) चलाये गये निरीक्षण/अन्य दौरों की कुल संख्या	4540
(ङ) रबड़ के बिना अनुज्ञापत्र खरीद,स्टोक में कमी/ अधिक स्टोक, बिना वैध दस्तावेज कब्जा/परिवहन आदि जैसी अनियमितताओं में सम्मिलित पहचाने गये रबड़ का कुल परिमाण	31,882 मेट्रिक टन
(च) किये गये निर्धारणों की कुल संख्या	9784
(छ): कुल निर्धारित रकम	9945 लाख रुपये
<b>उपकर/शमन प्रभार एकत्रण</b>	
(ज) वर्ष के दौरान एकत्रित उपकर तथा ब्याज की कुल रकम	10101 लाख रु
(झ) वर्ष के दौरान एकत्रित शमन प्रभार की कुल रकम	78.48 लाख रु
(ञ) एकत्रित लाईसेंस शुल्क की कुल रकम	42.86 लाख रु



## बाज़ार संवर्द्धन

बाज़ार संवर्द्धन विभाग के अन्तर्गत 3 इकाईयाँ हैं और इन इकाइयों के मुख्य कार्य इस प्रकार हैं।

### (क) बाज़ार आसूचना सेल

बाज़ार आसूचना सेल के द्वारा किये जा रहे मुख्य कार्य स्वामाविक रबड़ भावों का एकत्रण, संकलन व प्रसारण है। कोट्टयम व कोची में आर एस एस 4 एवं आर एस एस 5 श्रेणी के शीट रबड़ और आईएसएनआर-20 तथा 60 प्रतिशत गांठे लाटेक्स के दैनिक भाव एकत्रित, संकलित किये और प्रकाशनार्थ समाचार एजेंसियों और प्रेस को रिपोर्ट किये तथा वाणिज्य मंत्रालय एवं अन्य कार्यालयों को दैनिक आधार पर रिपोर्ट किये जाते हैं। स्क्राप रबड़ के भी भाव सप्ताह में तीन दिन के आधार पर नियमित रूप से एकत्रित किये, संकलित किये और प्रकाशित किये।

सभी उच्च श्रेणी शीट रबड़, पेल लाटेक्स क्रीप, उच्च श्रेणी आई एस एन आर के साप्ताहिक भाव भी संकलित किये और बाज़ार आसूचना सेल बैंकोक तथा कुलालपुर बाज़ार के विभिन्न श्रेणी के रबड़ के भाव भी एकत्रित, संकलित तथा प्रकाशित करता है। दोनों देशी और अन्तर्राष्ट्रीय भाव संबंधी आंकड़े लोगों को फोन एवं आई वी आर प्रणाली, एस एस एस द्वारा प्रदत्त किये तथा रबड़ बोर्ड के वेब साइट में दैनिक आधार पर प्रकाशित किये।

बाज़ार भाव एकत्रण, संकलन व प्रसारण के अलावा बाज़ार आसूचना प्रभाग ने वर्ष 2011-12 के दौरान निम्न लिखित कार्य किये:

- i) 163 हितधारी अभिदाताओं ने एस एस एस भाव प्रसारण सुविधा हेतु नाम दर्ज किये।
- ii) 12वीं योजना के दौरान चलाने के कार्यों के बारे में चर्चा करने हेतु रबड़ के हितैषियों की बैठकें आयोजित कीं।
- iii) स्वामाविक रबड़ का भाव, गविये व्यापार, रबड़ का विपणन आदि से संबंधित सभी पृष्ठराष्ट्र के उत्तर प्रभाग द्वारा दिये गये।

### (ख) निर्यात संवर्द्धन सेल

रबड़ बोर्ड स्वामाविक रबड़ के लिए प्राधिकृत निर्यात संवर्द्धन काउंसिल (ई वी सी) है। विदेश व्यापार नीति के उपबंधों के अनुसार निर्यात संवर्द्धन काउंसिल द्वारा जारी उनके मुख्य व्यापार से संबंधित वैध पंजीकरण सह सदस्यता प्रमाणपत्र (आर सी एम सी) निर्यातकों को होना चाहिए। निर्यात संवर्द्धन सेल स्वामाविक रबड़ निर्यातकों को पंजीकरण सह सदस्यता प्रमाणपत्र जारी करता है। निर्यात प्रोत्साहन उपाय के रूप में भारत से निर्यातित रूप में स्वामाविक रबड़ की गुणता सुनिश्चित करने के लिए निर्यातकों के लिए भारतीय स्वामाविक रबड़ बैंड करने का कार्य विभाग ने शुरू किया। वर्ष 2011-12 के दौरान 4537 मे ट बैंडेड स्वामाविक रबड़ का निर्यात किया है।

वर्ष 2011-12 के दौरान निर्यात संवर्द्धन सेल द्वारा चलाये गये मुख्य कार्य निम्न प्रकार हैं:-

1. स्वामाविक रबड़ के आठ निर्यातकों को नये पंजीकरण सह सदस्यता प्रमाणपत्र जारी किए।
2. अंतर्राष्ट्रीय बाज़ार में 'भारतीय स्वामाविक रबड़' बैंड का प्रचार किया।

## वार्षिक रिपोर्ट 2011-12

विश्व ग्रैड के शीट रबड़, आई एस एन आर 20 तथा 60% संकेन्द्रित लाटेक्स के देशी बाज़ार में रिपोर्ट अवधि के दौरान मासिक औसतन भाव निम्नानुसार है:

### वर्ष 2011-12 के दौरान देशी बाज़ार में स्वाभाविक रबड़ का भाव

(रु./क्विन्टल)

महीना	आरएसएस 1	आरएसएस 2	आरएसएस 3	आरएसएस 4	आरएसएस 5	आईएसएनआर 20	50 (गु र सो) तारका
अप्रैल 2011	25800	24945	24295	23868	23568	23322	14364
मई	24569	24069	23092	22523	22306	21520	13573
जून	24077	23615	22554	22185	21950	21623	13898
जुलाई	23146	22746	21715	21242	20994	21002	13726
अगस्त	21417	20952	20671	20462	19917	20086	13117
सितंबर	21854	21698	21598	21459	20744	20879	13352
अक्तूबर	21592	21492	21388	21185	20931	20153	12955
नवंबर	20348	20144	19920	19502	19206	17740	11541
दिसंबर	21000	20500	20300	20030	19683	18805	11007
जनवरी 2012	20056	19708	19400	19094	18556	18640	10892
फरवरी	19633	19367	18992	18764	18435	18666	12552
मार्च	20478	20189	19744	19344	19141	19125	12820
औसत	21998	21619	21139	20805	20453	20130	12818

- चीन, मलेशिया, टर्की, स्पेन, पोलंड तथा इंडोनेशिया में संपन्न छः अंतर्राष्ट्रीय व्यापार मेलाओं तथा प्रदर्शनियों में भाग लिया।
- अंतर्राष्ट्रीय तथा देशी व्यापार मेलाओं/प्रदर्शनियों में निर्यातकों की सहभागिता साध्य बनाया। नौ निर्यातकों को अंतर्राष्ट्रीय व्यापार मेलाओं में उनकी सहभागिता के लिए यात्रा अनुदान प्रदान किया।
- मुंबई, चेन्नै, कोलकाता, गुजरात, चंडीगढ़, हैदराबाद, नोइडा, बंगलूर तथा नई दिल्ली में संपन्न स्वाभाविक रबड़ तथा रबड़ बुड़ से संबंधित 11 देशी व्यापार मेलाओं में भाग लिया।
- व्यापार निर्देशिकाएं प्रकाशित की तथा वेब पोर्टल द्वारा ऑन-लाईन व्यापार सूचनाएं प्रदत्त की।
- वर्ष 2011-12 के दौरान भारत ने पिछले वर्ष के 29851 मे टन स्वाभाविक रबड़ के विरुद्ध 27145 मे टन स्वाभाविक रबड़ का निर्यात किया तथा यू एस 94.06 मिलियन (441.25 करोड़ रुपये) के समतुल्य विदेश विनिमय प्राप्त किया। भारत से निर्यातित स्वाभाविक रबड़ मुख्यतः रिब्यूड स्मोल्ड शीट (आर एस एस), भारतीय मानक स्वाभाविक रबड़ (आई एस एन आर) तथा संकेन्द्रित लाटेक्स के रूप में है। कुल निर्यात की मात्रा में चीन, स्पेन, जर्मनी, मलेशिया आदि 15 प्रमुख उपभोक्ता राष्ट्रों को निर्यातित 4537 मे टन ब्रैड्रेड भारतीय स्वाभाविक रबड़ सम्मिलित है।
- लक्षित राष्ट्रों में उपयोग क्रिये/आवश्यक स्वाभाविक रबड़ के विश्व स्तरों पर स्वाभाविक रबड़ के निर्यातकों

को विपणन सूचना प्रदत्त की तथा लक्षित राष्ट्रों में स्वामाविक रबड़ के विभिन्न रूपों के बाज़ार पहचान एवं क्रेता पहचान के लिए स्वामाविक रबड़ निर्यातकों को सहायता प्रदान की।

9. "निर्यात प्रबंधन तथा कार्यविधि" पर एक हस्तकालीन प्रशिक्षण आयोजित किया।
10. प्रदर्शनियों में बोर्ड की सहभागिता के लिए आवश्यक ब्रोशर/पोस्टर तैयार किये।
11. भारतीय स्वामाविक रबड़ ब्रैंडेड उत्पादों की निर्देशिका तैयार की।
12. बोर्ड की विपणन तथा निर्यात संबर्द्धन सेवाओं पर सूचनाएं ऑन लाईन पर प्रदान करने के लिए [www.indianna.ura.rubber.o](http://www.indianna.ura.rubber.o) नामक एक वेब पोर्टल की शुरुआत की।
13. ब्रैंडेड भारतीय स्वामाविक रबड़ पर विपणन फिल्म तैयार करने हेतु कार्यवाई शुरू की।

स्वामाविक रबड़ के विभिन्न रूपों के निर्यात का प्रतिशत हिस्सा (2011-12)

स्वामाविक रबड़ का प्रकार	निर्यातित इरिमाण (मै.टन)	प्रतिशत हिस्सा
संकेद्रित साटेरस	15128	55.73%
टी एत आर (क्लॉक रबड़)	953	3.51%
आर एत एत (शीट रबड़)	9471	34.89%
अन्य रूप	1593	5.87%
कुल	27145	100%

#### (ग) देशी संबर्द्धन प्रभाग

देशी संबर्द्धन सेल ने विभिन्न पोर्टों द्वारा स्वामाविक रबड़ के आयात की सूक्ष्म निगरानी की। देशी संबर्द्धन सेल ने विभिन्न पोर्टों द्वारा तथा विभिन्न बैंक और ग्रेड के अधीन आयात के विवरणों की निगरानी की।



## सांख्यिकी एवं योजना

### 1. सामान्य सांख्यिकी

बोर्ड के सांख्यिकी एवं योजना विभाग के मुख्य कार्य रबड़ सांख्यिकी के एकत्रण, संकलन, व्याख्या तथा प्रसारण है।

रबड़ कृषकों, व्यापारियों, संसाधकों और विनिर्माताओं से एकत्रित सांविधिक मासिक विवरणियों से स्वाभाविक रबड़ की विविध सांख्यिकियों का एकत्रण एवं संकलन किया। छोटे कृषकों की प्रति हेक्टेयर उपज और प्रति हेक्टेयर स्टॉक निर्धारित करने के लिए मासिक आधार पर नमूना सर्वेक्षण चलाया गया। विभिन्न स्रोतों से एकत्रित आंकड़ों का संकलन किया गया तथा मासिक आधार पर रबड़ के उत्पादन, उपभोग, आयात एवं स्टॉक अंके गए। नियमित रूप से "रबर स्टैटिस्टिकल न्यूज़" (मासिक) में प्रकाशित किया। इस प्रकाशन में स्वाभाविक रबड़ के अलावा कृत्रिम रबड़ एवं सुधारित रबड़ के उत्पादन, उपभोग, स्टॉक, आयात/निर्यात के रुख, स्वाभाविक रबड़ का भाव और संबंधित सूचनाएं सम्मिलित हैं। बोर्ड ने इंडियन रबड़ स्टैटिस्टिक्स, भाग 34, 2011 का प्रकाशन किया, अध्यक्ष ने 15 दिसंबर 2011 को श्री जोस पनब्जिपुरम, सहयोगी संपादक, मलयालम मनोरमा को पुस्तक की एक प्रति देकर निर्मुक्त की। इंडियन रबड़ स्टैटिस्टिक्स में विश्व रबड़ सांख्यिकी के अलावा रबड़ के अधीन क्षेत्र, स्वाभाविक, कृत्रिम एवं सुधारित रबड़ के उत्पादन, उपभोग, आयात, निर्यात, भाव आदि तथा विनिर्माता, व्यापारी, रबड़ उत्पादक, श्रमिक आदि की सूचना सम्मिलित हैं। शीघ्र संदर्भ के लिए रबड़ सांख्यिकी पर एक छोटी पुस्तिका भाग-6, 2011 का भी प्रकाशन किया गया, जिसमें रबड़ उत्पादित और उपभोगा उद्योग की सामान्य जानकारी, विश्व रबड़ सांख्यिकी सहित स्वाभाविक, कृत्रिम एवं सुधारित रबड़ के क्षेत्र, उत्पादन, उपभोग, आयात, निर्यात, भाव आदि भी सम्मिलित

हैं। व्यापारियों/विनिर्माताओं/बड़े पैमाने के कृषकों और संसाधकों की मासिक/वार्षिक विवरणियों के ऑन-लाईन फाइलिंग के लिए कदम उठाए गए।

संकेद्रित लैटेक्स, ब्लॉक रबड़, पी एल सी के संसाधकों तथा क्रीप मिलों से वर्ष 2011-12 के लिए वार्षिक रिपोर्ट एकत्रित की तथा विविध श्रेणियों के रबड़ के उत्पादन, संस्थापित क्षमता आदि निर्धारित कीं। रबड़ उद्योग के विनिर्माताओं से वर्ष 2011-12 की वार्षिक विवरणियां एकत्रित की तथा अंतिम उत्पाद के आधार पर रबड़ के उपभोग संकलित किए। वर्ष 2011-12 के दौरान, वर्ष 2010-11 के उपभोग के आधार पर विनिर्माताओं का वर्गीकरण किया गया। एस्टेटों के क्षेत्र विस्तार, उत्पादन आदि निर्धारित करने के लिए बड़े कृषकों से वार्षिक विवरणियां एकत्रित कीं। रबड़ बोर्ड प्रादेशिक कार्यालयों से क्षेत्रीय सांख्यिकी एकत्रित की गयी। वर्ष 2011-12 के स्वाभाविक रबड़ के राज्यवार क्षेत्र और उत्पादन का भी संकलन किया गया। विभाग ने सरकार और रबड़ उद्योग संबंधी विभिन्न संगठनों को संगत सांख्यिकीय सूचना प्रदान की। रबड़ के आयात/निर्यात, उत्पादन, भाव आदि और रबड़ उद्योग के विभिन्न पहलुओं पर संसदीय प्रश्नों के उत्तर देने के लिए आवश्यक सूचना तथा डाटा तैयार किए गए तथा प्रस्तुत किए।

### 2. स्वाभाविक रबड़ की पूर्ति/मांग स्थिति

18 अप्रैल 2011, 26 सितंबर 2011 तथा 2 फरवरी 2012 को क्रमशः संघर्ष बोर्ड की 165वीं, 166वीं और 167वीं बैठक ने स्वाभाविक रबड़ की पूर्ति/मांग स्थिति की पुनरीक्षा की। स्वाभाविक रबड़ के देशी और वैश्विक परिदृश्य पर सांख्यिकीय सारणियों के साथ टिप्पणियां तैयार कीं तथा प्रस्तुत कीं।



## वार्षिक रिपोर्ट 2011-12

स्वामाविक रबड़ के वर्ष 2011-12 के उत्पादन और उपभोग क्रमशः 902,000 टन तथा 977,000 टन प्रक्षिप्त किया। 2 फरवरी 2012 को संपन्न बोर्ड की 167वीं बैठक ने प्रक्षिप्तियों की पुनरीक्षा की। स्वामाविक रबड़ के उत्पादन का पूर्व प्रक्षेप 902,00 टन बनाए रखा था। 2011-12 में स्वामाविक रबड़ उपभोग का प्रक्षेप 966,000 टन में परिशोधित किया गया। स्वामाविक रबड़ के आयात और निर्यात का प्रक्षेप भी क्रमशः 120,000 टन और 50,000 टन से 170,000 टन और 30,000 के रूप में परिशोधित किया गया। मार्च 2012 के अंत में प्रक्षिप्त स्टॉक 2,30,000 टन था।

वास्तविक आंकड़ों के अनुसार, 2010-11 के 861,950 टन की तुलना में वर्ष 2011-12 के दौरान स्वामाविक रबड़ का उत्पादन 903,700 टन था और पिछले वर्ष के 3.7 प्रतिशत की तुलना में 4.8 प्रतिशत वृद्धि दर्शाई। अनुकूल मौसम और आकर्षक भाव उत्पादन में वृद्धि के प्रमुख कारक थे। विश्व स्तर पर वर्ष 2011-12 के दौरान भारत ने रबड़ की उत्पादकता में प्रथम स्थान कायम रखा है, जो वर्ष 2010-11 की 1806 कि ग्रा/ हेक्टेयर से बढ़कर 1841 कि.ग्रा/हेक्टेयर हुई। वर्ष 2010-11 के 947,715 टन के विरुद्ध 1.8 प्रतिशत

वृद्धि के साथ वर्ष 2011-12 के दौरान स्वामाविक रबड़ का कुल उपभोग 964,415 टन था। वहन टायर क्षेत्र की वृद्धि वर्ष 2010-11 की 3.7 प्रतिशत के विरुद्ध वर्ष 2011-12 के दौरान 5.7 प्रतिशत रही। उसी समय साधारण रबड़ माल विनिर्माण क्षेत्र ने पिछले वर्ष की 1.2 प्रतिशत ऋण वृद्धि के स्थान पर वर्ष 2011-12 के दौरान 4.9 प्रतिशत ऋण वृद्धि दर्ज की। ऑटोमोटाइव टायर मैनुफैक्चर्स एसोसियेशन के अनुसार 2010-11 के 22 प्रतिशत की तुलना में वर्ष 2011-12 के दौरान टायर उत्पादन की औसत वृद्धि 5 प्रतिशत थी। ट्रक और बस टायर उत्पादन में वर्ष 2011-12 के दौरान 3 प्रतिशत वृद्धि दर्ज की जो वर्ष 2010-11 के दौरान भी समान थी। यात्रा कार टायर क्षेत्र वर्ष 2010-11 की 31 प्रतिशत की उच्च वृद्धि के विरुद्ध वर्ष 2011-12 में केवल 4 प्रतिशत वृद्धि दर्ज की। वर्ष 2011-12 के दौरान टायर का निर्यात 23 प्रतिशत बढ़ गया जबकि 2010-11 के दौरान वृद्धि 22 प्रतिशत थी। ट्रक व बस और यात्रा कार टायर के निर्यात में वर्ष 2011-12 के दौरान क्रमशः 12 प्रतिशत और 40 प्रतिशत वृद्धि दर्ज की। वर्ष 2011-12 के दौरान, देश में 213,785 टन स्वामाविक रबड़ का आयात किया तथा 27,145 टन स्वामाविक रबड़ का निर्यात किया। मार्च 2012 के अंत में स्वामाविक रबड़ का स्टॉक 236,275 टन था।

### तालिका - 1

#### स्वामाविक रबड़ की स्थिति (टन में)

संकेतक	2011-12 प्रक्षेपण (संशोधन पूर्व)	2011-12 संशोधित अनुमान		2011-12अ (वास्तविक आंकड़े)	
		परिमाण	वृद्धि ( )	परिमाण	वृद्धि ( )
उत्पादन	902,000	902,000	4.6	903,700	4.8
उपभोग	977,000	966,000	1.9	964,415	1.8
आयात	120,000	170,000		213,785	
निर्यात	50,000	30,000		27,145	
अंत में स्टॉक	273,000	230,000		236,275	

अः अनंतिम

## वार्षिक रिपोर्ट 2011-12

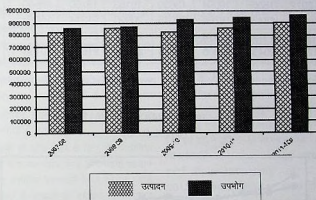
तालिका - 2

स्वामाविक रबड़ के कुल क्षेत्र, उत्पादन एवं उपभोग

वर्ष	कुल क्षेत्र (हे)	वृद्धि ( )	उत्पादन (टण)	वृद्धि ( )	उपभोग (टण)	वृद्धि ( )
2007-08	635400	3.3	825345	-3.2	861455	5.0
2008-09	661980	4.2	864500	4.7	871720	1.2
2009-10	686515	3.7	831400	-3.8	930565	6.8
2010-11	711560	3.6	861950	3.7	947715	1.8
2011-12अ	737000	3.6	903700	4.8	964415	1.8

अ: अंतिम

चार्ट 1 - स्वामाविक रबड़ के उत्पादन एवं उपभोग (टण)



### 3. स्वामाविक रबड़ का भाव

वर्ष 2010-11 के आर एस एस 4 श्रेणी के रबड़ का वार्षिक औसत भाव 208.05 रु./कि ग्रा था जब 2010-11 में यह 190.03 रु./कि ग्रा था। वर्ष 2011-12 के दौरान अंतर्राष्ट्रीय आर एस एस 3 ग्रेड का औसत भाव 209.15 रु./कि ग्रा था जो वर्ष 2010-11 के दौरान 195.55 रु./कि ग्रा था। वर्ष 2011-12 के दौरान

देशी आर एस एस 4 का भाव 5.4 2011 को 243.00 रु./कि ग्रा में बढ़ गया तथा आर एस एस 3 का अंतर्राष्ट्रीय भाव 12.4 2011 को 272.12 रु./कि ग्रा में बढ़ गया। अक्टूबर 2011 से जनवरी 2012 तक केवल चार महीनों के लिए देशी आर एस एस 4 का भाव अंतर्राष्ट्रीय आर एस एस 3 के भाव से ऊपर रहा।

संयुक्त निदेशक (सां एच यो) ने स्वाभाविक रबड़ की गुणता पर एक कोर समिति के रूपायन के लिए पहल किया तथा 15.6.2011, 20.6.2011 और 1.2.2012 को परियोजना के रूपायन तथा कार्यान्वयन पर गठित तीन समिति बैठकें आयोजित कीं तथा स्वाभाविक रबड़ की गुणवत्ता पर एक हस्त चित्र तैयार करने में समन्वयन कार्य किया। 12वीं योजना के रूपायन पर राय एकत्रित करने के लिए बोर्ड के भूतपूर्व विभागाध्यक्षों की बैठकें तथा एटीएमए, ए आई आर आई ए तथा आई आर आई के प्रतिनिधियों की बैठकें आयोजित कीं।

11वीं योजना के मूल्यांकन पर 30 जून 2011 को चेन्नै में संपन्न राष्ट्रीय समिति, 3 सितंबर 2011 को

संपन्न रबड़ समिटि, 17 अक्तूबर 2011 को संपन्न श्रमिक कल्याण समिति, 28 अक्तूबर 2011 को संपन्न अनुसंधान व विकास समिति, 6 दिसंबर 2011 को संपन्न रोपण समिति, 16 जनवरी को संपन्न कर्मचारी कार्य समिति तथा 1 फरवरी 2012 को संपन्न कार्यकारिणी समिति बैठकों में प्रतिभागिता की। मेसेर्स प्लान्टेशन कॉर्पोरेशन ऑफ केरला लिमिटेड, मेसेर्स स्टेट फार्मिंग कॉर्पोरेशन केरला तथा मेसेर्स रीहाबिलिटेशन प्लान्टेशन लिमिटेड जैसे केरल सरकार के तीन सार्वजनिक उपक्रमों की रबड़ का भाव आवधिक रूप से निश्चित करने हेतु समिति के विशेषज्ञ सदस्य होने के कारण संयुक्त निदेशक (सां एवं यो) ने बिक्री समिति बैठक में प्रतिभागिता की।



## सांख्यिकीय सारणियाँ

सारणी - 1

स्वामाधिक रबड़ के उत्पादन, आयात, निर्यात एवं उपभोग (अ) (टणों में)

महीना	उत्पादन	आयात	निर्यात	उपभोग (रिप्टी एवं आयातित)
अप्रैल 2011	56800	5599	2214	81375
मई "	59700	14018	3031	80120
जून "	59200	20916	4558	81720
जुलाई "	64300	19928	1537	81210
अगस्त "	71200	17962	1958	76190
सितंबर "	80200	12763	4785	74870
अक्तूबर "	89300	8574	2981	76495
नवंबर "	94400	16125	622	82440
दिसंबर "	106800	21146	1077	84795
जनवरी 2012	102500	28905	967	82535
फरवरी "	64000	24519	951	80265
मार्च "	55300	23330	2464	82400
योग	903700	213785	27145	964415

(अ):अस्थायी

सारणी - 2

हर महीने के अंत के स्वामाधिक रबड़ की स्टोक (अ) (टणों में)

महीना	कृषक, व्यापारी एवं संसाधक	विनिर्माता	योग
अप्रैल 2011	203911	64870	268781
मई "	201359	61205	262564
जून "	140300	58700	199000
जुलाई "	156420	53580	210000
अगस्त "	158565	55435	214000
सितंबर "	170650	53350	224000
अक्तूबर "	190110	52890	243000
नवंबर "	203835	48165	252000
दिसंबर "	203350	58650	267000
जनवरी 2012	201240	65760	267000
फरवरी "	173400	70600	244000
मार्च	163950	72325	236275

(अ):अस्थायी

## वार्षिक रिपोर्ट 2011-12

### सारणी - 3

कृत्रिम रबड़ के उत्पादन, आयात एवं उपभोग (अ)  
(टणों में)

महीना	उत्पादन	आयात	उपभोग
अप्रैल 2011	9262	27868	36890
मई "	9468	31497	35740
जून "	9279	29641	36945
जुलाई "	8929	30005	36355
अगस्त "	9391	27719	33635
सितंबर "	8421	26760	33510
अक्तूबर "	8592	24343	31275
नवंबर "	8636	20900	36345
दिसंबर "	10503	27557	37315
जनवरी 2012	10414	23340	34385
फरवरी "	9569	27695	34675
मार्च "	8135	30300	36280
योग	110599	327625	423350

(अ)-अस्थायी

### सारणी - 4

उद्धारित रबड़ के उत्पादन एवं उपभोग (अ) (टणों में)

महीना	उत्पादन*	उपभोग
अप्रैल 2011	8290	8140
मई "	7695	7945
जून "	7980	8060
जुलाई "	9065	8770
अगस्त "	8590	8385
सितंबर "	8565	8350
अक्तूबर "	8095	8245
नवंबर "	8965	8570
दिसंबर "	8830	9160
जनवरी 2012	8915	8785
फरवरी "	9280	9105
मार्च "	9295	8920
योग	103565	102435

\* विनिर्माताओं द्वारा देशी खरीद (अ)-अस्थायी

**वार्षिक रिपोर्ट 2011-12**

**सारणी - 5**  
**स्वामाविक रबड़ के देशी और अन्तर्राष्ट्रीय भाव की तुलना (रु./100 कि ग्रा)**

महीना/वर्ष	आर एस एस 5	आर एस एस 4	आर एस एस 3	लाटेक्स (60 डी आर सी)	आइ एस एन आर 20	एस एम आर 20
	देशी	देशी	अंतर्राष्ट्रीय	देशी	अंतर्राष्ट्रीय	अंतर्राष्ट्रीय
अप्रैल 2011	23568	23868	26071	23974	25976	23322
मई "	22306	22523	23367	22622	23760	21520
जून "	21950	22185	22577	23163	23089	21623
जुलाई "	20994	21242	21286	22877	21895	21002
अगस्त "	19917	20462	21356	21861	21912	20086
सितंबर "	20744	21459	21843	22253	22254	20879
अक्तूबर "	20931	21185	20252	21592	21348	20153
नवंबर "	19206	19502	17525	19236	18718	17740
दिसंबर "	19683	20030	17938	18345	18733	18805
जनवरी 2012	18556	19094	18639	18153	18700	18640
फरवरी "	18435	18764	20046	20920	21314	18666
मार्च "	19141	19344	20101	21367	21805	19125
2011-12	20453	20805	20915	21364	21625	20130
						19502

टिप्पणी: (i) देशी भाव कोट्टयम बाज़ार के हैं। (ii) आर एस एस 3 का अन्तर्राष्ट्रीय भाव बैंकोक बाज़ार के हैं। (iii) लाटेक्स एवं एस एम आर 20 के अन्तर्राष्ट्रीय भाव कुलालपुर बाज़ार के हैं।

### 31.03.2012 के अनुसार रबड़ बोर्ड के सदस्यों की सूची

क्रम सं	सदस्यों के नाम एवं पता	प्रतिनिधित्व करनेवाला हित
1.	श्रीमती भीला तोमस, आई ए एस	अध्यक्ष, रबड़ बोर्ड
2.	प्रोफ. पी. जे. कुर्वन सदस्य (राज्य सभा) 302, ब्रह्मपुत्र, डॉ. बी. डी. मार्ग, नई दिल्ली - 1	धारा 4(3) के उपबंध (ड) के अधीन सांसद
3.	श्री नलिनकुमार कटील सदस्य, लोक सभा 5-3-91/19, मेडोज़ अपार्टमेंट्स, मन्नागुड्डा मेडन रोड, कोडियालबेल (पी.ओ) मैंगलूर - 575 003	धारा 4 (3) के उपबंध (ड) के अधीन सांसद
4.	श्री जोस के माणी सदस्य, लोक सभा करिगोप्रक्कल हाउस, वेल्लाड पाला - 686 575, केरल	धारा 4 (3) के उपबंध (ड) के अधीन सांसद
5.	श्री सी. वी. शंकर, आई ए एस सरकार का प्रधान सचिव, पर्यावरण एवं वन विभाग, सचिवालय, तमिलनाडु सरकार, चेन्नै - 600 009	नियम 3 के उप नियम (2) के अधीन तमिलनाडु राज्य के बड़े कृषकों के प्रतिनिधि
6.	श्री एस. रामचन्द्रन निदेशक, वैकुण्ठम प्लाटेशन्स लिमिटेड 2/3309, चालक्कुथी रोड पट्टम पालस पी.ओ तिरुवनंतपुरम - 695 004	नियम 3 के उप नियम (2) के अधीन तमिलनाडु राज्य के बड़े कृषकों के प्रतिनिधि
7.	श्री के. जयकुमार, आई ए एस अपर मुख्य सचिव सचिवालय, केरल सरकार तिरुवनंतपुरम - 695 001	नियम 3 के उप नियम (3) के अधीन केरल सरकार के प्रतिनिधि
8.	कृषि उत्पादन आयुक्त सचिवालय, केरल सरकार तिरुवनंतपुरम - 695 001	नियम 3 के उप नियम (3) के अधीन केरल सरकार के प्रतिनिधि



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9.	<b>श्री जोर्ज जे मात्यु, पूर्व सांसद</b> पोद्दमकुलम, कृष्टिकल काजिरपल्ली, कोट्टयम, केरल	नियम 3 के उप नियम (3) के अधीन केरल राज्य के बड़े कृषकों के प्रतिनिधि
10.	<b>श्री जे.के.तोमस,</b> प्रबंध निदेशक मे.मलंकरा प्लान्टेशन लिमिटेड मलंकरा बिल्डिंग, कोडिमत्ता, कोट्टयम - 686 001, केरल	नियम 3 के उप नियम (3) के अधीन केरल राज्य के बड़े कृषकों के प्रतिनिधि
11.	<b>श्री के.के.एब्रहम</b> अध्यक्ष, इंडियन ब्लॉक रबड़ प्रोसेसेस एसोसियेशन, कयसिनकरा, पाला - 686 575, केरल	नियम 3 के उप नियम (3) एवं (4) के अधीन केरल राज्य के छोटे कृषकों के प्रतिनिधि
12.	<b>श्री जोर्ज वाली</b> अध्यक्ष, इंडियन रबड़ डीलेर्स फेडरेशन वालिप्पाक्कल हाउस, कूराली पी.ओ., पोन्नुन्नम, कोट्टयम, केरल	नियम 3 के उप नियम (3) एवं (4) के अधीन केरल राज्य के छोटे कृषकों के प्रतिनिधि
13.	<b>अधिवक्ता सिबी जे मोनिप्पल्ली</b> महा सचिव, इंडियन रबड़ प्रोसेसेस एसोसियेशन, 11/508 ए, माथेलिपुरम हाउसिंग कॉलनी, काक्कनाड, कोची - 682 030, केरल	नियम 3 के उप नियम (3) एवं (4) के अधीन केरल राज्य के छोटे कृषकों के प्रतिनिधि
14.	<b>श्री जोसफ वाणक्कन</b> 7 बी 2 हीरा पार्क एम पी अप्पन रोड, वणुत्तक्काड तिरुवनन्तापुरम -14	नियम 3 के उप नियम (3) एवं (4) के अधीन केरल राज्य के छोटे कृषकों के प्रतिनिधि
15.	<b>श्री कल्लोल डे</b> माधुरिलता टी एण्ड रबड़ एस्टेट, द्वारा गोमती फिब्रिंग मेटोरियल कंपनी, पुरानी नगरपालिका, अगर्तला - 799 001, त्रिपुरा	नियम 3 के उप नियम (4) के अधीन त्रिपुरा राज्य के छोटे कृषकों के प्रतिनिधि
16.	<b>श्री निर्मल पद्मनाभा मनिजे</b> उपाध्यक्ष, बेल्तंगाडी तालुक रबड़ ग्रावेर्स मार्केटिंग एण्ड प्रोसेसिंग को-ऑपरेटिव सोसाइटी लि., मनिजे फार्मस्, पुञ्जालकट्टी - पी ओ, बेल्तंगाडी तालुक, कर्नाटक	नियम 3 के उप नियम (4) के अधीन गैर- पारंपरिक (चकानुकम से) क्षेत्र के छोटे कृषकों के प्रतिनिधि

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17.	<b>श्री राजीव बुद्धराजा</b> महा निदेशक ऑटोमोटीव टायर मानुफैक्चरर्स एसोसिएशन (ए टी एम ए) पी एच डी हाउस, सिरी फोर्ट इंस्टिट्यूशनल क्षेत्र, नई दिल्ली - 110 016	धारा 4 की उपधारा (3) के उपबंध (घ) के अधीन उद्योग/रबड़ माल विनिर्माताओं के प्रतिनिधि
18.	<b>श्री विनोद साइमन</b> कार्यपालक निदेशक सिमको रबड़ एण्ड प्लास्टिक प्राइ. लि. 106-सी, सिडको इंडस्ट्रियल एस्टेट, अंबत्तूर, चेन्नै - 600 098	रबड़ अधिनियम की धारा 4 की उपधारा (3) के उपबंध (घ) के अधीन उद्योग/रबड़ माल विनिर्माताओं के प्रतिनिधि
19.	<b>श्री सुरेश कोशी,</b> नाशनल फेडरेशन ऑफ रबड़ प्रोड्यूसर्स सोसाइटी मेरी विल्ला, चेन्नैरक्करा पतनतिट्टा - 689 517	नियम 3 के उप नियम (4) के अधीन रबड़ उत्पादक संघ के प्रतिनिधि
20.	<b>श्री भारतीपुरम शशि</b> शरवणा, दलकोड, पुनलूर पी.ओ, पिन - 691 331 केरल	धारा 4 की उपधारा (3) के उपबंध (घ) के अधीन श्रमिक हितों के प्रतिनिधि
21.	<b>श्री सी.अनंतकृष्णन,</b> तमिलनाडु स्टेट ओर्गनैसिंग सेक्रेटरी आई एन टी यू सी, कृष्णकुडीरम तिरुवन्तूर पी.ओ, कन्याकुमारी जिला, तमिलनाडु	धारा 4 की उपधारा (3) के उपबंध (घ) के अधीन श्रमिक हितों के प्रतिनिधि
22.	<b>अधिवक्ता टी.वी.एब्रहम</b> स्टेट जेनेरल सेक्रेटरी - केरला कॉंग्रेस (एम), कैम्पनप्लाककल हाउस कोडुवनाल-पी.ओ, पाला, केरल	धारा 4 की उपधारा (3) के उपबंध (घ) के अधीन श्रमिक हितों के प्रतिनिधि
23.	<b>श्री तोमस कल्लाडन</b> कल्लाडन हाउस रामापुरम पी.ओ कोडुयम, केरल	धारा 4 की उपधारा (3) के उपबंध (घ) के अधीन श्रमिक हितों के प्रतिनिधि

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24.	श्री टी.जी.गोपालकृष्ण कैमल पडिजारे पुत्तनपुरयिल हाउस, वेस्ट कोडिकुलम पी.ओ, तोडुपुप्पा, इडुक्की, केरल	नियम 3 के उपनियम (4) के अधीन अन्य हितैषियों के प्रतिनिधि
25.	<b>निदेशक (बागवानी)</b> वाणिज्य विभाग, वाणिज्य एवं उद्योग मंत्रालय, उद्योग भवन, नई दिल्ली - 110 107	धारा 3 की उपधारा (3) के उपबंध (घ क) के अधीन भारत सरकार, वाणिज्य विभाग के प्रतिनिधि
26.	<b>श्री प्रदीपकुमार,</b> अवर सचिव (बागवानी), वाणिज्य विभाग, वाणिज्य एवं उद्योग मंत्रालय, उद्योग भवन, नई दिल्ली - 110 107	धारा 3 की उपधारा (3) के उपबंध (घ क) के अधीन भारत सरकार, वाणिज्य विभाग के प्रतिनिधि
27.	<b>श्री ए.के.ठाकुर, आई ए एस</b> अपर सचिव (कृषि और सहकारिता) कृषि और सहकारिता विभाग, कृषि भवन, नई दिल्ली	धारा 3 की उपधारा (3) के उपबंध (घ क) के अधीन भारत सरकार, कृषि एवं सहकारिता विभाग के प्रतिनिधि
28.	<b>डॉ जे तोमस</b> रबड़ उत्पादन आयुक्त	धारा 4(3) के उपबंध (च) के अधीन पदेन सदस्य

<p>1. The first part of the report is a general introduction to the project, which includes the objectives, scope, and limitations of the study.</p> <p>2. The second part of the report is a detailed description of the methodology used in the study, including the data sources, data collection methods, and data analysis techniques.</p> <p>3. The third part of the report is a presentation of the results of the study, which includes a summary of the findings and a discussion of the implications of the results.</p> <p>4. The fourth part of the report is a conclusion, which summarizes the main findings of the study and provides recommendations for future research.</p>	<p>5. The fifth part of the report is a list of references, which includes all the sources of information used in the study.</p> <p>6. The sixth part of the report is an appendix, which includes any additional information that is relevant to the study, such as raw data, detailed calculations, or additional figures.</p> <p>7. The seventh part of the report is a glossary, which defines the key terms and concepts used in the study.</p> <p>8. The eighth part of the report is a list of figures, which includes all the figures used in the study.</p>
<p>9. The ninth part of the report is a list of tables, which includes all the tables used in the study.</p> <p>10. The tenth part of the report is a list of abbreviations, which includes all the abbreviations used in the study.</p> <p>11. The eleventh part of the report is a list of acronyms, which includes all the acronyms used in the study.</p> <p>12. The twelfth part of the report is a list of symbols, which includes all the symbols used in the study.</p> <p>13. The thirteenth part of the report is a list of units, which includes all the units used in the study.</p> <p>14. The fourteenth part of the report is a list of footnotes, which includes any additional information that is relevant to the study.</p>	<p>15. The fifteenth part of the report is a list of appendices, which includes any additional information that is relevant to the study.</p> <p>16. The sixteenth part of the report is a list of references, which includes all the sources of information used in the study.</p> <p>17. The seventeenth part of the report is an appendix, which includes any additional information that is relevant to the study, such as raw data, detailed calculations, or additional figures.</p> <p>18. The eighteenth part of the report is a glossary, which defines the key terms and concepts used in the study.</p> <p>19. The nineteenth part of the report is a list of figures, which includes all the figures used in the study.</p>
<p>20. The twentieth part of the report is a list of tables, which includes all the tables used in the study.</p> <p>21. The twenty-first part of the report is a list of abbreviations, which includes all the abbreviations used in the study.</p> <p>22. The twenty-second part of the report is a list of acronyms, which includes all the acronyms used in the study.</p> <p>23. The twenty-third part of the report is a list of symbols, which includes all the symbols used in the study.</p> <p>24. The twenty-fourth part of the report is a list of units, which includes all the units used in the study.</p> <p>25. The twenty-fifth part of the report is a list of footnotes, which includes any additional information that is relevant to the study.</p>	<p>26. The twenty-sixth part of the report is a list of appendices, which includes any additional information that is relevant to the study.</p> <p>27. The twenty-seventh part of the report is a list of references, which includes all the sources of information used in the study.</p> <p>28. The twenty-eighth part of the report is an appendix, which includes any additional information that is relevant to the study, such as raw data, detailed calculations, or additional figures.</p> <p>29. The twenty-ninth part of the report is a glossary, which defines the key terms and concepts used in the study.</p> <p>30. The thirtieth part of the report is a list of figures, which includes all the figures used in the study.</p>
<p>31. The thirty-first part of the report is a list of tables, which includes all the tables used in the study.</p> <p>32. The thirty-second part of the report is a list of abbreviations, which includes all the abbreviations used in the study.</p> <p>33. The thirty-third part of the report is a list of acronyms, which includes all the acronyms used in the study.</p> <p>34. The thirty-fourth part of the report is a list of symbols, which includes all the symbols used in the study.</p> <p>35. The thirty-fifth part of the report is a list of units, which includes all the units used in the study.</p>	<p>36. The thirty-sixth part of the report is a list of footnotes, which includes any additional information that is relevant to the study.</p> <p>37. The thirty-seventh part of the report is a list of appendices, which includes any additional information that is relevant to the study.</p> <p>38. The thirty-eighth part of the report is a list of references, which includes all the sources of information used in the study.</p> <p>39. The thirty-ninth part of the report is an appendix, which includes any additional information that is relevant to the study, such as raw data, detailed calculations, or additional figures.</p> <p>40. The fortieth part of the report is a glossary, which defines the key terms and concepts used in the study.</p>

# **ANNUAL REPORT**

**2011-12**



**The Rubber Board**

Ministry of Commerce & Industry

Govt. of India

Kottayam - 686 002, Kerala

# ANNUAL REPORT

2011-12



The Railway Board

Ministry of Commerce & Industry

Govt. of India

Kolkata - 700 005, India

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**PART - I**

**INTRODUCTION**

The Rubber Board was constituted by Government of India under the Rubber Act 1947 with the primary objective of overall development of rubber industry in the country. The Board established a strong development and extension network and as a result, the rubber plantation sector achieved impressive overall growth in area expansion as well as production and productivity. Simultaneously, the Board took up research and Rubber Research Institute of India (RRII) was established in 1955 for ensuring biological and technological improvement of natural rubber in the country. The Rubber Training Institute established in 2000 acts as the link between research

and extension for delivery of technology. Today, India is one of the leading players in the global natural rubber (NR) sector, with the highest productivity in NR.

Co-ordinated efforts in research and extension coupled with the high level of acceptance of the recommended package of practices by the smallholders paved way for this remarkable achievement. Research on environment protection systems and energy saving mechanisms for rubber and rubber wood processing has evolved cost effective technologies. The impetus provided by ancillary income generation activities such as intercropping and bee-keeping have also yielded useful results.

**Performance of the NR Sector during 2011-12**

**Production**

Natural Rubber (NR) production in the country during 2011-12 was 903,700 tonnes compared to 861,950 tonnes during 2010-11 and recorded a growth of 4.8 % compared to 3.7 % attained during the previous year. The growth in production was attributed by favourable climate and attractive price. India continued to maintain the first position in the world in NR productivity during 2011-12 also. NR productivity increased to 1841 kg/ha during 2011-12 from 1806 kg/ha in 2010-11.

**Consumption**

Total consumption of NR in 2011-12 was 964,415 tonnes with a growth of 1.8 % against 947,715 tonnes during 2010-11. Auto tyre sector registered a growth of 5.7% during 2011-12 as against 3.7% achieved during 2010-11. General rubber goods sector recorded a negative growth of 4.9% during 2011-12 as compared to a negative growth of 1.2 % in the previous year.

According to the Automotive Tyre Manufacturers Association (ATMA), the

## Annual Report 2011-12

average growth in tyre production during the year 2011-12 was 5% compared to 22% in 2010-11. The truck & bus tyre production registered a growth of only 3% during 2011-12, which was same as the previous year. The production of tyres of passenger car segments recorded only 4% growth in

2011-12 as against a high growth of 31% recorded during 2010-11. But, export of tyres during 2011-12 increased by 23% while the growth attained during 2010-11 was 22%. The export of truck & bus and passenger car tyres registered 12% and 40% growth respectively during 2011-12.

**Production, consumption and growth rate of NR for the year 2011-12 and the immediately preceding four years are furnished below:**

Year	Production (in Tonnes)	Growth rate (%)	Consumption (in Tonnes)	Growth rate (%)
2007-08	8,25,345	- 3.2	8,61,455	5.0
2008-09	8,64,500	4.7	8,71,720	1.2
2009-10	8,31,400	- 3.8	9,30,565	6.8
2010-11	8,61,950	3.7	9,47,715	1.8
2011-12 <sub>p</sub>	9,03,700	4.8	9,64,415	1.8

p - provisional

### Import and Export

As per the import figures collected from various ports up to 31<sup>st</sup> March 2012, the country imported 213,785 tonnes during 2011-12. Total NR import was 190,692 tonnes during 2010-11 as per the revised statistics published by Directorate General of Commercial Intelligence and Statistics (DGCI & S), Kolkata.

Exporters have utilized the advantage of price differential between domestic and international price of sheet rubber and

concentrated latex during the initial and terminal months of 2011-12 and exported 27,145 tonnes of NR during the year.

### Stock

Stock of NR at the end of March 2012 was 236,275 tonnes as against 288,300 tonnes at the end of March 2011.

### Price

Annual average price for domestic RSS 4 grade was Rs 20,805 per 100 kg for the year 2011-12 compared to Rs.19,003

### Annual Report 2011-12

in 2010-11. During 2011-12, the average price of international RSS 3 grade was Rs.20,915 per 100 kg compared to Rs.19,555 during 2010-11. Domestic RSS-4 price peaked at Rs.24,300 on 5<sup>th</sup> April 2011 and international price of RSS-3 peaked at Rs.27,212 on 12<sup>th</sup> April 2011.

Domestic RSS-4 price was ruling above the international RSS-3 price during October 2011 to January 2012.

Annual average prices of RSS - 4 in the domestic market and RSS - 3 in the international market for the last five years are furnished below:

Year	Price of NR (Rs. / kg)	
	RSS - 4	RSS - 3
2007 - 08	90.85	96.75
2008 - 09	101.12	103.79
2009 - 10	114.98	111.13
2010 - 11	190.03	195.55
2011 - 12	208.05	209.15



## Annual Report 2011-12

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## Annual Report 2011-12

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## PART - II

## CONSTITUTION AND FUNCTIONS

The Rubber Board, established under the Rubber Act, 1947, has been promoting the development of the Indian Rubber Industry by various measures. The Rubber (Amendment) Act, 2010 notified in the gazette on 22<sup>nd</sup> January 2010 brought about changes to the Act. Amendments to Section 4(3)(da) and Section 8(da) are worth mentioning.

Sub-section (3) of Section 4, which provides for the constitution of the Board as follows: *The Board shall consist of :*

- a) A Chairman to be appointed by the Central Government;
- b) Two members to represent the State of Tamilnadu, of whom one shall be a person representing the rubber producing interests;
- c) Eight members to represent the State of Kerala, six of whom shall represent the rubber producing interests, three of such six being persons representing the small growers;
- d) Ten members to be nominated by the Central Govt., of whom two shall represent the manufacturers and four labour;
- da) Three members to be nominated by the Central Govt., of whom two shall be from

the Department of Commerce and one from the Department of Agriculture and Co-operation.

- e) Three members of Parliament, of whom two shall be elected by the Lok Sabha and one by the Rajya Sabha;
- ee) The Executive Director (ex-officio); and
- f) The Rubber Production Commissioner (ex-officio).

The position of Executive Director has not been filled so far. List of members of the Board as on 31.03.2012 is given in Part - XII of this report.

Section 8 of the Rubber Act 1947 which lays down the functions of the Board was amended as follows :

- 1) to promote by such measures as it thinks fit the development of the rubber industry
- 2) the measures may provide for –
  - a) undertaking, assisting or encouraging scientific, technological and economic research;
  - b) training students in improved methods of planting, cultivation, manuring and spraying;
  - c) the supply of technical advice to rubber growers;

- d) improving the marketing of rubber;
  - da) improving the quality of rubber and implementing the standards for quality, marking, labeling and packing for the rubber produced or processed in, imported in to, or exported from India.
  - e) the collection of statistics from owners of estates, dealers and manufacturers;
  - f) securing better working conditions and the provisions and improvement of amenities and incentives for workers; and
  - g) carrying out any other duties which may be vested in the Board under rules made under the Act.
- 3) It shall also be the duty of the Board -
- a) to advise the Central Government on all matters relating to the development of 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 annual report 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.

The Board had constituted six sub-committees to review its activities, to monitor progress of implementation of various schemes and to discharge functions as laid down under Section 8 of the Rubber Act. These are Executive Committee, Research & Development Committee, Planting Committee, Staff Affairs Committee, Statistics & Market Development Committee, and Labour Welfare Committee.

Smt. Sheela Thomas, IAS, continued as the Chairman of the Board during 2011 - 12.

#### ORGANISATIONAL SET UP

Activities of the Rubber Board are carried out through nine departments namely Rubber Production, Rubber Research, Administration, Processing & Product Development, Training, Finance & Accounts, Licensing & Excise Duty, Statistics & Planning and Market Promotion, headed respectively by the Rubber Production Commissioner, Director (Research), Secretary, Director (P&PD), Director (Training), Director (Finance), Director (L&ED), Joint Director (Statistics) and the Chairman. The Publicity & Public Relations Division, Planning Division and Vigilance Section are functioning directly under the Chairman.

Headquarters of the Board along with Administration, Rubber Production, Finance & Accounts, Licensing & Excise Duty and Statistics & Planning Departments are located at Keezhukunnu, Kottayam - 2. Department of Rubber Research, Processing & Product Development and Market Promotion are located at Rubber Research Institute of India

(RRII) campus at Puthupally (Kottayam - 9) and the Department of Training is at Rubber Training Institute (RTI) adjacent to RRII campus.

Under the Licensing & Excise Duty Department, there are Nine Sub Offices viz., New Delhi, Mumbai, Kolkata, Chennai, Kanpur, Jalandhar, Ahmedabad, Hyderabad, and Bangalore. Rubber Production Department has Five Zonal Offices (3 ZO's in Kerala and 2 ZO's in NE region), Forty two Regional Offices (26 RO's in Traditional areas covering Kerala and Tamilnadu, 4 RO's in Non-Traditional (NT) area other than NE region and 12 RO's in NE region), 172 Field Stations, Nine Regional Nurseries, One Central Nursery in Karikkalloor, Two Nucleus Rubber Estate and Training Centres, Two District Development Centres, One Regional Demonstration Centre, and Fifteen Tappers' Training (TT) Schools located at different rubber growing regions (12 TT schools in Traditional & NT areas and 3 TT schools in NE region).

The Rubber Research Department runs two Regional Research Stations in Kerala and one each in Tamilnadu, Karnataka, Maharashtra, Orissa, West Bengal, Assam, Meghalaya and Tripura. Department of Research also runs a Pilot Block Rubber Factory and a Pilot Plant for Radiation Vulcanisation of Natural Rubber Latex (RVNRL) at Kottayam. The Pilot Latex Processing Factory located at the Central Experiment Station at Chethackal and Model TSR Factory established under World Bank Assisted Rubber Project are under the administrative control of the Department of Processing and Product Development. Chairman exercises administrative control over all the Departments and Offices of the Board. Total number of officers and staff under the Board as on 31.03.2012 was 1871 consisting of 380 Group 'A' Officers, 716 Group 'B' Officers, and 775 Group 'C' staff.

Activities of the different departments are summarized in the forthcoming chapters.



## PART - III

## RUBBER PRODUCTION

Natural Rubber (NR) is a strategically important raw material. India holds the first position in productivity among the NR producing countries. The entire NR produced in India is being consumed by the domestic industrial sector. The Rubber Production (RP) Department is responsible for planning, formulation and implementation of schemes for promoting rubber cultivation, production of natural rubber and improving the quality of the produce.

Major programmes formulated and implemented during the year are :

1. Rubber Plantation Development Scheme
2. Rubber Development in North-East region
3. Promotion of Rubber cultivation among Scheduled caste / Scheduled Tribe (SC/ST) through Block planting schemes
4. Advisory and Extension services to growers for scientific planting and production
5. Supply of quality planting materials and inputs for popularization and improving production and processing.
6. Scheme for improvement and upgradation of small holders' produce.

7. Promotion of group activities among small growers through Rubber Producers' Societies (RPS) and Self Help Groups (SHG).

8. Training of rubber tappers and growers.

RP Department implemented many schemes aimed at development of rubber plantation sector in respect of area expansion, production and productivity increase, reduction of cost, farmer group empowerment, quality upgradation of small growers' produce, etc. The Board has launched Integrated Tappers Training Programme as one of the remedial measures to address tapper shortage problem in the traditional region by bringing in Non-Keralite youths from NE region, Orissa, Jharkhand, etc and imparting intense training.

Rubber producers' Society (RPS) is one among the core area where the Rubber Board gives much thrust. It is treated as the 'extension arm' of the Board and village level Technology Transfer Centre. The year 2011-12 is another milestone for the Board since it is the 25<sup>th</sup> year of the RPS formation. The Silver Jubilee celebrations of the RPS was inaugurated by the Honorable Chief Minister of Kerala, Shri. Oommen Chandy in December 2011.

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The "Suvarnasangham award" for the best RPS was given away by the Hon.Chief Minister to Chirakkadavu model RPS under Kanjirapally Region. Zonal level and regional level silver jubilee celebrations were also conducted with whole hearted co-operation and

presence of member growers. Annual mass contact campaign for 2011 was conducted during May and June 2011 with the main theme as "Quality Tapping". Campaign meetings were conducted at 2704 centres in which 84562 growers / tappers participated.

### I. ACTIVITIES IN TRADITIONAL AND NON-TRADITIONAL AREAS OTHER THAN NORTH EASTERN INDIA

#### 1. Rubber Plantation Development Scheme

Achievements under various components of the RPD scheme are given below:

##### a) Replanting and New Planting :

Planting target for the year 2011-12 was 7500 ha.

(New planting - 1500ha. + Replanting - 6000 ha.)

Details	2010-11	2011-12
No. of applications received	20534	15885
Area as per applications (ha)	13537	10353*
No of permits issued	15606	16935*
Total area under permits (ha)	8174	9026*
a) Replanting (ha)	4250	4512*
b) New planting (ha)	3924	4560
Amount disbursed as subsidy (Rs. in crores) (Including spill over payment of previous years)	18.84	26.66

\* Updated figures, including permits granted during 2011-12 for 2007, 2008, 2009, 2010 and 2011 planting

Field Inspection and processing of balance applications are in progress. Permits will be issued in all eligible cases within the next few months as soon as the farmers complete the stipulated items of work in the field.

##### b) Insurance of Rubber plantations.

A scheme for insurance of rubber plantations, both mature and immature, was implemented in collaboration with the National Insurance Company. Details of plantations insured and compensation paid are furnished below:-

Insurance of Rubber

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Details	Cumulative Total as on 31-03-2011	Achievement from 01-04-2011 to 31-03-2012	Cumulative Total as on 31-03-2012
Immature area insured (ha)	202348.05	15736.61	218084.66
No of holdings	333158	24524	357682
Mature area insured (ha)	15052.10	258.859	15310.959
Number of holdings	8322	265	8587
Compensation paid (Rs. in lakh)	660.44	98.9	759.34
Number of beneficiaries	16462	1408	17870

**c) Tribal Plantation Project for SC/ST.**

This is a scheme operated with financial contribution from the concerned State Governments. Old plantations established under the scheme in earlier years were maintained scientifically.

State	Cumulative Total as on 31-03-2011		Planting during 2011-12		Cumulative total as on 31-03-2012	
	Area (ha)	No. of beneficiaries	Area (ha)	No. of beneficiaries	Area (ha)	No. of beneficiaries
Kerala	2306.84	6670	10.58	15	2317.42	6685
Karnataka	250.00	418	-	-	250.00	418
Andhra Pradesh	140.55	88	173.35	226	307.55	291
Orissa(Baripada)	432.49	1069	6.33	23	438.82	1092
<b>Total</b>	<b>3129.88</b>	<b>8245</b>	<b>190.26</b>	<b>264</b>	<b>3313.79</b>	<b>8486</b>

**d) Planting material generation (Traditional area).**

No of nurseries owned by the Board	=	6
Area of Nurseries (in ha)	=	40.09
Target for planting material generation (in Nos.)	=	7 lakh

#### Production Achievement in Traditional area

Item	During 2010-11 (in lakh)	During 2011-12 (in lakh)
Green budded stumps (Nos.)	2.96	3.96
Brown budded stumps (Nos.)	3.56	6.46
<b>Total (Nos.)</b>	<b>6.52</b>	<b>10.42</b>



## 2. Productivity Enhancement Component

NR productivity in India is the highest among the NR producing countries. But, it is far less than the production potential (about 3500 kg. per ha.) of widely planted clone, RR11 105. Hence, there is ample scope for enhancing the productivity of existing plantations. Increase in productivity will help growers to enhance their net income and thus, maintain the industry sustainable. Therefore, the Board has been taking earnest efforts, through various schemes, for enabling productivity enhancement.

### a) Supply of rubber plantation inputs

Input supply is one of the major activities under the Productivity Enhancement Component of RPD scheme. Utilizing a

revolving fund of Rs. 9 crore, inputs required for rain guarding and disease control which is indispensable for improving production could be procured and distributed among smallholders through RPS, at concessional price. This scheme is well received by stakeholders. One of the measures to prompt timely adoption of these cultural practices is making necessary inputs available at attractive price assuring their quality.

During the current year, the Board distributed the following plantation inputs offering 30% price concession on the cost price/ market price and could demonstrate the advantage in about 19000 ha. and promote the use of these inputs in the fringe plantations estimated to be double the area.

Name of cultural practice	Planting inputs	Quantity Distributed	Extent Covered (ha.)
Rain Guarding	Rain guarding Plastic (kg)	228075	19006
	Rain guarding Compound (kg)	573050	15080
Plant Protection (Disease control)	Copper Sulphate (kg)	27050	1082
	Copper Oxy Chloride (kg)	79872	9984
	Spray Oil (litres)	424830	10621

### b) Setting up Rubber Agro Management Units

In India, about 90% of the area of rubber plantation is under smallholdings. Even though productivity of NR in India especially in smallholdings is high, the production potential of the clones planted

is far above the present productivity. Level of adoption of agro-management practices in mature plantations in smallholding sector, was reported as only 30-50%, in an impact assessment study conducted by an external agency. This low level of adoption ultimately results in low productivity.

Demonstration of the advantages of adoption of scientific cultural practices in improving yield in farmers' fields paves the way to enhance level of adoption. With this goal, as a participatory mode of extension, Rubber Agro-management Units was set up during the 11<sup>th</sup> plan.

The four vital cultural practices, i.e., manuring, plant protection, rain guarding and scientific tapping were carried out collectively adopting group approach under the supervision of Rubber Producers Society (RPS) and the guidance of Extension Officials in all the selected units with full assistance of the Board, to serve as demonstration units in villages. This is with a view to prompt the owners of nearby plantations for adoption of these practices observing as the advantages in neighbour's fields. During the year 2011 -12, an area of 4688.62 ha of demonstration plots could be established, incurring an expenditure of Rs. 640.10 lakh. This activity was undertaken with the involvement of 214 Rubber Producers' Societies under 28 Regional Offices.

**c) Soil protection and water harvesting**

Moisture content in the soil at the time of tapping influences latex yield from rubber plantations. There is scientific evidence to prove that conserving the rainwater falling in the plantations by taking silt pits increases soil moisture level. This will also help in protecting the topsoil and hence, this is an environment friendly

programme. To demonstrate the relevance of soil moisture conservation for yield improvement and thereby promote the practice, a scheme for providing financial assistance for soil protection and water harvesting in mature plantations has been in operation since 2007 - 08.

Under the scheme, soil protection and moisture conservation measures were adopted in 474.58 ha and Rs. 13.99 lakh was disbursed to 756 small growers for adopting these agro management practices to increase productivity.

**3. Farmer Group Formation and Empowerment**

To cater to the extension requirements of over 1.17 million smallholders with the available strength of Extension Officials of the Board, the strategy of promoting group approach has been adopted. Farmer groups viz., Rubber Producers' Societies (RPS) and recently, Self Help Groups (SHG) under their umbrella have been formed and used as effective extension tools in rubber plantation sector. Presently only about 25% of the farmers are members of RPS. Constant efforts are being taken to form more RPS and SHG to benefit more rubber growers.

**i) Rubber Producers' Societies /Self Help Groups**

The Board encourages formation of RPS and SHG to promote community approach in rubber development activities. During 2011-12, 36 RPS and

132 SHG were formed in traditional area and the cumulative total of RPS and SHG formed so far are 2338 and 1902 respectively. The Board is supporting RPS and SHG through special projects aimed at the socio-economic development of the resource poor farmers and their families. Technical and financial supports have been extended in the form of various schemes to assist farmer groups to become self-reliant and also to function as positive change agents in the sector.

**ii) Purchase of low-volume sprayer and duster**

Equipments like sprayers and dusters, that are required to ensure proper delivery of plant protection inputs were found to be unaffordable to small and marginal growers due to their high cost. This factor also contributed to low level of adoption of technology. In addition, skilled manpower for operating the equipment was shrinking. Single man operated sprayers were introduced to overcome this issue. Hence, a scheme to provide assistance to the tune of 50% cost of low volume sprayers and dusters to farmer groups is being implemented in which RPS/SHG involves actively. During the year, the Board supplied 77 four-men operated and 189 single man operated sprayers through 266 RPS/SHG and an amount of Rs. 48.88 lakh was disbursed under the scheme.

**iii) Purchase of Weed Cutter**

To address the issue of labour shortage, farm mechanization is one of the major

strategies to be adopted. Weeding has been recommended as one of the cultural practices where mechanization can be safely adopted in rubber plantations. To promote mechanized weeding, a scheme to provide 50% financial assistance (limited to Rs. 14,500/- per machine) to RPS/SHGs for purchase of weed-cutters (approved by the RRII) was implemented. Performance during the year 2011 -12 elucidates that the scheme is well received by the farmer groups.

No. of weed cutters - 181  
supplied during 2011-12

No. of RPSs involved - 180

Amount paid during Rs. 23.94 lakh  
2011-12

**iv) Purchase of Computer and Peripherals**

Ensuring IT enabled services in RPS is also envisaged in the schemes of the Board for capacity building of small holders and implementing e-extension. Since 2005 - 06, the Board has been implementing a scheme for promoting computerization in RPS sector by extending 75% cost of Computer and Peripherals and 100% training expenses in computer operations. Under the scheme, the Board had provided 36 Nos. of Computer/Peripherals and an amount of Rs. 15.10 lakh was spent for the benefit of 36 RPS/SHG during the year.

**v) Financial Assistance for conducting training programmes**

Rubber Producers Societies and Self Help Groups at village level are envisaged to strengthen participatory extension in the Rubber Plantation sector.

## Annual Report 2011-12

To empower the sector, assistance is given for conducting training programmes, related to rubber sector such as bee keeping, nursery

management, processing of latex, capacity building, accounts maintenance, mushroom cultivation, vermin-compost, etc.

During the year 2011-12, Rs.5.14 lakh was given as financial assistance to 282 RPS/SHG as detailed below:

No. of batches	No. of trainees			Payment effected				
	Men	Women	Total	Honorarium in Rs	Refreshment in Rs.	Stationery in Rs.	TA in Rs.	Total in Rs.
420	4783	1769	6552	170100	274409	58751	10800	514060

### vi) Promotion of apiculture

The objective is to popularize bee-keeping among small rubber growers. Rubber plantations are good source of honey during the months from January to March at the time of re-foliation after wintering and it is an additional source of income for growers. Under this scheme, Rs. 77.64 lakh was disbursed through 204 RPS/SHG for the benefit of 2593 growers, including 582 women.

### vii) Scheme for granting transportation subsidy to RPS

The assistance is for transportation of latex from farmers' fields to the processing / collection center and supply of Field Coagulum to companies in RPS sector. Transportation subsidy is @ 25 paise per kg DRC of latex/ Field coagulum. Under the scheme, an amount of Rs. 41.21 lakh disbursed for the procurement of latex/ sheets (13,334 MT) and field coagulum (3,238 MT) through 460 Rubber Producers Societies.

*Financial assistance to RPS /SHG for developing infrastructure for various activities*

The Board provides technical and financial support to RPS and SHG for setting up infrastructure facilities for taking up various activities for the common benefit of the member small growers.

### viii) Setting up input distribution facilities

This component is meant for encouraging and supporting RPSs to set up plantation input distribution centers in remote villages where small rubber growers are concentrated. Availability of materials required in rubber plantations at the doorsteps will facilitate better adoption of agro-technology by small growers. The Board has given Rs.10.49 lakh during 2011-12 towards 50% of the actual rent paid by 181 RPS for running input distribution centers.

### ix) Setting up Common Service Centres

Objective of this component is to encourage and support more RPS to set

up Common Service Centres in villages where small rubber growers are concentrated. RPS provided with computer and internet facilities can render many common services to the member growers and their families.

*Some of the common services that can be rendered by such centres are:*

- Booking of railway / air tickets
- Providing various types of information required by the members and their family, by searching the relevant websites.
- Information regarding job opportunities and matrimony
- Educational opportunities
- Payment of Phone bills, electricity charges, land tax, Panchayath tax
- Filing of various applications
- Cooking gas collection and distribution
- Filing income tax returns etc.

During the year 2011-12, the Board has paid Rs.27000 for 6 RPS towards assistance for running common facility centers.

**x) Establishment of Nurseries**

Use of high quality planting materials is the preliminary step to ensure higher productivity. For ensuring availability of good quality planting materials at reasonable price, RPSs/SHGs are encouraged to establish nurseries by providing financial support. Many RPS and SHG have taken up the activity of

setting up polybag nursery of rubber plants. An amount of Rs. 3.56 lakh was provided as financial assistance to 18 RPS during the year 2011-12.

**xi) Setting up Labour Banks**

Shortage of tappers and general workers in rubber plantation areas is a very serious problem. In order to address this issue to some extent, the Board promoted setting up of labour banks by RPS. Workers registered in the Labour Banks of RPS work in the smallholdings of member growers. These registered workers are given free training in all aspects of agricultural operations in rubber plantations as and when needed. Initially 5 workers are registered in the Labour Bank of each RPS. Implementation of this component is useful in attracting and retaining workers in the rubber smallholding sector. During the year 2011-12, the Board has disbursed Rs.6.41 lakh to 121 labour banks under 121 RPS for procuring registers, dress allowance, weather protective materials and for medical allowance to the registered workers.

**xii) Group Management of holdings & plant protection operations, rain guarding, etc. on contract basis.**

As many of the small growers are part time growers they are not in a position to undertake agro management operations in their holdings on their own. So they neglect these operations, which affect the growth and productivity of smallholdings.

11-12.

RPS can collectively undertake these activities scientifically and in a cost effective manner, than individual growers doing their job on their own.

For promoting these activities, the Board has provided some incentives for implementing agro-management operations through RPS. An amount of Rs. 73,380 has been disbursed to 3 RPS during the year 2011-12.

**xiii) Financial assistance to RPS for setting up of training facilities**

RPS are expected to function as technology transfer centers. This sub-component provides building and infrastructure required for conducting regular training programmes, group meetings, seminars, etc to member growers. During the year, an amount of Rs.3.44 lakh was disbursed to four RPS under the sub-component.

**xiv) Financial assistance to RPS for setting up Latex Collection Centre cum Office**

The Board provides assistance to RPS to set up latex collection centre for promoting group marketing and improving quality of rubber produced in smallholding sector to achieve competitiveness in the domestic as well as international market. During the year 2011-12, an amount of Rs. 3.13 lakh has been paid as assistance to seven RPS.

**xv) Financial assistance to RPS and SHG for procuring latex collection equipment**

This is aimed at supporting RPSs / SHGs for purchasing equipments for latex / scrap collection from member growers thereby enabling the member growers to fetch better price for their produce avoiding intermediaries. An amount of Rs.1.12 lakh was paid as financial assistance to 16 RPS under the scheme.

**xvi) Financial assistance to RPS / SHG for setting up eco-friendly group processing centres**

Support is provided to RPS to set up Group Processing Facilities for improving quality of rubber produced to achieve competitiveness in the domestic as well as international markets. Maximum financial assistance provided to each RPS during the year under report is Rs. 11 lakh, (i.e.) 50% of the cost limited to Rs. 10 lakh for construction of GPC and one lakh for development of land. During 2011-12, an amount of Rs.29.13 lakh was paid as assistance to eight RPS.

**xvii) Model RPS**

The Board continued to support and monitor the activities of 35 model RPS (30 in traditional area and 5 in non-traditional areas) to function as effective technology transfer and community processing centers.

**xviii) Revised scheme to provide additional facilities to Group Processing Centres**

Financial assistance was also provided to Group Processing Centres (GPC) for setting up additional facilities such as additional smoke house, replacement of damaged furnace, purchase of utensils/ barrels, and repair & maintenance of GPC and bio-gas plants. An amount of Rs.41.50 lakh was paid to 90 Group Processing Centres during the year 2011-12.

**4. Price Stabilization Fund (PSF)**

The objective of the PSF is to provide support to small growers when rubber price falls below a price band that would be announced every year. A total of 18,919 growers have enrolled in the scheme.

**5. Human Resource Development Programmes**

*Farmer Education Programme*

**i) Annual Mass Contact Programme**

The Board has been conducting Annual Mass Contact Programme every year to disseminate modern techniques on rubber cultivation, maintenance, harvesting, crop processing, marketing and additional income generation etc. since 1978 among rubber growers to equip them with the latest developments and trends in the field. This helped in bringing about significant improvement in quality of rubber produced and

productivity in smallholdings. The programme has generated much enthusiasm among the growers. The theme selected for the year was "Tapping 2011". Meetings were conducted at 2704 centers in which 84562 farmers / tappers participated.

**ii) Personal Interaction**

To disseminate technical know-how to farmers, the extension officers conducted field visits regularly in connection with various schemes and for advisory purposes. Demonstrations were also organized during such visits.

**iii) Sastradarsan Programme**

Under this programme, rubber growers from non-traditional (NT) area and NE regions are brought to traditional rubber plantation areas to have first hand information about rubber planting and smallholdings' development activities. During the year 2011-12, 248 growers from NT area and NE region were undergone the sastradarsan programme in 18 batches.

**iv) Training Programme for Extension Officers/ Company / Office staff/ RPS officials**

The extension division of the Rubber Production department supported the extension training activities undertaken by the Training Department for the benefit of farmers, RPS members, extension officers and extension staff on various aspects of rubber cultivation and primary processing.



## Annual Report 2011-12

### v) Tappers' Training (excluding NE)

#### 1) Tappers' Training School

The Board has 12 regular Tappers' Training Schools at different plantation centres for imparting training to small growers and workers in tapping.

Region	2010 - 11			2011 - 12		
	No. of Batches	No. of Beneficiaries	Assistance Rs in lakh	No. of Batches	No. of Beneficiaries	Assistance Rs in lakh
Traditional & NT (Other than NE)	78	1299 <sup>#</sup>	31.21	76	1233 <sup>*</sup>	29.19

# General - 1169, SC/ST - 130

\*General - 1128, SC/ST - 105

#### 2) Short Duration Intensive Tappers' Training Programme

Apart from the conventional Tappers' Training Schools, Board is also conducting short-term intensive training course in various practical aspects of scientific tapping with emphasis on tapping and processing.

Region	2010 - 11			2011 - 12		
	No. of Batches	No. of Beneficiaries	Assistance Rs in lakh	No. of Batches	No. of Beneficiaries	Assistance Rs in lakh
Traditional & NT (Other than NE)	307	4714 <sup>#</sup>	35.07	322	4865 <sup>*</sup>	37.42

#General - 4552, SC/ST - 162

\*General - 4748, SC/ST - 117

#### vi) Group Interaction

Type of meeting	2010-2011		2011-2012	
	No. of meetings	No. of participants	No. of meetings	No. of participants
Campaign meetings	2734	87061	2704	84562
Full day seminars	75	5433	63	6337
Half day seminars	233	8965	137	4945
Group meetings	1088	21492	1591	15474
RPS meetings	3569	41856	2863	29471
Other meetings	1146	9222	1163	4976
Use of Audio visual equipment	254	9561	344	9522
Training in RPS	795	14741	889	19730

## II. RUBBER PLANTATION DEVELOPMENT IN NE REGION

Rubber development activities in the northeast with special focus on area expansion, productivity increase and quality improvement progressed well during the year under report. A total of 18557 growers from different states took up rubber planting in an area of 17911 ha in NE region. Scientific planting and maintenance practices were taught to them through village level classes, demonstrations and training in the Board's training centres / farms. The Board also concentrated on scientific tapping and quality upgradation of sheets during this year. Training on these aspects was given to farmers and workers through short duration intensive tappers' training programmes in the Tappers' Training Schools and field visits by Tapping Demonstrators. These exercises have yielded good results. Eighty seven new RPSs were formed in NE region, making the total number of RPS in this region 233. Board's nurseries were maintained properly and produced / distributed 3.65 lakh good quality budded stumps and 51,539 meters of bud wood to the growers. The new rubber nursery in Boko in Assam, (4.00 Ha) was also maintained well and expected to start planting materials production from 2012-13. Distribution of fertilizers to small growers through RPS continued as a productivity enhancement measure. Leadership training programme for

RPS office bearers and selected growers was held in association with the Indian Institute of Plantation Management (IIPM), Bangalore.

The Board has participated in the exhibition cum seminar 'Northeast Connect', held in Kolkata with the objective of promoting value addition of rubber produced in NE region and attracting entrepreneurs to invest in NE region. The Board also participated in 'Agri-Expos' held in Agartala/ other places in NE region and a large number of people visited the Board's stalls. From NE region, 189 rubber growers were sent to traditional region on study tours in 16 batches. The Governments of Assam, Mizoram, Arunachal Pradesh and Meghalaya could be motivated and supported to take up rubber development programmes by drafting schemes and helping them to implement. The Government of Assam observed 24<sup>th</sup> September 2011 as 'Rubber Day' by planting 1.00 lakh rubber saplings.

As a motivation for rubber growers, tappers and RPS, the Board has instituted awards in 4 categories i.e. Best Male Rubber Grower, Best Female Rubber Grower, Best Rubber Tapper and Best RPSs. The awards were given separately for Guwahati and Agartala zones in functions presided over by the Hon'ble Minister (Donor) and Hon'ble Chief Minister of Tripura respectively.

## Annual Report 2011-12

The physical / financial achievements under different components of the Rubber Development schemes in NE region during the year 2011-12 are furnished below: -

### 1. Rubber Development Scheme

Target for 2011-12 was 7350 ha (New Planting -7000 ha + Replanting -350 ha)

Details	2010-11 Numbers	Area (ha)	2011-12 Numbers	Area (ha)
Application received	13290	12544	18557	17911
Permit issued (NP only)	10724	8261	12694	9745*
Total amount disbursed	Rs. 19.97 Crore		Rs. 20.84 Crore	

\* Permit area includes a few cases of previous years' plantings processed in 2011-12 also.

Field verification and processing of all applications received in 2011 -12 could not be completed due to shortage of manpower. Replanting has been done in around 50 ha in Tripura during 2011-12 without availing subsidy.

### 2. Integrated Village Level Rubber Development

This is meant for rejuvenation of plantations (up to the age of 3 years) belonging to marginal growers. Revitalization is meant for rejuvenation of partially damaged plantations and restocking for totally damaged plantings.

Components	2010-11		2011-12	
	Area (ha)	No. of Beneficiaries	Area (ha)	No. of Beneficiaries
Revitalization	2.3	3	11.43	18
Restocking	4.4	5	1.5	3

### 3. Block Rubber Planting Project:

This project is meant for the economic settlement of tribal people in NE region through rubber planting. It is implemented directly by the Board with around 50% financial support from State Governments. In NE region, only the Govt. of Tripura provided required support to the Board in implementation of the scheme.

Details of progress achieved in Tripura are given below.

Planting up to 2010-11 (in ha)	No. of Beneficiaries up to 2010-11	Planting during 2011-12 (in ha)	Beneficiaries during 2011-12	Cumulative total up to 31-03-2012 (in ha)	Total Beneficiaries up to 31-03-2012
3676.52	3384	85	78	3761.52	3462

## Annual Report 2011-12

### 4. Quality Planting Material generation

Planting material generation in NE region is mostly carried out by private nurseries. The Board is maintaining 5 nurseries of its own, attached to Regional Offices, DDCs etc, in different parts of NE region. This is done with the objective of producing planting materials of excellent quality, which will serve as models. Private nursery owners visit the Board's nurseries and get trained there. During the year 2011-12, 3.65 lakh budded stumps and 51539 meters of bud wood were produced. Every meter of bud wood can produce around 15 budded plants of genuine quality. The entire quantity of planting materials has been distributed to small rubber growers in the region.

### 5. Distribution of Estate Inputs

The Board distributed plantation input items such as fertilizers and rain guarding materials at a subsidy of 50% to the smallholders in NE region. Full-targeted area could not be covered due to shortage of fertilizers. Quantity of fertilizers supplied is given below :-

Urea	-	70650 Kg
MOP	-	54450 Kg
Rajphos	-	168550 Kg

### 6. Farmer Education Programme in NE

Continuous teaching, training and demonstration of scientific planting, harvesting and primary processing practices of rubber are regular extension programmes of the Board in NE region. In order to disseminate technical know-how to farmers directly, Extension Officers make field visits regularly in connection with various schemes and for advisory purposes. Demonstrations of agro management practices are also done during such visits.

Rubber Tapping Demonstrators also visit plantations and render technical advice to the farmers on harvesting and processing of latex into good quality sheets. Campaign meetings are also held over a period of one month with particular emphasis on specified subjects.

In addition, the Board holds group meetings of farmers at village level for dissemination of information on scientific aspects of rubber cultivation, labour welfare programmes and advantages of group activities, etc. These programmes are well received by farmers and farm workers. Such group meetings are held on regular basis in different parts of NE.

Details of different types of meetings held in NE in 2011-12 are given below:-

Type of meeting	2011-12	
	No. of meetings	No. of Participants
Campaign meetings	140	9770
Full day seminars	10	926
Half day seminars	7	294
Group meetings	336	8503
<b>Total</b>	<b>493</b>	<b>19493</b>

**7. Training Programmes in NE**

Regular training is given to plantation owners, workers and new entrepreneurs on various rubber plantation activities. Board's District Development Centres, Nurseries, Tappers' Training Schools, Rubber Producers Societies, Growers'

Farms etc are used as venues for such training programmes. Details of training programmes conducted in NE region and number of trainees who attended such programmes in 2011-12 are given in the following table :-

Type of training	No. of programmes	No. of trainees
Plantation and allied aspects	138	2887
Tappers' Training in T.T. Schools	16	284
Short Duration Intensive Tappers' Training	110	1787
Training in farmers field	113	1815
<b>Total</b>	<b>377</b>	<b>6773</b>



*Shri. Oommen Chandy, Hon'ble Chief Minister of Kerala distributed "Suvarnasangham award" for the best RPS during 2010 - 12 to Chirakkadavu RPS*

## Annual Report 2011-12

### 8. Farmer Group Formations and Empowerment

Due to shortage of extension personnel, the Board is not in a position to reach out to all growers individually and hence it has been decided to promote the formation of Rubber Producers' Societies (RPS) at village level. Full technical support and 50% financial support is given to RPS for various programmes. During the year, the Board has newly formed 87 RPS with the cumulative total of 233 in NE region.

### 9. Other Assistance in NE Region

The Board supports growers in NE region in protecting their plantations from animals, purchase of rubber sheeting rollers, construction of smoke houses, setting up demonstration plantations etc. RPS are supported for setting up Group Processing Centres, purchase of computers, etc. Plantation workers are given assistance for constructing houses, children's education etc.

Achievements during the year 2011-12 are furnished below:-

Item	No. of beneficiaries	Financial assistance (Rs. in lakh)
Bamboo fencing	9608	301.21
Barbed wire fencing	73	7.30
Group Processing Centres	8	87.04
Generators supplied to RPS	6	4.30
Computers supplied to RPS	9	3.84
Roller subsidy	130	13.00
Free supply of rollers	41	19.20
Smoke house	35	6.70
Demonstration plantations in farmers' fields	32	4.07
Housing subsidy and other assistance to plantation workers	36	6.10
Subsidy for transportation of latex (to RPSs)	12	2.73
<b>Total</b>	<b>9990</b>	<b>455.49</b>



## PART - IV

## ADMINISTRATION

The Administration department consists of the following Sections and Divisions:

## 01 Establishment Division

(Board Secretariat, Personnel, Entitlement and General Administration)

## 02 Labour Welfare Section

## 03 Legal Section

## 04 Hindi Section

## 1. ESTABLISHMENT DIVISION

## a. Board Secretariat

The functions of the Board Secretariat include co-ordination of reconstitution of sub-committees, convening the meetings of the Board and its committees, election of the Vice Chairman of the Board, preparation of notes on agenda and minutes of the meetings of the Board and its committees, monitoring implementation of the decisions of the Board and compilation of the annual report of the Board.

## Meetings of the Board and its Committees

Government of India had constituted a new Board for the year 2011-14 and notified vide No.: SO 465(E) dated 1<sup>st</sup> March 2011.

Shri. S. Ramachandran, representative of large rubber growers from the state of Tamilnadu was elected as Vice Chairman of the Board in the 165<sup>th</sup> meeting of the Board held on 18<sup>th</sup> April 2011. The meetings of the Board and its committees held during 2011 - 12 are furnished below :

## Board meetings

- 165<sup>th</sup> meeting of the Board held on 18.04.2011
- 166<sup>th</sup> meeting of the Board held on 26.09.2011
- 167<sup>th</sup> meeting of the Board held on 02.02.2012

## Committee meetings

- ◆ Executive Committee - 01.02.2012
- ◆ Research & Development Committee - 28.10.2011
- ◆ Planting Committee - 06.12.2011
- ◆ Statistics and Market Development Committee - 15.06.2011
- ◆ Staff Affairs Committee - 06.01.2012
- ◆ Labour Welfare Committee - 17.10.2011



**b. Personnel and Administration**

During the year 2011-12, 70 candidates from outside and 7 in-service candidates were appointed against direct recruitment vacancies and 179 regular promotions were awarded. Selection Committees / Departmental Promotion Committees (DPC) were properly constituted for selection of personnel befitting job requirements. Government orders/ guidelines on service matters were scrupulously followed. Periodical returns on recruitment/promotions at reservation points were sent to the Government.

During the year, one higher grade under career improvement scheme and six under Flexible Complementing Scheme were awarded to the Scientists of the Board. Besides, 229 Group "C" and 111 erstwhile Group "D" employees were awarded higher grade under MACP scheme. Transfer and postings of officers and staff were done in accordance with the approved transfer norms.

Further, 3 posts were advertised and seven written tests were conducted at various centres and organized 24 interviews for selection of suitable persons for various posts. Representations received from employees and service organisations were examined and appropriate actions were taken. Under RTI Act, 2005, applications were received from 74 applicants and responded properly within the stipulated time. Action has been taken to implement all recommendations of the Staff Affairs Committee as approved by the Board.

**c. Entitlement**

*Sanction of interest bearing advances*

An amount of Rs. 32.45 lakh was disbursed to 18 employees of the Board as House Building advance during 2011-12. A sum of Rs. 19.50 lakh was disbursed towards other advances to employees as shown below :

Type of advance	No. of employees	Amount disbursed in Rs.
Computer Advance	28	8,01,550
Motor Cycle/ Scooter Advance	22	6,37,000
Car Advance	4	4,78,380
Cycle Advance	10	33,750
<b>Total</b>	<b>64</b>	<b>19,50,680</b>

On completion of recovery/refund of House Building Advances along with interest, re-conveyance deeds were executed in 27 cases.

*Retirement and grant of retirement benefits*

Retirement benefits were disbursed to 67 employees in time. This includes five employees who retired voluntarily, one employee who left on compulsory retirement and one pension on absorption during the year 2011-12. In addition, family pension was granted to the family of three employees who died in harness. The Board had 949 pensioners including family pensioners as on 31.03.2012. All service books and personal files of employees were maintained properly. During the year 2011-12, sixty-eight service books and personal files were opened for new recruits of the Board.

**d. General Administration (GA)**

GA section deals with the issue of office orders and circulars, inward and despatch of letters, stationery and other local purchases, maintenance of assets and vehicles, and house keeping activities for the headquarters.

Cordial relations were maintained between the staff and executive personnel and their good work has resulted in taking the Board to greater heights

**I. Overall manpower strength of the Board as on 31<sup>st</sup> March 2012**

Total number of officers and staff as on 31/03/2012 was 1871.

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

Name of the Department	Group "A"	Group "B"	Group "C"	Total
Rubber Production	202	450	389	1041
Research	104	105	194	403
Licensing & Excise Duty	22	68	48	138
Administration	12	30	61	103
Processing & Product Devt.	18	24	33	75
Finance & Accounts	6	24	23	53
Training	7	4	16	27
Statistics & Planning	7	6	9	22
Market Promotion	2	5	2	9
<b>Total</b>	<b>380</b>	<b>716</b>	<b>775</b>	<b>1871</b>

**II. Groupwise female employees and their percentages as on 31<sup>st</sup> March 2012**

Group	No. of female employees	Total staff strength	Percentage of total (%)
<b>A</b>	96	380	25.26
<b>B</b>	359	716	50.13
<b>C</b>	225	775	29.03
<b>Total</b>	<b>680</b>	<b>1871</b>	<b>36.34</b>

## Annual Report 2011-12

### 2. LABOUR WELFARE DIVISION

Rubber Act 1947 Section 8(2) (f) has stipulated that the Board should implement such measures as it thinks fit to secure better working conditions and provisions for the improvement of amenities and incentives for the rubber plantation workers. To achieve the above objective, Board has evolved labour welfare schemes for the benefit of the workers / tappers in rubber plantations.

The budget allotted for Labour Welfare during 2011-12 was Rs. 295 lakh and the

Board has achieved 105% of the sanctioned budget. Performance of the various sub-components during 2011-12 is given below :

#### 1. Educational stipend

The sub component provides for educational stipend to children of rubber plantation workers for undergoing different courses of studies. The benefits include educational stipend (tuition fee and lump sum grant for purchase of books and instruments) and hostel / boarding fee. The amount of assistance provided under each category is shown below :

Name of the Course	Annual Stipend	Monthly Hostel/Boarding fees
Class XI & XII	Rs.1000	Rs.500
Degree Course	Rs.1000	Rs.500
Post Graduate Course	Rs.1500	Rs.500
<i>Professional/Technical Courses</i>		
Certificate Course	Rs.1500	Rs.500
Diploma Course	Rs.3000	Rs.500
Degree Course	Rs.6000	Rs.600
Post Graduate Course	Rs.6000	Rs.600
Ph D/ Post Doctoral Course	Rs.6000	Rs.600

The financial achievement was Rs. 94.68 lakh covering 4344 beneficiaries.

*Disbursement of Educational Stipend in the NE Region:* An amount of Rs.98,000 has been paid during the year benefiting applicants in the NE region.

#### 2. Merit Award

The subcomponent provides financial assistance under two heads: -

##### a. Merit award for academic excellence

Financial assistance ranging from Rs.1000 to Rs.5000 was provided to children of rubber plantation workers who excelled in the academic courses.

The details are furnished below :-

### Annual Report 2011-12

Name of Course	Minimum Marks/Grade	Maximum amount (Rs.)
SSLC or equivalent	80%/ A for all subjects	1000
Class XII or equivalent	60%/ B for all subjects	1000
Degree Courses	60%	2000
Post Graduate Courses	60%	3000
<i>Professional/Technical Courses</i>		
Certificate Courses	60%	1500
Diploma Courses	60%	2000
Degree Courses	60%	4000
Post Graduate Courses	60%	5000

**b. Cash award for exceptional achievements in sports/games and arts**

Cash awards at various levels as indicated below were given to children of rubber plantation workers in the age group of 9 to 23 years and studying in Class IV and above for exceptional achievements in Sports/games and arts.

**Achievement in sports/games**

	Quantum of cash award
Winning 1st place at District School/ University level	- Rs.3000.00
Winning 2nd place at District School/ University level	- Rs.2500.00
Winning 1st place at State School/ University level	- Rs.4000.00
Winning 2nd place at State School/ University level	- Rs.3500.00
Winning 1st place at National School/ Universities	- Rs.5000.00
Winning 2nd place at National School/ Universities	- Rs.4500.00

**Level of achievement in arts**

Winning 1st place at District School/ University level	- Rs.4000.00
Winning 2nd place at District School/ University level	- Rs.3500.00
Winning 1st place at State School/ University level	- Rs.5000.00
Winning 2nd place at State School/ University level	- Rs.4500.00

An amount of Rs.3.43 lakh was given to 197 beneficiaries in the merit award sub-component.

## Annual Report 2011-12

### 2. LABOUR WELFARE DIVISION

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Post Graduate Course	Rs.6000	Rs.600
Ph D/ Post Doctoral Course	Rs.6000	Rs.600

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Financial assistance ranging from Rs.1000 to Rs.5000 was provided to children of rubber plantation workers who excelled in the academic courses.

The details are furnished below :-

### Annual Report 2011-12

Name of Course	Minimum Marks/Grade	Maximum amount (Rs.)
SSLC or equivalent	80%/ A for all subjects	1000
Class XII or equivalent	60%/ B for all subjects	1000
Degree Courses	60%	2000
Post Graduate Courses	60%	3000
<i>Professional/Technical Courses</i>		
Certificate Courses	60%	1500
Diploma Courses	60%	2000
Degree Courses	60%	4000
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**b. Cash award for exceptional achievements in sports/games and arts**

Cash awards at various levels as indicated below were given to children of rubber plantation workers in the age group of 9 to 23 years and studying in Class IV and above for exceptional achievements in Sports/games and arts.

Achievement in sports/games	Quantum of cash award
Winning 1st place at District School/ University level	- Rs.3000.00
Winning 2nd place at District School/ University level	- Rs.2500.00
Winning 1st place at State School/ University level	- Rs.4000.00
Winning 2nd place at State School/ University level	- Rs.3500.00
Winning 1st place at National School/ Universities	- Rs.5000.00
Winning 2nd place at National School/ Universities	- Rs.4500.00

**Level of achievement in arts**

Winning 1st place at District School/ University level	- Rs.4000.00
Winning 2nd place at District School/ University level	- Rs.3500.00
Winning 1st place at State School/ University level	- Rs.5000.00
Winning 2nd place at State School/ University level	- Rs.4500.00

An amount of Rs.3.43 lakh was given to 197 beneficiaries in the merit award sub-component.

### **3. Worker's Group Insurance cum Deposit sub component**

The sub component provides insurance coverage against accident death and disabilities including temporary/ total disabilities due to accidents, for rubber tappers in unorganized sector, operated with the contributions from the tappers and the Board. Part of the contributions is deposited in the names of the members to encourage the habit of savings.

#### **Phase II**

Under this sub component, each tapper has to contribute Rs.250 every year and the Board in turn contributes Rs.150 (Additional Rs. 27 for premium) per tapper. From the total contribution of Rs.400, an amount of Rs.55 is spent on insurance premium and the balance of Rs.345 is invested to pay maximum benefit for the tappers. Each phase of the sub-component is continued for a period of 10 years and the total amount deposited in favour of the insured workers will be released on expiry of the 10<sup>th</sup> year.

An amount of Rs.12.79 lakh was spent for 7231 tappers. The Insurance Company has paid compensation of Rs. 1,66, 357 against two death claims and twenty-three personal accident claims during the year.

### **4. Group Life Insurance cum Terminal Benefit Scheme**

Group Life Insurance cum Terminal Benefit Scheme was launched in collaboration with LIC of India with effect from August 2011. The benefits included death cover and compensation (both for natural and accident),

compensation for disabilities due to accidents, terminal benefit to members of the scheme, scholarship to children of the members from IX<sup>th</sup> to XII<sup>th</sup> class. Under this scheme, each tapper had to contribute a minimum amount of Rs. 300 per year and the Board in turn will contribute Rs. 200 per tapper per year. From the total amount of Rs. 500, an amount of Rs. 367 was invested for terminal benefit, Rs. 33 as insurance premium and the balance Rs. 100 for Janasree Beema Yojana.

The Board has disbursed Rs. 13.66 lakh for the benefit of 6828 tappers. An amount of Rs. 30,000 was paid as death claim by Insurance company during the year under report.

### **5. Personal Accident Insurance Claim (PAIS)**

The tappers enrolled under the Group Life Insurance Scheme were given an additional insurance coverage under the PAIS scheme run by the PSF trust and managed by M/s Chola MS Insurance Company. An amount of Rs. 11 per tapper has been remitted by the Board which amounted to Rs. 75,097 for 6827 tappers.

### **6. Housing Subsidy**

Under this sub component, financial assistance was provided to workers in the organized sector and tappers employed in the unorganized sector, for construction of house on own land. The workers were paid Rs.12500 or 25% of the cost of construction whichever is less. An amount of Rs.117.43 lakh was disbursed to 943 beneficiaries during the year 2011-12.



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### 6.a. Housing Subsidy for NE Region

The housing subsidy sub component was modified in order to suit the requirement of the peculiar situations prevailed in the North Eastern Region. The amount of assistance ranges from Rs.14000 to Rs.15000 and an amount of Rs.8,53,500 was disbursed during the year 2011 - 12.

### 7. Housing Subsidy for SC/ST tappers

Financial assistance to the extent of Rs.15,000 or 25% of the cost of construction whichever is less was granted to SC/ST rubber tappers in the unorganized sector, for construction of house on own land. An amount of Rs.18.05 lakh was disbursed to 121 beneficiaries during the year 2011 - 12.

### 8. Medical Attendance

The objective of the sub component is to provide financial relief to tappers who undergo various treatments for diseases. Reimbursement of expenses on treatment under allopathic/ayurvedic/homoeopathic systems of medicine up to Rs.2000 per taper per annum in the unorganized sector was provided. Compensation was paid for absence from work due to illness up to a maximum of 20 days @ Rs.25 per day. In addition to the above-mentioned medical reimbursement, expenses limited to Rs.10000 was made for treatment of major diseases involving high expenditure as one time payment during a tapper's lifetime. An amount of Rs.11.91 lakh was disbursed as medical assistance to 439 beneficiaries during 2011-12.

### Performance under the various sub components during 2011-12

Name of sub-component	Physical Achievement	Target (Rs. in lakh)	Amount Paid (Rs. in lakh)	Achievement of target (%)
Educational stipend	4344	78	94.68	121.0
Merit / Cash Award	197	3	3.43	114.0
Medical Attendance	439	10	11.91	119.0
Housing Subsidy	943	120	117.43	97.8
Housing & Sanitary Subsidy for SC/ST	121	17	18.05	106.0
PAIS	6827		0.75	
Insurance cum Terminal Benefit	6828	15	13.66	91.0
Insurance cum Deposit	7231	12	12.79	106.6
Operating Expenses		40	38.13	95.0
<b>Total</b>	<b>26930</b>	<b>295</b>	<b>310.86</b>	<b>105.3</b>

### 3. LEGAL SECTION

Legal section renders legal opinion and advice in the files referred for scrutiny. Participated in the Parliament committee meeting held at Munnar to amend Provident Fund (PF) Rules and drafted amendments to Rubber Board PF Rules. Timely support was provided to all departments especially L & ED department and the Rubber Board employees' Housing Co-operative Society, in legal matters and drafted legal documents (MOU/Agreements) to be executed by Board. Nine House Building Advances applications were scrutinized. There were 25 new cases filed in various courts during the year.

Parawise comments and necessary instructions were given to the Standing Counsels of the Board and the Central Government pleaders in these cases. Took steps through lawyers to defend the interest of the Board in pending cases and provided support to Ministry in matters wherein the Central Government is made party to the petition. In consumer disputes before the District Consumer Dispute Redressal Forum and the State Commission represented during the hearing. Assisted and represented to deal with matters posted before District Legal Service Authority. Necessary steps have been taken to file arbitration cases against Co-operative marketing societies, which borrowed fund from the Board.

### 4. HINDI SECTION

The Rubber Board is a notified office under Rule 10(4) of Official Languages Rules.

The Hindi Section of the Rubber Board undertook the following activities during the year under report: -

#### 1. Official Language Implementation Committee

Four meetings (69<sup>th</sup>, 70<sup>th</sup>, 71<sup>st</sup> and 72<sup>nd</sup>) of the Official Language Implementation Committee (OLIC) of the Board were held during the year. All the four meetings were presided over by Smt. Sheela Thomas, IAS, the Chairman of the Board and OLIC. Quarterly Progress Reports on the progressive use of Official Language Hindi were presented in the meetings and were discussed. Annual Programme issued by the Department of Official Language was discussed. The agenda were prepared in accordance with the instructions of the Department of Official Language.

#### 2. Hindi Salahkar Samiti

First meeting of the Hindi Advisory Committee of the Department of Commerce, Ministry of Commerce and Industry held on 25<sup>th</sup> July 2011 at New Delhi under the chairmanship of Hon'ble Minister of state for Commerce, Shri. Jyothiraditya Sindhia. Shri. M. Rajagopalan, Deputy Director (Excise Duty) and Shri G Sunil Kumar, Hindi Officer attended the meeting. Rubber Board had secured Second position for the best implementation of Official Language during 2009 -10 and received the Trophy from the Hon'ble Minister. The second Meeting of Hindi Salahkar Samiti held on 7<sup>th</sup> February 2012 at New Delhi. Dr. J Thomas, Rubber Production Commissioner and Shri G Sunilkumar, Hindi Officer attended the meeting. The Board received Rajbhasha Trophy from the

Hon'ble Minister of state for Commerce for securing second position for the best implementation of Official Language for the year 2010-11.

### 3. Hindi Fortnight/Hindi Day Celebration

Hindi fortnight was celebrated from 14<sup>th</sup> to 27<sup>th</sup> September 2011 at the Head Quarters and Rubber Research Institute of India. Eleven competitions were conducted for officers/employees of the Board and about 100 officers/employees participated in these competitions. Hindi Day was organised in 34 subordinate offices of the Board.

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

Issues of bi-monthly Hindi bulletin "Rubber Samachar" was brought out during the year. Write-ups of officers/employees/their family members and many other useful items were featured in these issues. The scheme of honorarium was continued for contributing Hindi articles for the bulletin "Rubber Samachar". Prize winning essays of employees in Essay competition conducted in connection with Hindi Fortnight Celebration were published in "Rubber Samachar".

### 5. Hindi Teaching Scheme

Hindi typewriting classes and Hindi stenography classes were conducted at Head Office, since no centre of Hindi Teaching Scheme is functioning at Kottayam. A total number of twelve employees were imparted training in Hindi typing and eight employees

were imparted stenography training. Cash award and personal pay were given to eligible officials for passing the examination.

### 6. Hindi Workshop

One day Hindi Workshops were conducted in 28 Sub-ordinate Offices of the Board during the year. A total number of 450 officers/employees were imparted training in Official Language through these workshops. Four one-day Hindi workshops were conducted in Head Office and RRII and ninety-two officers/employees participated.

### 7. Town Official Language

#### Implementation Committee (TOLIC)

Chairman of the Board continued to hold the post of Chairman, Kottayam Town Official Language Implementation Committee. Hindi Officer of the Board continued as Member Secretary. Two meetings of the Kottayam TOLIC were conducted in August 2011 and January 2012. Smt. Sheela Thomas, IAS, the Chairman of the Board and OLIC presided over the meetings. Sri. P.Vijayakumar, Assistant Director (Impl.), Regional Implementation Office, Kochi represented the Department of Official Language, Ministry of Home Affairs in these meetings.

Two meetings of TOLIC Core Committee were conducted and one day Joint Hindi Workshop and Joint Hindi Week Celebrations were conducted during the year. Officials of the member organisations of the TOLIC and employees of the Board actively participated in TOLIC programmes.

**8. Rajbhasha Sammelan**

Being the part of the OL Policy of the Union, Rajbhasha Sammelan was conducted at Silver Jubilee Memorial Hall, RRII, Kottayam on 25th October 2011. Hindi Fortnight Celebration is conducted every year regularly and its Valedictory Function is celebrated as Rajbhasha Sammelan. During this occasion, employees of the Board get an opportunity to listen to a talk of an eminent personality from outside. Renowned Malayalam Writer Shri CV Balakrishnan inaugurated the function. Smt. Sheela Thomas IAS, Chairman of the Board presided over the Sammelan. Dr. C Kuruvilla Jacob, Secretary-in-charge welcomed gathering. Shri CC Chacko, Director L&ED and S Mohanachandran Nair, Director (P&PD) were the dignitaries on the dais. During the function, Shri CV Balakrishnan expressed his concern about misuse of language in this cyber age. Rubber Board is giving much importance to this language and that is why I got an opportunity to participate in such a function. He distributed prizes for winners of the competitions held during Hindi Fortnight Celebration in Board's Head Office and RRII and also, distributed Rajbhasha Trophy for commendable implementation of OL in sub-ordinate offices of the Board. Licensing Division, Kochi secured the first position, Regional office - Palakkad secured second and Regional office-Mannarkkad secured third position for the year 2009-10. Licensing Division, Kochi secured the first position, Regional office-Thrissur secured second and Regional office- Adoor secured third position for the year 2010-11.

**9. OLICs in Subordinate Offices.**

Official Language Implementation Committees were formed in various Sub-ordinate Offices of the Board. Regular meetings of these committees were ensured. The Quarterly Progress reports regarding the use of Hindi received from sub-ordinate offices of the Board were regularly reviewed.

**10. Quarterly Progress Reports**

Quarterly Progress Reports (QPRs) were compiled regarding progressive use of Official Language and forwarded to the Department of Commerce, MOC&I and Regional Implementation Office, Kochi. Quarterly Progress Reports from sub-ordinate offices were collected and reviewed.

**11. Other Activities**

The Board continued writing 'Aaj Ka Shabda' at Head Office and at subordinate offices. Official Language inspections were conducted in 28 subordinate offices of the Board during the year. Bilingual facility has been installed in most of the Board's computers and new multilingual software named "Lookeys" was also provided. Hindi journals "Vanitha" monthly, "India Today" weekly and Hindi daily "Navbharath Times" were subscribed and received in the Head office and other various offices of the Board with the objective to intensify the progressive use of Hindi in Board's office.

A Hindi Library is functioning under the Hindi Section and the Board's employees utilized this facility for noting and drafting in Hindi. Hindi video CD library and CDs of

famous Hindi classics were available for the officials of the Board. Besides, three month "Spoken Hindi" training programme is conducted at Rubber Research Institute and the next batch started at Rubber Training Institute.

More officers and staff were encouraged to do original noting in Hindi. Necessary assistance was provided to them for writing file noting in Hindi. Cash awards were given to 180 officials under the incentive scheme. The Board conducted competitions in noting and drafting, essay writing and Hindi typewriting on behalf of Kendriya Hindi Sachivalaya Parishad, New Delhi as a part of their All India Competitions.

## 12. General

As per Section 3(3) of the OL Act, documents such as office memoranda, circulars, orders were translated into Hindi. Proof reading of different bilingual forms,

translation of forms etc. were also undertaken. Printing of bilingual forms was ensured. Special attention was given to send replies in Hindi to the letters received in Hindi. Necessary guidelines were provided to the concerned as and when required regarding implementation of Official Language Policy

Annual Report and Annual Accounts of the Board were translated and rendered necessary assistance in bilingual publication. Translated various reports/answers to questions as and when required for presenting to Ministry/ Parliamentary Committees. Trilingual EPABX welcome system and price information system continued. Proof reading and other assistances were rendered for the publication of Rubber Act and Rules. A Hindi version of the Rubber Board web site [www.rubberboard.org.in/hindi](http://www.rubberboard.org.in/hindi) was maintained.

## DIVISIONS UNDER THE DIRECT CONTROL OF THE CHAIRMAN

### PUBLICITY AND PUBLIC RELATIONS DIVISION

The P&PR Division undertook the following activities during 2011-2012.

#### 1. Publications

The Division brought out 12 issues of 'Rubber' magazine (Malayalam), which is the most important publication for small rubber growers. The average monthly circulation was 18246 of which 9829 were life subscriptions

and 5600 annual. The Division received 177 advertisements and raised an amount of Rs 7,96,650 for Rubber magazine. Twelve issues of 'Rubber Statistical News', two issues of 'Inside Rubber Board', (House magazine of the Board), two issues of 'Rubber Board Bulletin' were brought out during the year.

10,000 Copies of "Rubber Grower's Companion 2012" and 500 Nos. of "Rubber Growers Guide" were printed and distributed. Besides, the Division brought out the following books during the year under report:-

- i) Three books of the series "Rubber Krishi Padamala" namely

- a) Nilamorukkalum Nadeelum,
- b) Rubber Paripalanam and
- c) Tappingum Samskaranavum,

- ii) Newly amended and notified "Rubber Act" and

- iii) Service providers Directory (3000 copies)

## **2. Press Release and Advertisements**

The Division issued 74 advertisements (display and classified) and 203 press releases on important developments in rubber sector.

## **3. Seminar, Meetings and Exhibitions**

The officers of the Division attended and gave speech/talks in 32 meetings/ seminars of rubber growers and participated in 20 exhibitions and supplied literature such as posters, folders, invitation letters and supporting materials. In addition, the Division prepared literature and provided adequate coverage for "Campaign 2011".

## **4. Right to Information Act 2005**

33 applications seeking information were received and disposed of timely during the year. The Division conducted workshops on "Right to Information" and handled classes on RTI Act for newly posted CPIOs / office staff / Rubber

Producers Societies, etc. Also coordinated the implementation of RTI Act in the Board.

## **5. All India Radio/TV**

A series of broadcasts in connection with silver jubilee celebration of Rubber Producers' Societies (RPS) were arranged through All India Radio (AIR). Prepared scripts on various subjects connected with rubber plantation industry. Offices attended consultative committee meetings of "Farm & Home" programme for AIR, Thiruvananthapuram. Gave talks/interview for AIR Thiruvananthapuram, Thrissur and Kannur.

## **6. General**

The Division brought out 54 vinyl posters for exhibitions and participated in the core committees / sub-committees for organizing the events such as Rubber Growers' conference, Phytophthora 2011, Kerala Science Congress and Silver Jubilee celebration of RPS formation. Officers of the Division attended the Inter-Media Publicity Co-ordination Committee (IMPCC) meetings, Career Guidance Bureau of MG university meetings, Rural Programme Advisory Committee of AIR, Thiruvananthapuram, Vigilance Awareness programmes, Official Language Implementation Committee meetings, 12<sup>th</sup> Plan proposal formulation meetings and meetings of the Board & its sub-committees.

**VIGILANCE DIVISION**

During the year under report, the Vigilance Division took up for enquiry / investigation, 15 complaints against five officers of Group A and B status and ten employees of Group C and D status. The allegations in the complaints were varied in nature and on completion of the investigation, appropriate actions were recommended/ taken against the erring officials, wherever found required/ necessary.

**1. Cases**

During the year under report, the Board initiated four major penalty proceedings against 4 officials and one minor penalty proceedings against one official of the Board. The Division assisted the Disciplinary Authority in processing/initiating the aforesaid five disciplinary cases. During the year, 7 major penalty orders and one minor penalty orders were issued in cases instituted during the previous years. Administrative orders were issued in two cases.

**2. Property statements and acquisition/ disposal of movable/immovable property**

Annual immovable property statements as on 31.12.2011 were called for from 1099 officers of Group A & B status. The statements received from the officers have been properly dealt with. The Division also processed 91 applications relating to transactions in immovable property and 96 applications pertaining to transactions in movable property, as per the Rubber Board Employees' Conduct Rules, 1958.

**3. Comments/advice**

The Division has also processed one appeal petitions against the penalty imposed by the Disciplinary Authority and forwarded the same to the Appellate Authority along with para-wise comments and connected documents. A total of 109 files/cases were referred to the Vigilance Division from other Divisions/ Sections/ Offices of the Board for comments/advice. All these files/matters were properly dealt with and returned promptly with comments/advice thereon.

**4. Other activities**

As per instructions of the Central Vigilance Commission, "Vigilance Awareness Period" was observed in the Board from 31.10.2011 to 05.11.2011, in a befitting manner. All employees took pledge at 11.00 AM on 31<sup>st</sup> October 2011.

Wide coverage was given in the dailies regarding observance of Vigilance Awareness Period and conducted elocution competition in Malayalam language for the employees of the Central Zone of Rubber Board, Kottayam and in English/local languages for employees of other zones at Thiruvananthapuram, Calicut, Mangalore, Guwahati and Agartala. Elocution competition in Malayalam was also held at Kottayam for school and college students.

The monthly and quarterly returns on departmental inquiries and vigilance cases and complaints etc. dealt by the Division were submitted regularly to the Ministry and Central Vigilance Commission. The Assistant Vigilance Officer is functioning as the CPIO of the Division, under RTI Act, 2005.



**PLANNING DIVISION**

The activities of the Planning Division during 2011-12 are summarised under the following six headings :-

**1. Formulation, Monitoring and Evaluation of Plan Schemes**

Collected and consolidated information on the progress in the implementation of plan schemes for preparing routine and other reports for submission to the Government of India.

*Important documents prepared included:-*

- ◆ Annual Performance Review of plan schemes during 2010-11
- ◆ Annual Plan 2012-13 and Outcome Budget 2012-13

- ◆ Quarter-wise outcome budgets with scheme-wise and component-wise information on the implementation of plan schemes

- ◆ Reports containing review of plan schemes as and when required

Conducted monthly meetings to review the progress in implementation of plan schemes. Annual performance review meeting of commodity boards for 2010-11 and coordination meeting of commodity boards were hosted in Kochi on 7<sup>th</sup> June 2011. Scheme-wise outlay and expenditure during 2011-12 and 11<sup>th</sup> Plan are given in the following table :-

the following

**Outlay & Expenditure of Plan Schemes (Rs. Crore)**

Sl. No.	Scheme	Outlay		Expenditure	
		11 <sup>th</sup> Plan*	2011-12	11 <sup>th</sup> Plan	2011-12
1.	Rubber Plantation Development	240.39	78.50	309.45	80.33
2.	Rubber Research	65.05	25.00	85.94	23.99
3.	Processing, Quality Upgradation and Product Development	45.00	9.50	27.42	6.70
4.	Market Development and Export Promotion	45.00	9.00	33.57	7.98
5.	Human Resource Development	42.91	15.00	45.60	10.66
6.	Rubber Development in North-Eastern Region	173.05	34.50	163.38	46.67
<b>Total</b>		<b>611.40</b>	<b>171.50**</b>	<b>665.36</b>	<b>176.33</b>

\* Original approval    \*\* Including IEBR of Rs. 1.50 Crore

**Formulation of 12<sup>th</sup> Five-Year Plan Schemes**

Draft 12<sup>th</sup> Plan proposals of the Board were formulated on the basis of external evaluation of 11<sup>th</sup> Plan Schemes, stakeholder consultations, internal consultations and directions of Government of India and Planning Commission.

**External Evaluation of 11<sup>th</sup> Five Year Plan Schemes**

A National Committee was constituted under the Chairmanship of renowned Agricultural Scientist and Member of Parliament, Dr M.S. Swaminathan to evaluate the 11<sup>th</sup> Five Year Plan Schemes of Rubber Board. The National Committee comprised of Chairman and nine experts from different disciplines. The experts were grouped into three Sub-Committees as follows:

**Sub-Committee - I**

Schemes: i) Rubber Plantation Development Scheme

ii) Rubber Plantation Development Scheme for NE region

- Members
1. Dr V.P. Sharma, Director (ITD&P), National Institute of Agricultural Extension Management, Hyderabad
  2. Dr. Binay Singh, Director, NIRD - NE Regional Centre, Guwahati.
  3. Prof Joy Mathew, Professor and & Head, Central Training Institute, KAU, Thrissur

**Sub-Committee II**

Schemes: i) Research Scheme

ii) Human Resources Development Scheme

- Members:
1. Dr.R.K.Samanta, Former Vice-chancellor, Bidhan Chandra Krishi Viswavidyalaya, West Bengal
  2. Dr. K.N. Ninan, Professor Emeritus, IISST, Department of Space Science and Technology, Trivandrum
  3. Prof. M. Udayakumar, Department of Crop Physiology, University of Agricultural Sciences, Bangalore

**Sub-Committee III**

Schemes: i) Processing, Quality Upgradation and Product Development

ii) Market Development & Export Promotion

- Members:
1. Dr. R.K. Matthan, KA Prevalcanised Latex Pvt Ltd, Chennai.
  2. Mr. Sathiyaraj. N, Managing Director, Foam Mattings (India) Ltd, Alappuzha
  3. Mr. George Mathai Tharakan, Professor & Former Regional Director, The Institute of Management in Government, Kakkanad, Kochi

A detailed background note on origin, evolution and current status of Indian NR sector was prepared for the National Committee and the first meeting of Committee was held in RRII on 14 April 2011 under the chairmanship of

## Annual Report 2011-12

Dr M.S. Swaminathan. Subsequently, several meetings of the Sub-Committees were convened. Final meeting of the National Committee was held on 30 June 2012 at M S Swaminathan Research Foundation, Chennai. The report of the Committee was submitted to the Department of Commerce.

### *Stakeholder consultations*

An interactive interface was provided in the website [www.rubberboard.org.in](http://www.rubberboard.org.in) through which general public could post suggestions with regard to the formulation of 12<sup>th</sup> Plan proposals. The Board received more than 30 responses through the online system. In order to ensure full participation of stakeholders in the formulation of the 12<sup>th</sup> Plan proposals, the Board conducted a series of consultations with various segments of rubber industry stakeholders. Stakeholder meetings were conducted at zonal level for small growers and Rubber Producers Societies. The details of stakeholder consultations conducted are listed in the following table.

### **Stakeholders' meetings**

Date	Segment
05-04-2011	RPS Companies
06-04-2011	Grower organisations & Large growers
07-04-2011	Cooperatives & Processors
08-04-2011	Rubber wood processors
25-04-2011	Rubber nurseries
26-04-2011	Labour interests
28-04-2011	Dealers & Exporters
09-05-2011	Rubber product manufacturers

### *Sub-Committee of the Board on Formulation of 12<sup>th</sup> Plan Proposals*

A Sub-Committee of the Rubber Board was formed to examine and guide the formulation of 12<sup>th</sup> Plan proposals. The meeting of the Sub-Committee was held on 16 September 2011.

### *Consultation Workshop of Commodity Boards*

The Board actively participated along with stakeholder representatives in two consultation workshops organised by the Department of Commerce in Bengaluru and Guwahati on 19 April and 31 May 2011 respectively.

### *Internal Committee on Plan formulation*

An Internal Committee comprising officials from different departments of the Board was formed for coordinating the formulation of the 12<sup>th</sup> Plan proposals. Periodic meetings of the Committee were convened and the progress in the formulation of the proposals was reviewed.

### *Internal consultations*

Departments and Divisions of the Board conducted internal consultations to obtain views of the implementing officials on plan schemes. The service organisations in the Board were requested to give their views and suggestions and a meeting was held with the representatives of service organisations.

### *Proposed outlay as per draft 12<sup>th</sup> Plan proposals*

Planning Division coordinated all activities of the Board related to the formulation of 12<sup>th</sup> plan proposals. There are nine schemes and the proposed outlay is shown in the following table:

**Annual Report 2011-12****XII Plan Schemes and Proposed Outlay (Rs in Crore)**

Sl No	Proposed Schemes	Proposed outlay
1	Rubber Plantation Development in Traditional Area	588
2	Rubber Plantation Development in Non-Traditional Area other than North East region	133
3	Rubber Plantation Development in North East region	401
4	Strengthening of Rubber Research	193
5	Technology Upgradation and Quality Improvement of Rubber and Rubberwood	60
6	Market Development of Rubber and Rubber Wood	70
7	Human Resources Development	55
8	Infrastructure Development	54
9	Statistical Services, Information Services and E-governance Programme	41
<b>Total</b>		<b>1595</b>

**2. Result Framework Document**

- Provided inputs for the Result Framework Document 2011-12 of the Department of Commerce.
- Provided inputs for the report on Mid Term Achievement against the target mentioned in the RFD for the year 2011-12.
- Prepared Result Framework Document 2011-12 of Rubber Board covering all plan and non-plan activities. Weights were assigned to all activities of the Board on the basis of importance, priority, financial outlay and other considerations.

**3. Parliamentary matters**

The Division supplied materials with supplementary details for 30 parliament questions. Most of the questions were on plan schemes, assistance to growers, customs duty, production, consumption, import and export, price, futures trading, trade agreements, rubber parks and other issues related to rubber industry. Detailed notes were prepared for PMO and other VIP references. Induction notes for Parliament sessions were prepared and submitted. Provided inputs pertaining to NR sector for the Parliamentary Standing Committee on Demand for Grants of the Department of Commerce. Statistics were provided to Department of Agriculture of Government of Kerala for framing replies for Legislative Assembly interpellations.

#### 4. Assisting in policy formulation

The Division assisted in framing and providing Board's views on policy matters related to rubber industry to the Department of Commerce and other agencies such as Directorate General of Foreign Trade (DGFT), Forward Market Commission (FMC), National Manufacturing Competitiveness Council (NMCC) etc. The Division also assisted in providing views of the Board to Government and other agencies on representations received by them from rubber producing, trading and consuming interests. The main issues dealt with are shown below:

**Trade and tariffs:-** Pre-budget proposals were submitted with justifications to keep duty rates of NR at the prevailing levels. Detailed notes were drafted on several occasions on the demands by rubber industry stakeholder organisations related to import and tariffs on NR. The implications of the Regional Trade Agreements (RTAs) and other forms of international cooperation on domestic rubber sector were also regularly monitored. Board's views on RTAs were provided to the Department of Commerce. Concerns of stakeholders in the case of dumping of tyres were brought to the notice of the Department of Commerce and detailed inputs were provided to Ministry with the view to protect interest of the industry.

**Import duty on NR:-** Following revisions were made in the import duty of NR:-

- Department of Revenue vide Notification No.59/2011-Customs dated 13<sup>th</sup> July 2011

extended the period of Tariff Rate Quota import of 40,000 tonnes of rubber from "remaining part of the financial year 2010-11" to "remaining part of the financial year 2011-12".

- Department of Revenue vide Notification No.04/2012-Customs dated 17<sup>th</sup> January 2012 revised the import duty on latex (H.S. 400110) as Rs. 49 per kg if duty amount per kg calculated at the rate of 70% ad valorem is more than Rs.49 per kg.
- Department of Commerce (Plantation Division) vide OM F.No.8/12/2011-Plant-C dated 3 January 2012, exempted random checking of imported NR for a period of one year on experimental basis with effect from 1st January 2012.

The Indian Cycle and Rickshaw Tyre Manufacturers Association (ICRTMA), Auto Tyre Manufacturers Association (ATMA) and All India Rubber Industries Association (AIRIA) had filed writ petitions in the Hon'ble High Court of New Delhi based on their earlier representations submitted to the Government of India.

- Comments and inputs were provided to the Department of Commerce on a Rejoinder filed by the Petitioners.
- Comments and inputs were provided to the Department of Commerce specifically on cess on rubber with special reference to Miscellaneous Application filed by the Petitioners.

**Expert Panel to Examine Anomaly in Duty**

**Structure:** The Department of Commerce constituted an Expert Panel for examining the duty structure of dry forms of NR and latex and for making suitable recommendations vide OM No.8/5/2011-Plant C dated 6 January 2012. The mandate of the Panel is to discuss and make recommendations to the Department on various issues related to the rubber industry including natural rubber, duties on natural rubber, pricing, shortage, export, import, latex related issues and futures trading in rubber. The composition of the Panel is as follows:

- a) Chairman, Rubber Board - Chairperson of the Expert Panel
- b) Director (Plantation), Department of Commerce
- c) Director (L&ED), Rubber Board
- d) Shri Rajiv Budhraj, Representative of Automotive Tyre Manufacturers' Association (ATMA)
- e) Shri Vinod Simon, Representative of All India Rubber Industries' Association (AIRIA)
- f) Shri D.B.Rao, Representative of Indian Cycle Rickshaw Tyres Manufacturers' Association (ICRTMA)
- g) Dr K.M. Shivakumar, Representative of Forward Market Commission
- h) Prof. K.K. Abraham, Representative of rubber exporters
- i) Shri S. Ramachandran, Representative of growers

The Expert panel is to be serviced by the Rubber Board. A background note was prepared for the Expert Panel with current status of duty structure, rubber prices, import and export, shortage of NR etc. The first meeting of the Panel was held on 15 March 2012 in Kerala House, New Delhi.

**Futures trading:** Views and concerns of the Board were brought to the notice of Forward Market Commission. Board's officials attended a meeting on futures trading in rubber held at Thiruvananthapuram on 9 November 2011, which was attended by Hon'ble Chief Minister of Kerala, Shri Oommen Chandy and Hon'ble Minister of Consumer Affairs, Food and Public Distribution, Shri K.V. Thomas.

**Study on Structural Infirmities in the Plantation**

**Sector:** Action points emerged from the major recommendations of the study, "Structural Infirmities in Plantation Sector" instituted by the Department of Commerce and conducted by Centre for Development Studies, Thiruvananthapuram in respect of rubber were reviewed and the decisions/interventions to be taken at the level of the Board were framed. Comments of the Board on the recommendations of the study were forwarded to the Department of Commerce.

**Others:**

- Vision 2025 document was prepared.
- Materials for inclusion in the Economic Survey 2011-12 were provided.
- Inputs related to the sector were provided in connection with the visits for Hon'ble Minister for Commerce & Industry within the country and abroad.
- Agenda notes were prepared on issues related to NR sector having policy implications for meetings of the Board and Committees.
- Detailed notes/reports were prepared on several policy related issues related to the NR sector.
- Assisted Chairman in framing answers to press queries on policy matters raised by several agencies.

#### 4. Assisting in policy formulation

The Division assisted in framing and providing Board's views on policy matters related to rubber industry to the Department of Commerce and other agencies such as Directorate General of Foreign Trade (DGFT), Forward Market Commission (FMC), National Manufacturing Competitiveness Council (NMCC) etc. The Division also assisted in providing views of the Board to Government and other agencies on representations received by them from rubber producing, trading and consuming interests. The main issues dealt with are shown below :

**Trade and tariffs:-** Pre-budget proposals were submitted with justifications to keep duty rates of NR at the prevailing levels. Detailed notes were drafted on several occasions on the demands by rubber industry stakeholder organisations related to import and tariffs on NR. The implications of the Regional Trade Agreements (RTAs) and other forms of international cooperation on domestic rubber sector were also regularly monitored. Board's views on RTAs were provided to the Department of Commerce. Concerns of stakeholders in the case of dumping of tyres were brought to the notice of the Department of Commerce and detailed inputs were provided to Ministry with the view to protect interest of the industry.

**Import duty on NR:-** Following revisions were made in the import duty of NR:-

- Department of Revenue vide Notification No.59/2011-Customs dated 13<sup>th</sup> July 2011

extended the period of Tariff Rate Quota import of 40,000 tonnes of rubber from "remaining part of the financial year 2010-11" to "remaining part of the financial year 2011-12".

- Department of Revenue vide Notification No.04/2012-Customs dated 17<sup>th</sup> January 2012 revised the import duty on latex (H.S. 400110) as Rs. 49 per kg if duty amount per kg calculated at the rate of 70% ad valorem is more than Rs.49 per kg.
- Department of Commerce (Plantation Division) vide OM F.No.8/12/2011-Plant-C dated 3 January 2012, exempted random checking of imported NR for a period of one year on experimental basis with effect from 1st January 2012.

The Indian Cycle and Rickshaw Tyre Manufacturers Association (ICRTMA), Auto Tyre Manufacturers Association (ATMA) and All India Rubber Industries Association (AIRIA) had filed writ petitions in the Hon'ble High Court of New Delhi based on their earlier representations submitted to the Government of India.

- Comments and inputs were provided to the Department of Commerce on a Rejoinder filed by the Petitioners.
- Comments and inputs were provided to the Department of Commerce specifically on cess on rubber with special reference to Miscellaneous Application filed by the Petitioners.



**Expert Panel to Examine Anomaly in Duty Structure:** The Department of Commerce constituted an Expert Panel for examining the duty structure of dry forms of NR and latex and for making suitable recommendations vide OM No. 8/5/2011-Plant C dated 6 January 2012. The mandate of the Panel is to discuss and make recommendations to the Department on various issues related to the rubber industry including natural rubber, duties on natural rubber, pricing, shortage, export, import, latex related issues and futures trading in rubber. The composition of the Panel is as follows:

- a) Chairman, Rubber Board - Chairperson of the Expert Panel
- b) Director (Plantation), Department of Commerce
- c) Director (L&ED), Rubber Board
- d) Shri Rajiv Budhraj, Representative of Automotive Tyre Manufacturers' Association (ATMA)
- e) Shri Vinod Simon, Representative of All India Rubber Industries' Association (AIRIA)
- f) Shri D.B.Rao, Representative of Indian Cycle Rickshaw Tyres Manufacturers' Association (ICRTMA)
- g) Dr K.M. Shivakumar, Representative of Forward Market Commission
- h) Prof. K.K. Abraham, Representative of rubber exporters
- i) Shri S. Ramachandran, Representative of growers

The Expert panel is to be serviced by the Rubber Board. A background note was prepared for the Expert Panel with current status of duty structure, rubber prices, import and export, shortage of NR etc. The first meeting of the Panel was held on 15 March 2012 in Kerala House, New Delhi.

**Futures trading:** Views and concerns of the Board were brought to the notice of Forward Market Commission. Board's officials attended a meeting on futures trading in rubber held at Thiruvananthapuram on 9 November 2011, which was attended by Hon'ble Chief Minister of Kerala, Shri Oommen Chandy and Hon'ble Minister of Consumer Affairs, Food and Public Distribution, Shri K.V. Thomas.

**Study on Structural Infirmities in the Plantation Sector:** Action points emerged from the major recommendations of the study. "Structural Infirmities in Plantation Sector" instituted by the Department of Commerce and conducted by Centre for Development Studies, Thiruvananthapuram in respect of rubber were reviewed and the decisions/interventions to be taken at the level of the Board were framed. Comments of the Board on the recommendations of the study were forwarded to the Department of Commerce.

**Others:**

- ☛ Vision 2025 document was prepared.
- ☛ Materials for inclusion in the Economic Survey 2011-12 were provided.
- ☛ Inputs related to the sector were provided in connection with the visits for Hon'ble Minister for Commerce & Industry within the country and abroad.
- ☛ Agenda notes were prepared on issues related to NR sector having policy implications for meetings of the Board and Committees.
- ☛ Detailed notes/reports were prepared on several policy related issues related to the NR sector.
- ☛ Assisted Chairman in framing answers to press queries on policy matters raised by several agencies.

**5. Preparation of rubber industry related documents**

Documents were prepared for the following meetings/conferences :-

- i. 165<sup>th</sup>, 166<sup>th</sup> and 167<sup>th</sup> meetings of the Board
- ii. Meeting of the National Committee on Evaluation of 11th Plan Schemes of the Rubber Board on 14 April 2011
- iii. Consultation Workshop organised by the Department of Commerce in Bengaluru on 19 April 2011.
- iv. Consultation Workshop organised by the Department of Commerce in Guwahati on 31 May 2011.
- v. International Rubber Economic Conference 2011 held in Kuala Lumpur, Malaysia on 26 and 27 July 2011.
- vi. Meeting of the Sub-Committee of the Rubber Board on Formulation of 12<sup>th</sup> Plan Schemes, 16 September 2011
- vii. UPASI Annual Conference, Coonoor, 22 - 23 October 2011
- viii. Global Rubber Conference 2011, held in Phnom Penh, Cambodia, 24 - 26 November 2011
- ix. Asian Tyre and Rubber Conference, Chennai, 2 December 2011

**6. Activities related to international organisations**

India is a member of International Rubber Study Group (IRSG) based in Singapore and Association of Natural Rubber Producing Countries (ANRPC) based in Kuala Lumpur, Malaysia. The Division coordinated activities related to India's participation in these organisations.

☛ Detailed notes were prepared on documents circulated by the ANRPC and IRSG Secretariats on various issues related to organisations and rubber industry.

☛ India was elected as the Chairman of IRSG in the 107<sup>th</sup> Group Meetings held in Singapore in July 2011. Term of chairmanship of IRSG is two years.

☛ India served as Chairman of ANRPC until November 2011.

The Division coordinated the participation of Indian delegations in ANRPC and IRSG meetings. During the reporting period, Indian delegations participated in the following meetings :-

☛ Extended Industry Advisory Panel, Head of Delegation and 107<sup>th</sup> Group Meetings of International Rubber Study Group (IRSG) held in Singapore, 11 - 15 July 2011.

☛ 5<sup>th</sup> Information and Statistics Committee, 5<sup>th</sup> Industry Matters Committee, 4<sup>th</sup> ANRPC Annual Rubber Conference, 34<sup>th</sup> Session of the Assembly and 39<sup>th</sup> meeting of Executive Committee meetings of ANRPC at Haikou, China from 31 October to 5 November 2011.

☛ Industry Advisory Panel (IAP) meeting of IRSG held in Singapore on 27 and 28 February 2012

☛ 40<sup>th</sup> Executive Committee meeting of ANRPC held on 6 and 7 March 2012 in Bangkok, Thailand.



## PART - V

### RUBBER RESEARCH

The Rubber Research Institute of India (RRII) is the Research department of the Board. It has its headquarters in Kottayam, Kerala with nine Regional Research Stations spread in the states of Kerala, Tamilnadu, Karnataka, Maharashtra, Orissa, West Bengal, Tripura, Assam and Meghalaya. Field experiments of the RRII are mainly conducted in the Central Experiment Station (CES) near Ranni, Pathanamthitta district, Kerala, which has an area of more than 250 ha. Due to constraints in land availability, many experiments and on-farm evaluation trials for validation of research findings are laid out in growers' fields. Each Regional Research Station has research farms of nearly 40 to 50 ha and location specific research programmes were undertaken in the growers' fields.

A panel of external experts for each specialized field reviews the research projects of the Institute annually. Outcome of the results is communicated through research publications. RRII publishes an international journal - 'Natural Rubber Research'. Besides, research publications are also contributed to peer reviewed international and national scientific journals. Research findings are communicated through popular articles published in vernacular languages immediately.

During the reporting period, RRII and its Regional Research Stations (RRS) under the

Rubber Board were involved in active research programmes under major schemes, namely Crop Improvement (Botany, Germplasm), Crop Management (Agronomy/Soils division & Fertilizer Advisory), Crop Protection (Plant Pathology), Crop Physiology (Plant Physiology), Latex Harvest Technology, Economic Research and Advanced Centre for Rubber Technology (Rubber Technology and Technical Consultancy).

The research programmes on Molecular Biology and Biotechnology such as Genome Analysis, Molecular Plant Pathology and Molecular Plant Physiology were coordinated under Advanced Centre for Molecular Biology and Biotechnology scheme.

The research activities of Regional Research Stations were coordinated under the scheme strengthening of RRS and the research schemes of North-East research stations located in Tripura, Assam and Meghalaya were coordinated under "Research in N-E Region". Scheme on research support service includes strengthening of facilities under Library and Documentation centre, Maintenance sections, Computer centre, and Instrumentation.

The progress made and the highlights of achievements in the research projects are briefly narrated below :-

## 1. CROP IMPROVEMENT

### 1.1 Botany

- Forty seven pipeline clones were planted in statistically laid out replicated clonal nurseries in 2 locations viz., Dapchari and Agartala for a G x E interaction study. The five clones of the RR11 400 series continued to maintain superior performance in large scale trials. The present results show that RR11 430 remains superior in yield to RR11 105 in the 11th year of tapping followed by RR11 417, RR11 422 and RR11 414. Monitoring of post release yield performance of these clones in various small holdings has been initiated. In general clones RR11 414, RR11 422, RR11 417, RR11 429 and RR11 430 were superior to RR11 105 in various small holdings in North, Central and South Kerala.
- Multi environment trials with the RR11 400 series in 5 locations across the country show RR11 430 and RR11 422 to be stable across locations. RR11 430 is showing promise of drought tolerance too. Incidence of diseases is also low in RR11 430 and RR11 414, compared to RR11 105. RR11 429 and RR11 417 are specifically adapted to the North East.
- Recording of important yield components was done in the peak season and summer from 219 hybrids and ortets under evaluation in nine small scale trials planted at CES in 1998 and 1999.
- 44 promising clones that proved superior to RR11 105 in small scale trials planted in 1998 and 1999 were multiplied and established in a polybag nursery for laying out source bush nurseries for further participatory trials.
- A hybridization programme was undertaken with the objective of introgression of desirable genes from the wild germplasm into the breeding pool and to widen the genetic base. Fifteen hybrid seedlings resultant of the first round of crosses involving three W x A hybrid clones showing heterosis used as male parents in combination with clones RR11 105, RR11 414 and RR11 429 were planted for nursery evaluation. In March 2012, 2004 hand pollinations were attempted in cross combinations of RR11 400 series clones and RR11 105 with WxA hybrid parents.
- Phase 3 of the Participatory Clone Evaluation Project was initiated with multiplication and planting of 12 clones including checks in polybag nurseries in eight locations.
- A study on clonal variability for wood quality parameters of RR11 400 series clones was completed. RR11 430 and RR11 417 showed better wood density than RR11 105.
- Chaotic and linear spatial display of movement by certain objects within the sieve tubes of Hevea was observed for the first time in plant cell.
- Studies on poly-house ecosystem to improve the quality of planting material were completed. Raising polybag plants in poly-houses improved their growth while disease incidence was minimum

- Commercial scale evaluation of the performance of young budded plants showed them to be comparable to green budded plants in growth and tappareability.

## 1.2 Germplasm

- 183 Wickham clones, 4548 wild germplasm accessions and 6 accessions of 5 other Hevea species are being maintained.
- Data on annual girth and monthly yield were recorded in all the mature trials.
- 10 wild Hevea accessions were identified showing potential for dry rubber yield in the Further Evaluation Trials. AC 166 showed consistent better performance for yield for the last 5 years and this clone is being evaluated in five On-Farm trials in different estates. Eight accessions were identified for volumetric timber yield.
- 15 potential high yielders were identified from the second round of test tapping in SBN 2005.
- In the clonal nursery of superior half-sib seedlings for drought tolerance at RRS, Dapchari, gap filling was done. Scoring was done for leaf yellowing during summer and girth was recorded.
- In the Small Scale Trial-2007 of wild and HP clones, summer and annual girth were recorded and accession MT 4788 was found to be superior.
- 96 putative hybrids of the interspecific crosses between *H. brasiliensis*

(RRII 105) and *H. benthamiana* (F 4542) for generation of a mapping population were monitored for growth characteristics in the seedling nursery.

- Three multilocation trials comprising 49 Wickham clones were planted at CES, Dapchari and Agartala, for formulation of DUS testing norms for Plant Variety Registration and Protection, and for compiling a database on the same.
- The preliminary draft of the Hevea DUS Testing Guidelines, prepared earlier on the basis of existing publications, was modified and resubmitted to the Protection of Plant Varieties and Farmers' Rights Authority.
- Preliminary anatomical observations indicated high level of laticifer disorganization due to Ethrel stimulation in Hevea.
- Lignin characterization of two selected wild accessions and two RRII 400 series clones to analyse the quality of lignin through S/G ratio (Syringyl/ Guacyl lignin monomer ratio) was carried out in collaboration with School of Biosciences, Sardar Patel University, Gujarat.

## 2. ADVANCED CENTRE FOR MOLECULAR BIOLOGY AND BIOTECHNOLOGY

### 2.1 Biotechnology

- Three new transgenic Hevea plants from new transformation events, integrated with Mn-superoxide dismutase (Mn-SOD) gene for tolerance to abiotic stresses and

tapping panel dryness have been regenerated, hardened and transferred to polybags.

- The Mn-SOD transgenic plants developed earlier were bud grafted on to seedling stocks. Budded stumps of two transgenic lines L1 & L2, along with control plants were transported to Regional Research Station, Dapchari and maintained in containment facilities to initiate field trial following biosafety regulations, after obtaining NOC from the Maha-rashtra Govt. Discussions were held with the committee constituted by the Maharashtra Govt. to issue NOC. The plants are growing well at Dapchari.
- Transgenic rubber plants were also developed with the gene coding for 3-hydroxy-3-methylglutaryl coenzyme A reductase 1 (hmgr1), a gene involved in rubber biosynthesis and another gene coding for osmotin protein (Involved in drought and disease tolerance).
- Techniques were developed to improve the Agrobacterium mediated genetic transformation efficiency in rubber by modifying the media components and by vacuum infiltration of tissues with Agrobacterium suspension.
- Many transgenic cell lines integrated with MnSOD, isopentenyl transferase, hmgr1 and osmotin genes were developed and they are under different stages of plant regeneration.
- Techniques for the isolation and partial purification of pollen protoplasts were standardised as an initial step to develop haploid plants.
- Expression of different isoforms of  $\beta$ -1,3-glucanase gene in *Hevea brasiliensis* was confirmed through activity staining of  $\beta$ -1, 3-glucanase isozymes.
- Different recombinant isozymes of  $\beta$ -1, 3-glucanase were over expressed in yeast and purified and the efficiency of these different forms in inhibiting the pathogen growth was studied. Two isoforms were found to have inhibitory properties.
- In order to study the functional integrity of the  $\beta$  -1,3-glucanase gene promoter characterized, tobacco plants and *Hevea* calli were transformed with  $\beta$  -1, 3-glucanase gene promoter: GUS fusion binary vectors and transgenic tobacco plants were regenerated. It was observed that *Hevea brasiliensis*  $\beta$  -1,3-glucanase gene promoter could function in *Hevea* callus, but not in tobacco.
- Three isoforms of cis-prenyltransferase gene involved in the polymerisation of isoprene units were identified and characterised. The partial promoter sequence of cis- prenyltransferase promoter-2 was also characterised and their regulatory properties were studied in transgenic tobacco.

## 2.2 Genome Analysis

- Eleven laboratory experiments were in progress. They are SSR marker development through genomic library

screening, EST data mining for SSR sequences, Gene discovery and annotation of EST sequences, Genetic characterization of popular clones and wild accessions, SNP analysis in rubber biosynthesis gene, Linkage mapping, Disease resistance gene(s), Stress-responsive genes, Methylation dynamics, EST resource development and Lignin biosynthesis genes.

- For SSR marker development, a total of 485 positive clones for dinucleotide and 218 positive clones for trinucleotide repeats were isolated. One hundred and two genomic clones from the enriched trinucleotide repeat library of rubber were sequenced and 31 genomic clones bearing trinucleotide repeats were identified.
- In connection with DST data mining studies, recently available next generation transcriptome sequencing data set (NCBI database - accession number GSE26514) was analysed for large scale SSR mining.
- EST-derived and genomic SSR markers were used to characterize 40 cultivated *Hevea brasiliensis* clones. Genotype-specific profiles were identified. About 60% genetic diversity was noticed among these 40 clones. Geographical distinctness of the wild *H. brasiliensis* accessions and their evolutionary relationships were established using SSR.
- SNP identification in entire 4.9 Kb FDPS genomic region of the clones RR11 105, RR11 118, RRIM 600, RRIC 52 and GT1 was completed by sequencing the PCR product as well as the cloned fragments.
- Marker segregation data was used to generate linkage map in rubber. Both JoinMap v.3 and MapMaker/Exp 3.0 programs were used for comparison of the linkage groups generated. Two latex biosynthesis genes farnesyl diphosphate synthase (FDPS) and geranylgeranyl diphosphate synthase (GGPPS) were mapped using a co-dominant STS marker for FDPS and a SNP (F88 - G/A) marker for GGPPS respectively.
- In connection with studies of disease resistance genes, full length "R" gene (3284 bp) was cloned and characterized based on the sequence of a functional RT-RGA13 showing significant over-expression (defense response) in *Corynespora cassiicola* challenged GT1 leaf samples.
- A recombinant *E. coli* strain to express the Hev MT-3a gene was tested for its copper tolerance property. Recombinant *E. coli* clone expressing *Hevea Metallothionein* gene (MT) showed tolerance upto 12 mM  $\text{CuSO}_4$ .
- To generate cold responsive ESTs, 118 clones from leaf cDNA library of PB 260 grown in Munnar, were annotated and processed for submission to GenBank.
- One hundred and forty-three clones from a bark cDNA (BcDNA) library of RR11 118 were annotated and submitted to GenBank.



- Successfully cloned and characterized Ortho-methyltransferase (OMT) gene involved in lignin biosynthesis. Promoter sequence of CAD gene was also characterized.

### 2.3 Molecular Plant Physiology

- In connection with gene expression under drought condition, the association of peroxidase and LEA 5 genes with drought tolerance in Hevea was reconfirmed. Various steps like primer dilution and efficiency determination were carried out to analyze copy number of NAC transcription factor gene
- In connection with studies on molecular biology of rubber biosynthesis, the transformation of the expression vector BL21 (DE3) pLysS with the plasmid containing HMG-CoA reductase was confirmed by PCR analysis and restriction enzyme digestion.
- In studies related to chitinase gene transfer in endophytes, protein extracted from the chitinase gene transformed *Bacillus* cells was resolved and visualized on gel profile.
- In connection with the studies on role of miRNA in abiotic stress responsive gene expression studies, cloning of PCR amplicons of mi RNA into PT257R/T cloning vector and screening of the recombinants by colony PCR were carried out.

### 2.4 Molecular Plant Pathology

- The chitinase protein isolated from GT1, induced with *Corynespora* was purified and polyclonal antibody was raised for further characterization.

- Microbial isolates (122 nos.) collected from Padiyoor and Andhra Pradesh were tested for ACC deaminase activity and five isolates showed better growth in ACC amended media than the control.

- Better plants growth was observed in the integrated treatment than the bio and chemical alone treated plants.

## 3. CROP MANAGEMENT

### 3.1 Agronomy/Soils

- Supplementing secondary and micronutrients improved growth of seedlings in the nursery was observed.
- Soil samples analysed from replanting fields of estates in traditional rubber growing region indicated that the status of secondary and micronutrients was very low. Field experiment to study the effect of supplementing secondary and micronutrients on soil test basis was initiated in nursery and in four agro climatic regions.
- Integration of organic manure with chemical fertilizers enhanced growth of plants and soil Zn status.
- Foliar nutrient resorption studies indicated that 52 to 66 percent N, 53 to 80 percent P, 48 to 88 percent K were resorbed before senescence.
- Two field experiments to explore the feasibility of growing perennial intercrops/timber trees in rubber are in progress. Intercropping with perennial crops in the normal system of planting did not adversely affect growth of rubber plants.

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- Experiment to evaluate the performance of nine shade tolerant medicinal plants in mature rubber plantation is in progress. Among medicinal plants, performance of *Alpinia* and *Strobilanthes* continued to be better.
  - In the experiment to evaluate the effectiveness of various biological bunds for soil and moisture conservation in rubber plantations, establishment of vegetative hedges did not influence the growth of rubber.
  - The experiments to reduce cost of cultivation through reducing pit size and mechanization showed that dimension of pits did not influence establishment and growth of rubber in agro climatically different regions, provided the soil is deep.
  - Four field experiments to reduce the gestation period of rubber are in progress. Integrated management techniques significantly improved the growth of plants.
  - In a field experiment to study the effect of agromanagement techniques to mitigate adverse effects of drought, various agromanagement techniques improved the chlorophyll retention of leaves and enhanced conservation of residual soil moisture.
  - In a study on the effect of weed management on yield of rubber and soil properties, it was observed that retaining weeds during mature phase enhanced soil moisture status during summer and soil carbon, nitrogen, Ca and Mg contents.
  - Rubber distribution map of Kerala and Kanyakumari was generated based on satellite images and ground truth validated. Generation of rubber distribution map of Karnataka is in progress.
  - Soil depth map was generated for traditional rubber growing region.
- ### 3.2 Regional Soil Testing & Fertilizer Advisory services
- The Regional Soil Testing Labs under the Fertilizer Advisory services, analysed 10100 soil and 1500 leaf samples for offering discriminatory fertilizer recommendation. 56823 latex samples were also tested for dry rubber content (DRC) of latex and test results were supplied to clients. Discriminatory fertilizer recommendations were offered to 6000 growers. Mobile soil testing programmes were arranged at 45 locations for spot fertilizer recommendation.
- ## 4. CROP PROTECTION
- As part of mechanization in rubber cultivation, a mist blower with modified blower mounted on a mini tractor and another modified mist blower mounted on a two wheeled trolley were field tested in rubber plantations and found to be promising for the management of ALF disease.

- Successfully cloned and characterized Ortho-methyltransferase (OMT) gene involved in lignin biosynthesis. Promoter sequence of CAD gene was also characterized.

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- Filed experiment conducted with new generation fungicides showed that the fungicides Trifloxystrobin + Tebuconazole (Nativo) and Tebuconazole (Folicur) were effective in the management of Colletotrichum leaf disease.
- Nursery trial on the efficacy of new generation fungicides on *Corynespora* leaf disease indicated that the fungicides thiophanate methyl (Hexastop), pyraclostrobin + metiram (Cabrio Top) and iprodione + carbendazim (Quintal) were promising
- In an experiment on the improvement of ALF disease control efficiency, final leaf retention assessment showed that two rounds of spraying with COC was better than one round for disease control.
- Occurrence of *Colletotrichum acutatum* was more frequent (with 69.39% of the colonies) than that of *C. gloeosporioides*. Perfect stage or the ascigerous stage of the fungus *Colletotrichum gloeosporioides* (*Glomerella* sp) producing perithecia in culture were obtained from 31% of the sampling locations. Pathogenicity studies carried out with perithecial strain and conidial strain of *Colletotrichum gloeosporioides* under in vivo condition revealed perithecial strain as virulent as conidial strain.
- Evaluation of the hybrid reactor- reed bed system combination for RSS processing effluent treatment showed excellent reduction in pollutant levels in the effluent.
- In the participatory clone evaluation trial, assessed the incidence of powdery mildew, *Colletotrichum* and pink disease were assessed in different experimental areas. In general, *Colletotrichum* disease was high in all the locations. *Colletotrichum* disease intensity was found to be low for the clones for RRII 414, RRII 430 and RRII 5 compared to other clones. Powdery mildew disease was moderate to high in all the locations and among the locations low disease was noticed in Punalur region. Pink disease was found to be high in Mundakkayam area.
- Effect of entomopathogenic fungus, *Metarhizium anisopliae* on the mortality of moply beetle larvae was evaluated in laboratory condition and found 75% mortality.
- The incidence of bark feeding caterpillar, *Plochorystis* *raline* was observed in RRII 105 plants (7-8 yrs old).
- Race characterization of *Phytophthora* isolates collected from rubber plantations throughout Kerala revealed existence of different races/ strains among the isolates based on their variation in response to fungicides in vitro, virulence of the isolates in controlled conditions as well as variation in their genetic profiles.
- Wind speed values were compiled for all Regional Research Stations (RRS) and RRII from 1970 onwards. Compilation of meteorological data from all RRS was carried out.



## 5. CROP PHYSIOLOGY

- Gas exchange measurements in pipeline clones were carried out under drought condition. Clones such as P9, P11 and P13 recorded better photosynthesis while clones P16, P17 and P18 showed the least photosynthetic rate under drought condition.
- Expression of a chloroplast stress protein was analyzed in RR11 400 series clones. The stress proteins expressed more prominently under Dapchari conditions during summer period than during summer at RR11, Kottayam. A polyclonal antibody against this stress protein was developed.
- Photosynthetic rate and stress protein profile indicated that RR11 430 and RR11 429 were relatively more drought tolerant among RR11 400 series clones.
- Drought survey in young rubber plantation was conducted in the Mudgoan and Savantvadi regions and collected information on location specific cultural practices undertaken by farmers during summer period. Drought survey in Palakkad region indicated that almost 25% of farmers in this region resorted to irrigate plants during February onwards (summer irrigation)
- Chlorophyll fluorescence and chlorophyll index data in five Hevea clones at RES, Nagrakata were recorded and found that clones such as SCATC 88/13 and Haiken 1 are relatively cold tolerant.
- From a list of selected germplasm accessions from SBN 2004 and SBN 2005 at CES, Chethackal for drought tolerance, top scoring 49 accessions were further subjected to in-vitro laboratory screening. Accessions, AC 2009, MT 1619, MT 196, RO 322 in SBN 2004 and RO 2634, MT 2210, AC 173, RO 1406, RO 3184 in SBN 2005 were ranked as top scorers for intrinsic drought tolerance.
- PB 260 and RR11 600 showed better growth performance than other three clones in a high altitude planting area at Elappara tea estate in Idukki district
- Yield data was collected from four clones in Malankara estate to assess tapping induced biomass loss. Clones such as RR11 105 and PB 235 recorded better yield while PB 235 showed better shoot biomass increment.
- Latex samples from different tapping frequencies were analysed for the contents of ATP, sucrose, thiols, phosphorus and phenol in connection with 'studies on biochemical mechanisms associated with latex production under different tapping frequencies with stimulation'. The data indicated that sucrose and ATP contents in latex were higher in trees tapped under low frequency tapping with stimulation compared to d2 frequency.
- Rubber transferase activity studies in young plants of ten clones with different

yield potentials indicated that clones PB 235, PB 260, RR11 105 and GT1 showed higher activity compared to low yielding clones.

- In connection with the project on 'effect of stimulation and abiotic stress responses' various biochemical analyses (peroxidase, H<sub>2</sub>O<sub>2</sub>, MDA, Cyanide,  $\beta$ -cyanoalanine synthase, sugars and latex ATP) of soft bark tissues after stimulation of trees at different locations of the trunk were carried out. Those trees stimulated at a point away from the tapping panel recorded better yield and less stress responsive components.
- Lime application was carried out in rubber plantation at Malankara estate in connection with the project on 'soil pH and incidence of abiotic stress'. There was a slight improvement in pH of the soil in lime applied plots.
- Silver nanoparticles were prepared from rubber leaf extract. Antimicrobial activity of the nanoparticles was tested with *E. coli* (BL 21DE3 cells) culture and a fungus, *Corynespora cassiicola*. There was considerable inhibition in the growth of *E. coli*.

## 6. LATEX HARVEST TECHNOLOGY

- Review meeting on popularising d3 frequency of tapping was conducted in all the Regional Offices of Kerala and RO Mangalore. As an impact of the programme, many neighbouring growers and friends of demo plot owners switched to d3 frequency.

- A revised MOU is being signed for further development of mechanised tapping knife. A new model was demonstrated and steps are being taken to invite new proposals.
- Evaluation of bio degradable polythene lasting for one rain guarding season is being conducted.
- Commenced a commercial evaluation programme on S4 tapping cut (identified from experiment on reduced spiral tapping)
- Commenced exploratory trials on non-conventional tapping methods.
- Controlled Upward Tapping, a method useful for substantial enhancement in production of old and senile trees, was widely popularized including in non-traditional region.

## 7. ADVANCED CENTRE FOR RUBBER TECHNOLOGY

### 7.1 Rubber Technology

- As a part of improving the quality of skim rubber, large scale trials (2000 L) were carried out, using creaming technique in liaison with a private latex processing industry. Skim rubber recovered showed better mechanical properties over that from conventional technique.
- Work on rubber recovery cum bio gas production from skim latex, was restarted. From the laboratory study it was found that at a particular concentration of coagulant, rubber and its serum got separated into two layers. The layer

containing skim latex could be separated and used for recovery of skim rubber.

- Completed preparation of specifications for an Indian patent application in the name of RRIL, for a process, developed by RRIL.
- A new method for recovering skim rubber from skim latex" under application No 2565/CHE/2011 (G602A) (Completed filing on 20/9/2011)
- Standardised a quick method for DRC determination of NR latex by partial drying of the coagulum in a microwave oven.
- The master batch containing silica and carbon black was found to have superior dynamic properties like, lower tan delta peak height at Tg showing better polymer filler interaction leading to enhanced mechanical properties and also lower tan delta value at 60°C suggesting that they can be used in tyre applications to get low rolling resistance. This is being patented as:
- A Novel Process for the Preparation of Carbon black/Silica/Nanoclay Masterbatch from Fresh Natural Rubber Latex" under application No 2564/CHE/2011(G602B) (Complete filing on 20/9/2011).
- From initial trials it was observed that exposure of latex to gamma radiation prior to coagulation improved the polymer-filler interaction behaviour of NR.
- Initiated an experiment based on quality improvement of RVNRL by exposure of fresh latex to small doses of radiation, followed by creaming and further vulcanization. Initial trials have shown that better mechanical properties are obtained for RVNRL by prior exposure of fresh field latex to gamma radiation followed by creaming and further vulcanization. A large scale trial production of RVNRL (200 L) by this method is being carried out.
- Studies on reinforcement of NR with polymeric filler systems were continued. To improve the abrasion resistance, NR was blended with polybutadiene rubber (BR). It was found that addition of BR to NR/PF system significantly reduced abrasion loss while preserving all other technological properties. To improve electrical conductivity of NR/PF system, the same was loaded with small quantities of carbon black varying from 2 to 10 phr. It was observed that the mechanical properties like tensile strength, modulus and tear strength improved as the loading of filler increased.
- Conducted tests using Dynamic Mechanical Analyzer (DMA) to study the silica reinforcement of NR by ENR using ENR of different epoxy content.
- Scorch control of peroxide vulcanization using a stable free radical with two more commercially available peroxide vulcanizing agents was studied. On using Di (tert-butyl peroxy isopropyl) benzene as the peroxide along with TEMPO it was observed that the stickiness of the vulcanized material normally observed with use of TEMPO could be removed.

erved that the

- Conducted the literature survey on recycling of rubber and draft review on the same topic was prepared. The work on 'Studies on devulcanisation of waste rubber products' was continued. Good tensile properties were obtained for vulcanizates prepared from waste rubber that was subjected to mechanical devulcanisation in a two roll mixing mill.
- It was observed that rubber nano-composites based on blends of RVNRL and carboxylated nitrile rubber latex improved fuel resistance and mechanical properties compared with pure RVNRL.
- Collaborative projects:
  1. Chithranjan Locomotive, West Bengal - Attempted to develop Spheri block
  2. Schefflin Leprosy Research and Training Centre, Karigiri - Organized training for Sri I.R. Asher of the Schefflin Institute of Health Science and Leprosy Centre for two weeks.
  3. BARC, Mumbai - Presented a project proposal titled 'Standardization of process technology, application of RVNRL in product manufacture & commercialization of RVNRL for rubber products' in a technical discussion meeting at BARC, Mumbai.
- A technical interaction meeting with Industry was conducted on 23/2/2012 and the following findings were presented during the meeting with the objective of identifying an industry partner for collaboration for further scaling up these findings and commercialization:
  - ❖ Reinforcement of natural rubber using polymeric fillers
  - ❖ Filler master batch from fresh natural rubber latex
  - ❖ A novel method for easy coagulation of skim latex and recovery of high quality skim rubber
  - ❖ De-proteinised natural rubber

## 7.2. Technical Consultancy

- The main activity of the division is to provide technical consultancy services for the promotion of Indian Rubber Industry. The division caters to the needs of new entrepreneurs as well as existing rubber goods manufacturers. The ranges of services offered to various rubber industries include product development, quality control and certification, technical problem solving, training etc.
- Based on the supplied products/requests received, the division has developed products for the clients. During the reporting period, 41 products were developed and the know-how was transferred to the clients.
- Technical support was rendered to various rubber industries, mainly to the small scale sector by testing rubber compounds, rubber products and evaluation of raw materials.
- Matters relating to various aspects like selection of raw material, dosage of a particular ingredient, temperature/pressure for vulcanization etc. were always a subject of concern for small scale product manufacturers.

## 8. ECONOMIC RESEARCH

- The working paper titled "From Control to Decontrol: The Evolution of Rubber Propagation Policy in India (1949-1986)" captures the unique experience of India's rubber propagation policy from the control over production and distribution of planting materials since 1949 to decontrol in 1986.
- The interventionist phase (1949-1960) was characterized by proactive interventions in the production and distribution of planting materials.
- The decontrol phase witnessed the temporary suspension of the mandatory provisions for the annual approval of the rubber nurseries effective from 1986-87, abolition of the licensing system, for new planting/replanting with effect from 1st April 1988 and abandonment of the mandatory registration of rubber plantations in 1992-93.
- Decontrol resulted in virtual absence of any quality control mechanism and vital loss of reliable database on rubber nurseries and the extent of adoption of prescribed cultural practices. Hence a comprehensive assessment of the consequences of the decontrol is in order.
- Paper on "Trends in wage share in the context of labour shortage: The case of tapping wage share in rubber small holding sector in Kerala" revealed that during the 30 year period from 1980-81 to 2009-10 growth rate of wage share in Kerala's rubber small holding sector showed a negative trend despite the position growth rate in real tapping wages (2.29%).
- A negative correlation existed between farm income and wage share during the period.
- During the post reforms phase wage share has been increasingly influenced by the trends in farm income rather than trends in wage rate.
- *Research paper titled:* Intercropping in the immature phase of Natural Rubber Cultivation in Kerala: Emerging Trends and policy Challenges' was presented during the National Seminar on "Building Competitiveness in a Globalised Era: Experience of Plantation Sector" at Centre for Development Studies (CDS) Trivandrum from 23 to 24 January 2012.
- The paper highlighted the policy implications of the indiscriminate agro-management practices during the immature phase of rubber plantations consequent to the emergence of pineapple as the choices intercrop under the contract farming system.

## 9. STRENGTHENING OF REGIONAL RESEARCH STATIONS (RRS)

### 9.1 RRS, Dapchari, Maharashtra

- In irrigation systems studied, the basin irrigation system has responded better than drip irrigation system in terms of growth and yield in clone RR11 105.
- It is also concluded that irrigation level can be reduced to a minimum (0.25 ETc) after attaining the maturity and this quantity is the irrigation requirement for optimum latex yield. In general, reducing the irrigation from high level of 0.75 ETc and 0.50 ETc to 0.25 ETc under basin and drip irrigation after sixth year of tapping did not show any negative effect on growth and yield in clone RR11 105.
- Results obtained from cost evaluation trial also revealed that if soil depth is good, irrigation level can be reduced to a minimum (0.20 ETc) after attaining maturity without affecting the rubber tree physiology. Higher soil moisture content and higher water productivity was also recorded in deep soil with less water applied.
- In demonstration trial on CUT, by following S/3U d 3 tapping system with application of ethephone once in three weeks proved promising. In general, CUT recorded high yield in all the treatments studied than the normal basal panel tapping. (S/2 d3 6d/7-July ET 2.5% Pa given once).
- In clone evaluation trial, RR11 208 proved to be the best clone in terms of yield and girth.
- Evaluation of polyclonal seedling population resulted in the selection of desirable genotypes and promising ortet clones.
- In drought evaluation studies, the wild accessions and HP clones showed wide variability for all characters studied while the wild accession MT 4788 recorded the highest girth and with consistent performance lowest per cent yellowing was noticed in OS 135. Among the check clone RR11 208 recorded lowest per cent of yellowing followed by RR11 600.
- Experiment on Clonal nursery evaluation of promising 20 Hevea clones is in progress.
- Efforts are being continued to mitigate drought stress by evolving better agro management techniques by using vertical mulching and Kaoline spray.

### 9.2 RRS, Dhenkanal, Odisha

- To find a most suitable clone among the ortets, ten ortets were selected and multiplied. Early growth of ortets is satisfactory. OR 1 and OR 7 recorded good early growth.
- RR11 208 (68.2 g/t/t), RR11 600 (55.7 g/t/t) SCATC 88-13 and selected polyclonal population (73.6 g/t/t) were found most promising in terms of rubber yield as well as growth under the dry sub humid climate of Odisha.
- Among the RR11 400 series clones, RR11 414 and RR11 430 were found to be best in adaptability and early yield and growth.
- CUT gave two to three fold increase in yield in the region. Treatment S/4 d/2 ET5%-45 days was the most productive,

### 9.3 RRS, Padiyoor, Kerala

- Mapped spatial variability and plotted interpolated maps of coarse fragments, actual soil volume, slope and depth characteristics of the soil in the research farm.
- Girth and girth increment significantly increased with irrigation leading to early tappable of trees. Summer yield differences were not significant.
- Application of increased levels of fertilizer over that of the recommended levels did not show any significant effect on girthing of the trees in the three clones (RRII 105, RRII414 and RRII 429) studied.
- Of the 11 clones compared, PB 255 and IRCA 130 showed significant superiority over RRII 105 with respect to yield.
- The average annual yield of RRII 203 (57 g/t) was found significantly superior to that of RRII 105 (43 g/t). Yield of PB 86, RRIC 100 and RRII 105 were on par. Of the ortets, P 270, P 213 and Irtty 1 performed better with yields of 38.8, 33.0 and 31.3 g/t.

### 9.4 Hevea Breeding Sub Station (HBSS) Paraliar, Tamil Nadu

- HBSS Paraliar is pursuing a total of 22 large scale clone evaluation experiments,
- Out of the nine new clones being evaluated at Keeriparai, PB 255 continued to outperform other clones, including the control clone RRII 105. Three (IRCA 109, IRCA 111 and IRCA 130) out of the five new introductions

made from Cote d'Ivoire also performed numerically better than RRII 105.

- In the Block Evaluation Experiment, RRII 105 outperformed all the other 12 popular clones up to the eleventh year of tapping.
- In Gx E trial at New Ambadi Estate, RRII 203 exhibited numerically better yield than the control clone RRII 105.
- Root trainer plants at Churulacode presented numerically better yield than polybag plants up to the seventh year of tapping.
- Carried out field planting of a small scale trial at Vellambimalai consisting 10-hybrids, 4-ortets and 3-check clones.
- Training on root trainer planting techniques was imparted to one batch of Extension Officers, one batch of officers from Myanmar and eight batches of planters and nursery owners.
- Action was initiated to establish an agrometeorological observatory at HBSS, Paraliar farm.

### 9.5 HBSS, Nettana, Karnataka

- In the three ortet trials planted in 1988 after nine years of tapping indicated T2 to be the highest yielder with 74.0 g/t closely followed by the ortets, namely O 17 (68.0 g/t) and O 15 (63.8 g/t). Yield of control clones GT 1, RRII 105 and RRII 600 was 64.6, 47.6 and 46.4 g/t, respectively. In the second trial high yielding clones were T1 (72.4 g/t) followed by GT 1 (69.5 g/t). In the third



trial, GT 1 recorded maximum yield (84.0 g/t/t) followed by ortet O 55 (75.6 g/t/t) and C 140 (75.5 g/t/t). Control clones RR11 105 and RR11 600 yielded 63.9 and 31.8 g/t/t respectively. Other ortets with notable yield are O 49 (69.6 g/t/t), O 26 (65.0 g/t/t) and O 11 (63.8 g/t/t).

After nine years of tapping in large scale clone trial 1989, maximum yield was noted in RR11 203 (67.2 g/t/t) followed by KRS 25 (56.2 g/t/t). Check clones RR11 105 and RR11 600, respectively yielded 46.3 and 32.7 g/t/t.

Another large scale clone trial planted in 1990 A clone PB 260 (65.2 g/t/t) was the highest yielder closely followed by PB 235 (62.3 g/t/t) and HP 372 (59.6 g/t/t). Tjir 1 was the lowest yielder (21.2 g/t/t).

In the three small scale trials of exotic and indigenous clones planted in 1991, a total of 54 trial clones and three control clones are under evaluation. Highest yield was noted in clones PB 235 (77.6 g/t/t), PB 280 (76.8 g/t/t), PB 314 (76.7 g/t/t), PB 312 (72.6 g/t/t) and PB 311 (66.5 g/t/t) in the first trial. Clone RR11 5 gave maximum yield of 69.5 g/t/t followed by RR11 3 (60.5 g/t/t) and clone was HP 83/224 (67.4 g/t/t) followed by PB 28/59 (56.6 g/t/t) after seven years of tapping were high yielding clones in the third trial. In 400 series clones trial planted in 2000, on completion of 12 years of growth and three years of tapping, maximum yield was noted in clone RR11 414 (71.8 g/t/t) followed by RR11 430 (65.6 g/t/t) and RR11 422 (59.7 g/t/t). Parent clones RR11 105 and RR11 100 yielded 41.3 g/t/t.

## 10. RESEARCH PROGRAMMES IN NE REGION

### 10.1. RRS, Agartala, Tripura

- In the large scale trial (LST) 1995, mean yield over seven years showed that PB 311 had the highest yield followed by RR11 105.
- In the LST 1996, mean annual yield showed that clone RR11 600 had significantly superior yield compared to all other clones tested.
- In on farm trial at Killamura, mean yield over five years of tapping revealed that PB 235 (1136 kg/ha/yr) had the highest yield followed by RR11 600 (1054 kg/ha/yr).
- In the SST (2000) of ortets, O 114 (46.5 g/t/t) exhibited highest mean yield over three years followed by ortet O 98 (37.7 g/t/t) and control clone RR11 600 showed 37.4 g/t/t only.
- Planted 49 clones for standardising DUS testing norms for field trial.
- BCR was highest for Banana in the intercropping trial in rubber. Pinapple and Amorphophallus were more remunerative than other annual crops tested under minimum tillage condition.
- Top soil and farm yard manure in the ratio 8:2 can serve as an alternate potting media in root trainer in North East. In intercropping of fodder crops, Guinea grass showed highest yield followed by Signal with Stylo.
- No difference in growth of rubber was recorded after one year under zero tillage condition and recommended pit planting.

- Clone RR11 429 responded significantly towards application of NPK fertilizers and at the end of seven years, tappability of the clone was recorded up to 80 % when one and half times of recommended dose of fertilizer was applied.
- Cross infectivity test of *Phytophthora sp.* isolated from leaf rot of betel vine showed that betel vine isolate was able to infect rubber leaf and produce black brown lesions.
- In different systems of tapping experiment, clone PB 235 showed highest yield in S/2 d3 compared to S/2 d4 and S/2 d6 system of tapping.
- Biogas can be successfully generated from rubber sheet effluent during winter season. It was observed that the failure of bio gas plant was due to lack of interest, insufficient effluent and poor maintenance of the plants.
- Spatial mapping of existing rubber plantation of Tripura state has been accomplished using IRS-P6 LISS 3 and LISS IV satellite images with collaboration of ISRO, Bangalore. Based on this, total area under NR in Tripura state was found to be more than 45000 ha (more than 2-3 year old)
- Strength of mud walls increased by applying latex to mud walls. Highest strength was observed when mud wall was made with latex mixed with clay.
- Agromet studies showed an annual decrease of 19 and 11/mm/day (in 100 years) in PET in Agartala and Kottayam, respectively.
- Individual farmers were mostly selling their produce as unsmoked sheets to village traders / subagents of dealers. Average selling price of unsmoked sheets to the subagents is Rs 27.20/kg less than the RSS 4 Kottayam price. 93 % of BPU's and 80 % of RPSs are processing and marketing their produce as preserved field latex (PFL). Channel of marketing in PFL has been dominated by the trading company (100 % in BPU and 90 % in RPS)
- Offered discriminatory fertilizer recommendation based on soil and leaf analysis to 244 rubber growers. A total of 1356 number of latex samples were analysed for DRC and other latex parameters. Total 4010 m of bud wood of high yielding clones were supplied for distribution to growers.

#### 10.2. RRS, Guwahati, Assam

- Severity of powdery mildew disease (PDI) was in the range of 20 to 65% on lower branches of the affected trees and that might be due to presence of high temperature during refoliation period in February/March.
- Incidence of Periconia leaf blight disease (20 to 70%) was noticed on tender leaves in nursery during December/January and the severity (PDI) was very high at Umling (80%) in Meghalaya.
- Incidence of brown root disease (0.5 to 8.9%) was noticed on three/four years old rubber plant in some pockets of private plantation in Assam and

Meghalaya with maximum at Nongham (8.9%) in Assam and caused a total loss of the affected plants. The disease is under control by application of tilt (5ml/ litre water) after removal of affected roots from soil.

- Advisory service was given to eighteen private growers of this region for management of pests and diseases of rubber.
- High infestation of white grubs (60%) was observed on the surface of tap root of one year old rubber plants in private grower's field at Kashipur under Udalguri district of Assam for the first time in North East region and caused a total drying of the affected plants. Infestation is under control by application of Phorate 10 G at the rate of 20 kg/ha.
- Cold injury was noticed in 7.7% plants of RRIL 422 in on-farm trial at Umsiang during February.
- High level of tolerance to powdery mildew disease was found in AC 587 as compared to other two wild accessions of Hevea germplasm (RO 1737 and AC 5302).
- The rate of weight loss of bamboo leaf litter was faster followed by rubber, teak and sal litters in ascending order.
- Total microbial population noted was much higher in the litters placed under the forest floor. A few saprophytic fungi were isolated frequently from the decomposed

litters which were considered as active decomposers.

- Qualitatively, fungal species composition was similar in both bio fertilizers treated and untreated control soils.
- Antagonistic efficacy has been assessed by dual culture technique. *Penicillium* sp., *Aspergillus* sp. and *Trichoderma* sp. have shown some antagonistic effect towards pathogenic fungi.
- In the INM experiment, the girth data of treatment 50% N&P + BF\* was found to be significantly superior over control.
- In an experiment on biological bunds for soil conservation, involving rubber along with Vettiver, Lemon grass, Palmarosa, Guinea grass, Rice bean, cover crop and rubber with natural cover, the quantity of eroded soil collected in trench was recorded and was found be minimal.
- In a study on development of locally viable and adoptable root trainer technique for propagation of rubber, root trainers made of bamboo, earth and plastic were used. The sprouting percentage was higher in bamboo containers (93%).

### 10.3 RRS, Tura, Meghalaya

- In half-sib progeny evaluation 2008, top 20% of the population has been selected for further evaluation in clonal nursery. In half-sib progeny 2009 trial, RRIL 203 progeny showed significantly higher growth compared to other progenies, but

the test tap yield was more in RR11 105. On the basis of the test-tap yield and girth of the progenies, top 20% of the population has been selected for further evaluation in clonal nursery trials.

- In on-farm trials at East & West Garo Hills of Meghalaya (Mendipathar & Bolchugre) highest girth and height were recorded in PB 235 followed by RR11 600. In West Garo Hills, maximum height was recorded in RR11 600, but mean girth, number of leaves and whorls were more in RR11 417
- For establishment of a polyclonal seed garden for NE at RRTC, Hahara, Guwahati, 859 Poly-bag plants belonging to 9 clones were planted in the field and maintained.
- In controlled upward tapping (CUT) trial, data showed that maximum yield was recorded in S/4U d/2 treatment while minimum yield was noted in 45 days interval application of ethaphon in S/3 U d/2 treatment.
- In NPK trial, maximum girth, girth increment, yield, DRC and latex volume were observed under the treatment combinations of N60P30K45 kg/ha and minimum was  $N_{30}P_{30}K_{30}$ . Application of NPK fertilizers significantly increased the O.C. content, available P and K.
- In soil moisture study of Ganolgre farm, soil moisture content showed increasing trends with increasing depth of soil in all the months. Maximum soil moisture

content was recorded during July and minimum was in January and February. Annual mean was seen between field capacity and permanent wilting point (22.7 % to 24.1 %).

- 58 soil samples were collected from the rubber growing areas and analyzed and fertilizer recommendation given to the growers.

#### 10.4. Regional Experiment Station (RES), Nagrakata, West Bengal

- The mean yield of SCATC 88/13, RR11 300, PB 311, RR11 703, RR11 605, RR11 208, SCATC 93/114 and PB 235 were superior to the check clone RR11 105 in trial I and II.
- In trial III where the yield of check clone RR11 600 was appreciable, none of the clones showed superior yield.
- In trial IV the mean yield of RR11 208 and Haiken 1 was higher than the check clone RR11 600
- Among the 21 wild accessions, maximum girth was found in RO 3172 followed by RO 2890, RO 5348 and RO 2635.
- In the evaluation of wild accessions, in terms of yield among all the germplasm accessions, RO 5363 showed highest yield which is comparable with that of the check clone RR11 105.
- In general, the performance of Rondonia accessions was better compared to the Acre and Mato Grosso accessions.

- Yield in  $N_0P_2K_0$  was significantly higher than  $N0P0K0$  combination.
  - Green tea leaf yield in inter-planted plots was significantly lower than that of the pure plot due to heavy shade imposed by the mature rubber trees and also due to severe pest attack in these plots.
  - Attempt was made to introduce rubber in abandoned tea growing areas of sub Himalayan West Bengal where soil is either sodic or stony. Preliminary result showed that rubber can grow well in the alkaline pH of 8.3.
  - Among the clones growing in high pH soil, the girth of RR11 208 was significantly higher than that of RR1M 600.
11. RESEARCH FELLOWSHIP SCHEME AND RRII SUPPORT SERVICES
- Research Fellows continued their assigned programmes in Molecular Biology, Molecular Plant Pathology, Plant Physiology, Anatomy, Climatology, Remote sensing and Rubber Technology. Good progress was achieved during the period.
  - Activities of supporting services such as the Library, Computer Centre, Instrumentation section and Maintenance wing were strengthened. Logistic support were also given to all research laboratories and regional stations



Vietnam Rubber Group visiting effluent treatment plant at Elavampadom Model RPS

## 12. LINKAGE WITH NATIONAL AND INTERNATIONAL CENTRES

- Four scientists whose proposals were approved during 2011-12 have undergone overseas training in following subjects and places:
  - i. 'Studies on the feasibility of the cultivation of alternative sources of Natural Rubber (*Parthenium argentatum* & *Taraxacum kok-saghyz*) in abiotic stress prone areas and marginal lands in India', at the United States Department of Agriculture (USDA) laboratories and Ohio State University Centre in USA.
  - ii. 'Ionomics (complete elemental profile integrated with bioinformatics and genetic tool) of *Hevea brasiliensis* and its applications in mineral nutritional of plants' at the AgriLife Research Center, Texas A&M System University, Texas, USA.
  - iii. 'Ion channel gating and environmental stress with special reference to K<sup>+</sup> ions' at the Department of Biochemistry and Molecular Biology, University of Nevada, USA.
  - iv. 'Development of antibiotic marker free *Hevea brasiliensis* transgenic plants' at the University of Arkansas, Division of Agriculture, Department of Crop, Soil and Environmental Sciences, Arkansas, USA.
- One scientist is deputed for a three weeks training programme entitled 'Participatory small holder development' hosted by the

Rubber Research Institute of Thailand and sponsored by International Rubber Research and Development Board (IRRDB), Malaysia. The programme included two days IRRDB International Conference and field visits.

## 13.0 RRRI PUBLICATIONS

Research articles	- 43
Popular articles	- 35
Proceedings	- 6

## 14 . EVENTS

### 14.1 International Workshop and Seminar on "Phytophthora diseases of plantation crops and their management"

To mark the Centenary Year of the first report of *Phytophthora* leaf disease in rubber plantations in India and Golden Jubilee Year of the recommendation of its effective control using oil-based copper oxy-chloride against abnormal leaf disease in rubber, a three-day International Workshop and a three-day Seminar on "Phytophthora diseases of plantation crops and their management" was organized by Plant Pathology Division of RRRI during 12-17 September, 2011 at Rubber Research Institute of India, Kottayam. An exhibition of plant protection chemicals, bio-control agents and machineries was arranged together with the Seminar. The scientific programme consisted of invited talks and interaction among scientists, planters and manufacturers of plant protection chemicals and machineries both from India and abroad. Nearly 350 delegates participated in the deliberations of the meeting.

#### **14.2 24<sup>th</sup> Kerala Science Congress**

The Kerala State Council for Science, Technology and Environment (KSCSTE) and the Rubber Board jointly organised the 24<sup>th</sup> Kerala Science Congress at RRII from January 28<sup>th</sup> to 31<sup>st</sup> January 2012. A Science Expo was also conducted from 28<sup>th</sup> to 31<sup>st</sup> January 2012 at Kottayam. All the scientists and staff of RRII actively participated in the conference and exhibition by holding charges under various functional committees. There were altogether 132 oral and 108 poster presentations under 12 different technical sessions. Out of which 12 oral papers and nine posters were from RRII. Dr. Sherin George and Sri. A.N. Sasidharan Nair received best poster award under "Agriculture" for their poster entitled "Assessment of nutrient requirement in rubber based cropping system with coffee and cocoa as intercrops". On 31<sup>st</sup> January 2012, the conference concluded with a Children's Science Congress and a session on interaction with eminent scientists including Prof. M.S. Swaminathan.

#### **14.3 RRII Scientific Seminar**

Eight scientific seminars were conducted by RRII in which 20 research papers, 5 project proposals, one project report and four talks presented by the scientists and discussed.

#### **14.4 Overseas visitors**

- i) Two technical officers from Rubber Research Institute of Sri Lanka were

trained in Plant Physiology and Latex Harvest Technology and Agronomy/ Soils and Fertiliser use respectively for three months during the year.

- ii) Director, Rubber Research Institute of Sri Lanka together with two scientists visited RRII and the Regional Research Station in the non-traditional regions of Dapchhari and also visited Goa and Savanthawadi regions. They had interaction with RRII scientist and gained first hand information regarding the details of rubber cultivation in dry areas.
- iii) The Vietnam Rubber Group (VRG) headed by the Director General, Director Technology, RRI Vietnam and officials from various rubber companies of Vietnam and one scientist from Vietnam University visited Rubber Board and selected rubber processing facilities in Kerala from 13<sup>th</sup> March to 15<sup>th</sup> March 2012. Their main purpose was to learn Indian experience in RSS effluents processing, biogas generation and its utilization. They have visited model treatment facilities at Elavampadom RPS (Palakkad) and gained first hand experience in treatment of RSS Effluents. The group also visited private plantations in high elevation areas of Adimali (Idukki District)





## PART - VI

## PROCESSING AND PRODUCT DEVELOPMENT

The Indian rubber processing industry has to meet improved production performance, customer satisfaction, stronger environment regulations, etc. Keeping these in mind, the 11th plan scheme were formulated and executed. Based on the recommendations of expert committee on evaluation of the 11th plan schemes and feedback from stakeholders, the Twelfth plan proposals are formulated and submitted for approval.

The scheme envisages supporting the Indian rubber plantation industry to thrive in global market, necessitating value addition, quality improvement, product diversification and cost effectiveness by promoting adoption of innovative rubber processing techniques and state of art machinery, equipment and systems.

*Following were the main activities of the department during the year 2011-12:*

## a. Rubber

- Quality up-gradation, cost reduction and strengthening environmental protection systems in block rubber and latex concentrate factories.
- Quality certification of rubber produced in India, imported to and exported from the country.
- Implementation of BIS Scheme for Testing and Inspection (STI) for the benefit of rubber processors and providing testing facilities to all

stakeholders for testing rubber, latex, chemicals, water and effluents.

- Providing technical support to RPS in producing high quality RSS grades and their grading.
- Strengthening the RPS and co-operative sectors in processing and marketing of rubber.
- Demonstration, training and technical support to rubber processors in producing various forms of processed NR to meet specific consumer requirements, their quality control, testing and environmental protection systems at rubber processing factories.
- R & D activities in rubber processing.
- Design and development of new fuel efficient smokehouses/sheet processing units as joint effort with Rubber Production department

## b. Rubberwood

- P & PD department is also promoting processing and value addition of rubberwood since this will create employment, save forest and ensure additional income to rubber growers making rubber cultivation sustainable in the years to come.
- Research and Development activities in rubber wood processing.

## I ENGINEERING DIVISION

### 1 . Scheme for processing, quality upgradation and product development

#### A. Support to Block Rubber and Latex Centrifuging Factories.

Towards achieving international competency, under the scheme Processing, Quality Up-gradation and Product Development, the department continued to provide technical and financial support to processors of block rubber and latex concentrate for improving quality and consistency, reducing process waste and cost of production and strengthen environmental protection systems.

Major activities supported are given below:

- Replacement / addition of dry rubber processing machineries to reduce operating cost on account of power, fuel, repairs and maintenance and also by enhanced output.
- Additional storage area for raw material and finished products, which facilitates easy material handling and avoid quality deterioration.
- Conversion of diesel fired / electrically heated driers to biomass gasifier systems. Drying is the most expensive step in rubber processing. Biomass gasifier reduces the cost of drying by 65 to 70%.
- Computers, peripherals and software for improving production, planning and control systems and management information systems. This has made easy

performance review at the processor end and timely rectification of defects, if any.

- Installation of material handling equipment like bucket elevators, conveyors, etc. to reduce fatigue of workmen and thereby improving labour productivity. This is of much benefit to processors in the present context of acute shortage of skilled labour.
- Procurement of additional machinery for size reduction / creping to facilitate better dirt removal and in achieving homogenous size reduction to crumbs, thus achieving overall improvement in quality.
- Replacement of outdated centrifuging machines with the latest models to achieve higher output, improved quality, recovery and consistency.
- Modification of latex holding tanks to improve quality, consistency and reduced wastage.
- Procurement of equipments for testing and quality control to ensure international acceptance.

During the year, fifteen block rubber processing units were given financial assistance for modernization amounting to Rs. 93.03 lakh and five latex centrifuging units were given Rs. 35.51 lakh.

#### B. Support to Indlawood and Metrowood

Indlawood and Metrowood are two rubberwood processing companies promoted by the Board for processing and value addition of rubberwood. These companies provide

demonstration and training facilities in rubberwood processing, value addition, quality control and waste utilization for development of domestic rubberwood industry. Under the 11<sup>th</sup> Plan Scheme, support to these companies comprises of purchase of machinery, interest subsidy on loans availed from commercial banks and working capital grant.

The Board has provided an amount of Rs. 152.86 lakh to M/s Indriawood, which includes working capital grant of Rs. 140 lakh and Rs. 66.25 lakh to M/s Metrowood, which includes working capital grant of Rs. 65 lakh during the year.

**C. Support to Rubberwood Processing**

The department undertook the following activities during the year 2011-12 to strengthen the rubber wood processing industry in India:-

- Technical and financial support to rubber wood processors for quality improvement, value addition, waste reduction and waste utilization. Under the scheme, the Board has provided a financial assistance of Rs. 10.46 lakh to M/s Indroyal Crafts Pvt. Limited.
- Provide testing facilities to processors and consumers of wood.
- Demonstration, training and technical support to rubber wood processors and new entrepreneurs through Rubber wood Testing Laboratory as well as in Rubberwood India Pvt Ltd., promoted by the Board
- Undertaking activities on formulation of new chemicals and processing

techniques to meet higher performance requirements and utilization of rubber wood in various products.

- Strengthening the RPS sector engaged in rubberwood processing.
- Manufacture of rubber wood furniture through Women Self Help Groups promoted by Rubber Producers Societies

**2. Central Wood Testing Laboratory**

The Central Wood Testing Laboratory formerly known as Rubber Wood Testing Laboratory at Manganam, Kottayam provides testing facilities to the processors and consumers of rubberwood. During the year testing facilities were offered to various parties and 590 samples were tested. A total amount of Rs.88052.00 was collected as testing fee.

Major customers during the period were Rubberwood India (p) Ltd, High land Produce Co Ltd, Koodankulam Nuclear Power Corporation, Rubco Huat (p) Ltd, Funscool (India) Ltd and Prestige Panel, Kannur.

**Training & Technical Advise**

- Training on estimation of preservative chemicals from treated & treatment solution was being provided to analytical trainees
- Laboratory provided training on wood preservation to MSc students and mechanical testing to M Tech students. Lab also extended training to PhD student, College of forestry, Tamil Nadu
- Providing technical advices on wood preservation and quality control

- For continuation of NABL accreditation, surveillance audit was conducted in accordance with ISO / IEC 17025:2005 for chemical testing, mechanical testing and documentation side by the NABL deputed assessors and found satisfactory. Also the Quality manager has participated in training on Quality Management system and internal audit as per ISO/IEC 17025:2005
- Engineering consultancy for irrigation systems for RP department.
- Feasibility study for setting up a rubber wood processing unit at NRETC, Andamans.

#### 4. Civil Works

Civil Engineering unit has executed major constructions/repair works to office/residential buildings, constructions of new roads & reconditioning of existing roads, leak proofing / interior works, etc. at Board's establishments all over India. During the year 2011-12, major civil works were completed at RRIL, Head Office, CES Chethakal and outstations like Padiyoor, Kadaba, Dapchari Nagarakata and Agartala, Guwahati, Tura & Hahara in North east region. Besides, an interior work has been completed in first floor of the Head office.

Water supply system at Dapchari, Padiyoor & Nettana was improved by construction of RCC well and allied works. Compound wall works for Rs.70 lakh is in progress at Padiyoor and constructed processing factories /smoke houses at Dapchari & Nagaratta for quality improvement. Metalling and bituminization of roads are in progress at Padiyoor and completed re-tarring of Madhavanpady road to Rubber Training Institute and RRIL at the cost of Rs. 37 lakh.

Major constructions done at NE region are extension of office and staff quarters at Agartala and Taranagar, construction of residential complex at Guwahati, construction of processing shed /office building at Hahara and construction of compound wall at Tura. In addition, the division extended services for construction under quality improvement/modernization schemes to various Rubber

- R&D activities
- Conducting technical study in the rubber wood industry

*During the year, the department has completed the following technical studies :*

- Effect of ageing on strength properties of rubber wood (A paper was presented in the 24<sup>th</sup> Kerala Science Congress held at RRIL)
  - Comparative study on rubber wood against teak wood
  - Chemical modification of rubber wood to be used in pencil industry. (A poster was presented in the 24<sup>th</sup> Kerala science congress held at RRIL)
  - Collaborative study with the botany division of RRIL on strength properties of RRIL 400 series rubber tree clones.
3. **Engineering Consultancy Services**
- Consultancy services in machinery procurement/ installation at M/s Meenachil Rubberwood Ltd & M/s Rubberwood India (P) Ltd.
  - Engineering consultancy for Plantation Corporation of Kerala Limited for its TSR factory at vettilapara.

## Annual Report 2011-12

Producers Societies, Co-operative societies and factories.

Total amount spent during the year 2011 - 12

- |             |                 |
|-------------|-----------------|
| a) Plan     | Rs. 356.26 lakh |
| b) Non plan | Rs. 17.99 lakh  |

### 5. Electrical Works

Electrical Engineering unit has executed various electrical works such as rewiring, electrification, energy audit, etc in the Board's establishments all over India and provided consultancy service on Genset installation in rubber processing factories. Major electrical works were carried out at RRIL, CES Chethackal, outstations like Padiyoor, Dapchari, and Agartala, Guwahati and Tura in North eastern Regions. New installation of

DG Gensets were done at RRIL and India Wood and proposal for stand by DG power supply is under progress for CES Chethackal, NRETC complex Agartala and Central Rubber Nursery, Karikkatoor.

The Division liaised appropriately with Electrical Inspectorate and State Electricity Board and obtained approval for electrification from Electrical Inspectorate. In addition, the Division extended services for electrification of 100 MT Godowns as part of quality improvement / modernisation schemes of various RPS and Co-operative societies and provided new stand by power supply to M/s India Wood. Total amount spent for electrical works during 2011-12 is Rs. 59 lakh.

## II RUBBER PROCESSING AND MARKET DEVELOPMENT DIVISION

### A. Implementation of Plan Schemes for Market Development

Purpose	No. of RPS benefited	Amount disbursed (Rs. in lakh)
1. Strengthening of RPS sector in marketing of Rubber		
Working Capital Loan	11	270.00
5% interest subsidy on loans availed from commercial banks	13	27.46
Marketing of Estate Inputs	9	85.00
Towards grant in lieu of Share Capital	1	2.57
Total amount disbursed (Rs. lakhs)		385.03
2. Strengthening of Co-operative sector in marketing of Rubber		
Working Capital Loan	2	25.00
5% interest subsidy on loans availed from commercial banks	16	31.24
Towards grant in lieu of Share Capital	1	9.13
Total amount disbursed (Rs. lakhs)		65.37

# COS - Co-operative societies

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# COS - Co-operative societies



**1. Grant for Acquiring Land/ Building/ Construction of Building to RPS companies**

An amount of Rs. 10 lakh was released to two RPS Trading Companies towards Grant for Acquiring Land / Building/ Construction of Building

**2. 1000 MT godown at Rubber Park /100 MT godown at NR Processing Centres**

An amount of Rs. 42.96 lakh was released towards settlement of bills against completion of the godowns during the year.

**B. Other Activities**

**a) Core Committee on rubber quality**

A core committee on rubber quality was formed with the Director (P&PD) as convener and representatives from Automotive Tyre Manufacturers Association (ATMA), individual tyre units, rubber dealers, small rubber growers, estates and officials of Board as members.

As suggested by the core committee, the following activities were taken up:

- i) A leaflet, explaining essential practices to be followed for making good quality sheet rubber was prepared.
- ii) A poster depicting the normal 'Dos' and 'Do Nots' in processing of sheet rubber was prepared.
- iii) A documentary film giving insight to the need for improving quality of sheet rubber was prepared.

**b) Centralized awareness programme**

Classes were handled in three centralized awareness programs on quality improvement of sheet rubber for field staff.

**c) Integrated program by Rubber Board and ATMA**

Classes on processing and quality improvement of sheet rubber were handled in five programmes jointly organized by the Rubber Board and Agricultural Technology Management Agency (ATMA)

**d) Field visit to provide advice on quality improvement**

25 Group Processing Centres were visited during the year

**e) Consultancy work**

Consultancy services were extended to two public sector companies, one estate sector company and two private individuals for setting up of sheet rubber processing units.

**f) Inspection of sheet rubber for export**

For export, the Division inspected 834 MT of sheet rubber and cleared 715 MT (RSS 4) of sheet rubber. 45 MT of block rubber was also inspected and cleared for export. 20 Quality Certificates for export were issued during the year.

**g) Training Classes**

Both out station (15) and in-house (30) training classes were handled.

**h) Site / factory inspection**

For issue / renewal / cancellation of licences and capacity enhancement - 7

**i) Preparation of Project Report / Profile**

Three Project Reports and two Project profiles were prepared.

### III PROCESSING AND QUALITY CONTROL DIVISION

The quality / purity of rubber, rubber chemicals and other materials used in rubber industry cannot be assessed by visual examination. Investment and infrastructure requirements to set-up a laboratory are huge. Hence, for the benefit of various stakeholders, the Board is running a full-fledged laboratory under the Processing and Quality Control division.

#### 1. Commercial testing.

The division undertakes commercial testing for the benefit of all the stake holders covering field latex, concentrated latex, dry rubber, chemicals used in rubber processing, rubber product manufacturing and for plant protection, fertilizers and organic manures, waste water generated from rubber processing industry and drinking water and water for civil construction. 18,874 samples were tested and provided results to various stakeholders and a total amount of Rs. 13.73 lakh was collected during the year 2011-12.

#### 2. BIS scheme of testing and inspection

Rubber processors, who join with Bureau of Indian Standards (BIS) Scheme of Testing and Inspection (STI), can use ISI standard mark on their produce. For implementing STI, BIS has appointed the Rubber Board as their agent and we get 66.67% of marking fee paid by the processors to BIS. Rubber Board officials conduct periodic inspections at the factories of the Licensees. During 2011-2012, 132 BIS licences were issued.

#### 3. Calibration of testing equipments

For ensuring accuracy of testing at processing units, the division extended calibrating facility on a nominal charge. Six calibrations were made.

#### 4. Import of natural rubber

It is mandatory that NR imported to India shall conform to BIS Standards. Vide OM No. F/8/12/2011 - Plant C dt. 3-1-2012 Rubber Consuming Industries were exempted from mandatory inspection of Rubber Imported by them for 1 year with effect from 1<sup>st</sup> January 2012. However, the Board will be monitoring the developments to arrive at a final decision on the matter. During 2011 - 12, the division inspected 2,13,785 MT of rubber imported in to the country.

Statements showing type/channel/port of imports are submitted to the Ministry every month.

#### 5. Export of natural rubber

To ensure quality of rubber exported from the country, the Board conducts quality checking of consignments exported. During 2011-12, the different forms of NR exported are as follows:

Forms of NR	Quantity
Concentrated latex	15128 MT
ISNR - 20	953 MT
RSS Grades	9471 MT
Other forms of NR	1593 MT
<b>Total</b>	<b>27145 MT</b>

6. **QC inspections at Rubber processing units (not covered by BIS's STI)**

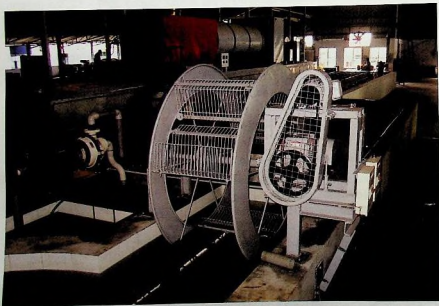
As per Rule 48 of the Rubber Rules 1955, the quality of processed rubber shall conform to Indian standards. Random surprise inspections were conducted at rubber processing units for checking quality of processed block rubber/concentrated latex.

7. **Training to Analytical Trainees**

The division imparts analytical training to trainees covering theoretical and practical aspects of testing of raw rubber, latex, rubber chemicals, wastewater, drinking water, chemical and organic fertilizers, etc.

8. **Training and Project Related Activities**

Participation in training programmes organized by Rubber Training Institute. Officers of P&QC division function as resource personnel as faculty in those training programmes organized by the Rubber Training Institute and also associated with theory classes & practical examination conducted for to B.Tech (Polymer Science and Rubber Technology) and M.Tech (Polymer Technology) students of Cochin University of Science and Technology.



**Automation in Block Rubber Processing**

*Project work to University students*

As part of the curriculum, the division assisted Cochin University students in carrying out their project work during the year.

**9. Advisory work**

Rubber processors approach us frequently for advice on quality improvement, reducing wastage, reducing cost of production and in implementing better environment management systems. The individual cases are studied and appropriate remedial measures are suggested.

**IV FACTORY MANAGEMENT DIVISION**

**Objectives**

Principal objectives of Model Technically Specified Rubber (TSR) factory are:

- Demonstration of the latest technology for TSR processing
- Demonstration of the latest system for environment protection most suitable for the TSR industry
- Imparting training on management of ISO 9000 and ISO 14000 quality systems and environment management
- Promotion of NR export by inducing upgradation of the quality of Indian TSR to match international standards.

Model TSR factory continued to be a demonstration unit for using latest technology in NR processing and environment protection. Supervisory staff from 9 firms visited the factory for gathering information on various technical

aspects. Provided training on various aspects of rubber processing and product manufacturing under different programmes organized by Rubber Training Institute.

**Other activities**

A trial has been initiated to produce Constant Viscosity Block rubber with deliberately coagulated cup lumps. Even though there were some initial teething problems, in subsequent trials these problems were sorted out. Initial trials were done with the latex collected from RRIL, and now the studies are being conducted with the latex being tapped from the trees at RRDT Complex.

**Production and Sales**

- a) *Model Technically Specified Rubber (MTSR) Factory*

Due to lowering of DRC realization during the previous years, latex purchasing system has been changed. Rates are now fixed and payments are being released based on actual DRC realized. Upon supply, 90% of the contract price is being released and balance after assessing the actual DRC. Due to scarcity in availability of field coagulum, the price offered in the market was very high.

The factory procured 1742.793 MT of field coagulum during the year at an average purchase price of Rs. 146.35/kg. compared to Rs. 134.68 during the previous year. During the year, wide variation in price existed and lowest monthly average price of Rs. 135.05/kg prevailed in November 2011 and highest average price of Rs. 180.50 prevailed in April 2011 for FC grade.

During the year, 1313.725 MT of block rubber (ISNR -20 grade) were produced against 1731.20 MT produced during the previous year. Reason for low production was mainly due to shortage/non availability of field coagulum in the market at reasonable/economical prices. More over the capacity of most of the block rubber units increased recently whereas availability of FC grade is much low than what is required. Actual DRC realized was 76.08% against 73.83 in the previous year. Average sales price for block rubber was Rs. 204.74/kg and 90% of block rubber production was consumed by tyre industry directly. Stock of raw material and finished goods as on 1<sup>st</sup> April 2011 was 10.42 MT and 82.05 MT respectively. The corresponding figure on closing day of the financial year was 26.520 MT and 30.725 MT respectively. Total turnover during the year was Rs.27.83 crores against 31.19 crores during the previous year.

*b) Pilot Latex Processing Centre*

Raw material procured 131.33 MT of DRC during the year against 120.07 MT during the previous year at an average purchase price of Rs. 177.54/kg DRC against Rs. 184.41/kg DRC during the previous year. Total quantity of 107.614 MT of centrifuged latex was produced against 121.685 MT during the previous year. 90.928 MT of cenex was sold at an average price of Rs. 213.91/Kg. DRC against an average price of 205.35/Kg. DRC during the previous year. Turn over during the period under report was Rs.2.14 crores against Rs.2.49 crores during the previous year.

Due to strikes at Central Experiment Station (CES), Chethackal, the factory could not be operated during April and May 2011. Latex collected was sold as PFL and hence, the production was less than previous year even though the procurement was more.



## PART - VII

### TRAINING

#### Introduction

The Department of Training under Rubber Board aims to meet the growing training needs of the rubber sector in the country. The Department has a Rubber Training Institute (RTI) located near Puthuppally, 8 km east of Kottayam in Kerala, which started functioning from July 2000. The Institute is housed in a beautiful building of 3710 sq. metres. Being adjacent to the Rubber Research Institute of India (RRII), the RTI is benefited by the excellent laboratory and library facilities of the RRII for imparting advanced training. The Institute has two demonstration laboratories for 1) Latex product manufacture and 2) Dry rubber product manufacture. Machinery facilities for the primary processing of latex and dry rubber are established at the Institute.

The RTI has a core faculty 5 Senior Officers. In addition, about 125 senior scientists /engineers/officers of the Board specialized in various fields of rubber cultivation and industrial applications of rubber act as faculty for the different programmes. A faculty bank is also maintained at the Institute, which comprises of experts from external sources in various disciplines for additional faculty support.

#### Objectives of the Rubber Training Institute

- Update the technical and managerial competitiveness of the rubber growers and rubber estate personnel.

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

In view of increasing demand for diversified training programmes, the Rubber Board approved the proposal to reorganize the Training Institute in its 165<sup>th</sup> meeting to provide opportunity for more focused planning and execution of training programmes.

*Accordingly, the Rubber Training Institute has been restructured into four divisions as shown below:*

1. Rubber Plantation Development Training Division
2. Rubber Industry Development Training Division
3. Human Resources Development Training Division
4. Extension Development Training Division

Annual Training Calendar was prepared in advance, including programmes of all the divisions, and training programmes were conducted as per the schedule. Besides, scheduled programmes, need based and collaborative focused programmes, were also organized. A brief report on the achievements of each division during 2011-12 is furnished below:

### 1. Rubber Plantation Development Training Division

The Division focuses on training on various aspects of rubber cultivation. Theoretical and practical training is imparted on scientific cultivation of rubber and the latest developments in the field of rubber cultivation, upkeep operations and primary processing of the latex. An international training programme for participants from Myanmar and other developing countries, promoted by the External Affairs Ministry, Government of India, covering both plantation and industry development aspects was also organized. Different programmes conducted by the Division during the year under report are as under:

- i) *Short Term Training on Rubber Cultivation for Small Growers:* To impart scientific knowledge in rubber cultivation, crop harvesting and processing, to small growers.
- ii) *Short Term Training on Rubber Cultivation for Estate Sector:* To impart scientific knowledge in rubber cultivation to estate managers and interested persons
- iii) *Advance Training on Rubber Cultivation and Plantation Management:* A need

based programme conducted to impart latest developments in rubber cultivation and plantation management

- iv) *Specialized Training on Rubber Plantation Management:* This also is a need based programme to impart knowledge on plantation Management for reducing cost of production
- v) *International Training:* Special course on rubber cultivation and rubber products manufacture: Need based programmes to impart and share knowledge on latest developments in rubber processing and product manufacture
- vi) *General Training Programmes:* focused training programmes on various aspects of rubber cultivation and processing were organized as per schedule and on need basis.

### 2. Rubber Industry Development Training Division.

The Division addresses the training needs of the processing, product manufacturing and marketing sectors of the rubber industry. The major thrust was for quality improvement, technical upgradation and cost reduction which indirectly contribute in improving the marketability of Natural Rubber. The division also conducts entrepreneur development and educational development programmes towards employment generation and in meeting the need for technical manpower of rubber industrial sector in the country. RTI has collaborated with various professional bodies/Universities all over India for conducting advanced programmes for industry personnel and academic students respectively.



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**Table I - Trainings imparted under Rubber Plantation Development Training Division**

Code	Course Title	Participants	Duration (days)	No. of batches	No. of participants	No. of man days
<b>1.</b>	<b>Rubber plantation development programmes</b>					
RC 01	Short term training on rubber cultivation for small growers	Rubber growers	5	3	75	375
RC 02	Short term training on rubber cultivation for estate sector	Persons from estate sectors/ growers	5	2	28	140
	Sub total			5	103	515
<b>2.</b>	<b>General training programmes</b>					
GT 03	Training on spraying and maintenance of sprayers	Rubber growers	2	1	6	12
GT 06	Training on nursery management, identification of clones	Nursery owners /Interested persons	2	2	28	56
GT 07	Training on Pests and Disease control	Farmers/ Nursery owners	2	1	11	22
GT 11	Training on Root trainer Plants	Small growers/ Nursery owners	1	1	27	27
	Sub total			5	72	117
<b>3.</b>	<b>International training programmes</b>					
INT 01	Special course on rubber cultivation and rubber products manufacture	Technical Personnel from Myanmar, Ghana and Vietnam	21	1	14	294
	<b>TOTAL</b>			<b>11</b>	<b>189</b>	<b>926</b>

The activities of the Division are grouped under six major heads as furnished below :-

**1. Rubber Processing and Quality Improvement Programmes**

i. Short Term Training on Rubber Processing and Quality Control: to

provide scientific knowledge and skills for processing the crop into various marketable forms and quality control.

ii. Training on Sheet Rubber Processing and Grading: to impart scientific knowledge in rubber processing and grading.

- iii. *Specialised Training on Processing of Block Rubber/ Cenex:* a need based training to impart training on processing and hands on training on testing of block rubber and speciality rubbers/cenex.
  - iv. *Training on Quality Management and ISO 9000 Quality System:* A need based programme to impart training on management of quality for ensuring consistency.
  - v. *Training on Effluent Treatment and Pollution Control:* A need based programme to impart awareness on pollution control and effluent control.
- 2. Rubber Industrial Development Programmes**
- i. *Short Term Training on Latex Goods Manufacture:* to provide scientific knowledge and skills in the manufacture of latex products.
  - ii. *Short Term Training on Dry Rubber Goods Manufacture:* to provide scientific knowledge and skills in the manufacture of rubber products using natural and synthetic rubbers and testing of rubber products.
  - iii. *Advanced Training on Rubber Products Development and Manufacture:* A need based programme to impart training on advanced techniques of rubber products manufacture and product development.
  - iv. *Specialised Training on Testing and Quality Control of Rubber and Rubber Products:* A need based programme to impart knowledge on testing of rubber and rubber products.
  - v. *Specialised Training on Latex and Dry Rubber Products:* A need based programme to impart training on individual products including testing and quality control and recent developments.
- 3. Training Programmes for Students**
- To impart training in rubber product manufacture and testing for Diploma/PG Diploma/B.Tech/M.Tech students of various Colleges/Universities
- i. Short Term Training on Rubber Products Manufacture and Testing
  - ii. Training in Rubber Technology for B.Tech. Students( Need based)
  - iii. Training in Rubber Technology for M.Tech. Students( Need based)
  - iv. Specialized Training in Rubber Technology for P.G.Diploma Students (Need based)
- 4. Market and Export Development Programmes**
- To impart knowledge on marketing and export of rubber and rubber products
- i. Short term training on marketing and export management
  - ii. Training on Export management
- 5. Outstation Training Programmes**
- Need based programmes on Entrepreneur development and quality control to industry
- i. Orientation Training on Rubber based Industry
  - ii. Training on Quality Control of Different Marketable Forms of NR
- 6. Collaborative Programmes**
- Advanced programmes on specific topics in collaboration with professional bodies for technical updation of industries

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Table II - Trainings imparted under Rubber Industry Development Training Division

Course Code	Course Title	Participants	Duration (days)	No. of batches	No. of participants	No. of man-days
<b>1. Rubber processing and quality improvement programmes</b>						
RP 01	Short term training on rubber processing and quality control	Entrepreneurs /persons from rubber processing units	5	1	8	40
RP 02	Training on sheet rubber processing and grading	Growers /Processors /Dealers/ consumers/ Entrepreneurs	2	7	130	260
RP 03	Specialized training on rubber processing and hands-on training on testing of PFL, Cenex, ISNR etc.	Persons from rubber processing and product manufacturing units	3	15	36	108
RP 05	Specialised training on effluent treatment and pollution control	Person from rubber processing units	4	1	1	4
	Sub total			24	175	412
<b>2. Rubber industrial development programmes</b>						
RM 01	Short term training on latex goods manufacture	Entrepreneurs/ manufacturers/ traders	5	4	75	375
RM 02	Short term training on dry rubber goods manufacture	Entrepreneurs/ traders/manufacturers/ product consumers	8	4	40	320
RM 05	Specialized training on latex thread, dipped goods, moulded goods, latex adhesives etc.	Persons from rubber product manufacturing units	3	5	7	21
	Sub total			13	122	716
<b>3. Training programmes for students in Rubber Technology</b>						
ED 01	Short term training on rubber products manufacture and testing	Students from University College of Engg, MIT, Tripura University, M.G. University, Govt. Polytechnic Nattakam, Koratty	10	6	148	1480

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ED 02	Training in Rubber Technology for B.Tech students	B.Tech students from CUSAT	20	1	21	420
ED 03	Training in Rubber Technology for M.Tech students	M.Tech students from CUSAT	20	1	8	160
	Sub total			8	177	2060
<b>4. Market and export development programmes</b>						
MD 01	Short term training on marketing and export management	Entrepreneurs/ Dealers/Exporters	4	1	44	176
<b>5. Out station training programmes</b>						
DT 03	Orientation training on rubber based industry	RPS members/ SHG members/ Growers/ Entrepreneurs	1	3	199	199
DT 04	Outstation training on RSS grading	Tyre industry	1	2	31	31
	Sub total			5	230	230
<b>6. Collaborative Programmes (RTI – IRI Collaboration)</b>						
	a) Training on reclaimed rubber (At RTI)	Rubber technologists/ Entrepreneurs Manufactures/ exporters of rubber, rubber chemicals and rubber products	1	1	35	35
	b) REACH regulation (At CUSAT, Kochi)		1	1	24	24
	Sub total			2	59	59
	<b>TOTAL</b>			<b>53</b>	<b>807</b>	<b>3653</b>

### 3. Human Resources Development Training Division

This Division arranges trainings required for all officers of Rubber Board in various Departments / Divisions / Sections, which include induction training on appointment,

refresher training for updating the knowledge and trainings both in-house and by external agencies for developing skills in specialized areas.

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Table III - Trainings imparted under Human Resource Development Training Division

Course Code	Course Title	Participants	Duration (days)	No. of batches	No. of participants	No. of man days
TE 01	Training for Officers on management skills	Employees of Board	2	1	20	40
TE 02	a) Departmental training for Junior Assistants (New recruits) b) Induction training for Junior Assistants	Employees of Board	14 2	1 5	21 26	294 56
TE 03	Refresher training for Section Officers	Employees of Board	5	1	22	110
TE 08	Induction training for Drivers	Employees of Board	2	1	6	12
TE 06	Refresher training on Computer application	Employees of Board	3	4	49	147
TE 11	Advanced training on Extension management	Employees of Board	5	4	76	380
TE 12	Induction training to Field Officers	Employees of Board	10	5	13	130
TE 13	Training on Project planning, research methodology and data analysis	Employees of Board	3	1	22	66
TE 16	Induction training to ED Inspectors	Employees of Board	3	1	1	3
TE 17	Training for Group D staff – a) At RTI b) At ZO Guwahati	Employees of Board	3 3	1 1	2 1	6 3
TE 18	Induction training for RTD's	Employees of Board	2	1	2	4
TE 19	Training on Corynespora leaf disease and its management strategies for Extension Officers	Employees of Board	3	1	16	48
TE 21	Induction training to Asst. Accounts Officers	Employees of Board	2	1	4	8
TE 22	Training programme on grading and sampling of Natural Rubber for quality inspection	Employees of Board	1	1	6	6
TE 23	Induction training to Asst. Scientific Officer	Employees of Board	2	1	1	2
	Sub total			31	290	1315
	HRD training programme in external agencies	Employees of Board	4	51	296	1184
	TOTAL			82	586	2499

#### 4. Extension Development Training Division

The Division organized training programmes for dissemination of scientific knowledge regarding rubber cultivation and for imparting necessary skills to those engaged in rubber plantation industry. Programmes for creating general awareness, among growers and public, about the various activities of Rubber Board for development of Rubber Industry, are also conducted regularly. The programmes are grouped under three heads as shown below.

- i. **Out station training programmes:** These are programmes arranged for members of Rubber Producers Societies and other interested groups, who find it difficult to attend training at the Rubber Training institute. Trainings on selected topics are conducted at

locations convenient to the groups concerned.

- ii. **Training for Director Board Members of RPS:** This is a programme is conducted every month to impart managerial skills to Director Board Members of RPSs and members of RPSs who are Directors in RPS sector companies.

- iii. **Visit cum training programmes (Sastradarsan):** This program is conducted to provide an opportunity to visit Rubber Training Institute and Rubber Research Institute of India so as to create scientific awareness among rubber growers, members of co operative societies and Rubber Producers Societies and other interested groups in rubber production and processing. The achievements of the Division during the year are provided in Table IV.

Table-IV Training imparted under Extension Development Training Division

Course Code	Course Title	Participants	Duration (days)	No. of batches	No. of participants	No. of man days
<b>1. Training for Director Board members of RPS</b>						
RE 01	a.Training for Director Board members of RPS (At RTI)	Director Board members of RPS	3	11	156	468
	b.HR Training to Director Board's members of RPS (NE Region)		1	9	150	150
RE 02	a.Training for RPS members on business management skills	RPS Members	3	1	17	51
	Sub total			21	323	51

### Annual Report 2011-12

#### 2. Out station training programmes

DT 01	Training for RPS centres	RPS/SHG Members	1	37	2086	2086
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#### 3. Visit cum training programmes

VT 01	Sastradarsan	Growers/RPS members/Students	1	48	1047	1047
VT 02	Trainees of TT school	Trainees	1	9	167	167
	Sub Total			57	1214	1214
	Total			115	3623	3969

The Training Department of Rubber Board has been allotted an initial budget allocation of Rs.300 lakhs for the year 2011-12, under the Human Resources Development (HRD) scheme, which constitute Rs.155 lakh for Plan schemes and Rs.145 lakh for operating expenses of the scheme. Plan

schemes were sub-divided into various components for easy administration viz. Training Programmes, Training Development, Demonstration Lab, Distance Education and Overseas Training. During the current fiscal year, Training Department has utilized 101.3% of the sanctioned budget.

Name of Scheme	Budget Sanction (Rs in lakh)	Actual Expenditure (Rs. in lakh)
<b>Plan Schemes</b>		
Training programmes	40.00	79.97
Training development	40.00	43.20
Demonstration lab	40.00	46.29
Distance education	30.00	
Overseas training	5.00	3.87
<b>Operating Expenditure for Plan</b>		
Pay and allowances	108.45	108.80
TA and DA	3.75	0.64
Contingencies	26.30	16.95
Other expenses Capital	1.50	2.95
Other expenses Revenue	5.00	1.22
<b>TOTAL</b>	<b>300.00</b>	<b>303.89</b>



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International Training for Myanmar and other developing countries



### ACHIEVEMENT OF THE YEAR

Target fixed for the year	: 3500 Beneficiaries
Achievement during the period (from 01.04.2011 to 31.03.2012)	: 5205 Beneficiaries (11047 mandays)



## PART - VIII

**FINANCE & ACCOUNTS**

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

1. Preparation of Annual Budget, Performance Budget, Foreign Travel Budget etc.
2. Review and Revision of budget under Zero Based Budgeting and exercising budgetary control.
3. Maintenance of the accounts of the Board, preparation of Annual Accounts and Balance Sheet, presentation of accounts for audit to the Accountant General, Kerala and the audited accounts to the Board/Ministry/Parliament.
4. Placing demands for grant from Govt. from time to time, receiving funds from Government and ensuring its optimum utilization.
5. Advising on financial propriety and regularity of transactions and regulating payments.
6. Assisting the Cost Accounts Branch of the Ministry of Finance in ascertaining the cost of production and in fixing price of Natural Rubber.
7. Preparation of financial statements for project reports and schemes.
8. Dealing with Central Income Tax, Agricultural Income Tax and Sales Tax matters relating to the activities of the Board.
9. Co-ordinating the activities of the companies jointly promoted by the Rubber Board and RPS.
10. Computerized Data Processing in the field of financial accounting, pay roll etc.
11. Drawal and disbursement of pay and other entitlements of the employees of the Board based on the orders issued by Govt. of India from time to time.
12. Management of Pension Fund and General Provident Fund and regulating disbursements there from.
13. Implementation of the Scheme of Computerization and Networking of all departments of the Board.

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### Annual Accounts 2011 - 12

Annual accounts for the year 2011-12 were presented to AG Kerala within the stipulated time. The Audit Report and the Audited Accounts with the certificate from the AG Kerala for the year 2010-11 were submitted to the Government for placing the same on the table of both houses of Parliament.

### Revised Estimates 2011 - 12 and Budget Estimates 2012 - 13

The Revised Budget for 2011-12 and Budget Estimates for 2012-13 were prepared within the time frame and submitted to the Government.

Budget sanctioned for the year 2011-12 was Rs. 206.74 crore comprising Rs. 170 crore under Plan and Rs. 36.74 crore under Non Plan, as against which the actual expenditure for the year was Rs. 216.32 crore (Plan Rs. 176.34 crore and Non Plan Rs. 39.98 crore).

Budget sanctioned for the year 2012-13 is Rs. 207.54 crore comprising Rs. 170.04 crore under Plan and Rs. 37.50 crore under Non Plan.

### Management of Funds

#### General Fund

A fund amounting to Rs. 195.81 crore was received from Government as budgetary support during the year 2011-12. The fund raised from internal resources was about Rs. 24.04 crore.

#### General Provident Fund/Pension Fund

The balance under the General Provident Fund as on 31<sup>st</sup> March 2012 was Rs. 55.18 crore and that under Pension Fund Rs. 55.15 crore. The accumulations in the funds

are invested in long-term securities to obtain optimum returns. The Board is maintaining GPF accounts for 1605 subscribers. There were 949 pensioners on the rolls as on 31.03.2012.

### Cost Accounts

The Cost Accounts division of the Finance & Accounts department continued to collect, analyse and update cost data. Information sought for from the Government, statutory bodies and other agencies were furnished as and when required.

### Internal Audit Division

The functions of the Internal Audit Division include inspection/internal audit of various offices/establishments of the Board, service verification of employees due to retire within a few years, verification of calculation of pension and other terminal benefits in the case of superannuation / retirement, resignation, death, etc., scrutiny of cases referred to the division on various service and other matters, co-ordination and follow-up of local audits and other special audits by the Accountant General (Audit), Kerala/Ministry of Commerce, conducting special audit as directed by Chairman, etc.

During the period under report, internal audit/inspection was conducted in 48 offices/establishments and issued reports. The division verified 217 files relating to service verification/retirement benefits and files referred to the division from other departments/divisions on service and other matters.

Number of paras outstanding from the previous inspection reports issued by the Accountant General, Kerala up to 2009-10 is 77. Audit of the accounts and transactions of the Board for the year 2010-11 was taken up by AG, Kerala from 05.07.2011 to 15.07.2011 and 17.08.2011 to 22.09.2011. The division did all liaison work in connection with audit and replied to audit enquiries raised by the audit party. Inspection report on transactions for the year 2010-11 was received and replies were obtained from concerned Departments/ Divisions and forwarded to the Ministry and AG after due vetting/editing/consolidation.

Pending paras in the inspection report for the period up to 1997-98 conducted by the Internal Audit wing of the Ministry of Commerce during 1999 were also followed up and reply furnished to the Ministry. Replies to the outstanding paras on CERA report were collected from the concerned Department and forwarded to AG/Ministry.

Economy in maintenance of vehicles and consumption of fuel was ensured by obtaining and scrutinizing monthly statement in respect of all the Departments / Divisions/ Offices and timely submission of statements through follow up actions. Annual physical verification of stock

and stores was ensured and stock verification reports were obtained from units. Action was initiated for clearance of pendency of TALT/C/Contingent advances in all units.

#### **Electronic Data Processing Division**

Electronic Data Processing Division functioning under the Finance & Accounts Department takes care of application of information and communication technologies in various departments / offices of Rubber Board. In addition to various computerisation programmes, it undertakes data processing jobs such as payroll processing, GPF processing, pension processing, proceeding of subscription to publications, financial accounting, preparation of nominal rolls, etc. Procurement of hardware, software, consumables and computer stationery for various departments and offices, upkeep and maintenance of hardware, development and deployment of application software, inter-networking of offices etc., are the various jobs managed by the Division. Web-based application software suite for issuing of licences, cess accounting, processing of statistical returns and issuing of registration-cum membership certificates was the major software development project handled this year.



## PART - IX

## LICENSING AND EXCISE DUTY

Transactions in natural rubber are regulated by licences issued by the Board under the relevant provisions of the Rubber Act 1947 and Rubber Rules 1955. For the purposes of the Act, it provides for collection of a cess at the rate notified by the Government of India from time to time. The said cess is charged on all rubber produced in India and the amount so collected, after deducting the cost of collection is credited to the Consolidated Fund of India. The Licensing and Excise Duty Department is entrusted with the task of issuing licences to deal in rubber, acquire rubber for processing and for manufacture of rubber products, collection of cess on rubber and enforcement. The Department is having three Divisions viz., Excise Duty, Licensing and Revenue Intelligence and nine Sub-offices located outside Kerala.

## 1. EXCISE DUTY DIVISION

The Division discharge the functions of issue and renewal of licence to acquire rubber for manufacturing rubber products, registration of authorizations issued by manufacturers to their agents, assessment and collection of cess and its remittance to the Consolidated Fund of India.

**Issue of Licence:** During the year 2011-12, Issued licence to 4386 manufacturers

for acquiring rubber to manufacture rubber products as noted below:-

New licences issued	: 263 nos.
Licences renewed	: 4123 nos.
Total	4386 nos.

*Registration of authorisation:*

Registered 38 letters of authorisation issued by manufacturers to their purchase agents. Special letters of authorisation were issued to 12 Institutions to purchase rubber for experiments / research purposes.

A state-wise distribution of licences issued for the year 2011-12 is given hereunder:-

Sl. No	Name of State/ Union Territory	Number of units
1	Andhra Pradesh	152
2	Assam	7
3	Bihar	1
4	Chandigarh	3
5	Chattisgarh	6
6	Delhi	123
7	Goa, Daman, Diu	27
8	Gujarat	411
9	Haryana	338

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10	Himachal Pradesh	26
11	Jammu & Kashmir	4
12	Jharkhand	17
13	Karnataka	205
14	Kerala	760
15	Madhya Pradesh	61
16	Maharashtra	495
17	Meghalaya	1
18	Nagaland	1
19	Orissa	10
20	Pondicherry	24
21	Punjab	364
22	Rajasthan	133
23	Tamil Nadu	482
24	Tripura	3
25	Uttar Pradesh	398
26	Uttaranchal	21

### Assessment and Collection of Cess:

The Division collected Rs. 100.70 crore for the year 2011-12 as cess on rubber against the target of Rs. 100 crore. In addition, an amount of Rs. 31.41 lakh was collected towards interest on belated payment of cess. During the year under report, the inspection machinery attached to the Division could detect unlicensed / unaccounted purchases to the tune of 2147 MT rubber and take action to realize the cess thereon.

### Compounding of offence:

As per section 26A of the Rubber (Amendment) Act, 2009, any offence punishable under the Act may, either before the institution of prosecution or with the permission of the court after the institution of the prosecution, be compounded by the Board on

payment to the Board such sum of money as does not exceed the value of the goods in respect of which contravention has been committed.

During the year, the Division could collect compounding charges amounting to Rs.26.68 lakh from various manufacturers. Total amount collected from delinquent dealers, processors and manufacturers is Rs.78.48 lakh.

### Penal measures taken against manufacturers and Cancellation of licences:

During the year 2011-12, licence issued to a manufacturer was revoked on account of its misuse. As per request of the licensees, the Board cancelled 20 licences after realizing the dues from them. In addition, registration of 233 defunct units was cancelled during the year.

### Publishing of list of licensed manufacturers:

List of licensed manufacturers has been published in the official website of the Board on daily basis for reference by different stakeholders.

## 2. LICENSING DIVISION

The Licensing Division located at Wellington Island, Kochi mainly deals with issue and renewal of licences to rubber dealers and processors of rubber and other related works such as agency registration, branch registration, granting approval for shifting of business premises, etc.

### Dealer's Licence

The Division issues licences initially for a period of three years and thereafter renewal is made for a span of five years each. During the year under report, 783 new licences were

## PART - IX

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9	Haryana	338



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10	Himachal Pradesh	26
11	Jammu & Kashmir	4
12	Jharkhand	17
13	Karnataka	205
14	Kerala	760
15	Madhya Pradesh	61
16	Maharashtra	495
17	Meghalaya	1
18	Nagaland	1
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### Dealer's Licence

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## Annual Report 2011-12

granted and 3398 licences were renewed which include 1370 numbers for the period 2012-17.

The total number of licensed dealers was 9593 at the end of the year as compared to 9643 at the end of the previous year.

**State-wise distribution of licensed dealers as on 31.03.2012 is given below:-**

Sl. No.	Name of State	No. of dealers
1	Andhra Pradesh	9
2	Arunachal Pradesh	1
3	Assam	36
4	Andaman & Nicobar	5
5	Chandigarh	2
6	Delhi	105
7	Gujarat	39
8	Haryana	48
9	Jharkhand	2
10	Karnataka	120
11	Kerala	8256
12	Madhya Pradesh	7
13	Maharashtra	77
14	Meghalaya	5
15	Orissa	1
16	Punjab	123
17	Pondicherry	1
18	Rajasthan	23
19	Tamilnadu	252
20	Tripura	323
21	Uttar Pradesh	76
22	West Bengal	82
<b>Total</b>		<b>9593</b>

### Processor's Licence

The total number of licensed processors as on 31<sup>st</sup> March 2012 was 122. Three new applications were received for grant of licence and three fresh licences were issued for producing centrifuged latex and block rubber. 33 processor's licences were renewed during the year, of which 19 licences were for the period 2012 - 17.

Out of the 122 processing units, 106 are located in Kerala followed by 8 in Tamilnadu. Karnataka and Tripura shared 4 units each.

Further, a type-wise break-up of the above 122 licences is given here under.

Latex centrifuging factories	-	53
Block rubber factories	-	42
PLC grade units	-	1
Creamed Latex units	-	26
<b>Total</b>		<b>= 122</b>

### *Penal measures and cancellation of dealers / processors licences*

During the year, licence issued to two dealers were suspended on account of violation of various provisions of the Rubber Act and Rules and the conditions of licence. Besides, 131 dealership licences were cancelled on specific requests. 452 registrations were also cancelled after serving proper notice, when the dealers concerned did not show any interest for renewal of licence.

*Registration of branches / letters of authorisation / Latex collection*

Some of the licensed dealers maintained registered branches at different locations, numbering to 962, during the year. 428 branches were registered / renewed during the year while 16 of them were cancelled as per request of the licensees. 107 letters of authorization were registered for purchase of rubber under agency basis. Requests of 100 dealers for collection of latex for ammoniation as well as for making superior grade sheets were also considered and permission granted.

*Approval for change of constitution/shifting premises/additional godowns*

Shifting of premises of business in respect of 275 dealers was approved on their request. Approval was given for constitutional change of constitution in respect of 37 cases and 104 additional godowns were registered during the year.

*Publication of dealers/processors list*

List of dealers/processors to whom licences were granted have been published in the official website of the Board for reference, on weekly basis.

*Rubber Price Collection*

For publication in visual and print media, rubber market price have been collected from Kochi Rubber Market and conveyed to Market Promotion Department regularly by the Marketing Assistant at the Division. Further, data in respect of purchases, sales, imports,

exports, etc. are also being collected by him from various rubber estates, auto tyre manufacturers, major dealers / processors, etc and forwarded periodically to Market Promotion Department.

*Collection of cess/ Compounding charges from the erred dealers/processors*

Collected cess/compounding charges amounting to Rs. 36.98 lakh from certain dealers on account of irregularities committed by them while dealing in rubber.

*Supply of Form N declarations*

A total number of 4089 "Form - N" books were supplied during the year to dealers, manufacturers, processors and estates for being used in the case of Interstate transport of rubber, as required under Rule 43 B of the Rubber Rules, 1955.

**3. REVENUE INTELLIGENCE DIVISION**

The Revenue Intelligence Division acts as an effective wing to prevent evasion of cess. The Division comprises of its establishment cell, one central squad, five regional squads and three check posts. Main functions of the Division are as under:-

- a) Call for information/records/returns and to inspect place of business and storage of rubber dealers, processors, manufacturers and owners of estates, and their books of accounts and other records/returns/ statements, etc.
- b) Detection of bogus and unlicensed dealings and adoption of steps to prevent malpractices in rubber trade.

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- c) Cross verification of the statutory returns filed by dealers, manufacturers and processors for ascertaining its correctness.
- d) Checking of transport of rubber by road, railway parcel offices, surprise visit to check posts, etc. with a view to detect evasion of cess on rubber, if any.
- e) Maintain surveillance on inter-state movement of rubber at three check posts

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

### *Activities of Inspection Squad*

The inspection squad functioning from Taliparamba, Palakkad, Kochi, Kottayam, Punalur and Marthandom could arrest illicit rubber trade to a considerable extent and thereby improve cess collection. The inspections also helped in collecting monthly returns from a large number of delinquent rubber dealers. During the year, the inspection squad spent several days on tour and inspected 1336 licensed dealers, 127 unlicensed dealers and 146 godowns and detected irregularities in 598 cases. The squad also conducted 71 road checking, which in turn created awareness among those who had been involving in unlawful trade and prevented movement of illicit consignments to a great extent.

Special attention was also given for scrutiny of inspection reports, daily statements from check posts, etc. Wherever irregular

despatches were noticed, such cases were referred to the concerned Sub-Offices/Section Officer (RI Squad) for arranging inspection. Owing to serious irregularities detected and reported by the RI Division, the Licensing Division suspended licence of two dealers.

### *Check posts and Interstate movement of rubber*

In order to strengthen surveillance of interstate movement of rubber, round the clock checking of the documents accompanying rubber consignments were done at the three check posts at Walayar and Manjeswaram in Kerala and Kavalkinar in Tamilnadu. The surveillance exercised through these check posts helped in detecting illicit transport of rubber. During the period under report, the officials at the three check posts altogether had detained 22 consignments of rubber on various grounds and were allowed to cross the border on production of valid documents/receipt of satisfactory explanation/remittance of compounding charges/cess and collected a sum of Rs.1,75,302/- towards compounding charges.

During the period under report, 34,986 consignments of rubber were cleared by three check posts as furnished below:-

Walayar Checkpost :	20,295 Nos.
Manjeswaram :	9,639 Nos.
Kavalkinar :	5,052 Nos.
=====	
Total :	34,986 Nos.
=====	

During the year under review, the Division supplied 12510 Form 'N' books to various Offices, estates, processors, dealers and

## Annual Report 2011-12

manufacturers. 57162 Numbers Form 'N' declarations (copy to Rubber Board) were received at the Division.

### *Cross checking of monthly returns / Form N Declarations.*

The monthly returns and the copies of Form N declarations received from various dealers/manufacturers/processors/estates were cross checked/ scrutinized at random and detected discrepancies in 11 cases. Wherever discrepancies/ irregularities were noticed, explanation/clarification was called for from the licensees concerned and appropriate action was taken.

During the year 2011-12, on account of the concerted efforts put in by Inspection squad, check posts and RI establishment, the Division collected an amount of Rs.28.67 lakh towards cess/compounding charges on irregular transactions.

#### 4. SUB OFFICE ACTIVITIES

The nine Sub Offices stationed at New Delhi, Mumbai, Kolkata, Chennai, Jalandhar, Kanpur, Ahmedabad, Bangaluru and Secunderabad pursued remittance of cess, submission of various returns, licence renewal applications, etc. and conducted inspections in its jurisdiction. The officers also kept vigil on the movement of rubber transported interstate. Irregularities detected by the officers were reported to the concerned Divisions, based on which the offences were compounded. A total

number of 2671 inspections/ visits were conducted during the year. In addition, 80 inspections were conducted in connection with issue of NOC for clearance of imported rubber.

#### EPILOGUE

Overall performance of the various Divisions and the Sub-Offices during the year 2011-12 is furnished below in a nutshell :-

a)	Total number of manufacturing licence issued for 2011 - 12	4386
b)	Total number of dealer's licences as on 31 <sup>st</sup> March 2012	9593
c)	Total number of processor's licences as on 31 <sup>st</sup> March 2012	122
d)	Total number of inspections/ other visits conducted	4540
e)	Total quantity of rubber involved in irregular / unlawful transactions detected	31,882 MT
f)	Total number of assessments made	9784
g)	Total amount assessed	Rs. 9945 lakh

#### Cess / compounding charges collection

h)	Total amount of cess and interest collected	Rs. 10101 lakh
i)	Total amount of compounding charges received	Rs. 78.48 lakh
j)	Total amount of licence fee collected	Rs. 42.86 lakh

## PART - X

### MARKET PROMOTION

The Market Promotion Department consists of three divisions and the major functions of each division are as follows.

#### a) Market Intelligence Cell

Collection, compilation and dissemination of natural rubber prices are the major activities assigned to the Market Intelligence (MI) cell. Daily prices of RSS-4 and RSS-5 grades of sheet rubber, ISNR 20 and 60% Centrifuged latex at Kottayam and Kochi were collected, compiled and reported to the news agencies and press for publication and also furnished to the Ministry of Commerce and other stakeholders on a daily basis. The prices of scrap rubber were also collected, compiled and published regularly on thrice in a week.

Weekly prices of all higher grades of Sheet Rubber, Pale latex crepe, ISNR higher grades were also collected and compiled. MI Cell also collect, compile and publish daily prices of various grades of rubber from international market viz., Bangkok and Kuala Lumpur markets. Price data from both domestic and international markets are being provided to the public over phone and Interactive Voice Response System through SMS and the same was also published in Rubber Board website on a daily basis.

Apart from the market price collection, compilation and dissemination, the Market Intelligence (MI) Cell undertook the following activities during 2011 - 12:-

- i) 163 subscribers enrolled for SMS price dissemination facility
- ii) Convened meetings of stakeholders of rubber to discuss the prospective activities to be undertaken in 12<sup>th</sup> Plan period.
- iii) Responded to all enquiries related to rubber price, futures trade, marketing of natural rubber, etc

#### b) Export Promotion (EP) Cell

Rubber Board is the designated Export Promotion Council (EPC) for Natural Rubber (NR). As mandated by the Foreign Trade Policy, exporters of NR should have a valid Registration-cum-Membership Certificate (RCMC) for availing benefits under FTP. Export Promotion Cell facilitates issuance of RCMC for NR exporters. As a part of promotional measures, the department has initiated branding of Indian NR for exports to ensure quality of NR exported from India. During the year 2011-12, 4537 MT of branded NR has been exported.

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The monthly average price of various grades of sheet rubber, ISNR 20 and 60% centrifuged latex in the domestic market for the period under report are furnished below:

### NR price in the domestic market during 2011 -12

(Rs./Quintal)

Month	RSS1	RSS2	RSS3	RSS4	RSS5	ISNR 20	Latex(60% drc)
<b>April 2011</b>	25800	24945	24295	23868	23568	23322	14384
<b>May</b>	24569	24069	23092	22523	22306	21520	13573
<b>June</b>	24077	23615	22554	22185	21950	21623	13898
<b>July</b>	23146	22746	21715	21242	20994	21002	13726
<b>August</b>	21417	20952	20671	20462	19917	20086	13117
<b>September</b>	21854	21698	21598	21459	20744	20879	13352
<b>October</b>	21592	21492	21388	21185	20931	20153	12955
<b>November</b>	20348	20144	19920	19502	19206	17740	11541
<b>December</b>	21000	20500	20300	20030	19683	18805	11007
<b>January 2012</b>	20056	19708	19400	19094	18556	18640	10892
<b>February</b>	19633	19367	18992	18764	18435	18666	12552
<b>March</b>	20478	20189	19744	19344	19141	19125	12820
<b>Total</b>	21998	21619	21139	20805	20453	20130	12818

Major activities undertaken by the EP cell during the year 2011-12 are as under:

1. issued fresh Registration-cum-Membership Certificate to 8 exporters of NR
2. promoted the brand "Indian Natural Rubber" in the international market
3. participated in six international trade fairs and exhibitions held in China, Malaysia, Turkey, Spain, Poland and Indonesia
4. facilitated exporter's participation in international and domestic trade fairs / exhibitions. Provided travel grant to 9 exporters for their participation in international trade fairs
5. participated in 11 domestic trade fairs related to NR and rubber wood held in Mumbai, Chennai, Kolkata, Gujarat, Chandigarh, Hyderabad, Noida, Bangalore and New Delhi.
6. published trade directories and provided trade information on-line through web portal



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7. India exported 27145 MT of NR during 2011-12 as compared to 29851 MT during previous year and realized foreign exchange equivalent to US\$ 94.06 million (Rs. 441.25 crore). Main forms NR exported from India are Ribbed Smoked Sheets (RSS), Indian Standard Natural Rubber (ISNR) and Centrifuged Latex. Total export quantity includes 4537 MT of branded Indian NR exported to 15 major consuming countries like China, Spain, Germany, Malaysia, etc.
8. provided market information to exporters of NR on different forms of NR used/ required in target countries and assisted NR exporters for market / buyer identification for different forms of NR in target countries .
9. organized one short term training on "Export management and procedures"
10. prepared brochures/posters required for Board's participation in exhibitions
11. prepared directory of "Indian Natural Rubber Branded Products"
12. launched the web portal [www.indiannaturalrubber.com](http://www.indiannaturalrubber.com) for providing on-line information on marketing & export promotion services of the Board
13. actions initiated to develop marketing film on branded Indian natural rubber

**Percentage share of different forms of NR exported during 2011-12**

Natural Rubber Form	Quantity exported (MT)	Percentage Share
Centrifuged Latex	15128	55.73 %
TSR(Block Rubber)	953	3.51 %
RSS (Sheet Rubber)	9471	34.89 %
Other forms	1593	5.87 %
TOTAL	27,145	100 %

### (c) Domestic Promotion (DP) Cell

The DP cell closely monitored the import of Natural Rubber in to the country through various ports. Details of import through various ports and under different channels & grades were monitored by the Domestic Promotion cell.



## PART - XI

## STATISTICS AND PLANNING

## 1. General Statistics

The prime function of the Statistics & Planning Department of the Board is the collection, compilation, interpretation and dissemination of rubber statistics.

Various statistics on NR were collected and compiled from statutory monthly returns from rubber growers, dealers, processors and manufacturers. Sample survey was carried out on monthly basis to ascertain yield per hectare and stock per hectare of small growers. Collection of data from various sources and statistics on production, consumption, import, export and stock of rubber in India were compiled on monthly basis and published regularly in the 'Rubber Statistical News' (monthly). This publication covers trends in production, consumption, stock, import/export of Natural Rubber (NR), Synthetic Rubber (SR) and Reclaimed Rubber (RR), price of NR and related information. The Board brought out Indian Rubber Statistics Vol.34, 2011 released by Chairman by handing over a copy to Shri. Jose Panachipuram, Associate Editor of Malayala Manorama on 15<sup>th</sup> December 2011. Indian Rubber Statistics covers information on area under rubber, production, consumption, import, export, price, etc of NR, SR and RR,

manufacturers, dealers, rubber products, labour, etc besides world rubber statistics. To facilitate quick reference, a "Pocket Book on Rubber Statistics Vol.6, 2011" covering general profile of rubber producing and consuming industry in India, latest statistics on area, production, consumption, import, export, price etc. of NR, SR & RR including World Rubber Statistics was also published. Steps were taken for on-line filing of the monthly/ annual returns of dealers, manufacturers, large growers and processors.

Collected annual reports for the year 2011-12 from processors of centrifuged latex, block rubber, PLC and crepe mills and assessed production of various grades of rubber, installed capacity, etc. Annual returns for 2011-12 were collected from rubber goods manufacturers and compiled consumption of rubber based on end products. During 2011-12, manufacturers were being classified according to their consumption during the year 2010-11. Annual returns were collected from large growers in order to ascertain area of estates, production, etc. Area Statistics were collected from Rubber Board Regional Offices. State-wise area and production of NR for the year 2010-11 were also compiled.

The Department furnished relevant statistical information to the Government and various organizations connected with the rubber industry. Necessary information and data were prepared and furnished for answering Parliament Questions pertaining to production, consumption, import, export and price of rubber and the various aspects of rubber industry.

## **2. Supply / Demand Position of NR**

The 165<sup>th</sup>, 166<sup>th</sup> and 167<sup>th</sup> meeting of the Board held on 18<sup>th</sup> April 2011, 26<sup>th</sup> September 2011 and 2<sup>nd</sup> February 2012 respectively reviewed supply/ demand position of Natural Rubber. Notes with statistical tables on NR sector on domestic and global scenario were prepared and submitted.

Production and consumption of NR for the year 2011-12 were originally projected at 902,000 tonnes and 977,000 tonnes respectively. Projections were revised in the 167<sup>th</sup> Board Meeting held on 2<sup>nd</sup> February 2012. The earlier projection of NR production was retained at 902,000 tonnes. Projection of NR consumption in 2011-12 was revised as 966,000 tonnes. Projections of import and export of NR were also revised as 170,000 tonnes and 30,000 tonnes from 120,000 tonnes and 50,000 tonnes respectively. Projected stock at the end of March 2012 was 230,000 tonnes.

As per the actual figures, NR production in the country during 2011-12 was 903,700 tonnes compared to 861,950 tonnes

during 2010-11 and recorded a growth of 4.8% compared to 3.7% attained during the previous year. The growth in production was being contributed mainly by favourable climate and attractive price. India retained the premier position in productivity, globally during 2011-12, which increased to 1841 kg/ha from 1806 kg/ha during 2010-11. Total consumption of NR in 2011-12 was 964,415 tonnes with a growth of 1.8% as against 947,715 tonnes during 2010-11. Auto tyre sector recorded a growth of 5.7% during 2011-12 as against 3.7% achieved during 2010-11. At the same time, general rubber goods sector registered a negative growth of 4.9% during 2011-12 compared to a negative growth of 1.2% during the previous year. According to the Automotive Tyre Manufacturers Association (ATMA), the average growth in tyre production during 2011-12 was 5% compared to 22% in 2010-11. Truck & bus tyre production registered a growth of only 3% during 2011-12, which was the same growth achieved during 2010-11. Production of passenger car tyres recorded only 4% growth in 2011-12 as against a high growth of 31% recorded during 2010-11. Export of tyres during 2011-12 increased by 23% while the growth attained during 2010-11 was 22%. The export of truck & bus and passenger car tyres registered 12% and 40% growth respectively during 2011-12.

Country imported 213,785 tonnes and exported 27,145 tonnes of NR during the year 2011-12. Stock of NR at the end of March 2012 was 236,275 tonnes.

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**Table - 1 Position of NR (Tonnes)**

Indicator	2011-12 Projection (pre-revised)	2011-12 Revised Projections		2011-12p(Actuals)	
		Quantity	Growth (%)	Quantity	Growth (%)
Production	902,000	902,000	4.6	903,700	4.8
Consumption	977,000	966,000	1.9	964,415	1.8
Import	120,000	170,000		213,785	
Export	50,000	30,000		27,145	
Stock at the end	273,000	230,000		236,275	

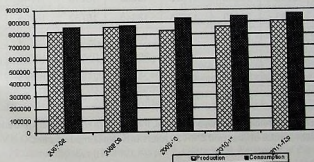
p: provisional

**Table - 2 Total Area, Production & Consumption of NR**

Year	Total Area (ha)	Growth (%)	Production (Tonnes)	Growth (%)	Consumption (Tonnes)	Growth (%)
2007-08	635,400	3.3	825,345	-3.2	861,455	5.0
2008-09	661,980	4.2	864,500	4.7	871,720	1.2
2009-10	686,515	3.7	831,400	-3.8	930,565	6.8
2010-11	711,560	3.6	861,950	3.7	947,715	1.8
2011-12p	737,000	3.6	903,700	4.8	964,415	1.8

p: provisional

**Chart 1 - Production & Consumption of NR (Tonnes)**



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### 3. Price of Natural Rubber

Annual average price for domestic RSS 4 grade rubber during the year 2011-12 was Rs 208.05 per kg compared to Rs190.03 per kg in 2010-11. During 2011-12, average price of international RSS 3 grade was Rs.209.15 per kg and it was Rs195.55 per kg

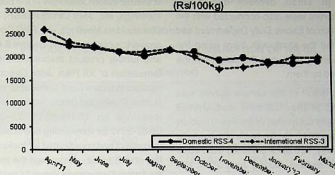
during 2010-11. During 2011-12, domestic RSS-4 price peaked at Rs 243.00 per kg on 5<sup>th</sup> April 2011 and international price of RSS-3 peaked at Rs 272.12 per kg on 12<sup>th</sup> April 2011. Domestic RSS-4 price was ruling above the international RSS-3 price only for four months October 2011 to January 2012.

**Table 3 Price of Natural Rubber-2011-12 (Rs./100Kg)**

Month	RSS 5	RSS 4	RSS 3	Latex (60% drc)		ISNR 20	SMR 20
	Domestic		Inter-national	Domestic	Inter-national	Domestic	Inter-national
<b>2010-11</b>	<b>18419</b>	<b>19003</b>	<b>19555</b>	<b>20500</b>	<b>20156</b>	<b>17976</b>	<b>17600</b>
April '11	23568	23868	26071	23974	25976	23322	22235
May	22306	22523	23367	22622	23760	21520	20165
June	21950	22185	22577	23163	23089	21623	20314
July	20994	21242	21266	22877	21895	21002	20157
August	19917	20462	21356	21861	21912	20086	20705
September	20744	21459	21843	22253	22254	20879	21310
October	20931	21185	20252	21592	21348	20153	20051
November	19206	19502	17525	19236	18718	17740	16988
December	19683	20030	17938	18345	18733	18805	17430
January '12	18556	19094	18639	18153	18700	18640	17663
February	18435	18764	20046	20920	21314	18666	18284
March	19141	19344	20101	21367	21805	19125	18721
<b>2011-12</b>	<b>20453</b>	<b>20805</b>	<b>20915</b>	<b>21364</b>	<b>21625</b>	<b>20130</b>	<b>19502</b>

Note: Domestic price refers to Kottayam market, International RSS 3 refers to Bangkok price International price of latex and SMR 20 refers to Kuala Lumpur market.

Chart 2 - PRICE OF NATURAL RUBBER -2011-12  
(Rs/100kg)



#### 4. Supply of information to World Organizations

The Department continued to supply information about NR industry in India to world organizations like the Association of Natural Rubber Producing Countries (ANRPC), Kuala Lumpur, Malaysia and International Rubber Study Group (IRSG), Singapore. Projection of supply/demand position of NR upto 2025 were prepared and submitted to Government and to international bodies.

#### 5. Sample survey on stock of NR

A newly designed sample survey for verifying statistics on NR stock was started in July 2011. Design of the sample survey and analysis and processing of data were carried out by an external Expert Committee comprising the following persons :-

- i. Dr.V.K.Gopinathan Unnithan, Professor of Agriculture Statistics (Retired), Kerala Agricultural University - Convener

- ii. Dr. Vijayaraghavakumar, Professor of Agriculture Statistics, Kerala Agricultural University - Member

- iii. Dr.K.Muraleedharan, Principal Scientist, CPCRI, Kasaragod - Member

A pilot study was conducted to test the questionnaire and identified practical difficulties involved. Thereafter, the modified questionnaire was prepared. Data were collected by the Extension Officers of the Board. Required random numbers were generated by the Statistics Department of the Rubber Board and supplied to Extension Officers. Pre-tested schedules were used to collect data from the holdings. Data was collected from 17,680 rubber units. The data were processed and estimation of rubber stock with holdings and its sampling variances were obtained. Estimation was first obtained at the FO level and then aggregated to the Regional Office level. Estimates at the Regional Office level were then aggregated to that at state level.

In addition to the survey of growers, a sample survey of small dealers and small manufacturers were also conducted with the co-operation of Excise Duty Department and ascertained the stock with them using the sample survey data and the data from the returns filed by them.

The report of the sample survey was presented in the Statistics and Market Development Committee of the Board held on 20<sup>th</sup> January 2012. On the basis of the results of the survey, NR stock statistics from June 2011 were revised. During June 2011, NR stock was revised as 199,000 tonnes as against the published figure of 256,000 tonnes and the difference was 57,000 tonnes.

#### **6. Participation in meetings / seminars**

Joint Director (S&P) participated in 165<sup>th</sup>, 166<sup>th</sup> and 167<sup>th</sup> meetings of Board held on 18<sup>th</sup> April 2011, 26<sup>th</sup> September 2011 and 2<sup>nd</sup> February 2012 respectively. In the Statistics and Market Development Committee of the Board met on 15<sup>th</sup> June 2011, Joint Director (S&P) made a power point presentation reviewing the demand-supply position of NR for the year 2010-11 and projections for 2011-12. In the Statistics and Market Development Committee of the Board met on 20<sup>th</sup> January 2012, Joint Director(S&P) made a power point presentation on designed sample survey report of NR stock in India and current status of NR industry along with 2012-13 projections. Attended periodic

meetings of the Official Language Implementation Committee of the Board, HOD meetings, etc. Joint Director (S&P) attended Stakeholders Meetings, viz. RPS Companies, growers, rubber nurseries, dealers & exporters and rubber product manufacturers for the formulation of XII Plan. Joint Director (S&P) initiated to form a Core Committee on Natural Rubber Quality and conducted three committee meetings on 15-06-2011, 20-06-2011, 01-02-2012 for formulating and implementing the project and coordinated for making a short film on NR quality. Organised the meeting of the former Department Heads of the Board as well as meeting of the representatives of ATMA, AIRIA, IRI for gathering views on formulation of XII plan.

Attended National Committee on evaluation of 11<sup>th</sup> Plan held on 30<sup>th</sup> June 2011 at Chennai, Rubber Summit held on 3<sup>rd</sup> September 2011, Labour Welfare Committee on 17<sup>th</sup> October 2011, R & D Committee on 28<sup>th</sup> October 2011, Planting Committee on 6<sup>th</sup> December 2011, Staff Affairs Committee on 16<sup>th</sup> January 2012 and Executive Committee on 1<sup>st</sup> February 2012. Joint Director (S&P) attended Sales Committee Meetings of three public sector undertakings of Govt. of Kerala, viz. M/s Plantation Corporation of Kerala Ltd., M/s State Farming Corporation of Kerala Ltd. and M/s Rehabilitation Plantations Ltd. for fixing of price for rubber periodically, being an expert member of the Committee.





## STATISTICAL TABLES

Table-1

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

(Tonnes)

Month	Production	Import	Export	Consumption (Indigenous & imported)
April 2011	56800	5599	2214	81375
May ..	59700	14018	3031	80120
June ..	59200	20916	4558	81720
July ..	64300	19928	1537	81210
August ..	71200	17962	1958	76190
September ..	80200	12763	4785	74870
October ..	89300	8574	2981	76495
November ..	94400	16125	622	82440
December ..	106800	21146	1077	84795
January 2012	102500	28905	967	82535
February ..	64000	24519	951	80265
March ..	55300	23330	2464	82400
<b>Total</b>	<b>903700</b>	<b>213785</b>	<b>27145</b>	<b>964415</b>

(p) : provisional.

Table-2  
STOCK OF NATURAL RUBBER AT THE END OF EACH MONTH (p)

(Tonnes)

Month	Growers, dealers and processors	Manufacturers	Total
April 2011	203911	64870	268781
May ..	201359	61205	262564
June ..	140300	58700	199000
July ..	156420	53580	210000
August ..	158565	55435	214000
September ..	170650	53350	224000
October ..	190110	52890	243000
November ..	203835	48165	252000
December ..	203350	58650	262000
January 2012	201240	65760	267000
February ..	173400	70600	244000
March ..	163950	72325	236275

(p) : provisional.

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**Table-3**  
**PRODUCTION,IMPORT& CONSUMPTION OF SYNTHETIC RUBBER (p)**  
(Tonnes)

Month	Production	Import	Consumption
April 2011	9262	27868	36890
May "	9468	31497	35740
June "	9279	29641	36945
July "	8929	30005	36355
August "	9391	27719	33635
September "	8421	26760	33510
October "	8592	24343	31275
November "	8636	20900	36345
December "	10503	27557	37315
January 2012	10414	23340	34385
February "	9569	27695	34675
March "	8135	30300	36280
<b>Total</b>	<b>110599</b>	<b>327625</b>	<b>423350</b>

(p): Provisional

**Table-4**  
**PRODUCTION & CONSUMPTION OF RECLAIMED RUBBER (p)**  
(Tonnes)

Month	Production*	Consumption
April 2011	8290	8140
May "	7695	7945
June "	7980	8060
July "	9065	8770
August "	8590	8385
September "	8565	8350
October "	8095	8245
November "	8965	8570
December "	8830	9160
January 2012	8915	8785
February "	9280	9105
March "	9295	8920
<b>Total</b>	<b>103565</b>	<b>102435</b>

\* Indigenous purchase by manufacturers

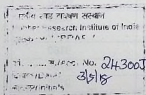
(p) : provisional

**Table-5**  
**COMPARISON OF DOMESTIC AND INTERNATIONAL PRICE OF NATURAL RUBBER**  
**( Rs./100 Kg )**

Month/Year		RSS 5	RSS 4	RSS 3	Latex(60% drc)		ISNR 20	SMR 20
		Domestic		Inter-national	Domestic	Inter-national	Domestic	Inter-national
April	2011	23568	23868	26071	23974	25976	23322	22235
May	"	22306	22523	23367	22622	23760	21520	20165
June	"	21950	22185	22577	23163	23089	21623	20314
July	"	20994	21242	21266	22877	21895	21002	20157
August	"	19917	20462	21356	21861	21912	20086	20705
September	"	20744	21459	21843	22253	22254	20879	21310
October	"	20931	21185	20252	21592	21348	20153	20051
November	"	19206	19502	17525	19236	18718	17740	16988
December	"	19683	20030	17938	18345	18733	18805	17430
January	2012	18556	19094	18639	18153	18700	18640	17663
February	"	18435	18764	20046	20920	21314	18666	18284
March	"	19141	19344	20101	21367	21805	19125	18721
<b>2011-12</b>		<b>20453</b>	<b>20805</b>	<b>20915</b>	<b>21364</b>	<b>21625</b>	<b>20130</b>	<b>19502</b>

Note: (i) Domestic price refers to Kottayam market , international price for RSS 3 refers to Bangkok market.

(ii) International price for latex and SMR 20 refers to Kuala Lumpur market.



## PART XII

**LIST OF MEMBERS OF THE RUBBER BOARD**

AS ON 31.03.2012

Sl. No.	Name and address of members	Representing Interest
1)	Smt. Sheela Thomas IAS	Chairman, Rubber Board
2)	Prof. P. J. Kurien, Member, Rajya Sabha, 302, Brahmaputra Dr. B. D. Marg, New Delhi-1	Member of Parliament under clause (e) of section 4(3).
3)	Shri. Nalin Kumar Kateel Member, Lok Sabha, 5-3-91/19, Meadows Apartments, Mannagudda Maibn Road, Kodialbail (P.O.) Mangalore - 575 003.	Member of Parliament under clause (e) of section 4(3).
4)	Shri. Jose K. Mani, Member. Lok Sabha Karingozhacal House, Vellapd, Pala - 686 575, Kerala	Member of Parliament under clause (e) of section 4(3).
5)	Shri. C.V. Sankar, IAS Principal Secretary to Government Environment and Forest Department, Secretariat, Government of Tamilnadu, Chennai - 600 009	Representative of large grower from the State of Tamilnadu under sub-rule (2) of Rule 3.
6)	Shri. S. Ramachandran, Director, Vaikundam Plantations Limited, 2/3309, Chalakuzhy Road, Pattom Palace PO, Thiruvananthapuram - 695 004	Representative of large grower from the State of Tamilnadu under sub-rule (2) of Rule 3.
7)	Shri. K. Jayakumar, IAS Additional Chief Secretary, Secretariat, Govt. of Kerala, Thiruvananthapuram - 695 001.	Representative of Government of Kerala under sub-rule (3) of Rule 3.
8)	Agricultural Production Commissioner, Secretariat, Govt. of Kerala, Thiruvananthapuram - 695 001.	Representative of Government of Kerala under sub-rule (3) of Rule 3.

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9)	Shri. George J. Mathew, Ex.MP Pottamkulam, Kootikkal, Kanjirappally, Kottayam.	Representative of large grower from the State of Kerala under sub-rule (3) of Rule 3.
10)	Shri. J.K. Thomas, Managing Director, M/s Malankara Plantations Ltd, Malankara Buildings, Kodimatha, Kottayam - 686 001	Representative of large grower from the State of Kerala under sub-rule (3) of Rule 3.
11)	Shri. K. K. Abraham, Chairman, Indian Block Rubber Processor's Association, Kayathinkara, Pala - 686 575	Representative of small grower from the State of Kerala under sub-rule (3) and (4) of Rule 3.
12)	Shri. George Vally, President, Indian Rubber Dealers Federation Vallyplackel House, Kooraly P.O. Ponkunnam, Kottayam.	Representative of small grower from the State of Kerala under sub-rule (3) and (4) of Rule 3.
13)	Adv. Siby J. Monippally, General Secretary, Indian Rubber Growers Association, 11/508 A, Mavelipuram Housing Colony, Kakkanadu, Kochi - 682 030.	Representative of small grower from the State of Kerala under sub-rule (3) and (4) of Rule 3.
14)	Shri. Joseph Vazhackan 7 B2 Heera Park, MP Appan Road, Vazhuthacadu, Thiruvananthapuram - 14	Representative of small grower from the State of Kerala under sub-rule (3) and (4) of Rule 3.
15)	Shri. Kallol Dey Madhurilata Tea and Rubber Estate, C/o Gomoti Fishing Material Company, Old Municipality, Agartala - 799 001, Tripura	Representative of small grower from the State of Tripura under sub-rule (4) of Rule 3.
16)	Shri. Nirmal Padmanabha Maninje, Vice President, Belthangady Taluk Rubber Growers' Marketing & Processing Co-op Society Ltd, Maninje Farms, Punjalkatte - P.O. Belthangady Taluk, Karnataka	Representative of small grower from the non-traditional area (by rotation) under sub -rule (4) of Rule 3.
17)	Shri. Rajiv Budhraj, Director General, Automotive Tyre Manufacturers Association, PHD House, Siri Fort Institutional area, New Delhi - 110 016	Representative of Industry/ Rubber Goods Manufacturers under clause (d) of sub-section (3) section 4 of the Rubber Act.
18)	Shri. Vinod Simon, Executive Director, Simmco Rubber & Plastic (P) Ltd 106-C, Sidco Industrial Estate, Ambattur, Chennai - 600 098.	Representative of Industry/ Rubber Goods Manufacturers under clause (d) of sub-section (3) section 4 of the Rubber Act.

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19)	Shri. Suresh Koshy, National Federation of Rubber Producers' Society, Thiery Villa, Chennerkara, Pathanamthitta - 689 517.	Representative of Rubber Producers' Society under sub rule (4) of Rule 3.
20)	Shri. Bharatheepuram Sasi, R/o Saravana, Valacode, Punalur P.O. - 691 331.	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
21)	Shri. C. Ananthakrishnan, State Organizing Secretary to Tamilnadu, INTUC, Krishnakudeeram, Thiruvattar P.O. Kanyakumari District.	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
22)	Adv. T.V. Abraham State General Secretary - Kerala Congress (M), Kaippenlackal House, Kozhuvanal - P.O., Pala.	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
23)	Shri. Thomas Kalladan, Kalladan House, Ramapuram, P.O., Kottayam.	Representative of Labour Interests under clause (d) of sub-section (3) of section 4.
24)	Shri. T.G. Gopal Krishna Kaimal, Pandinjare Puthenpuriyal House, West Kodikulam P.O., Thodupuzha.	Representative of Other Stakeholders under sub-rule (4) of Rule 3.
25)	Director (Plantation), Department of Commerce, Ministry of Commerce & Industry Udyog Bhavan, New Delhi 110 107.	Representative of Department of Commerce, Govt. of India under clause (da) in sub-section (3) of section 3
26)	Shri. Pradeep Kumar, Under Secretary (Plantation), Department of Commerce, Ministry of Commerce & Industry Udyog Bhavan, New Delhi 110 107	Representative of Department of Commerce, Govt. of India under clause (da) in sub-section (3) of section 3
27)	Shri. A.K. Thakur, Additional Secretary (Agriculture & Co-operation), Department of Agriculture & Co-operation, Krishi Bhavan, New Delhi	Representative of Department of Agriculture and Co-operation, Govt. of India under clause (da) in sub-section (3) of section 3
28)	Dr. J. Thomas, Rubber Production Commissioner	Ex-officio member as per clause (f) of section 4(3).